

# BUSINESS PLAN

FOR MYT CONTROL PERIOD FY 2021-22 TO FY 2025-26



SUBMITTED BY:

TATA STEEL UTILITIES AND INFRASTRUCTURE SERVICES LIMITED (TSUISL)

JAMSHEDPUR

# TATA STEEL UTILITIES AND INFRASTRUCTURE SERVICES LIMITED

(Formerly known as Jamshedpur Utilities & Services Company Limited)

**The Secretary,  
Jharkhand State Electricity Regulatory Commission  
2<sup>nd</sup> Floor, Utpad Bhawan, New Police Line Road,  
Opposite of C M House, Kanke Road,  
Ranchi PIN - 834008**

PBD / 2094 / 59 – J / 09 / 2020

November' 29<sup>TH</sup> ' 2020

**Sub : Submission of Business Plan & Multi Year Tariff Petition for control period (FY 2021-22 to FY 2025-26) and Tariff proposal for FY 2021-22 by Licensee TSUISL (Tata Steel Utilities And Infrastructure Services Limited)**

Dear Sir,

We would like to submit Business Plan & Multi Year Tariff Petition for control period (FY 2021-22 to FY 2025-26) and Tariff proposal for FY 2021-22 in one original and six copies with all Annexures, as per format prescribed under JSERC (Terms and conditions for Determination of Distribution Tariff) Regulations 2020.

We also attach herewith a receipt of payment made to the Hon'ble Commission for an amount of Rs. 25000/- (Rupees Twenty five Thousand only), towards filing fee of this petition according to JSERC (Conduct of Business regulation) 2016.

We request the Hon'ble commission to kindly consider the above submission.

Thanking You,

Yours Faithfully,

  
29-11-2020  
GM Power Services.



Registered Office : Sakchi Boulevard Road Northern Town Bistupur Jamshedpur 831 001 India

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BU0025



झारखण्ड JHARKHAND

06AA 268893

### AFFIDAVIT

BEFORE THE JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION, RANCHI

Filing No.....

Case No.....

IN THE MATTER OF: Filing of the Petition for Submission of Business Plan & MYT for control period FY 2021-22 to FY 2025-26, and Tariff proposal for FY 2021-22, for the Licensee under Section 45, 46, 61, 62, 64 and 86 of the Electricity Act, 2003 and as per the regulations of Jharkhand State Electricity Regulatory Commission (JSERC) (Terms and Conditions for Distribution Tariff) Regulation, 2020.

AND

IN THE MATTER OF: Tata Steel Utilities And Infrastructure Services Limited (hereinafter referred to as "TSUISL" which shall mean for the purpose of this petition the Licensee), a company incorporated under the provisions of the Companies Act, 2013 and having its registered office at Jamshedpur - Petitioner.



Signed / Put L.T.I.  
In my Presence

Advocate



## AFFIDAVIT VERIFYING THE PETITION

I, Vijay Prakash Singh son of Late Umakant Singh, aged 45 years residing at 2, Garua Road, Kaiser Bangalow, Kadma, Jamshedpur do hereby solemnly affirm and state as follows:

1. That I am working as General Manager, Power Services of Tata Steel Utilities and Infrastructure Services Limited (TSUISL), the Petitioner in the above matter and I am duly authorised by the said Petitioner to make this affidavit.

2. That Tata Steel Utilities and Infrastructure Services Limited power distribution licensee is filing this petition under the Electricity Act 2003 and relevant provisions under JSERC (Terms and conditions for Determination of Distribution Tariff) Regulations 2020, for approval of Business Plan & Multi Year Tariff Petition for control period (FY 2021-22 to FY 2025-26) and Tariff proposal for FY 2021-22, which shall be submitted to the Hon'ble Jharkhand State Electricity Regulatory Commission Ranchi.

3. I solemnly affirm at Jamshedpur on this day of 28<sup>th</sup> Nov 2020 that

(i). *The contents of the petition are true to my knowledge and I believe that no part of it is false and no material has been concealed there from.*

(ii). *That the statements made in paragraphs below in the petition are true to my knowledge and are based on information derived from the records of the case, which I believe to be true and rest of the paragraphs are by way of submissions.*

Further, to my knowledge and belief, no material information has been concealed in this Petition.


  
DEPONENT

## VERIFICATION

I, Vijay Prakash Singh, solemnly affirm that the contents of above affidavit are true to the best of my knowledge and nothing has been concealed there from.

Verified at Jamshedpur on this 28<sup>TH</sup> day of November 2020.

Witness

  
**PRAMOD KUMAR BHAGAT**  
**NOTARY PUBLIC**  
East Singhbhum, Reg. No.2842 (J)  
Govt. of Jharkhand, JSR. (INDIA)



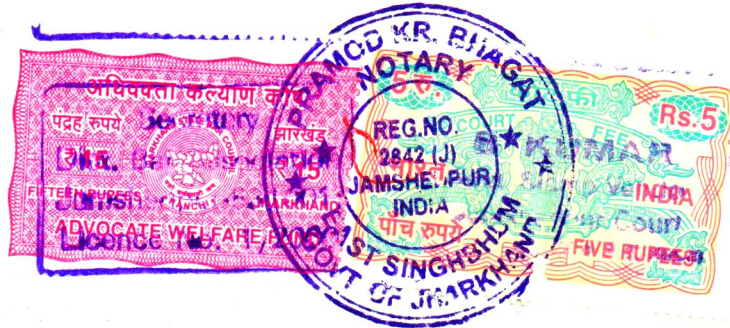
  
DEPONENT

Signed  
In my

Put L.T.I.  
Presence

  
Advocate

DBA/AF/JSR/10/2010/ BV - 0025



## AFFIDAVIT

*28/11/2020*  
**PRAMOD KUMAR BHAGAT**  
**NOTARY PUBLIC**  
East Singhbhum, Reg. No.2842 (J)  
Govt. of Jharkhand, JSR. (INDIA)



Signed / Put L.T.I.  
In my Presence

*28/11/2020*  
Advocate

Date: .....

JAMSHEDPUR UTILITIES AND SER CO LTD  
SAKCHI BOULEVARD ROAD, NORTHERN TOWN, BISTUPUR  
JAMSHEDPUR  
PAYMENT ADVICE

Beneficiary Code :OTV01  
JSERC RANCHI

Payment Doc No :0045010790  
Value date :30.11.2020  
Bank Ref No :N335201322425180

Ranchi  
Dear Sir/Madam

We have initiated a credit thru NEFT to your A/c No.6605256646 with Indian Bank(IFSC CODE IDIB000R010) vide ref. no N335201322425180 for Rs 25,000.00(Rupees Twenty Five Thousand And Paise Only)

Reference No	Bill value	(-)TDS	Net Amt. Payable
(-)Retn.Amt	(-)WCT TDS		
BY MAIL	25000.00	0.00	25000.00
0.00	0.00		

Remarks - Petition for Business plan and Multi Year tariff

Payment document	Payment Date	Currency	Payment amount
0045010790	30.11.2020	INR	25,000.00

This is a computer Generated Advice & does not require signature .  
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## List of Abbreviations

Sr. No	Abbreviations	Descriptions
1.	A&G	Administrative and General
2.	ABT	Availability Based Tariff
3.	ALDC	Area Load Dispatch Centre
4.	AMR	Automatic Meter Reading
5.	APDRP	Accelerated Power Development Reforms Program
6.	ARR	Aggregate Revenue Requirement
7.	AS	Accounting Standard
8.	CAGR	Compound Annual Growth Rate
9.	CDM	Clean Development Mechanism
10.	CEA	Central Electricity Authority
11.	CERC	Central Electricity Regulatory Commission
12.	CESC	Calcutta Electric Supply Company
13.	CFL	Compact Fluorescent Lamp
14.	CGS	Central Generating Station
15.	CoS	Cost of Supply/ Service
16.	COVID	Corona Virus Disease
17.	CPPs	Captive Power Plants
18.	CS	Commercial Services
19.	CWIP	Capital Work in Progress
20.	DBT	Direct Benefit Transfer
21.	DDUGJY	Deen Dayal Upadhyay Gram Jyoti Yojna
22.	DELP	Domestic efficient Lighting program
23.	DF	Distribution Franchisee
24.	Discom	Distribution Companies
25.	DPS	Delayed Payment Surcharge
26.	DS	Domestic Service
27.	DSHT	Domestic Service High Tension
28.	DSM	Demand Side Management
29.	DT	Distribution Transformer
30.	DTC	Distribution Transformer
31.	DVC	Damodar Valley Corporation
32.	EA/The Act	The Electricity Act 2003
33.	ECEA	Electricity Contract Enforcement Authority
34.	ERC	Electricity Regulatory Commission
35.	EV	Electric Vehicles
36.	F&A	Finance & Accounts
37.	FAS	Finance Accounting System
38.	FIs	Financial Institutions
39.	FOR	Forum of Regulators
40.	FY	Financial Year
41.	GFA	Gross Fixed Assets
42.	GoI	Government of India
43.	GW	Giga Watt



Sr. No	Abbreviations	Descriptions
44.	HP	Horse Power
45.	HPO	Hydro Purchase Obligation
46.	HR	Human Resource
47.	HRIR	Human Resources and Industrial Relations
48.	HT	High Tension
49.	HTSS	High Tension Special Services
50.	IPDS	Integrated Power Development Scheme
51.	IPDS	Integrated Power Development Scheme
52.	IPP	Independent Power Producers
53.	JBVNL	Jharkhand Bijli Vitaran Nigam Limited
54.	JSEB	Jharkhand State Electricity Board
55.	JSERC	Jharkhand State Electricity Regulatory Commission
56.	JTS	Jamshedpur Town Services
57.	JUSCO	Jamshedpur Utilities & Services Company Limited
58.	JUSNL	Jharkhand Urja Sancharan Nigam Limited
59.	JUUNL	Jharkhand Urja Utpadan Nigam Limited
60.	JUVNL	Jharkhand Urja Vikas Nigam Limited
61.	KRA	Key Result Areas
62.	KV	Kilo Volt
63.	kVA	Kilo Volt Ampere
64.	kVAh	Kilo Volt Ampere Hour
65.	kW	Kilo Watt
66.	kWh	Kilo Watt Hour
67.	LF	Load Factor
68.	LT	Low Tension
69.	LTIS	Low Tension Installation Based
70.	MD	Maximum Demand
71.	MOD	Merit Order Despatch
72.	MOEF	Ministry of Environment and Forest
73.	MoP	Ministry of Power
74.	MOU	Memorandum of Understanding
75.	MU	Million Units (Million kWh)
76.	MVA	Mega Volt Ampere
77.	MW	Mega Watt
78.	MYT	Multi Year Tariff
79.	NAPCC	National Action Plan of Climate Change
80.	NEP	National Electricity Policy
81.	NTP	National Tariff Policy
82.	NTPC	National Thermal Power Corporation
83.	O&M	Operation & Maintenance
84.	OA	Open Access
85.	PF	Provident Fund
86.	PFA	Power For All
87.	PLR	Prime Lending Rate

Sr. No	Abbreviations	Descriptions
88.	PPA	Power Purchase Agreement
89.	PSD	Power Service Division
90.	PSS	Power Sub-Station
91.	R&M	Repair and Maintenance
92.	RE	Renewable Energy
93.	REC	Renewable Energy Certificate
94.	REDB	Rural Electrification Distribution Backbone
95.	RGGVY	Rajiv Gandhi Gram Vidyutikaran Yojna
96.	RMU	Ring Main Unit
97.	ROE	Return on Equity
98.	RPO	Renewable Purchase Obligation
99.	Rs	Rupees
100.	SAIDI	System Average Interruption Duration Index
101.	SAIFI	System Average Interruption Frequency Index
102.	SAIL	Steel Authority of India Limited
103.	SAP	System Application and Procedure
104.	SAP-IS	Systems Applications and Products - Information System
105.	SBI	State Bank of India
106.	SCADA	Supervisory control and data acquisition
107.	SERC	State Electricity Regulatory Commission
108.	SLDC	State Load Dispatch Centre
109.	SLM	Straight Line Method
110.	SWOT	Strength, Weakness, Opportunity and Threats
111.	T&D	Transmission and Distribution
112.	TPCL	Tata Power Company Limited
113.	TSL	Tata Steel Limited
114.	TSUISL	Tata Steel Utilities and Infrastructure Services Limited
115.	UDAY	Ujjwal DISCOM Assurance Yojna
116.	UI Charges	Unscheduled Interchange Charges
117.	UMPP	Ultra Mega Power Plant
118.	UNCCC	United Nations Framework Convention on Climate Change
119.	VEI	Village Electrification Infrastructure
120.	VMV	Vision, Mission and Value Architecture
121.	w.e.f	With effect from
122.	Y-o-Y	Year on Year

# List of Annexure

Annexure 1: List of Scheme wise Capex

Annexure 2: Quarterly Compliance report submitted to JSERC for FY 2019-20 and FY 2020-21 (Till H1)

Annexure 3: Additional manpower requirement for capital execution and subsequent O&M for the control period



## 1. INTRODUCTION

### 1.1 Background – Power Sector

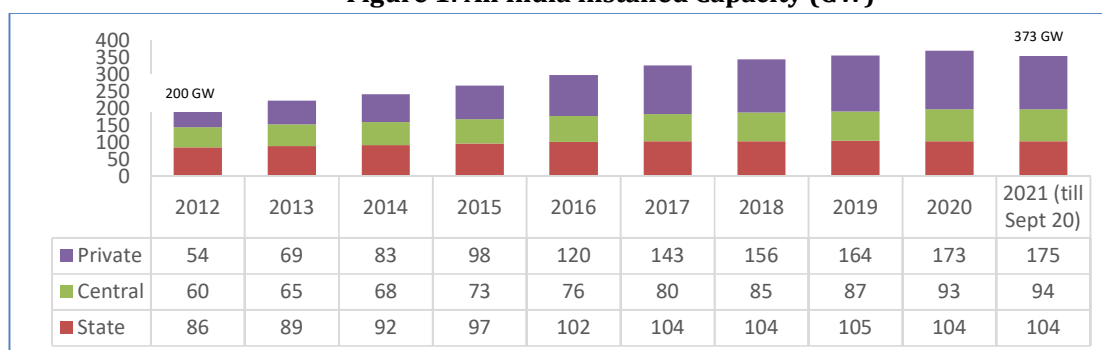
1.1.1 Power sector is the backbone of economic development in any country. It is an enabler to foster economic development, create jobs, facilitate education and perform other activities critical for overall development of the society. Similarly, an efficient, resilient, and financially robust power sector is essential for growth of the Indian economy. The Indian power sector has made significant progress over the years, boosting economic growth in the country.

1.1.2 With the considerable growth in energy requirement and energy availability, the annual per capita energy consumption of India has grown significantly over the years. The Per capita consumption of electricity as on CEA's provisional data of FY2019 is 1.181 MWh<sup>1</sup>. Though the Per capita power consumption of India has grown significantly from 0.78 MWh in FY 2010 to 1.181 MWh in FY 2019; however, it is still on a lower side as compared to the world average of 3131kWh<sup>2</sup>. The low per capita consumption of electricity in India compared to the world average presents a significant potential for growth in the demand for electricity in India in future.

### 1.2 All India Installed Capacity

1.2.1 The all India installed capacity grew from 200 GW in FY 2012 to 373 GW in September 2020. The Indian power generation portfolio had been traditionally dominated by Central and State sector Government owned companies. However, post the Electricity Act 2003 and introduction of competitive bidding in 2006, a dramatic shift has been witnessed in private participation in power generation.

**Figure 1: All India installed Capacity (GW)**



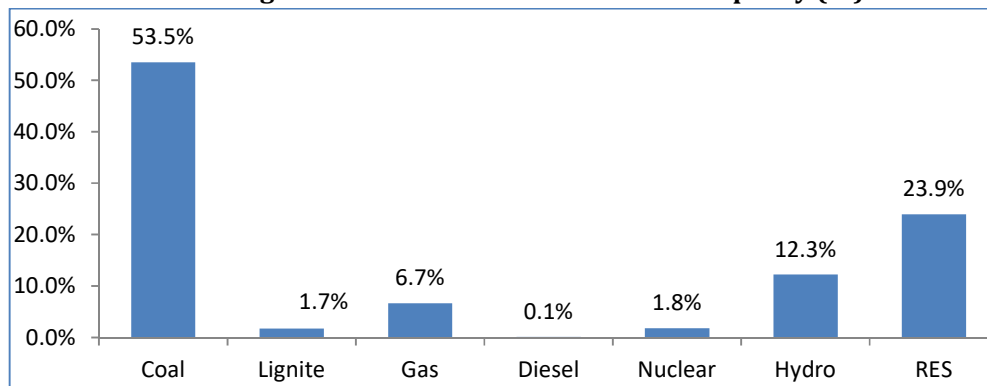
Source: CEA: Monthly Report April 2010-2020, Installed Capacity (Sept-2020)

<sup>1</sup> [http://www.cea.nic.in/reports/monthly/executivesummary/2020/exe\\_summary-01.pdf](http://www.cea.nic.in/reports/monthly/executivesummary/2020/exe_summary-01.pdf)

<sup>2</sup> <http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC>

1.2.2 India's generation mix is dominated by coal with over 54% of the installed capacity, Renewable Energy (RE) at 24%, Hydro power at 12% and nuclear at 2% as on September, 2020. As per NEP 2018, the share of coal in the overall generation capacity is likely to come down, losing its share to RE. In order to mitigate effect of climate change, government of India has focussed more on renewable capacity addition with target of 175 GW by end of thirteen Five year Plan (2022) rather than thermal power generation. MOP has also planned retirement of old and inefficient thermal units because thermal generators are contributing significantly towards the environmental pollution.

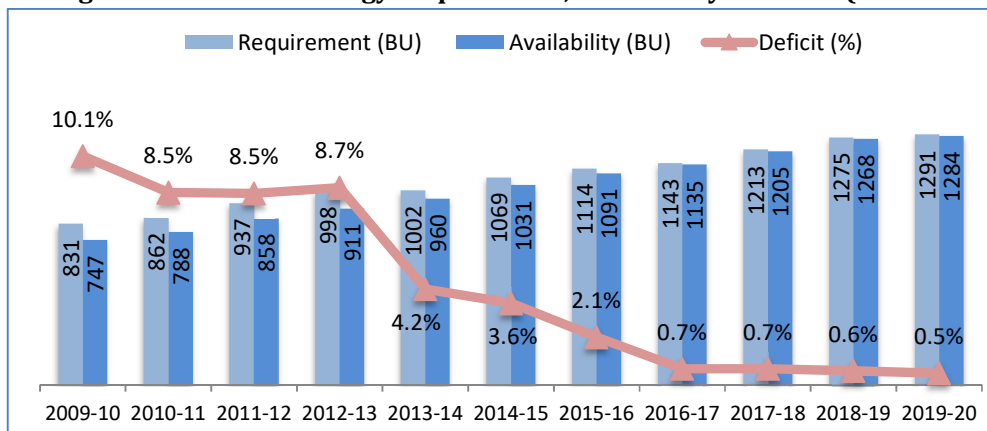
**Figure 2: Fuel wise share in installed capacity (%)**

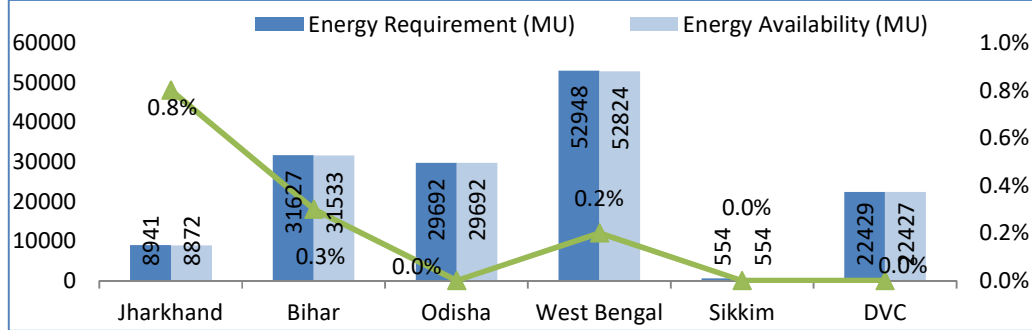


Source: Central Electricity Authority, September – 2020 Executive Summary

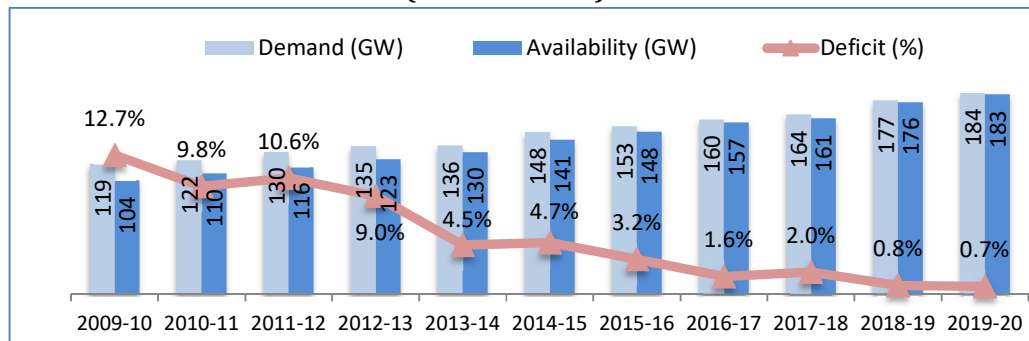
1.2.3 Historically, India has experienced shortages in energy and peak power requirements. However due to rapid addition in power generation capacity and energy efficiency measures and reduction in growth rate of demand in the same time frame, the deficit has reduced to a level of 0.5% in FY 2020.

**Figure 3: Year wise Energy Requirement, Availability & Deficit (FY 10 to FY 20)**



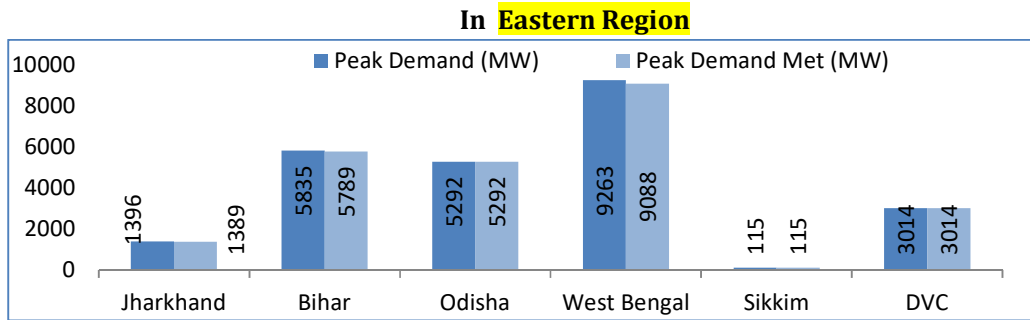
**Figure 4: Energy Requirement, Availability & Deficit (FY 2019-20) for Eastern Region**

1.2.4 Energy demand of states in eastern region is quite low as compared to proportion of its population. The main reasons attributable to the same is lower economic growth, limited industrialization despite mineral resources and poor financial condition of DISCOM's.

**Figure 5: All India Year wise Peak Demand, Peak Demand Met & Peak Deficit****(FY 10 to FY 20)**

1.2.5 The Peak Deficit has decreased from 12.7% in FY10 to 0.7% in FY 20 at all India level, despite 54% increase in demand in past decade which can be attributed to large addition in generation capacity.



**Figure 6: Peak Demand, Peak Demand Met & Peak Deficit (FY 2019-20)**

1.2.6 Most of the Distribution Companies in Eastern Region are also able to meet the peak demand. However financial health<sup>2</sup> of the DISCOMs in eastern region also remains a challenge.

### 1.3 Power Sector Reforms and Schemes in the Distribution Sector

1.3.1 Distribution sector is the critical link in the electricity market because revenues ultimately originate from the customer at the distribution end and provide revenue for the entire value chain. The absence of competition, unsustainable cross-subsidies, theft and pilfer of electricity, issues of non-payment and disconnection, increasing PPC, IT implementation issues, unavailability of desired talent/manpower, and consistency in policy framework and related infrastructure development have added to the woes of DISCOM's in Indian Power sector.

1.3.2 The reform process in the Distribution Sector started with unbundling and privatisation of Orissa State Electricity Board which was funded and guided by World Bank. Thereafter Electricity Regulatory Commissions Act (ERC Act) was enacted in 1998. The Electricity Regulatory Commission's Act primarily focused on Constitution of Regulatory Commissions empowering it with certain functions and powers. Its focus was to distance the government from the tariff determination process.

1.3.3 Building upon those reformatory steps, Electricity Act (EA), 2003 was enacted in order to promote competition and efficiency in electricity sector and at the same time to protect interest of consumers. Under provision of the act, Central Electricity Regulatory Commission and State Electricity Regulatory Commissions were formed at Central and State level. Further the process of tariff determination has been taken away from government control and is now decided upon by Regulatory Commission under commercial principles or by way of competitive bidding.

1.3.4 The MOP has proposed certain changes in the EA, 2003 and released the Electricity (Amendment) Bill, 2020 for comments. The proposed power reforms are aimed at

introducing transparency and accountability to protect the interest of consumers and ensuring healthy growth of the power sector.

#### **1.4 Draft Electricity (Amendment) Bill 2020**

- 1.4.1 Establishments of Electricity Contract Enforcement Authority (ECEA): The Authority will be responsible to resolve disputes related to PPAs and can issue decrees regarding the same. This will enable to sustain sanctity of such contracts in the electricity value chain.
- 1.4.2 Introduction of distribution Sub-Licensees – The concept of distribution sub-licensees was introduced in addition to the earlier available provision of distribution franchisees. This will give additional option to ailing DISCOM's to reduce area of management for better focus and to bring best practices.
- 1.4.3 Subsidy/ DBT: Introduction of DBT has been emphasized as State Governments do not release timely payment of subsidies to the Government. This will enhance the receivables of DISCOM's, as the subsidy will go directly to Consumer accounts.
- 1.4.4 RPO/HPO: RPO/ HPO has been strengthened in this draft and stricter compliance is ensured in this Act. Government has already waived inter-state transmission charges and losses to enable renewable deficit States to buy power from renewable energy rich states without any extra cost. Also, the RPO is linked to the consumption of power and not development. Further, SERCs may align their RPO trajectory as per Central trajectory declared by Ministry of Power.
- 1.4.5 Despite the requirement of the Tariff Policy to reduce cross-subsidies to within 20% of average cost of supply, they are in excess of 50% in some States. It was pointed out that there was no proposal to eliminate cross-subsidy. The Bill provides for the SERCs to reduce cross subsidies as per the provisions of the Tariff Policy.
- 1.4.6 In addition to EA 2003, along with Tariff Policy, 2016 which forms bedrock of Power Distribution functioning in the country, Central Government has also launched various projects/schemes in order to improve condition of Power distribution and DISCOM's in the country. The schemes are illustrated in below diagram:

**Figure 7: Schemes/Policies Notified by Central Government to Assist Power Distribution Sector**

Power System Improvement and Loss Reduction	Village Electrification and Universal Electricity Access	Scheme for improving Financial Status of Power Utilities
<ul style="list-style-type: none"> <li>• APDRP-2003</li> <li>• R-APDRP-2008</li> <li>• IPDS-2014</li> </ul>	<ul style="list-style-type: none"> <li>• RGGVY-2005</li> <li>• DDUGJY-2014</li> <li>• SAUBHAGYA-2017</li> </ul>	<ul style="list-style-type: none"> <li>• FRP-2012</li> <li>• UDAY-2015</li> <li>• SHAKTI-2017</li> </ul>

## 1.5 Power System Improvement and Loss Reduction Schemes

- 1.5.1 Central Government rolled-out **Accelerated Power Development Reforms Program (APDRP)** in 2003 which was later re-branded as **Restructured-APDRP** in 2008. The objectives of APDRP and R-APDRP was to reduce AT & C losses to around 15%, augmentation and modernization of power distribution infrastructure, improving customer satisfaction and increasing reliability & quality of power supply.
- 1.5.2 R-APDRP aimed at reliable and automated systems for collection of accurate base line data, and thereafter measuring progress made by Distribution Utilities in reducing its AT&C losses. On basis of reduction in losses, loans given under this scheme was to be converted into grant. This enabled objective evaluation of the performance of utilities before and after implementation of the program. However assistance under R-APDRP was not applicable for private Utilities.
- 1.5.3 Later on after change of Government at Centre, R-APDRP was subsumed under **Integrated Power Development Scheme (IPDS)** in 2014. The revised scheme in addition to objective of R-APDRP also included metering of Feeders, DTs and consumers.
- 1.5.4 In the case of private sector DISCOM's undertaking distribution of power supply in urban areas, the assets created were to be owned by State Government / State owned companies. These assets were to be transferred to concerned DISCOM's for their use during the license period on mutually agreed terms & conditions. The responsibility of O&M were to be that of the concerned DISCOM's. However there are procedural limitations and use if such network by private DISCOM's are yet to be achieved.

## 1.6 Village Electrification and Universal Electricity Access

- 1.6.1 Central Government also launched **Rajiv Gandhi Gram Vidyutikaran Yojna (RGGVY)** in 2005, to focus on rural electrification through creation of Rural Electrification Distribution Backbone (REDB) comprising of Power Sub-Station (PSS) and 11 kV

feeders and Village Electrification Infrastructure (VEI) comprising of Distribution Transformers and LT lines.

- 1.6.2 Later through office Order in December 2014, RGGVY was subsumed under Deen Dayal Upadhyay Gram Jyoti Yojna (DDUGJY). In addition to objectives of RGGVY, DDUGJY also included component on separation of Agricultural and Non-Agricultural feeders facilitating judicious rostering of supply to agricultural and non-agricultural consumers in the rural areas.
- 1.6.3 For private sector DISCOM's where the Distribution of power supply in rural areas is with them, projects under the scheme was to be implemented through a State government agency and the assets were to be owned by State Government / State owned companies. These assets thereafter were supposed to be transferred to concerned DISCOM's for their use during the license period on mutually agreed terms & conditions. The responsibility of O&M was to be that of the concerned DISCOM's. However, TSUISL is not a beneficiary of this scheme.
- 1.6.4 **Pradhan Mantri Sahaj Bijli Har Ghar Yojana – 'SAUBHAGYA'** a new scheme was launched in 2017. Under SAUBHAGYA free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas were to be provided. Rural Electrification Corporation (REC) was designated as its nodal agency for the SAUBHAGYA scheme. The total outlay for the scheme was Rs. 16,320 crore. 60% of total expense was to be provided by central government as fund, 30% was to be provided by loans by Banks/FIs. Remaining 10% of the fund would be contributed by utility or state government.
- 1.6.5 All DISCOM's including Private Sector DISCOM's, State Power Departments and RE Cooperative Societies were eligible for financial assistance under the scheme in line with DDUGJY.

## **1.7 Schemes for improving Financial Status of Power Utilities**

- 1.7.1 The Union Cabinet gave its approval on 5th November 2015 to a new scheme moved by the Ministry of Power - **Ujjwal DISCOM Assurance Yojna or UDAY**.
- 1.7.2 UDAY was introduced with an intent to provide for financial turnaround and revival of Power Distribution companies (DISCOM's), and importantly also ensure a sustainable permanent solution to the problem. States had to take over 75% of DISCOM debt as on 30 September 2015 over two years - 50% of DISCOM debt shall be taken over in 2015-16 and 25% in 2016-17. States were to issue non-SLR including SDL bonds in the market or directly to the respective banks / Financial Institutions (FIs) holding the DISCOM debt to the appropriate extent.

- 1.7.3 DISCOM debt not taken over by the State were to be converted by the Banks / FIs into loans or bonds with interest rate not more than the bank's base rate plus 0.1%. Alternately, this debt were to be fully or partly issued by the DISCOM as State guaranteed DISCOM bonds at the prevailing market rates equal to or less than bank base rate plus 0.1%. UDAY scheme was also for State owned DISCOM's.

## **1.8 Power for All (PFA) - Jharkhand**

- 1.8.1 It was a Joint initiative of Government of India and Government of Jharkhand. The Program aimed at providing 24X7 supply to all electricity consumers and providing electricity access to all unconnected households in the State.
- 1.8.2 The State of Jharkhand, in January, 2014 had unbundled the erstwhile Jharkhand State Electricity Board (JSEB) into Jharkhand Urja Vikas Nigam Limited (JUVNL – Holding Company), Jharkhand Urja Utpadan Nigam Limited (JUUNL – State GENCO), Jharkhand Urja Sancharan Nigam Limited (JUSNL – State Transco) and Jharkhand Bijli Vitaran Nigam Limited (JBVNL – State Discom).
- 1.8.3 One of the distinguishing features of power sector in Jharkhand is that it is being served by multiple distribution licensees' viz. JBVNL, DVC, Tata Steel, TSUISL (formerly JUSCO) and SAIL Bokaro. Two licensees, viz. DVC and TSUISL have overlapping geographical boundaries with the State distribution utility, JBVNL. Out of the total load of 3,255 MW at the State level, about 1,810 MW is served by JBVNL, while the remaining 1,455 MW is served by the other 4 distribution licensees. Almost all the licensees in the state are aiming for 24X7 power supply to its customers.

## **1.9 Atmanirbhar Bharat Package**

- 1.9.1 Post the lockdown imposed by Government of India on 22 Mar 2020 to curb the spread of COVID-19, there was an immediate liquidity crunch faced by DISCOM's across India. There was a steep fall in demand of around 25% across India. There was incremental cash deficit, which was primarily because of steep decline in sales especially the industrial and commercial consumers. Further, steep reduction to collection efficiency due to lockdown led to immediate financial crunch.
- 1.9.2 It was estimated that each month's deferral by DISCOM caused significant cash-gap for generating companies. The Ministry of Power, Government of India took due cognizance of the situation and announced several short term measures under the Atmanirbhar Bharat Package.



1.9.3 TSUISL, unlike other state owned DISCOM's has not received any grant from state/central government for various schemes and hence its tariff include for full cost of GFA added in form of cost element like Depreciation, RoE and Interest cost.

#### 1.10 Key Regulations of Jharkhand State Electricity Regulatory Commission (JSERC):-

1.10.1 Section 86 of the Electricity Act, 2003 lays down the function of the State Commission which include issuing of distribution license, determination of tariff for supply and wheeling of electricity, regulate electricity purchase and procurement process of distribution licensees among various functions. Further under Section 181 of EA, 2003 SERCs have power to make various regulation to regulate various aspects of Power Sector in their respective states.

1.10.2 In discharge of its function, the Jharkhand State Electricity Regulatory Commission issued various Rules and Regulations applicable in the State of Jharkhand. Some of the key regulations/policies which were issued by the Jharkhand State Electricity Regulatory Commission and Govt. of Jharkhand are outlined below:

**Table 1: Key Regulation's for Distribution Licensee in Jharkhand**

Sr. No.	Name of the Regulations/Policies
1	<b>Conduct of Business Regulations, 2011</b> with subsequent amendment in 2014– Guidelines to Power Sector Utilities in the State of Jharkhand for undertaking various Regulatory activities.
2	<b>Guidelines for Establishment of Forum for Redressal of Grievances of the Consumer's and Electricity Ombudsman Regulations, 2011</b> - Guidelines to the Distribution licensee in the state for establishing Forum's for redressal of consumer grievances.
3	<b>Demand Side Management Regulations, 2010</b> – Guidelines for advancement and implementation of cost effective DSM initiatives in the State of Jharkhand.
4	<b>Renewable Purchase Obligations and its Compliance, 2016</b> - Specifies a percentage for procurement of energy generated from such sources on the basis of total consumption of electricity within the area of a distribution licensee
5	<b>Distribution Tariff Regulations, 2015</b> - Determination of Tariff for Licensees and associated companies and laying down the performance parameters
6	<b>Open Access in Intra – State Transmission and Distribution, Regulation 2005</b> and its amendment in 2010 - It is applicable for access to and use of the distribution system of Distribution licensees
7	<b>Distribution Licensee's Standard of Performance Regulations, 2015</b> - Stipulates the standards of performance to be adhered by the Distribution licensee
8	<b>Jharkhand Energy Policy</b> - Aims to accelerate the pace of development of the State of Jharkhand

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Sr. No.	Name of the Regulations/Policies
9	Jharkhand Renewable Energy Policy
10	Jharkhand Electricity Supply Code 2015
11	JSERC (Conduct of Business Regulations), 2016
12	Electricity Supply Code (First Amendment) Regulations, 2018
13	Rooftop Solar PV Grid Interactive Systems and Net /Gross Metering (1st Amendment) Regulations, 2019
14	JSERC (Operation of Parallel Licensees) Regulations, 2019
15	<b>Distribution Tariff Regulations, 2020</b> - Determination of Tariff for Licensees and associated companies and laying down the performance parameters

1.10.3 The power sector in the State has been regulated based on the above outlined regulations and the same has also brought in an element of regulatory certainty as envisaged in Electricity Act, 2003. As mentioned previously, the above mentioned enactments have had an impact on the sector at the national as well as the state level.

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## 2. TSUISL: POWER BUSINESS IN SERAIKELA - KHARSAWAN

### 2.1 Background

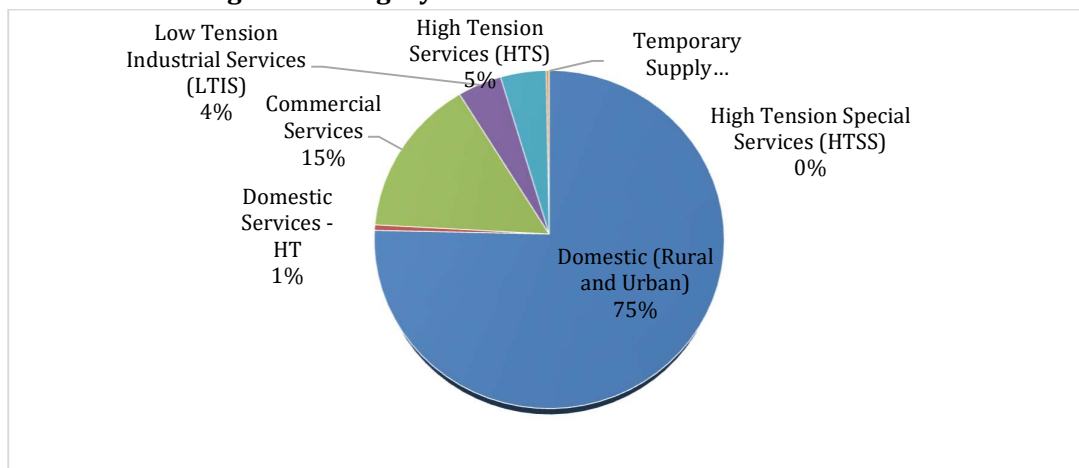
- 2.1.1 Tata Steel Utilities and Infrastructure Services Limited (hereinafter referred to as 'TSUISL' or the 'Petitioner') erstwhile known as Jamshedpur Utilities and Services Company Limited (JUSCO)<sup>2</sup> is a company incorporated on 25<sup>th</sup> August 2003 under the provisions of the Companies Act, 1956.
- 2.1.2 It is a wholly owned subsidiary of Tata Steel Limited and became operational w.e.f. 1<sup>st</sup> April 2004. JUSCO was incorporated primarily to provide civic services like :
- Manage power distribution in the city of Jamshedpur
  - To provide civic services like Water and Waste Management; Public Health & Horticulture Services; and Planning, Engineering & Construction.
- 2.1.3 The Electricity Act, 2003 opened up power distribution to the private sector and permitted more than one power distributor in a revenue region, vide Proviso 6 of Section 14 of the said Act which states:
- “...Provided also that the Appropriate Commission may grant a licence to two or more persons for distribution of electricity through their own distribution system within the same area, subject to the conditions that the applicant for grant of licence within the same area shall, without prejudice to the other conditions or requirements under this Act, comply with the additional requirements [relating to the capital adequacy, credit-worthiness, or code of conduct] as may be prescribed by the Central Government, and no such applicant, who complies with all the requirements for grant of licence, shall be refused grant of licence on the ground that there already exists a licensee in the same area for the same purpose...”*
- 2.1.4 Under the aforementioned enabling provisions of the EA 2003 TSUISL was granted a parallel license distribution license on 1st Dec 2006 to distribute power by creating its own distribution network in the revenue district of Seraikela – Kharsawan, adjoining to Jamshedpur.
- 2.1.5 TSUISL began its power distribution services in revenue district of Seraikela – Kharsawan in September 2007 as a second distribution licensee and therefore started building its network in the new area and started providing power connection.

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<sup>2</sup> JUSCO was a 100 percent subsidiary and service provider of Tata Steel, has become Tata Steel Utilities and Infrastructure Services Limited (TSUISL). This new name considered effective from December 30, 2019. This new name had been issued a certificate by the Registrar of Companies of Jharkhand.

- 2.1.6 TSUISL is the second Distribution Licensee operating in the Seraikela – Kharsawan district, the first being Jharkhand Bijli Vitaran Nigam Limited (JBVNL). This is one of its kind arrangement where two utilities have been allowed to build parallel networks for distribution of power.
- 2.1.7 TSUISL also undertakes distribution of electricity in Jamshedpur Town as a power distribution franchisee of Tata Steel Limited (Licensee of Jamshedpur), through set of employee engaged for this purpose.
- 2.1.8 It is expected that by the end of FY 2021, TSUISL will have GFA of electricity distribution network of approx. Rs.300Cr., and connected load of approx. 280 MVA. During FY2018-19, TSUISL energy sales were 709.30 MUs. However due to recession in Auto-sector in H2 of Fy2020 and subsequent spread of COVID in H1 of FY2021, TSUISL sales were impacted significantly. It is expected that the total energy sale will in FY2021 will reach around 520 MUs.
- 2.1.9 TSUISL network is connected with Tata Steel and DVC network. TSUISL purchases power from Tata Steel and DVC and sells it to all categories of consumers (domestic, commercial, industrial ... etc) in in Seraikela-Kharsawan area.
- 2.1.10 With respect to number of consumers of TSUISL across various categories (FY 2020-21) domestic category contributes to approximately 75% of the overall consumer portfolio of TSUISL followed by commercial category at 15%.

**Figure 8: Category Wise No of Consumers as of FY 2020-21**

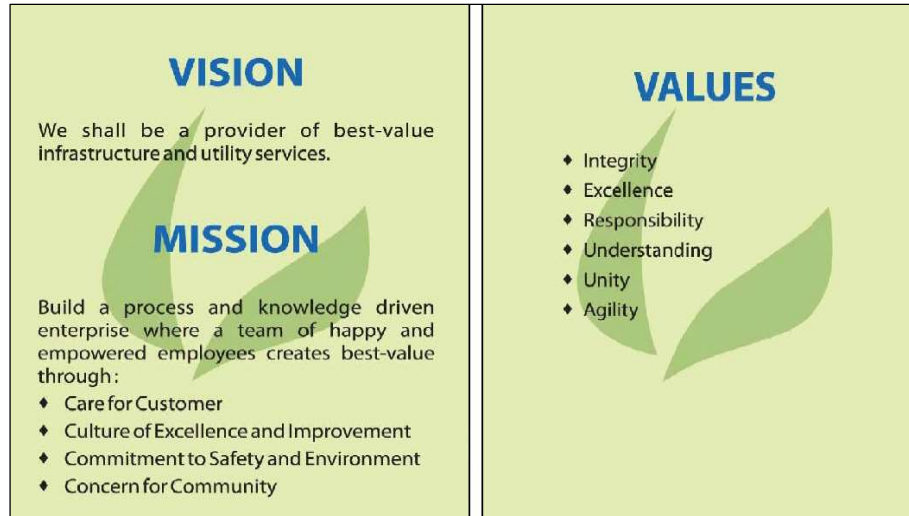


## 2.2 Vision Mission Value Architecture of TSUISL

- 2.2.1 The overarching purpose, fundamental values and ethical principles which govern the activities of the TSUISL in extending power supply to consumers in its License Area is well captured in the Vision, Mission and Value Architecture of TSUISL (VMV).

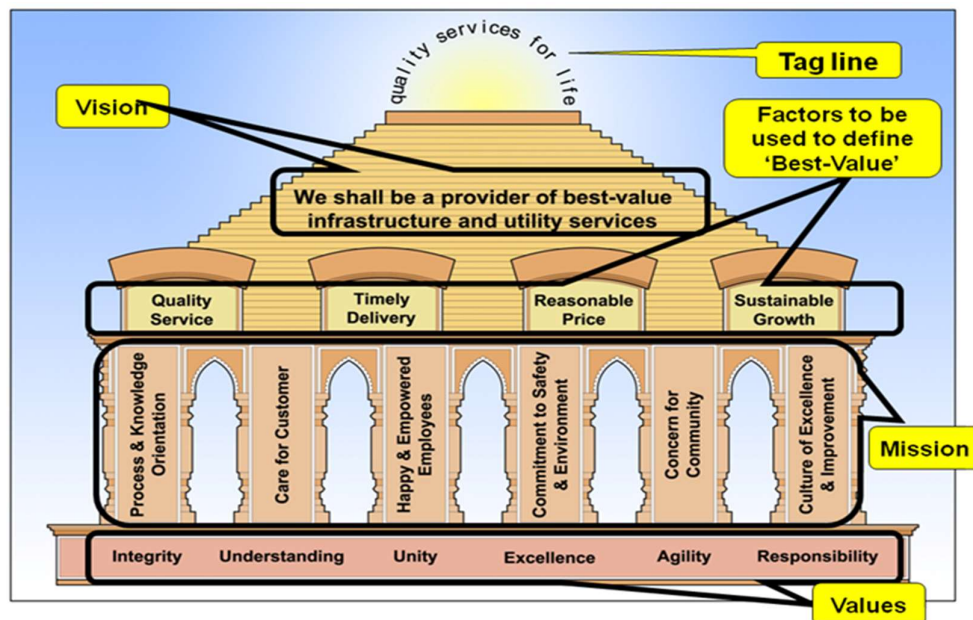
VMV forms the foundation for TSUISL's business planning for future years. The Vision, Mission and Value statement for TSUISL is as presented in the chart below:

**Figure 9: VMV statement of TSUISL**



2.2.2 The Vision, Mission and Values of TSUISL forms the guiding principles for Timely delivery of Quality Service at a Reasonable Price while ensuring the sustainable Growth to service more customers.

**Figure 10: V-M-V Architecture**



2.2.3 Thus the values form the foundation, whereas Quality Service, Timely delivery, Reasonable price and sustainable growth form the pillars to achieve the Vision of being the provider of best quality infrastructure and quality services



## 2.3 Key achievements of TSUISL in Power Distribution in Seraikela- Kharsawan

2.3.1 Several years of experience in power distribution business has led to development of effective and efficient processes for customer service, maintenance of Distribution infrastructure, T&D loss management, new connection, billing & collection functions which has helped TSUISL in achieving the following:-

- Uninterrupted Power Supply: Since beginning TSUISL has focussed on providing uninterrupted power supply to its consumers, by sourcing optimal power from reliable sources and operationalising its processes around customer service thereby helping to boost industrial production and overall economic development in its area of operations.
- In the last five years i.e., FY 15 to FY 20 TSUISL has improved the SAIFI value from 18.40 in FY15, to 5.89 in FY20. SAIDI value also reduced from 1041.09 to 417.11 during the same period respectively.
- Quality Power Supply: TSUISL maintains its distribution network to ensure that issues related to voltage Sag, Swell and flickers are not experienced by its customers.
- Efficient Customer Service: TSUISL has been providing efficient services to its consumers and has also initiated 24 x 7 Call Centres ensuring better serviced to its consumers round the clock.
- Lower Losses leading to lower cost of supply and tariff: Utmost care and attention is taken by TSUISL team to ensure that T&D loss levels remains at lowest possible levels. TSUISL works on technological options to reduce technical losses, whereas for non-technical losses it continuously engages with stakeholders on related issues. T&D losses as in the TSUISL network is almost at lowest possible levels and are subject to variations mostly due to loading pattern of the consumers.

**Table 2: Comparison of Distribution Losses for FY2020 across various DISCOM's**

	TSUISL	JBVNL	SBPDCL & NBPDC L	TSL	DVC	TPL (A)	TPL (Suraj)	TPDDL	BYPL
Distribution Losses	2.16%	14%	15%	2.5 %	3.34%	6.70%	3.64%	8%	10.50%

Source: various Tariff orders

2.3.2 TSUISL has been and shall always be committed towards taking the best possible measures to maintain its distribution losses at a minimum possible level by adopting pro-active approach and adopting best practices prevalent in the distribution sector in India.

- 2.3.3 However, going forward, the licensee is expecting some increase in its loss levels in the forthcoming Control Period primarily due to, Change in loading pattern of the existing consumers in the area, Extension of network in rural and remote areas, Early stage of network loading in some area, which is essential due to the endeavour of the licensee to expand its network .
- 2.3.4 **Comparatively Lower Tariff:** TSUISL has always been able to maintain reasonably lower tariff levels as compared to other utilities in the area.
- 2.3.5 **100% metering:** Since its inception TSUISL has not provided any electrical connection without meter.

## 2.4 Challenges and Opportunities of TSUISL

2.4.1 TSUISL has anticipated certain challenges and has foreseen certain opportunities that it will encounter during the control period FY 2021-22 to FY 2025-26.

### 2.4.2 Key Challenges

- Right of way issues -RoW issues for laying the new line is becoming increasingly difficult primarily due to non-availability of any corridor in already developed area, presence of forest patches/ plots in other areas away from township areas, unreasonable demand of the land owners while laying line/ poles over/ nearby their plot, procedural delays in getting various permissions from other authorities and local bodies. Getting MoEF permission by application of Forest Diversion proposal has further added to this problem , particularly for Jharkhand, due to presence of more forest patches/ land in the state. It takes somewhere between 2-3 years to process the MOEF proposal and get approval. With enactment of Forest Dwellers Rights Act, one additional condition to get the consent of the Gram Sabha has been included by MOEF. It is becoming extremely difficult to organise Gramsabaha and get the consent as several Gramsabha members do not see any direct benefit in getting the power line passing over/ under the proposed area, even though that does n't affect them.
- **Incoming line and substation capacities** - TSUISL's main incoming lines and substation to its network are already approaching the full capacity. However due to unavailability of suitable RoW and Land further growth of network is getting affected badly. TSUISL has been continuously chasing the STU for providing additional 40 MVA connectivity, but procedural issues are delaying this initiative. TSUISL seeks support from STU to provide this interconnectivity at the earliest.
- **Allowance of O&M Cost:** O&M Cost is directly proportional to the service levels and T&D losses maintained by the Licensee. TSUISL is undertaking its best efforts to maintain highest level of service and reduce the distribution loss well below the normative level. It puts resources to do the same which results into O&M costs .. The Distribution loss levels in Licensee's command area are at a best in class level when compared to the national benchmark level and other comparable utilities in the country. However, its normative O&M cost allowance is extremely low, which puts up lot of stress in working of the Licensee. To maintain such good performances, reasonable cost needs to be allowed by the Hon'ble Commission.

- **Impact due to COVID 19:** In the wake of COVID-19 pandemic, the overall market was sluggish. Subsequent lockdowns have resulted in a heavily intermittent industrial operation and severe disturbance in the industrial products. As a result, TSUISL has witnessed an overall decline of electricity demand from its commercial and industrial consumers in Q1 FY 2021. Though the market has witnessed a revival, the pandemic had a negative impact on its Q1 FY 2021 sales realization.

## **2.5 Information Technology and Other Initiatives**

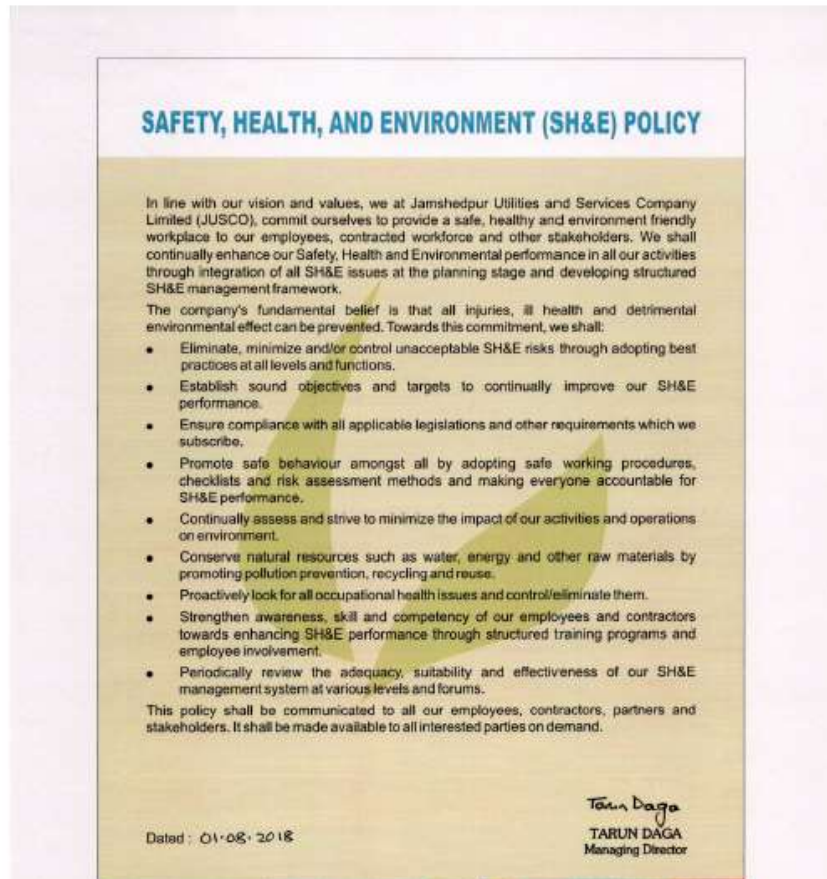
2.5.1 TSUISL has established desired IT initiatives and processes for its operations and to provide hassle free services to its valued customers. These include –

1. 24x7 customer complaint Management System (JUSCO Sahyog Kendra)
2. SAP – ISU for Billing
3. Vidushi for handling and processing of new power connections.
4. SAP MM module for material management including stores.
5. Lotus Notes for internal communication and office management.
6. Low Cost Data Monitoring for system operations.
7. Intranet/ Internet facility to its employees
8. Remote Meter Monitoring and Reading for high value consumers.
  - Multiple Payment Options-
  - Billing Payment Facilities
  - Bill desk direct debit from customer's bank account.
  - Payment through net banking option from customer's bank website.
  - Payment through cash ATP machine.
  - Payment through mobile banking (in process of being implemented).
  - Transaction based SMS system for both Billing and collection

## **2.6 Health and Safety Management**

2.6.1 The initiatives undertaken by TSUISL under the Health and Safety Management flows from the Safety, Health & Environment (SH&E) Policy formulated in April 2013. The commitments of TSUISL under the policy is as presented in the image, below:-

**Figure 11: Safety, Health & Environment (SH&E) Policy**



2.6.2 Workplace Safety, Health, Ergonomics and Security are key focus areas of TSUISL and are deployed . Security need is assessed by respective departments for various installations.

2.6.3 The various initiatives undertaken under Health and safety management is as presented in the table below:-

- Hazards identification and risk assessment,
- Safe Work Procedure for critical tasks.
- Positive Isolation / Lockout-Tag Out(LOTO)
- 'Safety Observations' by all Officers.
- Mock Drills for identified emergency.
- PPE, First Aid Kit and Fire Extinguishers
- 100 % pre-employment medical examination,
- Medical facility to all employees and dependent family,
- Regular Health checkup of employees.



## **2.7 Corporate Social Responsibility**

- 2.7.1 TSUISL believes that the primary purpose of a business is to improve the quality of life.
- 2.7.2 TSUISL will volunteer its resources, to the extent it can reasonably afford to sustain and improve healthy and prosperous environment and to improve the quality of life of the employees and the communities it serves.
- 2.7.3 TSUISL will conduct its business ever mindful of its social accountability, respecting applicable laws and with regard for human dignity.
- 2.7.4 TSUISL will positively impact and influence its partners in fostering a sense of social commitment for their stakeholders.

## **2.8 Objective of this petition**

2.8.1 The Hon'ble Commission, in exercise of the powers conferred by the EA 2003, notified the Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020.

2.8.2 Regulation 6.9 of JSERC (Terms & Conditions for Determination of Distribution Tariff) Regulations, 2020 (hereafter referred as JSERC Distribution Tariff Regulations, 2020) states that:

*"Each licensee shall file for the Commission approval a Business Plan approved by its authorized signatory, as per the timelines specified in Section 11 of these Regulations; "*

2.8.3 Further Regulations 6.10 and 6.11 of JSERC Distribution Tariff Regulations, 2020 states that:

*"...6.10 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."*

*"..6.11 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;*

*Sales/Demand Forecast for each customer 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 should also include energy efficiency and demand side management measures;*

*A set of targets proposed for other controllable items such as distribution losses, collection efficiency, working capital requirement, quality of supply targets (viz., SAIFI, SAIDI and MAIFI as per the JSERC (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;*

*Business Plan shall also contain the requisite information for the Control Period:*

*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."*

- 2.8.4 Hence in Order to comply with relevant provisions of Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020, TSUISL is filing instant Business Plan along with Multi Year Tariff (MYT) Petition for Control Period FY 22 to FY 26.

### 3. PAST PERFORMANCE ANALYSIS

This section elucidates TSUISL's overview of power business into operational and financial performance for the previous years. A comparative analysis of the operational performance for various years in relation to sales, distribution loss, operative indices etc. are discussed herewith.

#### 3.1 Number of Consumers

3.1.1 Historic trends in category wise number of consumers from FY 2015-16 to FY 2020-21 (H1 actuals and H2 estimates for FY 2021) is as tabulated below:

**Table 3: Category-wise Consumer Nos for the period FY 2016-17 to FY 2020-21**

Consumer Category	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (H1 Actuals)	FY 2021 (H2 Estimates)	FY 2021 (Total)
Domestic Service-Rural	202	268	400	500	504	131	635
Domestic Service-Urban	1213	1976	2710	3680	3921	509	4430
Domestic Service-HT	29	32	32	35	35	0	35
Commercial Service-Rural	5	6	18	28	27	29	56
Commercial Service-Urban	573	647	738	847	883	89	972
LTIS Installation Base*	161	197	219	245	251	19	282
LTIS Demand Base*			10	11	12	LTIS Installation base and LTIS Demand base category merged as 1 category	
High Tension Services							
HTS-11 KV*	177	187	208	232	236	23	263
HTS-33 KV	21	23	28	32	33	3	48
High Tension Special Services							
HTSS-11 KV*	5	6	5	5	4	Merged with HTS 11 KV	
HTSS-33 KV*	5	7	9	12	12	Merged with HTS 33 KV	
Temporary Services			4	3	1	0	1
<b>Total</b>	<b>2391</b>	<b>3349</b>	<b>4381</b>	<b>5630</b>	<b>5919</b>	<b>803</b>	<b>6722</b>

\*LTIS demand base and Installation base merged as one category, HTS 11 KV and HTSS 11 KV merged as one category and HTS 33 KV and HTSS 33 KV merged as one category with effect from 1<sup>st</sup> October 2020

3.1.2 It can be seen that the number of consumers have increased from 2391 in FY 2016-17 to 6722 in FY 2020-21 which observes a CAGR of about 29%. The majority of the consumer additions are in the domestic category followed by the commercial category.

## 3.2 Energy Sales

3.2.1 The category wise sales for the past 5 years is as given in the table below. HT consumers contribute maximum to the sales of TSUISL. The FY 2021-21 energy sales estimates are based on H1 actuals and H2 estimates.

**Table 4: Category-wise Energy Sales for the period FY 2016-17 to FY 2020-21**

Consumer Category	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (H1 Actuals)	FY 2021 (H2 Estimates)	FY 2021 (Total)
Domestic Service-Rural	0.19	0.34	0.49	0.64	0.44	0.32	0.76
Domestic Service-Urban	6.25	8.59	11.64	15.21	11.14	7.82	18.96
Domestic Service-HT	6.79	8.26	8.60	9.22	5.92	4.26	10.18
Commercial Service-Rural	-	0.01	0.09	0.22	0.06	0.05	0.11
Commercial Service-Urban	4.14	5.40	6.56	7.44	3.57	2.70	6.27
LTIS Installation Base*	9.53	11.76	12.74	11.14	4.11	5.31	9.85
LTIS Demand Base*	-	-	1.11	0.99	0.43	LTIS Installation base and LTIS Demand base category merged as 1 category	
High Tension Services							
HTS-11 KV*	149.43	174.34	194.00	163.23	59.64	79.21	142.41
HTS-33 KV*	265.21	320.10	362.40	287.21	104.89	188.64	331.54
High Tension Special Services							
HTSS-11 KV*	19.31	26.30	29.76	10.05	3.57	Merged with HTS 11 KV	
HTSS-33 KV*	20.63	27.98	81.90	77.46	38.00	Merged with HTS 33 KV	
Temporary Services	-	-	0.01	0.01	0.01	0.00	0.01
<b>Total</b>	<b>481.48</b>	<b>583.08</b>	<b>709.30</b>	<b>582.82</b>	<b>231.78</b>	<b>288.30</b>	<b>520.07</b>

\*LTIS demand base and Installation base merged as one category, HTS 11 KV and HTSS 11 KV merged as one category and HTS 33 KV and HTSS 33 KV merged as one category with effect from 1<sup>st</sup> October 2020

3.2.2 The overall sales growth of TSUISL saw an increasing trend from FY 2016-17 to FY 2018-19. Subsequently, the sales growth saw a dip in FY 2019-20 and FY 2020-21. Total sales increased at a CAGR of 15.05% over the period FY 2016-17 to FY 2018-19. In FY 2019-20, the economic slowdown and subsequent downturn in the automobile sector resulted in the decline in iron and steel sector market and auto ancillary industries. As a result, in spite of increase in domestic and commercial sector, the power demand from HT (industries) declined significantly in FY 2019-20.

3.2.3 Further, the COVID-19 outbreak in FY 2020-21 and subsequent lockdowns have resulted in a heavily intermittent industrial operation and severe disturbance in the commercial and industrial products in the current financial year. Though the sales figure for commercial and industrial services have shown a revival to the original level in the recent months, the pandemic has had a negative impact on the overall sales figures for FY 2020-21. As a result of COVID 19, the sales from Commercial

Service witnessed a decline of 17% in FY 2020-21 as compared to FY 2019-20 figures. LTIS – Installation based & Demand based category of consumers has also suffered sales decline ~ 19% in FY 2020-21 as compared to FY 2019-20 figures. HT services of 11 kV and 33 kV has witnessed annual drop in sales of 12% in FY 2020-21 as compared to FY 2019-20 figures. The total energy sales have reduced by 11% from FY 2019-20 to FY 2020-21 primarily on account of COVID-19.

- 3.2.4 Accordingly, decrease in sales in FY 2019-20 and FY 2020-21 due to economic slowdown and COVID 19 impact led to only a marginal increase in the overall sales over the period FY 2016-17 to FY 2020-21, at a CAGR of 2.23%.

### 3.3 Connected Load

- 3.3.1 With the overall growth in the economy and subsequently increasing consumer base, the connected load also increased at a CAGR of 12% over the last control period.

**Table 5: Category-wise Connected Loads (kVA) for the period FY 2016-17 to FY 2020-21**

Consumer Category	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (H1 Actuals)	FY 2021 (H2 Estimates)	FY 2021 (Total)
Domestic Service-Rural	342	483	904	1173	1185	308	1493
Domestic Service-Urban	10984	16389	21491	27912	29635	3847	33482
Domestic Service-HT	7956	7690	7615	8146	8927	0	8927
Commercial Service-Rural	8	9	160	218	194	208	403
Commercial Service-Urban	5572	6414	7107	8545	9093	917	10009
LTIS Installation Base	8810	10290	11641	12556	12838	727	14258
LTIS Demand Base	0	0	534	668	693	LTIS Installation base and LTIS Demand base category merged as 1 category	
High Tension Services							
HTS-11 KV	54903	62454	68515	76144	72761	8862	84538
HTS-33 KV	76236	82586	89536	88836	92270	8500	127890
High Tension Special Services							
HTSS-11 KV	5365	6165	5115	3915	2915	Merged with HTS 11 KV	
HTSS-33 KV	8100	13850	23850	29470	27120	Merged with HTS 33 KV	
Temporary Services	0	0	41	45	2	0	2
<b>Total</b>	<b>178276</b>	<b>206330</b>	<b>236509</b>	<b>257628</b>			<b>281003</b>

- 3.3.2 It is to be noted that the Sanctioned load of Domestic and LTIS has been converted to kVA from kW and HP respectively.



### 3.4 Distribution losses

- 3.4.1 Distribution Losses in electricity business primarily consist of
- Technical Losses
  - Non- Technical Losses
- 3.4.2 Technical Losses are dependent on distribution network components like conductor sizes, transformers, switching devices (Circuit breakers and isolators), fuses, length of distribution lines, loading of various lines and transformers. The current level of technical losses in TSUISL's system is around 2.5% - 3.00%.
- 3.4.3 The Non-Technical Losses in the system comprise of losses due to following reasons
- a) Un-metered supply connections.
  - b) Error in energy meter connections
  - c) Error in meter reading and data entry.
  - d) Theft and pilferage of energy by un-authorized means
- 3.4.4 TSUISL would like to submit to the Hon'ble Commission that it has been able to achieve almost negligible level of non-technical losses by its efficient operations management and error free installations. Several cycles of improvement have been carried out by TSUISL to achieve almost negligible non-technical losses in the system.
- 3.4.5 The trajectory of actual distribution loss over the past 5 years is as presented in the table below:-

**Table 6: Actual Distribution Loss for the period FY 2016-17 to FY 2020-21**

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (H1 Actuals)	FY 2021 (H2 Estimates)	FY 2021 (Total)
Overall Distribution Losses (%)	1.18%	1.24%	0.98%	1.83%	2.16%	2.29%	2.67%	2.50%

- 3.4.6 Slight increase in distribution losses in FY 2018-19, FY 2019-20 and FY2020-21 was primarily due to the decrease in HT sales, on account of industry slow-down and COVID-19 related lockdowns and production downturn. With the expansion of network in village areas the loss is expected to be higher than previous year as theft and other inherent issues go up. Hence, with more share of LT sales in the system, the loss is expected to go up.
- 3.4.7 TSUISL has already being complying with the targets set by the Hon'ble Commission in this regard. TSUISL has been committed towards taking the best possible measures to minimise its distribution losses by adopting pro-active approach and adopting best practices prevalent in the distribution sector in India. However, due to the recent

expansion of the network, there has been an increasing trend in the distribution loss, of which TSUISL is taking care of and commits to reduce in near future.

### 3.5 Operating Indices

3.5.1 As per the JSERC (Standard of Performance of Distribution Licensee) Regulations, 2015 issued by the Hon'ble Commission, TSUISL is directed to calculate the reliability indices of its distribution system on the basis of number and duration of sustained interruptions in a year, using the following indices:

3.5.2 **SAIFI: System Average Interruption Frequency Index** is the weighted average number of times that a feeder is interrupted during a specified time period with respect to connected load. It is determined by dividing the sum-product of numbers of feeder interruption with connected load of the feeder in a time period by the total connected load. The resulting unit is "interruptions per feeder per year". As seen in the table below, the average number of interruptions per consumers per month has been shown for the last two years.

3.5.3 **SAIDI: System Average Interruption Duration Index** measures the weighted average duration of interruptions for the average feeder with connected load. It is the ratio of the sum-product of duration of feeder interruption with connected load of the feeder in a time period by the total connected load. As seen in the table below, the average duration (minutes) of interruptions per consumers per month have been shown for the last two years.

**Table 7: Operating Indices of TSUISL**

Year	SAIFI	SAIDI
2016-17	10.04	620.28
2017-18	8.72	430.24
2018-19	9.2	445.32
2019-20	5.89	417.11
2020-21	1.47	155.84

3.5.4 It is observed that the Operative indices like SAIFI, SAIDI of the license area Have improved significantly over the last control period.

### 3.6 Power Purchase

3.6.1 The following table shows the power purchase quantum and cost of TSUISL from different sources during last 5 years.

**Table 8: Power Purchase Expenses Source wise for the period FY 2016-17 to FY 2020-21**

	FY 2016-17			FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21		
Source	Energy (MU)	Power Purchase Cost (in INR Cr)	Per Unit Cost (Rs/ KWh)	Energy (MU)	Power Purchase Cost (in INR Cr)	Per Unit Cost (Rs/ KWh)	Energy (MU)	Power Purchase Cost (in INR Cr)	Per Unit Cost (Rs/ KWh)	Energy (MU)	Power Purchase Cost (in INR Cr)	Per Unit Cost (Rs/ KWh)	Energy (MU)	Power Purchase Cost (in INR Cr)	Per Unit Cost (Rs/ KWh)
Tata Steel Limited	279.29	115.46	4.14	314.56	136.54	4.30	408.39	212.04	5.19	323.44	175.31	5.42	255.33	151.92	5.95
DVC at 33 kV	97.34	47.76	4.91	106.91	52.55	4.91	119.51	50.14	4.20	94.79	41.95	4.43	94.11	41.46	4.41
DVC at 132 kV	110.91	49.93	4.50	167.33	73.55	4.39	194.64	79.42	4.28	177.47	75.19	4.24	183.97	79.15	4.30
Others / Traders	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>487.54</b>	<b>213.15</b>	<b>4.37</b>	<b>588.80</b>	<b>262.64</b>	<b>4.46</b>	<b>722.53</b>	<b>341.60</b>	<b>4.73</b>	<b>595.70</b>	<b>292.45</b>	<b>4.91</b>	<b>533.41</b>	<b>272.52</b>	<b>5.11</b>

3.6.2 The average power purchase cost from all the sources has increased at a CAGR of around 6.34 % over last five (5) years (FY 2016-17-FY 2020-21) on account of increase in sales and power purchase rate. In FY 2020-21 total power purchase cost is projected to come down by 5.41% compared to previous year, on account of the COVID-19 outbreak and subsequent lockdowns in the Q1 and Q2 of FY21 leading to lower power purchase requirement.

3.6.3 Within the given operational constraints and difficulties ; TSUISL is committed to work continuously towards sourcing its power from reliable sources thereby providing 24x7 power supply to its customers at a reasonable tariff.

### 3.7 Analysis of Capital Expenditure

3.7.1 The Capital Expenditure of TSUISL for the last 5 years is shown as below.

**Table 9: Analysis of Capital Expenditure**

Particulars	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (H1 Actuals)	FY 2021 (H2 Estimates)	FY 2021 (Total)
Opening CWIP	2.52	9.86	14.12	28.53	26.04	27.56	26.04
Add: Capex during year	22.39	24.12	37.27	52.26	4.15	20.17	24.32
Total CWIP	24.91	33.98	51.39	80.79	30.19	47.73	50.36
Less: Trfd to GFA	15.04	19.86	22.87	54.75	2.63	23.55	26.18
Closing CWIP	9.86	14.12	28.53	26.04	27.56	24.18	24.18
Gross Fixed Assets (GFA)							
Opening GFA	165.04	180.09	199.95	222.82	277.57	280.20	277.57
Add: Trfd from CWIP	15.05	19.86	22.87	54.75	2.63	23.55	26.18
Closing GFA	180.09	199.95	222.82	277.57	280.20	303.75	303.75

## **4. Demand & Sales Assessment**

Demand and Sales Assessment is one of the most important aspects of the distribution business. There are many statistical approaches to project the demand and sales for the future year including the crudest form of CAGR method to the most advanced form of end use survey approach. In fact, CEA has been using partial end use method to project demand in different states. However, the technique adopted is mainly dependent of the kind of data that is available, nature of consumption and size of customer category.

Further, Demand and Sales Assessment is not a onetime exercise but needs to be constantly monitored against actual demand and updated for any major development or change in other external drivers like policies, regulatory developments, industrial growth, changes in specific industry segments etc.

### **4.1 Regulatory Provisions for Sales Forecast**

- 4.1.1 The Commission in the Regulation 6.16 of Distribution Tariff Regulations 2020 has mentioned of business plan submission based on Sales/ Demand Forecast for each consumer category, sub-category and for each tariff slab, at different voltage levels, for each year of the Control Period based on recent trends and historical growth. The relevant provisions of the Distribution Tariff Regulations 2020 are extracted for reference as under:

*“6.16 The Licensee, in its Business Plan filings, shall forecast sales for each consumer category, sub-category and for each tariff slab, at different voltage levels, for each year of the Control Period based on recent trends and historical growth for the Commission’s review and approval along with the requisite details of category-wise and voltage-wise sales, contracted load, number of consumers, etc.*

*6.17 The Commission shall examine the forecasts for reasonableness and consistency on the basis of expected growth in the number of consumers, changes in pattern of consumption, seasonal variations, target distribution losses, demand for electricity in previous years and anticipated growth in the next year, and any other factor considered relevant by the Commission, and accordingly approve sales forecast with such modifications as deemed fit for each year of the Control Period.*

*6.18 Sales of electricity, if any, to electricity traders or another Licensee shall be separately indicated.*

*6.19 The Licensee shall also indicate category-wise open access consumers along with open access sales. The energy wheeled for them shall be shown separately for:*

*a) Supply within its area of supply; and*

*b) Supply outside its area of supply.”*

## **4.2 Broad Methodology**

4.2.1 Demand and Sales forecast is one of the key elements of power distribution licensee business plan. In this business plan demand estimation has been done for each category of consumer's separately and then it has been added to arrive at the total demand/sales.

4.2.2 The sales estimates for individual consumer category of TSUISL is done in 3 broad steps:

**Step 1:** Consumer no projection for the Control Period

4.2.3 TSUISL has projected category wise additions in the number of consumers for each year of the control period. Primarily TSUISL has followed two approaches to project consumer additions in each category:-

- Average (5 year moving average) addition in the number of consumers for each year of the Control Period
- Addition in number of consumers done based on consumer specific information available to TSUISL about the upcoming facilities/plants etc.

4.2.4 Approach taken for each category is explained separately for clarity in individual section.

**Step 2:** Connected load projection for each consumer category

4.2.5 TSUISL has projected the connected load for each consumer category. This is derived by first arriving at the connected load (KVA) per consumer (Load Multiplier) based on the last 5 year data i.e. FY 2016-17 to FY 2020-21.

4.2.6 The average of the Load Multiplier for the last 5 year data i.e. FY 2016-17 to FY 2020-21 is then then multiplied by the no. of consumer projected to arrive at the Connected load projection for each consumer category

**Step 3:** Sales projections for the Control Period.

4.2.7 Load factor for each category is taken as the average of the last 5 years i.e. FY 2016-17 to FY 2020-21.

4.2.8 The average load factor of the previous 5 years i.e. FY 2016-17 to FY 2020-21 is multiplied with the projected connected load to reach to the projected sales figure for the Control Period:

$$\text{Sales for each category each year (MUs)} = (\text{Connected Load (KVA)} * \text{Average Load Factor (\%)} * 8760 * 0.85) / 10^6$$

### 4.3 Sales and Demand Projections

#### Domestic Services – LT

4.3.1 Domestic Services – LT category comprises of LT – Rural and LT – Urban. Future consumer number projections in domestic services (LT – Urban) category is done based on 5 year moving average.

4.3.2 Whereas in domestic services (LT – Rural) category, a year on year addition of 150 consumer numbers have been considered till FY 2025-26. Whereas for FY 2025-26, consumer addition of 160 is considered based on specific inputs regarding addition of more villages by end of FY 2024-25.

4.3.3 TSUISL submits to the Honourable Commission that even though TSUISL is taking all endeavours towards expanding its network, the consumer addition in this category is being limited due to relatively low cost/ free service, consumers are getting from their existing supplier. The availability of power given by present supplier is also appropriate for this consumer class and therefore even after extending network more consumers are not willingly opting for it. Also, network extension works are difficult considering the RoW issues, forest clearances and other regulatory/ statutory requirements. Accordingly, TSUISL has taken a considerate view on year on year consumer addition numbers in the Domestic service category as provided in the table below:

**Table 10: Addition of consumers to existing Domestic Services - LT Category**

Domestic Services - LT	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services - Rural</b>	785	935	1,085	1,235	1,395
Year wise -Addition in Rural Category	150	150	150	150	160
<b>Domestic Services - Urban</b>	5,234	6,049	6,884	7,685	8,499



Domestic Services - LT	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Year wise -Addition in Urban Category	804	815	835	801	814

4.3.4 Connected load for LT-Rural and LT-Urban is derived by first arriving at the connected load (KVA) per consumer (Load Multiplier) based on the last 5 year data i.e. FY 2016-17 to FY 2020-21:

- Average Load Multiplier LT Rural: 2.19 KVA
- Average Load Multiplier LT Urban: 7.87 KVA

4.3.5 The average of the Load Multiplier for the last 5 year data i.e. FY 2016-17 to FY 2020-21 is then multiplied by the no. of consumer projected to arrive at the connected load projection for both the consumer category.

4.3.6 The average load factor of the previous 5 years i.e. FY 2016-17 to FY 2020-21 is multiplied with the projected connected load to reach to the projected sales figure for both the consumer category.

- Average Load Factor LT Rural: 7.68%
- Average Load Factor LT Urban: 7.38%

4.3.7 TSUISL has also considered increase in Energy consumption in the Domestic Urban category due to Electric Vehicles, and subsequent increase in Electricity demand. In order to estimate the demand, TSUISL has taken the following assumptions from each of the vehicle category (i.e. 2-Wheeler, 3-Wheeler, 4-Wheeler Private, 4-Wheeler Commercial):

**Table 11: Assumptions for calculating additional sales to EV**

Type of EV	Km with full charge	Average running km /day	% utilization (Average Running/ Km with Full Charge)
2-Wheeler	85	30	35%
3-Wheeler	70	25	36%
4-W Private	150	45	30%
4-W Commercial	150	85	57%

4.3.8 The EV adaptation projection for the control period is as follows. TSUISL expects the EV sales primarily in Adityapur and Gamharia region of Seraikela.

**Table 12: Projections for EV adaptation**

Year	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
2W EV Sales (in units)	6	18	54	162	486	1458
3W EV Sales (in units)	2	4	8	16	32	64
4W Private EV Sales (in units)	1	2	2	3	5	8
4W Commercial EV Sales (in units)	1	2	2	3	5	8

4.3.9 The utilization amount and the number of EV sales (as projected) is taken into consideration for estimating the electricity demand arising from EV- adaptation in the licensee area. The electricity demand in the licensee area due to EVs in the ensuing year are as follows:

**Table 13: Projections for EV adaptation**

	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>2W EV Sales (in units)</b>	6	18	54	162	486	1458
Units consumed per full charge (kWh)	1	1	1	1	1	1
Total Units Consumed per full charge (kWh) in year	2190	6570	19710	59130	177390	532170
Average units consumed per year (in kWh) <b>(Total Units x Utilization Factor)</b>	773	2319	6956	20869	62608	187825
<b>3W EV Sales (in units)</b>	2	4	8	16	32	64
Units consumed per full charge (kWh)	8	8	8	8	8	8
Total Units Consumed per full charge (kWh) in year	5840	11680	23360	46720	93440	186880
Average units consumed per year (in kWh) <b>(Total Units x Utilization Factor)</b>	2086	4171	8343	16686	33371	66743
<b>4W Private EV Sales (in units)</b>	1	2	2	3	5	8

	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Units consumed per full charge (kWh)	17	17	17	17	17	17
Total Units Consumed per full charge (kWh) in year	6143	9214	13822	20732	31099	46648
Average units consumed per year (in kWh) <b>(Total Units x Utilization Factor)</b>	1843	2764	4146	6220	9330	13994
<b>4W Commercial EV Sales (in units)</b>	1	2	2	3	5	8
Units consumed per full charge (kWh)	17	17	17	17	17	17
Total Units Consumed per full charge (kWh) in year	6143	9214	13822	20732	31099	46648
Average units consumed per year (in kWh) <b>(Total Units x Utilization Factor)</b>	3481	5222	7832	11748	17623	26434

4.3.10 As calculated above, TSUISL has considered the energy consumption by Private 2 Wheelers, 3-Wheelers and 4-Wheelers in Domestic Services – LT (Urban) category sales. The sales accountable to EV sales in Domestic-LT (Urban) category as calculated in above table is as follows:

**Table 14: Electricity Sales due to EV**

Domestic - LT	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sale due to EV	MUs	0.01	0.02	0.04	0.11	0.27

4.3.11 As per various factors as elucidated in above paragraphs, TSUISL hereby project number of Domestic Services -LT consumers, their connected load and Energy Sales in next Control Period as tabulated below:

**Table 15: Sales, No of Consumers and Load – Domestic Services LT**

Domestic - LT	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>No. Of Consumers</b>						
LT - Rural	Nos	785	935	1,085	1,235	1,395
LT - Urban	Nos	5,234	6,049	6,884	7,685	8,499
<b>Connected Load</b>						

Domestic - LT	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
LT - Rural	KVA	1721	2050	2378	2707	3058
LT - Urban	KVA	41277	47835	54821	62331	72290
<b>Energy Sales</b>						
LT - Rural	MUs	0.98	1.17	1.36	1.55	1.75
LT - Urban	MUs	22.68	26.29	30.15	34.34	39.97

#### Domestic Services (DS-HT)

4.3.12 Energy sales to Domestic Services - HT in next Control Period has been forecasted based on historic growth in consumption and additional sales on account of addition of new consumers.

4.3.13 Most of the consumers in housing colonies prefer individual connections rather than go for a single point supply under this category. Also bulk consumer of this nature is expected to have reached the saturation level. However for the purpose of this Business plan TSUISL has assumed one consumer addition per year during the control period FY 2022 to FY 2026 in Domestic services - HT consumer category.

4.3.14 The average connected load (KVA) per consumer (based on the last 5 year data i.e. FY 2016-17 to FY 2020-21) for DS-HT category is 247.45 KVA. Such average connected load per consumer is then multiplied by the no. of consumer projected year on year to reach to the projected connected load for this category. The average load factor of the previous 5 years (FY 2016-17 to FY 2020-21) i.e. 14.31% is multiplied with the projected connected load to reach to the projected sales figure for DS-HT consumer category.

4.3.15 As per methodology given above energy sales, TSUISL hereby project number of Domestic - HT consumers, their connected load and Energy Sales as tabulated below:

**Table 16: Sales projection – DS-HT category**

Domestic - HT	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>No. Of Consumers</b>	Nos	36	37	38	39	40
<b>Connected Load</b>	KVA	8908	9156	9403	9650	9898
<b>Energy Sales</b>	MUs	9.49	9.76	10.02	10.29	10.55

#### Commercial Services – Rural and Urban

4.3.16 For calculating the future projections in Commercial Services (Rural & Urban) category, 5 year moving average has been taken into consideration.

4.3.17 The average connected load (KVA) per consumer (based on the last 5 year data i.e. FY 2016-17 to FY 2020-21) for CS-Rural category is 7.06 KVA and for CS-Urban category is 9.97 KVA. Such connected load is then multiplied by the no. of consumer projected to reach to the projected connected load for this category. The average load factor of the previous 5 years i.e. FY 2016-17 to FY 2020-21 is multiplied with the projected connected load to reach to the projected sales figure for CS- Rural and CS- Urban consumer category.

- Average Load Factor CS Rural: 7.91%
- Average Load Factor CS Urban: 10.76%

4.3.18 TSUISL have also considered increase in Energy consumption due to Electric Vehicles, and subsequent increase in Electricity demand in the CS-Urban category. In order to estimate the demand, 4-Wheeler Commercial EV sales has been considered in the CS –Urban category (as summarised in Domestic Services – LT above).

4.3.19 The year-wise consumption by EV as accounted in the CS-Urban category is tabulated below:

**Table 17: Electricity Sales due to EV**

Commercial - Urban	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sale due to EV	MUs	0.01	0.01	0.01	0.02	0.03

4.3.20 As per various factors as elucidated in above paragraphs, TSUISL hereby project number of Commercial Services consumers, their Connected Load and Energy Sales in next Control Period as tabulated below:

**Table 18: Sales, No of Consumers and Load – Commercial Services**

Commercial Services	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>No. Of Consumers</b>						
Commercial - Rural	Nos	69	85	102	121	137
Commercial - Urban	Nos	1,072	1,178	1,288	1,398	1,505
<b>Connected Load</b>						
Commercial - Rural	KVA	487	600	720	854	967
Commercial - Urban	KVA	10691	11750	12850	13953	15028
<b>Energy Sales</b>						
Commercial - Rural	MUs	0.29	0.35	0.42	0.50	0.57
Commercial - Urban	MUs	8.57	9.42	10.30	11.19	12.06

4.3.21 As per Hon'ble Commission Order dated 29th Sep 2020, commercial consumers below 5 kW would be billed at domestic tariff. TSUISL has considered actual ratio as on H1 FY 2021 for bifurcation of commercial consumers in above and below 5 kW sub-categories. The ratios are tabulated here-under:

**Table 19: Ratio for sub-Categorization of Commercial Consumers on load basis**

Sub-category on load basis	Consumer Numbers	Connected Load	Energy sales
<b>Commercial - Rural</b>			
Commercial Below 5 kW	83.93%	31.54%	26.92%
Commercial Above 5 kW	16.07%	68.46%	73.08%
<b>Commercial - Urban</b>			
Commercial Below 5 kW	71.09%	20.11%	14.81%
Commercial Above 5 kW	28.91%	79.89%	85.19%

#### Low Tension Industrial Services (LTIS)

4.3.22 The Hon'ble Commission in its Order dated 29th Sep 2020 has already discussed about tariff rationalization for this consumer category and stated the following:

*"The Commission observed that for LTIS (CD>5kW), HTS Consumers and HT Institutional Consumers though the Demand is already measured in kVA and Fixed Charge billing is done on per kVA basis the Energy Charge is billed on kWh basis. The Commission is of the view that in order to have better grid discipline, kVAh billing is more appropriate and also considering that the Tariff Structure should be consistent throughout the State, the Commission approves kVAh based billing for the above categories of consumers. Hence, the Commission has removed the Installation billing for LTIS"*

4.3.23 Hence for more justified and simple tariff categorization TSUISL has merged sub categories of LTIS into one. Energy sales to LTIS category in next Control Period has been forecasted based on historic growth in consumption and additional sales on account of addition of new consumers.

4.3.24 For deriving the number of consumers in future projections in LTIS based category the no of consumer additions estimated in FY 2021 has been considered in FY 2022 and FY 2023. Accordingly, 26 nos. of consumer is projected to be added in FY 2022

and FY 2023 and thereafter, year on year addition of 28 consumer has been considered in this category.

4.3.25 The average connected load (KVA) per consumer (based on the last 5 year data i.e. FY 2016-17 to FY 2020-21) has been computed for this category. Such connected load is then multiplied by the no. of consumer projected to reach to the projected connected load for this category. The average load factor of the previous 5 years i.e. FY 2016-17 to FY 2020-21 is multiplied with the projected connected load to reach to the projected sales figure for this consumer category.

4.3.26 Further, TSUISL projects that adaptation of solar rooftops and PVs will have an impact over the energy sales for this consumer category. The estimated solar generation from the ongoing and planned capacities are as follows:

**Table 20: Projections for impact of Solar Adaptation**

Domestic - LT	Units	FY 22	FY 23	FY 24	FY 25	FY 26
Units to be Generated from Solar	MUs	2.04	2.45	2.94	3.53	4.23

4.3.27 As per methodology given above energy sales, TSUISL hereby project number of LTIS consumers, their connected load and Energy Sales as tabulated below:

**Table 21: Sales projection – LTIS category**

LTIS	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
No. Of Consumers	Nos	309	335	363	391	419
Connected Load	kVA	16174	17539	19018	20498	21977
Energy Sales	MUs	14.28	15.28	16.37	17.37	18.25

#### High Tension Services (HTS)

4.3.28 Energy sales to HTS category in next Control Period has been forecasted based on historic growth in consumption and additional sales on account of addition of new consumers.

4.3.29 TSUISL in its earlier submission for True up of FY 2019-20 had already submitted its proposal of merging HTSS (High Tension Special Services) and HTS Category in a phased manner by aligning the tariff linked to cost of supply.



4.3.30 Hence, TSUISL has projected its tariff categories and merged HTSS 11kV and HTSS 33 kV consumers with HTS 11 kV and HTS 33 kV respectively.

4.3.31 For deriving the number of consumers in future projections in HTS – 11 kV category, average addition of 10 consumer's year on year has been considered till FY 2023-24 and 12 consumer additions year on year thereafter. Whereas in HTS – 33 kV category, average addition of 2 consumer year on year has been considered based on industry specific inputs.

4.3.32 The average connected load (KVA) per consumer (based on the last 5 year data i.e. FY 2016-17 to FY 2020-21) has been computed for this category. Such connected load is then multiplied by the no. of consumer projected to reach to the projected connected load for this category. The average load factor of the previous 5 years i.e. FY 2016-17 to FY 2020-21 is multiplied with the projected connected load to reach to the projected sales figure for this consumer category.

4.3.33 As per methodology given above energy sales, TSUISL hereby project number of HTS consumers, their connected load and Energy Sales as tabulated below:

**Table 22: Sales projection – HTS category**

HTS	Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>No. Of Consumers</b>						
HTS - 11 kV	Nos	273	283	293	305	317
HTS - 33 kV	Nos	50	52	54	56	58
<b>Connected Load</b>						
HTS - 11 kV	KVA	90716	93949	97182	101061	104940
HTS - 33 kV	KVA	144954	151222	157489	163757	170025
<b>Energy Sales</b>						
HTS - 11 kV	MUs	225.34	233.18	241.03	250.44	259.85
HTS - 33 kV	MUs	473.35	494.83	516.31	537.79	559.26

Summary of Sales

4.3.34 The category wise details of number of consumers, connected load and Energy Sales in next Control Period as discussed in above paragraphs are as presented in the tables below:

**Table 23: Projected Category-wise Consumers – FY 22 to FY 26**

No. Of Consumers	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	785	935	1085	1235	1395
Domestic Services – Urban	5234	6049	6884	7685	8499
Domestic Services – HT	36	37	38	39	40
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	69	85	102	121	137
Commercial Services - Urban	1072	1178	1288	1398	1505
<b>Low Tension Industrial Services (LTIS)</b>	309	335	363	391	419
<b>High Tension Services (HTS)</b>					
HTS-11 KV	273	283	293	305	317
HTS-33 KV	50	52	54	56	58
<b>Temporary Services</b>	1	1	1	1	1
<b>Total</b>	<b>7829</b>	<b>8955</b>	<b>10108</b>	<b>11231</b>	<b>12371</b>

**Table 24: Total Projected Sales (MUs) – FY 2021-22 to FY 2025- 26**

Projected Sales (MUs)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	0.98	1.17	1.36	1.55	1.75
Domestic Services - Urban	22.68	26.29	30.15	34.34	39.97
Domestic Services - HT	9.49	9.76	10.02	10.29	10.55
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	0.29	0.35	0.42	0.50	0.57
Commercial Services - Urban	8.57	9.42	10.30	11.19	12.06
<b>Low Tension Industrial Services (LTIS)</b>	14.28	15.28	16.37	17.37	18.25
<b>High Tension Services (HTS)</b>					
HTS-11 KV	225.34	233.18	241.03	250.44	259.85
HTS-33 KV	473.35	494.83	516.31	537.79	559.26
<b>Temporary Services</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>
<b>Total</b>	<b>754.99</b>	<b>790.28</b>	<b>825.97</b>	<b>863.46</b>	<b>902.27</b>

**Table 25: Total Connected Load – FY 2021-22 to FY 2025- 26**

Connected Load	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	1721	2050	2378	2707	3058
Domestic Services - Urban	41277	47835	54821	62331	72290
Domestic Services - HT	8908	9156	9403	9650	9898
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	487	600	720	854	967
Commercial Services - Urban	10691	11750	12850	13953	15028
<b>Low Tension Industrial Services (LTIS)</b>	16174	17539	19018	20498	21977
<b>High Tension Services (HTS)</b>					
HTS-11 KV	90716	93949	97182	101061	104940
HTS-33 KV	144954	151222	157489	163757	170025
<b>Temporary Services</b>	2.00	2.00	2.00	2.00	2.00
<b>Total</b>	<b>314931</b>	<b>334102</b>	<b>353862</b>	<b>374811</b>	<b>398183</b>

4.3.35 It is to be noted that the Sanctioned load of Domestic and LTIS has been converted to kVA from kW and HP respectively.

#### 4.4 Voltage wise Sales for Control period

4.4.1 As per Regulation 6.16 of the JSERC Distribution Tariff Regulations 2020, the petitioner has projected the sales at different voltage levels. The consumption pattern of the category wise sales at different voltage level for FY 20 is provided in the table below:

**Table 26: Voltage-wise Consumption Pattern**

Particulars	Voltage level	Unit Sold in FY 19 (MU)	Unit Sold in FY 20 (MU)
Domestic Services (DS)	220/410 V	20.73	25.06
Commercial Services (Non-Domestic)	220/410 V	6.65	7.66
Low Tension Industrial Services (LTIS)	220/410 V	13.85	12.13
High Tension Services (HTS)	11KV	223.76	173.28
High Tension Services (HTS)	33 KV	444.3	364.67
<b>Grand Total</b>		<b>709.29</b>	<b>582.8</b>

#### 4.5 Energy Requirement and Energy Balance

4.5.1 Energy requirement has been arrived by adding up distribution loss to the projected sales. For the purpose of Business plan projection, the petitioner has considered the

distribution loss to increase from 2.35% in FY 2022 to 3.80% in FY 2026. It is submitted that the losses are highest for making sales to consumers at LT level. The Petitioner has envisaged some increase in Distribution loss levels over the years due to significant increase in network and growth in LT consumer segment during the Control Period as can be seen in the table below:

**Table 27: Energy requirement and Energy balance**

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Total Energy Sales (MU)</b>	<b>754.99</b>	<b>790.28</b>	<b>825.97</b>	<b>863.46</b>	<b>902.27</b>
Overall Distribution Losses (%)	2.35%	2.70%	3.06%	3.42%	3.80%
Overall Distribution Loss (MU)	18.14	21.93	26.07	30.58	35.64
<b>Total Energy Requirement (MU)</b>	<b>773.13</b>	<b>812.21</b>	<b>852.04</b>	<b>894.04</b>	<b>937.91</b>

#### Power Purchase plan

The petitioner has to arrange the power requirement of its distribution license area. In the previous section the projected sales and the demand requirement for the license area has been arrived at and based on the same, the power requirement for the control period has been discussed in this section.

### 4.6 Power Purchase Plan

4.6.1 In this section, TSUISL has presented the total power purchase cost arising out of the power procurement plan being proposed for the control period. Historically, TSUISL has been procuring power from the following sources to meet its power requirement for its Distribution business:

- Tata Steel Limited
- DVC, 33 kV
- DVC, 132 kV
- Open Sources/ Traders

4.6.2 Both DVC and Tata Steel are Distribution Licensees and show Energy sale to TSUISL as a part of its Energy Requirement and their cost also include RPO obligation.

**Table 28: Power Procurement during the Control Period FY 2016-17 to FY 2020-21**

Energy Availability (Mus)	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2019-20 (estimated)
<b>Tata Steel Limited</b>						
132 kV, 66 kV, 6.6 kV	339.55	279.29	314.56	408.39	323.44	255.33

<b>Damodar Valley Corporation`</b>						
<i>at 33 kV</i>	96.1	97.3	106.9	119.5	94.8	94.1
<i>at 132 Kv</i>	35.7	110.9	167.3	194.6	177.5	184
<b><i>From Others/Traders (E)</i></b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Pooled Energy Availability (Mus)</b>	<b>471.31</b>	<b>487.54</b>	<b>588.80</b>	<b>722.54</b>	<b>595.70</b>	<b>533.41</b>

4.6.3 TSUISL existing power sources have almost reached its peak capacity.

4.6.4 Due to the growth in consumer demand projections, some of the existing contracted capacities may not be sufficient to meet the energy requirement of TSUISL in the ensuing years. Considering this, TSUISL has already initiated various measures to meet its additional energy purchase requirements for future:

- Apart from them, for DVC 132 kV Contract demand has been increased from 40 MVA to 50 MVA effective from 1<sup>st</sup> October 2020
- The Petitioner has already approached JUSNL for connectivity from Gamharia Grid Substation for sourcing of around 40MVA power.
- With the help of Power Research and Development Consultants parallel study is being undertaken along with (Petitioner's Consultant) for developing a detailed plan for power procurement from various sources in its area of operations. Prefeasibility studies on the same are also undertaken.

4.6.5 TSUISL is also evaluating other options for putting up new power substation and line from CTU/STU for connectivity. However, the same does not seems to be feasible at this stage. For the next control period also, TSUISL will be procuring power from its existing sources and will work to establish connectivity with JUSNL / CTU to wheel power from other sources. While projecting energy purchase from these sources, TSUISL has ensured that energy procured from each source at maximum possible levels. However, as these sources feed power supply to different loads in different area/ geography; the actual share of sourcing is subject to change based in power being drawn by the consumers in those areas, some of power may be taken from other sources .

4.6.6 Further, TSUISL would like to intimate to the Hon'ble Commission that TSUISL has applied for one new source of power of 200 kVA from JBVNL at Seraikela town. This new connection is required, because in case of breakdowns / shutdowns / stoppage

of power due to any external reasons, at least some emergency & critical power supply is fed to consumers. JUSCO's main substation is at Gamharia, which is 30 KM away from Seraikela town. This new source shall act as a backup for connections to Seraikela town's consumers, and this facility shall improve the reliability of the power supply to consumers of this area.

4.6.7 The Petitioner submits that the Petition to the Hon'ble Commission for Approval of Power Purchase Agreement for new power connection from JBVNL at Seraikela Town for 200 kVA for Tata Steel Utilities and Infrastructure Service Limited has been submitted vide letter no. PBD/390/ 59-J/09/2020 dated 17.06.2020. It has been registered as Case no. 18 of 2020. However, the approval of PPA from the Hon'ble Commission is on hold due to pendency of draft Power Purchase Agreement from JBVNL.

4.6.8 The power procurement plan for next control period from above mentioned sources as per methodology explained in above paragraphs is tabulated below:

**Table 29: Power Procurement Plan for Control Period**

Energy Availability (Mus)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Tata Steel Limited</b>					
<b>132 kV, 66 kV, 6.6 kV</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>
<b>Damodar Valley Corporation`</b>					
<i>at 33 kV</i>	120.00	120.00	120.00	120.00	120.00
<i>at 132 kV</i>	253.13	292.21	300.00	300.00	300.00
<i>From Others/Traders</i>		-	32.04	74.04	117.91
<b>Total Pooled Energy Availability (Mus)</b>	<b>773.13</b>	<b>812.21</b>	<b>852.04</b>	<b>894.04</b>	<b>937.91</b>

4.6.9 The explanation/ assumption to each of the source of power purchase along with cost details are discussed hereunder.

## **4.7 Tata Steel Limited**

4.7.1 TSUISL has a contracted demand of 70 MVA with TSL. TSUISL has assumed power procurement of 400 MUs from Tata Steel for the entire Control Period from FY 2021-22 to FY 2025-26. These however are subject to variations due to loading pattern of Connected Load.

4.7.2 Average Power Purchase Cost from TSL, as considered by TSL in its Business Plan, has been considered for projecting the power procurement cost of TSUISL from TSL for the control period i.e. from FY 2021-22 to FY 2025-26.

4.7.3 The details of power purchase from Tata Steel for the Control Period FY 2021-22 to FY 2025-26 is as presented in the table below:-

**Table 30: Power Purchase Cost – Tata Steel Limited**

Source: Tata Steel Limited	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Quantum</b>	<i>MU</i>	400.00	400.00	400.00	400.00	400.00
<b>Power Purchase Cost</b>	<i>Rs. Crore</i>	200.00	203.60	210.40	213.20	216.80
<b>Per Unit Rate</b>	<i>Rs/kWh</i>	5	5.09	5.26	5.33	5.42

4.7.4 The Petitioner requests Hon'ble Commission to approve the purchase power from Tata Steel Limited as discussed above.

#### **4.8 DVC Power Purchase, 33 kV**

4.8.1 TSUISL has 22MVA Contract demand with DVC. TSUISL has assumed power purchase quantum of 120 MUs from DVC at 33 kV for the entire Control Period.

4.8.2 For projections of the Power Purchase Cost (Rs Crs) from DVC-33 kV, TSUISL has considered a growth rate of 3% in both variable charges as well as demand charges for the control period. The base value is taken tariff for FY21 of DVC as already approved by Hon'ble JSERC. The energy charge and fixed charge for the base year is taken from HT Institutional Services Tariff from JSERC Tariff Order for FY 2020-21, which comes to INR 3.40/ KVAh and INR 350/KVAh/ Month respectively.

4.8.3 Since DVC HT Tariff Order is conventionally determined by the honourable JSERC on Rs/ KVAh basis, the Petitioner has converted it to Rs/KWh with assumption of the power factor to remain 0.85 throughout the control period and the voltage rebate of 3% for HT- Institutional-33 kV, based on Hon'ble JSERC's latest approved Tariff order for DVC for FY 2020-21. We have also considered escalation factor of 3.0% for both fixed and variable cost of power procured from DVC at 33 kV.

4.8.4 The details of power purchase from DVC - 33 kV for the Control Period is as presented in the table below: -



**Table 31: Power Purchase Cost – DVC 33 kV**

Source: DVC - 33 kV	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Quantum</b>	<i>MU</i>	120.00	120.00	120.00	120.00	120.00
<b>Power Purchase Cost</b>	<i>Rs. Crore</i>	51.69	53.24	54.84	56.49	58.18
<b>Per Unit Rate</b>	<i>Rs/kWh</i>	4.31	4.44	4.57	4.71	4.85

4.8.5 The Petitioner requests Hon'ble Commission to approve the purchase power from DVC from 33 kV at the proposed rates for the control period.

#### **4.9 DVC Power Purchase, 132 kV**

4.9.1 TSUISL currently has 50MVA contract with DVC at 132kV level.

4.9.2 Interconnection with 132kV DVC has increased the reliability of the power system in case of outage of 132 kV Tata Steel network.

4.9.3 For projections of the Power Purchase Cost (Rs Crs) from DVC-132 kV, TSUISL has considered a growth rate of 3% in both variable charges as well as demand charges for the control period. The base value is taken tariff for FY21 of DVC as already approved by Hon'ble JSERC. The energy charge and fixed charge for the base year is taken from HT Institutional Services Tariff from JSERC Tariff Order for FY 2020-21, which comes to INR 3.40/ KVAh and INR 350/KVAh/ Month respectively.

4.9.4 Since DVC HT Tariff Order is conventionally determined by the honourable JSERC on Rs/ KVAh basis, the Petitioner has converted it to Rs/KWh with assumption of the power factor to remain 0.85 throughout the control period and the voltage rebate of 5% for HT- Institutional-132 kV, based on Hon'ble JSERC's latest approved Tariff order for DVC for FY 2020-21. We have also considered escalation factor of 3.0% for both fixed and variable cost of power procured from DVC at 33 kV.

4.9.5 The details of power purchase from DVC - 132 kV for the Control Period is as presented in the table below:-

**Table 32: Power Purchase Cost – DVC 132 kV**

Source: DVC - 132 kV	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Quantum</b>	<i>MU</i>	253.13	292.21	300.00	300.00	300.00
<b>Power Purchase Cost</b>	<i>Rs. Crore</i>	112.38	129.70	136.46	140.55	144.77

Source: DVC - 132 kV	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Per Unit Rate</b>	<i>Rs/kWh</i>	4.44	4.44	4.55	4.69	4.83

4.9.6 The Petitioner requests Hon'ble Commission to approve the purchase power from DVC -132 kV at the proposed rates for the control period.

#### 4.10 Renewable Power Purchase Obligation

4.10.1 As regards the Renewable Power Obligation (RPO), the Petitioner would like to submit that it is not liable to fulfil RPO. The Hon'ble Commission in its Order dated,19.06.2020 has already scrutinized and stated as follows:

*"The Commission has scrutinized the details submitted by the Petitioner and is of the view that since the Petitioner is procuring power from Distribution Licensees i.e. TSL and DVC at the retail tariff determined by the Commission and therefore TSL and DVC are required to meet the RPO compliance for the units sold to the Petitioner."*

4.10.2 Therefore TSUISL has not considered any Renewable Power Purchase for meeting the Renewable Purchase Obligation.

#### 4.11 Total Power Purchase Cost

4.11.1 As discussed above the source wise power purchases and its costs, the total power purchase cost implications on the petitioner as Retail Supply Cost is provided in table below:

**Table 33: Power Purchase Cost for Control Period**

Power Purchase Cost	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Tata Steel Limited</b>					
132 kV,66 kV, 6.6 kV	200.00	203.60	210.40	213.20	216.80
<b>Damodar Valley Corporation`</b>					
at 33 kV	51.69	53.24	54.84	56.49	58.18
at 132 kV	112.38	129.70	136.46	140.55	144.77
<b>From Others/Traders</b>	-	-	15.70	37.04	60.36
<b>Total (Rs. Crores)</b>	<b>364.07</b>	<b>386.55</b>	<b>417.39</b>	<b>447.28</b>	<b>480.11</b>
<b>Per Unit Cost (Rs./Unit)</b>	<b>4.71</b>	<b>4.76</b>	<b>4.90</b>	<b>5.00</b>	<b>5.12</b>

4.11.2 The petitioner requests to approve the total power purchase cost for the control period.

## **5. CAPITAL INVESTMENT PLAN**

- 5.1.1 TSUISL has been continuously upgrading and strengthening its network to provide quality and reliable power services to its increasing consumer base. The present distribution network comprises of distribution network cables, distribution transformers, switch houses, customer sub-stations meters, metering equipment's and all associated control, monitoring, communication and protection equipment. The current voltage level of the distribution network of TSUISL are 33 kV, 11 kV and LT Level.
- 5.1.2 As discussed in earlier chapter, the demand projections for the control period from FY 2021-22 to FY 2025-26 have been made for TSUISL. The distribution network of TSUISL needs to be developed and strengthened in such a way that demand of such consumers can be met. The majority of the capital expenditure is required to address this demand requirement.
- 5.1.3 TSUISL continuously evaluates its distribution network to ensure providing quality power supply to existing and new consumers. It also undertakes systematic evaluation of its current network and processes, to work out network strengthening and additional requirements to meet the above said objective.

### **5.2 Capital Expenditure Schemes**

#### **Carry Forward Schemes**

- 5.2.1 Hon'ble Commission had approved various schemes in MYT period FY 2015-16 to 2020-21. However, it was not possible for TSUISL to complete few of the approved schemes in all respect in the current MYT period due to delay in receipt of right of way permission from various agency like MOEF/ RCD/ Railway and general public for laying of power line & land for substation etc. The balance amount of those schemes has been taken as carry forward capex in next MYT period and shown separately. Such schemes are listed as below:
- 33 KV Feeder to Birbans/ Baliguma Mouza
  - Land, Boundary and other work at 33/11 Kv substation at Kanderbea
  - 33/11 KV Substation at EMC

#### **New Schemes**

- 5.2.2 For the MYT period FY 2022-26, new capex schemes have been identified based on various criteria like new requirement as per safety & statutory guidelines, enhancement of reliability of existing network to serve customer better, Load growth related schemes including new substation with source identified by master plan study, introduction of new technology, infrastructure augmentation etc.
- 5.2.3 Petitioner has identified approximately 32 schemes for the control period with the estimated capex of. Rs. 191.4 crores.

**Table 34: Identified Capital Expenditure schemes for the MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	8.2	1.7	0.0	0.0	0.0	9.89
2	New schemes (32)	31.6	48.4	52.3	39.6	19.5	191.44
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Expenditure Plan (Rs. Cr.)		42.8	53.1	55.3	42.6	22.5	216.33

**Table 35: Tentative Capitalization schedule of Identified Schemes (Summary) for MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.4	2.7	0.0	0.0	0.0	25.10
2	New schemes	22.59	40.56	47.39	51.11	29.77	191.42
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Capitalization (Rs. Cr.)		47.99	46.26	50.39	54.11	32.77	231.52

- 5.2.4 In some of the schemes, there is a difference in schedule of capital expenditure and capitalization as Regulation 10.8 of JSERC Distribution Tariff Regulations, 2020. Due to difference in capital expenditure and capitalisation schedule, TSUISL has also factored in IDC component on normative debt in addition to capex amount and considered the same for calculating final capitalisation. Interest incurred on un-capitalisation of debt has been considered at 10% for next Control Period as per Regulation 10.26 of JSERC Distribution Tariff Regulations, 2020.

- 5.2.5 Summary of the capitalization schedule for the carry over and new schemes including the IDC charges is tabulated below. Scheme wise capitalization details of the carry over schemes and new schemes are provided in Annexure1

**Table 36: Tentative Capitalization (including IDC) for the identified schemes MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.68	2.73	0.00	0.00	0.00	25.41
2	New schemes	23.01	41.51	49.46	52.62	30.40	197
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Capitalization (Rs. Cr.)		48.69	47.24	52.46	55.62	33.4	237.41

- 5.2.1 However petitioner would like to submit that due to issue related to RoW permissions, Land, permission from other authorities and local bodies, and other constraints in getting project executed on ground the probability of taming up all the schemes during the control period is limited . **In view of these difficulties and experience of the petitioner, the petitioner is proposing for an approval of only Rs. 25 crores capex every year in addition to the carry over schemes of last control period and consumer contribution funded schemes.** Petitioner therefore requests the Honourable Commission for **kind approval of capex up to Rs. 25 crores each year from the identified schemes being submitted along with the Petition.** Once the Petitioner reaches the value of Rs 25 crores, the Petitioner will re-approach the commission for further approval of the additional capex.
- 5.2.2 In addition, there are certain network development schemes which are at forming stage for which cost estimation and preliminary feasibility is yet to be established. Petitioner will approach the Honourable Commission once any of such schemes are firmed up during the control period

**Table 37: Capitalization considered for ARR computation for the MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.68	2.73	0.00	0.00	0.00	25.41
2	New schemes	25	25	25	25	25	125
3	Consumer Contribution during the year	3	3	3	3	3	15
<b>Total Capitalization (Rs. Cr.)</b>		<b>50.68</b>	<b>30.73</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>165.41</b>

- 5.2.3 Further, TSUISL also humbly submits to the Hon'ble Commission, that for new schemes TSUISL is yet to take Board Approval for execution of these schemes. The same will be taken prior to starting of execution of the schemes. TSUISL requests the Hon'ble Commission to accord approval on the proposed Rs 25 Crores capex every year during the control period, in addition to the carryover schemes. For all carryover schemes Board approval was already taken prior to start of the schemes. Petitioner will take necessary approval from the Board before implementing the proposed schemes and will keep the Hon'ble Commission informed about the Board approval.
- 5.2.4 The petitioner requests Hon'ble Commission to consider the above proposed capital expenditure and capitalisation.
- 5.2.5 TSUISL will require additional manpower for the proposed capex schemes in the MYT Control Period. The details of the envisaged additions in man power and its cost implications are provided in the section on HR Plan.

## **5.1 Gross Fixed Assets**

- 5.1.1 TSUISL has proposed scheme-wise capital expenditure and capitalisation of the assets in Table 7: Scheme-wise phasing of Capital Expenditure during the Control Period and Table 8: Scheme-wise phasing of Capitalisation during the Control Period during the control period. Further as required under Distribution Tariff Regulations 2020 and as per the Allocation Policy, TSUISL has segregated the opening gross fixed assets as on 1.4.2021. The wheeling assets are 90% and Retail Supply assets are 10% of the total GFA base. The table below provides the summary of the capital expenditure and capitalisation for control period:

**Table 38: Summary of Capital Expenditure and Capitalisation for Control Period  
(Rs. Cr)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
<b>CWIP</b>					
Opening CWIP	24.18	9.99	8.99	8.99	8.99
Add: Capex during year	36.49	29.73	28.00	28.00	28.00
<b>Total CWIP</b>	<b>60.67</b>	<b>39.72</b>	<b>36.99</b>	<b>36.99</b>	<b>36.99</b>
Less: Trfd to GFA	50.68	30.73	28.00	28.00	28.00
<b>Closing CWIP</b>	<b>9.99</b>	<b>8.99</b>	<b>8.99</b>	<b>8.99</b>	<b>8.99</b>
<b>GFA</b>					
Opening GFA	303.75	354.43	385.16	413.16	441.16
Add: Trfd from CWIP	50.68	30.73	28.00	28.00	28.00
<b>Closing GFA</b>	<b>354.43</b>	<b>385.16</b>	<b>413.16</b>	<b>441.16</b>	<b>469.16</b>

## 5.2 Consumer Contribution for Capital Expenditure

- 5.2.1 The petitioner submits that the consumer contribution amount as on 31st March 2021, is expected to be around Rs.133.78 crore out of which Rs. 123.93 Crores is expected to be capitalized. The remaining amount (Rs. 9.85 crore) is at CWIP stage.
- 5.2.2 TSUISL based on its past experience has envisaged that certain consumers would opt for Self Financing Scheme and would like to create assets out of their own contribution in the next Control Period also. For the purpose of projection TSUISL has considered the estimated consumer contribution of Rs. 3 crores in each year of the Control Period, the entire capitalisation is assumed to be funded through capital contribution. The average depreciation rate on assets added through consumer contribution is around 6.02%. The petitioner considering such average depreciation rate has projected the depreciation on account of consumer contribution. Such depreciation will then be deducted from the Gross Depreciation for the respective years to arrive at the Depreciation that would form a part of ARR of respective years.
- 5.2.3 The petitioner in the table below has presented the Consumer Contribution received, Consumer contribution capitalised and depreciation on Consumer Contribution booked during the previous years



**Table 39: Summary of Consumer Contribution during the Control period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Consumer Contribution Amount	133.78	136.78	139.78	142.78	145.78
Add: Contribution for the year	3	3	3	3	3
Closing Consumer Contribution Amount	136.78	139.78	142.78	145.78	148.78
Consumer Contribution towards Closing CWIP	9.85	9.85	9.85	9.85	9.85
Consumer Contribution towards Closing GFA	126.93	129.93	132.93	135.93	138.93
<b>Opening GFA excluding Consumer Contribution</b>	<b>179.82</b>	<b>227.50</b>	<b>255.23</b>	<b>280.23</b>	<b>305.23</b>
<b>Closing GFA excluding Consumer Contribution</b>	<b>227.50</b>	<b>255.23</b>	<b>280.23</b>	<b>305.23</b>	<b>330.23</b>

### 5.3 Funding of Capital Expenditure

5.3.1 Continuing with the past practice, TSL has calculated funding of GFA by Debt and Equity on basis of normative principles determined in JSERC Distribution Tariff Regulations 2020. The extract of the relevant regulations from JSERC Distribution Tariff Regulations 2020, regarding funding ratio is provided below:

*“Debt-Equity Ratio*

*10.17 New Schemes – For capital expenditure schemes capitalised after April 01, 2021:*

- a) A normative debt-equity ratio of 70:30 shall be considered for the purpose of determination of Tariff;*
- b) In case the actual equity employed is in excess of 30%, the amount of equity for the purpose of tariff determination shall be limited to 30%, and the balance amount shall be considered as normative loan;*
- c) In case the actual equity employed is less than 30%, the actual debt-equity ratio shall be considered;*
- d) The premium, if any raised by the Licensee while issuing share capital and investment of internal accruals created out of free reserve, shall also be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal accruals are actually utilized for meeting capital expenditure.”*

- 5.3.2 Such funding principles were adopted by petitioner in the past and have been approved by Hon'ble Commission. Accordingly, TSL has considered a Debt Equity ratio of 70: 30 for funding its proposed capitalization.
- 5.3.3 Further, Regulation 10.11 of JSERC Tariff Regulation, 2020 also provides that amount funded through Consumer Contribution, Grants or Deposit Works for connection to the distribution system of the Licensee shall be deducted from the original cost of the scheme for the purpose of calculating the amount under debt and equity. As per the methodology given in Tariff Regulations, any GFA addition after deducting consumer contribution has been considered to be funded by TSL in a Debt: Equity ratio of 70:30.
- 5.3.4 Year wise addition in debt and Equity for next Control Period as per relevant provisions of JSERC Distribution Tariff Regulations, 2020 is tabulated below:

**Table 40: Addition in Debt and Equity in Next Control Period (Rs. Crore)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Transferred To GFA during year	50.68	30.73	28.00	28.00	28.00
Capitalization from Consumer Contribution	3.00	3.00	3.00	3.00	3.00
GFA Addition (Debt & Equity)	47.68	27.73	25.00	25.00	25.00
Addition in Debt	<b>33.37</b>	<b>19.41</b>	<b>17.50</b>	<b>17.50</b>	<b>17.50</b>
Addition in Equity	<b>14.30</b>	<b>8.32</b>	<b>7.50</b>	<b>7.50</b>	<b>7.50</b>

## **6. HUMAN RESOURCE PLAN**

### **6.1 HR Philosophy**

- 6.1.1 Manpower Plan for a Licensee depends upon the overall operation and maintenance management requirement, for the service levels and operational parameters being maintained by the Licensee. TSUISL recognises its employees as most valuable asset, as they only work to deliver the services by operating and maintaining the physical assets deployed for electricity distribution. Distribution network of the petitioner, being spread all across in different geography of the License area, is prone to several interferences and disturbances created due to unwanted interaction/movement of public, vehicles, and other living/ non-living objects in addition to the adverse weather conditions.
- 6.1.2 Petitioner humbly submits that its operations started only in the year 2007 and had grown in phases starting from Zero base. Petitioner has been managing its operations by gradually recruiting manpower to meet its plan for network extension as well as Operation and maintenance for the already existing network. The addition of manpower has always remained a challenge due to availability of skilled and competent workforce ready to work in the given geography.
- 6.1.3 Petitioner would further like to state that during initial years same employees were doing multiple functions and therefore they were required to have multiple skills and knowledge related to those work. In the last 15 years of operations, petitioners' operations had spread in several areas (Adityapur, Gamharia, Seraikela, Kandra – Seraikela Road, Chandil, approx. 40 villages etc.) and so its distribution network.
- 6.1.4 With respect to equipment, Petitioner is also required to operate its main dedicated 132kV power line and 132/33 kV main power substations, in addition to other normal distribution equipment, which is not the same in case of other Distribution licensee.
- 6.1.5 Over the past several years, even though petitioner tried to recruit manpower, the same was limited due to availability of skilled and competent manpower; and therefore, even some of the basic operations and maintenance is being undertaken by engaging contract workforce. Petitioner's historical manpower remained at lower levels and therefore a fresh look is required to be given to the Petitioner's manpower requirement.

- 6.1.6 Petitioner is in the process of recruiting regular workforce for certain key positions for which manpower cost is expected to be relatively more than the contract workforce. Petitioner has plans to add approximately 30 nos. of technical manpower to this effect, by replacing the similar number of contractual workforces during the control period.
- 6.1.7 Petitioner would further like to submit that its power distribution organisation for the License area was developed over phases in the last 15 years. During this period, electricity sector saw several changes; with more focus on deployment of several provisions of Electricity Act'2003 and regulations made thereafter. Several electricity regulations were also notified during this period, which prescribed certain functions which was required to be undertaken by the petitioner differently. Petitioner had been trying to cope up and comply with the requirement; however, there are certain functional requirement for which Petitioner could not add manpower in the past and is submitting the same in this plan. There is an additional requirement of approx. 17 manpower on this account.
- 6.1.8 Petitioner would like to submit that to execute the proposed Capital expenditure plan, appropriate manpower addition is required. Post commissioning of the Capex scheme, this manpower will be put into operation and maintenance of the electricity distribution network and facilities so created. Such plan ensures that there is a continuity of key manpower including managerial manpower and there a certainty in the job prospects for the person deployed for capital execution/ network development. There will be an additional requirement of approx. 17 manpower to execute the capital projects. Post completion of these project they will be shifted to operation and maintenance of the network thus created.
- 6.1.9 Petitioner would also like to submit that even though its operations are relatively new, some of its employee will also superannuate for which new recruitment will required to be done by the petitioner.

## **6.2 Existing Manpower details of TSUISL**

- 6.2.1 At present, TSUISL operates with three types of manpower.
- Permanent Employee in managerial cadre (Degree/Diploma/Graduate) – Employees under this cadre are directly engaged with day to day function of operation, maintenance, application processing & execution of new connection, execution of capex, metering, regulatory function & general

management etc. In addition, few persons works for support service related jobs like HIR, Procurement, Finance, Administration etc.

- Permanent Employee in role of supervisor and Electrician (Diploma/ ITI) - Employees under this cadre mainly work for day to day job for operation & maintenance activity.
- Contract Employee on Vendor's role –Employees under this role are engaged through vendor on contract for various works in line, substation, customer service, security, cleaning etc.

Following Section details the retirals and additional manpower requirement arising out of new functional requirement, execution of capital projects/ new network development and its subsequent O&M.

### **6.3 Retirals**

During the next control period approx. 8 employees will superannuate. Vacancy arising of these retirals need to be filled up accordingly.

### **6.4 Additional Manpower requirement arising out of new functional requirement**

Petitioner would like to state that it could not add manpower for the following functions arising out of new regulatory requirement during the last control period and therefore need to add this manpower to comply with the functional requirement.

- 6.4.1 ***Compliance with Energy Conservation Act 2001:*** As per the notification issued by the Ministry of Power, All entities having issued distribution license by State/Joint Electricity Regulatory Commission under the Electricity Act, 2003 are notified as designated consumers (DCs) under the Energy Conservation Act, 2001. Accordingly, all distribution utilities are required to comply with the Energy Conservation (EC) Act, 2001, which would reduce energy losses and bring in more transparency in the sector. TSUISL, therefore proposes to recruit 1 energy manager to take up initiatives under the Energy Conservation Act, 2001.
- 6.4.2 ***New guidelines of supply code on periodic testing of Energy Meter:*** Electricity Supply Code 2015 prescribed period testing of energy meters, which was not there in Electricity Supply Code Regulations 2005. The relevant part of the new supply Electricity Supply Code regulations is given below-

*Quote .....*

*“9.4.The Distribution Licensee shall conduct periodical inspection/testing of the meters as per the following schedule:*

*(a) Single phase meters: Once every five (5) years*

*(b) LT 3-phase meters: Once every three (3) years*

*(c) HT/EHT meters including MDI: At least once every year” .... Unquote*

- 6.4.3 Most of the meters in the Petitioner Licensed area are electronic meters, in which the possibility of drift is low as compared to old electromagnetic meters. Petitioner has been doing meter testing based on following
- Testing based on the complaint/request of consumer-Testing is carried out in 100% cases.
  - Testing based on Tamper information – Testing is carried out in 100% cases.
  - Random Sample test of meter kept in store: Normally meter is received at store with five-year warranty and factory test certificate. Petitioner was doing some test randomly as per availability of manpower resources.
- 6.4.4 To do periodic testing of meters additional manpower, infrastructure and O&M cost is required to be considered for the petitioner. To comply with the requirement almost 20 to 25% of the meters will be required to be checked and tested every year and therefore a separate independent organisation to carry out such periodic testing of is needed.
- 6.4.5 The Petitioner plans to engage testing agency who in turn will do the technical part of job like on site testing of meter and preparation of reports, Analysis of data etc. by deploying their own resources (testing kit & engineer), on payment of testing charges on per unit basis.
- 6.4.6 In addition, Licensee will depute a separate team with resources to facilitate administrative support to testing agency like provide shut down, co-ordination with customer, necessary resources for shifting of man & material etc.
- 6.4.7 For this new requirement, additional expenditure will be incurred by Licensee. The analysis of additional cost is given below: Petitioner requires a team of 4 people; technical workforce (One Graduate Engineer, 1 Diploma Engineer and 2 ITIs) to supervise, coordinate and provide field shutdown for periodic meter testing,
-

resealing, record updation and other related matters). Further petitioner had taken some quotes from testing agency and found that additional O&M expenditure of approx. 70 Lakhs will be required for periodic testing of meters. O&M cost include the charges towards cost of testing equipment, testing engineer, vehicle for movement and other related services etc.

6.4.8 **Power Quality (PQ) Monitoring, analysis and reporting:** In the Jharkhand State Electricity Regulatory commission (Distribution Licensees' Standards of Performance) Regulations, 2015 requires Petitioner to monitor and also report power quality in terms of Voltage Variations and Harmonics. Currently the petitioner network is monitored by the existing SCADA system which monitors basic data on voltage, current, Power and Frequency.

6.4.9 With increasing proliferation of electronic devices, Solar rooftops inverters, Electric vehicle charging managing power quality requires more proactive approach w.r.t. its measurement and analysis. All these devices generate and injects harmonics into the system and therefore the electricity distribution company (here the petitioner) need to take suitable monitoring and analysis function to ensure that power quality doesn't impact the consumers.

6.4.10 It plans to implement Power Quality monitoring devices (PQ Meters) with communication facility and network so that power quality is monitored at select locations, analysed and appropriate action is initiated. In addition, Petitioner also plans to have portable PQ meters for testing the PQ on requirement at other locations.

6.4.11 Since inception such activity was very limited. These were therefore being planned to be taken by O&M person taking out extra time from their normal work. In view of the same, a new section/organisation is needed to be placed to carry out this requirement. The petitioner had identified the following activity & requirement of manpower to comply the directives. There will be a capex requirement of approx. 1.50 Cr for installation of PQ monitoring devices at select locations for which a capital scheme is being put up in the Business Plan.

- A central monitoring system
- FO/GPRS communication media to connect PQ meters installed in customers premises with central server.
- Installation of PQ meter at source feeder as well as all 33 and 11 kV consumers end who may be the probable harmonic generators.

- Licensee will put up a separate scheme in MYT capex plan for these activities.

6.4.12 There is an additional requirement of 4 nos manpower in phases, which petitioner will take-up as per the requirement during the control period. Requirement of Additional Manpower: For day to day monitoring & compliance once the capex is capitalised and put on service.

- Graduate Electrical Engineer with 5-6 years of experience in Power Quality, Instrumentation and analysis – One for monitoring the above system
- Diploma Electrical Engineer with 7-8 years of experience – One for field job, data collection & reporting.
- ITI Electrician – Two no's for assistance in field job.

6.4.13 **Management of RoW and related approvals, handling of local issues etc.** which are arising due to changes in local environment: Unlike any other licensee where network is already constructed and Right of Way (RoW) issue is not there, Petitioner is required to manage RoW and arrange for RoW consent for providing power supply to its consumer. Petitioner is facing extreme difficulty in managing the RoW issues arising out of local conditions in the field.

6.4.14 Since inception of distribution operation, RoW related issues were being handled by concerned team (O&M or new connection) along with their day to day functional jobs. With increase in network and consumer base, the concerned team is fully loaded with their day to day operational jobs and hardly get any time for other function. Also, with increase in network area & local population, changes in social environment, nowadays the issue related to right of way has increased significantly. It is therefore becoming necessary to have a dedicated organization to resolve ROW related issue and fulfilling related statutory requirement for smooth & trouble-free operation & maintenance of distribution network and as well as network expansion job for new consumer connection, network expansion. Petitioner therefore plan to build a team of 4 person to do daily RoW management including route preparation.

6.4.15 Requirement of Additional Team:

- Graduate with relevant experience – 2 no (one for Urban network & one for Rural network)
  - Route surveyor cum Draftsman – 2 no
  - Record keeper- 1 nos.



6.4.16 **Requirement of additional safety team for safety improvement and ensuring compliance to safety norms and standards.** Since starting of TSUISL's operation, only one safety professional (Electrical Engineer with diploma in Electrical safety) has been engaged for regular checking and safety monitoring. As a significant part of petitioner activity is performed through contract workforce; the current safety officer is mostly engaged in contract workmen related safety.

6.4.17 With increase in operational area and activity in the last 15 years, it is becoming difficult for one safety officer to perform safety functions for all the locations as well as to comply to have an eye on the compliance of the safety requirements specified under Indian Electricity Rules and CEA guidelines etc.

6.4.18 Today, TSUISL operational area is spread across 3 towns and 40 villages and therefore it is required to have at least 4 nos of safety professional to augment the safety organisation for safe & trouble-free operation of distribution system.

6.4.19 Requirement of Additional Safety Professional: Graduate/ Diploma Electrical Engineer with Diploma in Electrical Safety – 3 nos' (one for Seraikela Town Distribution, one for Gamharia and rural area, One for Adityapur Industrial area .All project work & customer installation will be continued to be done by existing safety officer)

## **6.5 Manpower required for Capital Execution and O&M of new network constructed**

6.5.1 **Manpower required for implementing capex schemes during the Control period:** Petitioner would like to submit that to execute the proposed Capital expenditure plan, appropriate manpower addition is required. Post commissioning of the Capex scheme, this manpower will be put into operation and maintenance of the electricity distribution network and facilities so created. Such plan ensures that there is a continuity of key manpower including managerial manpower and also there is a certainty in the job prospects for the person deployed for capital execution/ network development. There will be additional requirement of approx. 17 manpower to execute the capital projects. Post completion of these project they will be shifted to operation and maintenance of the network thus created.

6.5.2 **Manpower Required for O&M of the distribution network created during the Control period:** Petitioner further request the Hon'ble Commission that petitioner

would require the following manpower for 24x7 operations and maintenance of the network assets to be created during the control period.

**The Overall Manpower plan**

- 6.5.3 Approx. 08 person will be superannuating during the next MYT period, for which manpower need to be taken with appropriate level of overlapping period anywhere between 3 months to 12 months depending upon the nature of work.
- 6.5.4 Additional Manpower requirement arising out of new functional requirement:

**Table 41: Level wide details of the manpower required for new functional requirement**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26	Total
Managerial Manpower	7	1				8
Supervisory / O level Manpower	1	4				5
ITI Workmen		4				4
<b>Total</b>	<b>8</b>	<b>9</b>				<b>17</b>

- 6.5.5 Manpower required for Capital Execution and O&M of new network constructed through the capital expenditure plans.

**Table 42 : Level wide details of the manpower required for Capital Execution and O&M**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26	Total
Managerial Manpower	8	5	2	0	0	15
Supervisory / O level Manpower	4	15	1	2	0	22
ITI Workmen	15	22	14	7	7	65
<b>Total</b>	<b>27</b>	<b>42</b>	<b>17</b>	<b>9</b>	<b>7</b>	<b>102</b>

- 6.5.6 Further details of this additional manpower requirement for capital execution and subsequent O&M for the control period is provided in Annexure-3
- 6.5.7 The additional cost due to recruitment of additional manpower has been considered in the Employee expense at the prevailing average cadre/ designation wise CTC levels and escalated at the inflationary indices approved by the Hon'ble Commission in its Distribution Tariff Regulation, 2020.

**Table 43: Total Additional Man Power recruitment proposed and cost impact due to year on year additions**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26	Total
Managerial Manpower	15	6	2	0	0	23
Supervisory / O level Manpower	5	19	1	2	0	27
ITI Workmen	15	26	14	7	7	69
<b>Total</b>	<b>35</b>	<b>51</b>	<b>17</b>	<b>9</b>	<b>7</b>	<b>119</b>
<b>Year on year man power addition cost impact (INR Crores)</b>	<b>2.98</b>	<b>3.77</b>	<b>1.24</b>	<b>0.65</b>	<b>0.51</b>	<b>9.16</b>

## 6.6 Training & Performance Appraisal

- 6.6.1 The training and developmental need of the employee's area assessed, and employees are provided requisite opportunity for improving their skill and competence level. Officers are also provided assistance of Development Centres conducted by external expert consultants, who provides one to one development feedback to employees. Employees are encouraged to participate in cross functional teams and taskforces, acquire more advanced knowledge through participation in various seminars and workshops. For the identified developmental needs employees are sent to best in class training institutes. Training and development is thus a continuous process at TSUISL helping its workforce to perform better.
- 6.6.2 Performance Appraisal at TSUISL is done through well established PMS (Performance Management Systems) which encompasses all areas of work of an individual employee.
- 6.6.3 During the process employee also gets an opportunity for self-evaluation of Strengths and weakness and thereby setting goals for the future.
- 6.6.4 The HR processes of TSUISL continuously strives to staff right person for right job, provide opportunity for learning, development and growth to its employees and enable a system where each employee is empowered to deliver its work efficiently.

( End of Document)

**MULTI YEAR TARIFF PETITION**  
**FOR**  
**CONTROL PERIOD FY 2021-22 TO FY 2025-26**  
**AND**  
**TARIFF DETERMINATION FOR FY 2021-22**



**SUBMITTED BY:**

**TATA STEEL UTILITIES AND INFRASTRUCTURE SERVICES LIMITED (TSUISL)**

**JAMSHEDPUR**

November 2020

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### List of Abbreviations

Sr. No	Abbreviations	Descriptions
1.	<b>A&amp;G</b>	Administrative and General
2.	<b>ABT</b>	Availability Based Tariff
3.	<b>ALDC</b>	Area Load Dispatch Centre
4.	<b>AMR</b>	Automatic Meter Reading
5.	<b>APDRP</b>	Accelerated Power Development Reforms Program
6.	<b>ARR</b>	Aggregate Revenue Requirement
7.	<b>AS</b>	Accounting Standard
8.	<b>CAGR</b>	Compound Annual Growth Rate
9.	<b>CDM</b>	Clean Development Mechanism
10.	<b>CEA</b>	Central Electricity Authority
11.	<b>CERC</b>	Central Electricity Regulatory Commission
12.	<b>CESC</b>	Calcutta Electric Supply Company
13.	<b>CFL</b>	Compact Fluorescent Lamp
14.	<b>CGS</b>	Central Generating Station
15.	<b>CoS</b>	Cost of Supply/ Service
16.	<b>COVID</b>	Corona Virus Disease
17.	<b>CPPs</b>	Captive Power Plants
18.	<b>CS</b>	Commercial Services
19.	<b>CWIP</b>	Capital Work in Progress
20.	<b>DBT</b>	Direct Benefit Transfer
21.	<b>DDUGJY</b>	Deen Dayal Upadhyay Gram Jyoti Yojna
22.	<b>DELP</b>	Domestic efficient Lighting program
23.	<b>DF</b>	Distribution Franchisee
24.	<b>Discom</b>	Distribution Companies
25.	<b>DPS</b>	Delayed Payment Surcharge
26.	<b>DS</b>	Domestic Service
27.	<b>DSHT</b>	Domestic Service High Tension
28.	<b>DSM</b>	Demand Side Management
29.	<b>DT</b>	Distribution Transformer
30.	<b>DTC</b>	Distribution Transformer
31.	<b>DVC</b>	Damodar Valley Corporation
32.	<b>EA/The Act</b>	The Electricity Act 2003
33.	<b>ECEA</b>	Electricity Contract Enforcement Authority
34.	<b>ERC</b>	Electricity Regulatory Commission
35.	<b>EV</b>	Electric Vehicles
36.	<b>F&amp;A</b>	Finance & Accounts
37.	<b>FAS</b>	Finance Accounting System

Sr. No	Abbreviations	Descriptions
38.	<b>FI</b>	Financial Institutions
39.	<b>FOR</b>	Forum of Regulators
40.	<b>FY</b>	Financial Year
41.	<b>GFA</b>	Gross Fixed Assets
42.	<b>GoI</b>	Government of India
43.	<b>GW</b>	Giga Watt
44.	<b>HP</b>	Horse Power
45.	<b>HPO</b>	Hydro Purchase Obligation
46.	<b>HR</b>	Human Resource
47.	<b>HRIR</b>	Human Resources and Industrial Relations
48.	<b>HT</b>	High Tension
49.	<b>HTSS</b>	High Tension Special Services
50.	<b>IPDS</b>	Integrated Power Development Scheme
51.	<b>IPDS</b>	Integrated Power Development Scheme
52.	<b>IPP</b>	Independent Power Producers
53.	<b>JBVNL</b>	Jharkhand Bijli Vitaran Nigam Limited
54.	<b>JSEB</b>	Jharkhand State Electricity Board
55.	<b>JSERC</b>	Jharkhand State Electricity Regulatory Commission
56.	<b>JTS</b>	Jamshedpur Town Services
57.	<b>JUSCO</b>	Jamshedpur Utilities & Services Company Limited
58.	<b>JUSNL</b>	Jharkhand Urja Sancharan Nigam Limited
59.	<b>JUUNL</b>	Jharkhand Urja Utpadan Nigam Limited
60.	<b>JUVNL</b>	Jharkhand Urja Vikas Nigam Limited
61.	<b>KRA</b>	Key Result Areas
62.	<b>KV</b>	Kilo Volt
63.	<b>kVA</b>	Kilo Volt Ampere
64.	<b>kVAh</b>	Kilo Volt Ampere Hour
65.	<b>kW</b>	Kilo Watt
66.	<b>kWh</b>	Kilo Watt Hour
67.	<b>LF</b>	Load Factor
68.	<b>LT</b>	Low Tension
69.	<b>LTIS</b>	Low Tension Installation Based
70.	<b>MD</b>	Maximum Demand
71.	<b>MOD</b>	Merit Order Despatch
72.	<b>MOEF</b>	Ministry of Environment and Forest
73.	<b>MoP</b>	Ministry of Power
74.	<b>MOU</b>	Memorandum of Understanding
75.	<b>MU</b>	Million Units (Million kWh)

Sr. No	Abbreviations	Descriptions
76.	<b>MVA</b>	Mega Volt Ampere
77.	<b>MW</b>	Mega Watt
78.	<b>MYT</b>	Multi Year Tariff
79.	<b>NAPCC</b>	National Action Plan of Climate Change
80.	<b>NEP</b>	National Electricity Policy
81.	<b>NTP</b>	National Tariff Policy
82.	<b>NTPC</b>	National Thermal Power Corporation
83.	<b>O&amp;M</b>	Operation & Maintenance
84.	<b>OA</b>	Open Access
85.	<b>PF</b>	Provident Fund
86.	<b>PFA</b>	Power For All
87.	<b>PLR</b>	Prime Lending Rate
88.	<b>PPA</b>	Power Purchase Agreement
89.	<b>PSD</b>	Power Service Division
90.	<b>PSS</b>	Power Sub-Station
91.	<b>R&amp;M</b>	Repair and Maintenance
92.	<b>RE</b>	Renewable Energy
93.	<b>REC</b>	Renewable Energy Certificate
94.	<b>REDB</b>	Rural Electrification Distribution Backbone
95.	<b>RGVY</b>	Rajiv Gandhi Gram Vidyutikaran Yojna
96.	<b>RMU</b>	Ring Main Unit
97.	<b>ROE</b>	Return on Equity
98.	<b>RPO</b>	Renewable Purchase Obligation
99.	<b>Rs</b>	Rupees
100.	<b>SAIDI</b>	System Average Interruption Duration Index
101.	<b>SAIFI</b>	System Average Interruption Frequency Index
102.	<b>SAIL</b>	Steel Authority of India Limited
103.	<b>SAP</b>	System Application and Procedure
104.	<b>SAP-IS</b>	Systems Applications and Products - Information System
105.	<b>SBI</b>	State Bank of India
106.	<b>SCADA</b>	Supervisory control and data acquisition
107.	<b>SERC</b>	State Electricity Regulatory Commission
108.	<b>SLDC</b>	State Load Dispatch Centre
109.	<b>SLM</b>	Straight Line Method
110.	<b>SWOT</b>	Strength, Weakness, Opportunity and Threats
111.	<b>T&amp;D</b>	Transmission and Distribution
112.	<b>TPCL</b>	Tata Power Company Limited
113.	<b>TSL</b>	Tata Steel Limited

Sr. No	Abbreviations	Descriptions
114.	<b>TSUISL</b>	Tata Steel Utilities and Infrastructure Services Limited
115.	<b>UDAY</b>	Ujjwal DISCOM Assurance Yojna
116.	<b>UI Charges</b>	Unscheduled Interchange Charges
117.	<b>UMPP</b>	Ultra Mega Power Plant
118.	<b>UNCCC</b>	United Nations Framework Convention on Climate Change
119.	<b>VEI</b>	Village Electrification Infrastructure
120.	<b>VMV</b>	Vision, Mission and Value Architecture
121.	<b>w.e.f</b>	With effect from
122.	<b>Y-o-Y</b>	Year on Year

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## **1. MYT PETITION FOR FY 2021-22 TO FY 2025-26**

### **1.1 Regulatory Framework**

- 1.1.1 In accordance with Section 61 and 62 of the Electricity Act, 2003, the Honourable Jharkhand State Electricity Regulatory Commission made the Distribution Tariff Regulation, 2020, to encourage competition, efficiency, economical use of resources, good performance and optimum investments by the Distribution Licensees within the State of Jharkhand and for determination of Multi-Year Tariff to be recovered by the Distribution Licensees for the prudent expenses incurred towards providing quality supply to consumers within the State of Jharkhand.
- 1.1.2 The petitioner/TSUISL would like to refer to provisions from Distribution Tariff Regulations 2020 applicable for MYT framework and MYT Application.

#### ***Multi Year Tariff Framework for the Control Period (FY 2021-22 to FY 2025-26)***

*5.1 The MYT Framework shall commence from April 01, 2021 and unless reviewed earlier or extended by the Commission, shall be applicable till March 31, 2026. The ARR filings for the Control Period shall be done in accordance with the MYT framework contained in these Regulations.*

*5.2 The Distribution Licensees shall file MYT Application along with supporting documents before the Commission as per the timelines specified in **Section A 24** of these Regulations.*

*5.3 The MYT Application shall include statements containing ARR along with its break up for the Years of the previous Control Period based on Audited Accounts for FY 2015-16 to FY 2019-20, revised estimates for Base Year FY 2020-21, and the projections for each year of the Control Period.*

*5.4 The Guiding Principles for MYT Framework are described in **Section A 6** of these Regulations.*

*5.5 The principles for determination of ARR for the Control Period are described in **Chapter III** of these Regulations and the procedure for Annual Filing during the Control Period is described in **Chapter IV** of these Regulations.*

#### **A 6. Guiding Principles for MYT Framework**

*6.1 The Commission shall adopt Multi Year Tariff Framework for approval of ARR and expected revenue from Wheeling and Retail Supply Tariffs approved. The ARR shall be determined for each year of the Control Period.*

*6.2 The Multi Year Tariff framework shall be based on the following:*

- a. Business Plan for the Wheeling and the Retail Supply Business of the Licensees for the entire Control Period to be filed before the Commission for approval, along with MYT Petition prior to the start of the Control Period or within such period as the Commission may direct;*
- b. Licensees' forecast of expected ARR for each year of the Control Period, wheeling tariff and retail supply tariff for the first year of the ensuing Control Period, based*

*on reasonable assumptions of the underlying financial and operational principles/parameters laid down under these Regulations, and on the basis of the Business Plan;*

- c. Trajectory for specific parameters shall be prescribed by the Commission for improvement of Licensee's performance through incentives and disincentives;*
- d. Annual review of performance, which shall be conducted vis-à-vis the approved forecast and categorization of variations in performance into controllable and uncontrollable factors; and*
- e. Mechanism for sharing approved gains or losses on account of controllable and uncontrollable factors.*

## **1.2 Approach for MYT Petition**

- 1.2.1 Regulation A24 of the JSERC Distribution Tariff Regulation, 2020 requires licensees to file its MYT Petition for the Control Period for FY 2021-22 to FY 2025-26 by 30<sup>th</sup> November 2020. In line with the aforesaid provision of the Distribution Tariff Regulation, 2020, TSUISL submitted its Business Plan and MYT Petition before Hon'ble Commission within the stipulated time frame of 30<sup>th</sup> November 2020 for the control period FY 2021-22 to FY 2025-26.
- 1.2.2 The projections for the Control Period FY 2021-22 to FY 2025-26 are based on the audited accounts available for FY 2016-17 to FY 2019-20 and the Annual performance Review of FY 2020-21 assuming 6 months actuals and 6 months estimates for FY 2020-21. The forecast of expected ARR for each year of the Control Period and wheeling tariff and retail supply tariff for the first year of the ensuing Control Period are based on reasonable assumptions of the underlying financial and operational principles/parameters laid down under the JSERC Distribution Tariff Regulations, 2020, and on the basis of the Business Plan for control period FY 2021-22 to FY 2025-26 as submitted before the Honourable Commission for approval. TSUISL requests the Hon'ble Commission to consider the same and process the MYT petition accordingly.
- 1.2.3 Further TSUISL would also like to submit that since detailed explanation and information regarding sales and power purchase projections, capital investment planning and man power/ HR planning for the control period FY 2021-22 to FY 2025-26 is already provided in the Business Plan, the same are not repeated/ reproduced in this MYT petition. However for the elements, where there have been certain changes in assumptions/ information of preceding year and which has substantial impact are discussed in detail in this MYT petition as well.

### 1.3 Sales, Consumers & Connected Load Projections for FY 2021-22 to FY 2025-26

- 1.3.1 The petitioner in the Chapter 4 “Demand & Sales Assessment” of the Business Plan has discussed in detail about the approach for sales, consumer number and load forecast for each of the consumer categories.
- 1.3.2 TSUISL is taking all endeavours towards expanding its network in rural area, however, the consumer numbers are not increasing at the expected pace. JBVNL is not very aggressive for bill recovery, which is convenient for rural consumers, and they are therefore not willing to switch to TSUISL network. Also, network extension works are difficult considering the forest clearances and other regulatory/ statutory requirements. Accordingly, TSUISL has taken a considerate view on year on year consumer addition numbers in the Domestic service category.
- 1.3.3 TSUISL has also considered increase in Energy consumption in the Domestic Urban and Commercial service urban category due to Electric Vehicles, and subsequent increase in Electricity demand.
- 1.3.4 Further, as per the directives of the Honourable Commission, in its Order dated 29th Sep 2020, TSUISL has merged sub categories of LTIS (Demand and installation based categories) into one and also the HTSS (High Tension Special Services) and HTIS as one category of Service ie ‘HTIS’. Hence, TSUISL has projected its tariff categories with only “HTIS category of service only.
- 1.3.5 The consumer category wise projections of sales, consumer number and connected load as submitted in the Business Plan are reproduced herewith for the control period as follows:

**Table 1: Total Projected Sales (MUs) – FY 2021-22 to FY 2025- 26**

Projected Sales (MUs)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	0.98	1.17	1.36	1.55	1.75
Domestic Services - Urban	22.68	26.29	30.15	34.34	39.97
Domestic Services - HT	9.49	9.76	10.02	10.29	10.55
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	0.29	0.35	0.42	0.50	0.57
Commercial Services - Urban	8.57	9.42	10.30	11.19	12.06
<b>Low Tension Industrial Services (LTIS)</b>	14.28	15.28	16.37	17.37	18.25
<b>High Tension Services (HTS)</b>					
HTS-11 KV	225.34	233.18	241.03	250.44	259.85

Projected Sales (MUs)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
HTS-33 KV	473.35	494.83	516.31	537.79	559.26
<b>Temporary Services</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>
<b>Total</b>	<b>754.99</b>	<b>790.28</b>	<b>825.97</b>	<b>863.46</b>	<b>902.27</b>

**Table 2: Projected Category-wise Consumers – FY 22 to FY 26**

No. Of Consumers	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	785	935	1085	1235	1395
Domestic Services – Urban	5234	6049	6884	7685	8499
Domestic Services – HT	36	37	38	39	40
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	69	85	102	121	137
Commercial Services - Urban	1072	1178	1288	1398	1505
<b>Low Tension Industrial Services (LTIS)</b>	309	335	363	391	419
<b>High Tension Services (HTS)</b>					
HTS-11 KV	273	283	293	305	317
HTS-33 KV	50	52	54	56	58
<b>Temporary Services</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Total</b>	<b>7829</b>	<b>8955</b>	<b>10108</b>	<b>11231</b>	<b>12371</b>

**Table 3: Total Connected Load – FY 2021-22 to FY 2025- 26**

Connected Load	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Domestic Services (DS)</b>					
Domestic Services - Rural	1721	2050	2378	2707	3058
Domestic Services - Urban	41277	47835	54821	62331	72290
Domestic Services - HT	8908	9156	9403	9650	9898
<b>Commercial Services (Non Domestic)</b>					
Commercial Services - Rural	487	600	720	854	967
Commercial Services - Urban	10691	11750	12850	13953	15028
<b>Low Tension Industrial Services (LTIS)</b>	16174	17539	19018	20498	21977
<b>High Tension Services (HTS)</b>					
HTS-11 KV	90716	93949	97182	101061	104940
HTS-33 KV	144954	151222	157489	163757	170025
<b>Temporary Services</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>
<b>Total</b>	<b>314931</b>	<b>334102</b>	<b>353862</b>	<b>374811</b>	<b>398183</b>



- 1.3.6 The Petitioner requests the Hon'ble Commission to approve above submissions for Number of Consumers, Connected Load and Sales for Control Period.

## 1.4 Energy Requirement

- 1.4.1 The projection for demand has been arrived by grossing up the above consumption projections with distribution loss. TSUISL has envisaged some increase in Distribution loss levels over the years due to significant increase in network and growth in LT consumer segment during the Control Period. TSUISL has considered the distribution loss to increase from 2.35% in FY 2022 to 3.80% in FY 2026.

**Table 4: Energy requirement and Energy balance for Control Period**

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Total Energy Sales (MU)</b>	<b>754.99</b>	<b>790.28</b>	<b>825.97</b>	<b>863.46</b>	<b>902.27</b>
Overall Distribution Losses (%)	2.35%	2.70%	3.06%	3.42%	3.80%
Overall Distribution Loss (MU)	18.14	21.93	26.07	30.58	35.64
<b>Total Energy Requirement (MU)</b>	<b>773.13</b>	<b>812.21</b>	<b>852.04</b>	<b>894.04</b>	<b>937.91</b>

- 1.4.2 The power procurement plan for the above Energy Requirement is discussed in the next chapter.

## 1.5 Power Purchase

- 1.5.1 TSUISL will be procuring power from TSL (6.6kV, 132 kV) and DVC (33 kV, 132 kV) to meet its power requirement in the coming control period. Both DVC and Tata Steel are Distribution Licensees and show Energy sale to JUSCO as a part of its Energy Requirement and their cost also include RPO obligation.
- 1.5.2 However, due to the growth in consumer demand projections, the existing contracted capacities from DVC and Tata Steel may not be sufficient to meet the energy requirement of TSUISL in the ensuing years. Considering this, TSUISL has already initiated various measures to meet its additional energy purchase requirements for future:
- Apart from them, for DVC 132 kV Contract demand has been increased from 40 MVA to 50 MVA effective from 1<sup>st</sup> October 2020
  - The Petitioner has already approached JUSNL for connectivity from Gamharia Grid Substation for sourcing of around 40MVA power.
  - With the help of Power Research and Development Consultants parallel study is being undertaken along with (Petitioner's Consultant) for developing a detailed

plan for power procurement from various sources in its area of operations. Prefeasibility studies on the same are also undertaken.

- 1.5.3 Further, TSUISL would like to intimate to the Hon'ble Commission that TSUISL has applied for one new source of power of 200 kVA from JBVNL at Seraikela town. This new connection is required, because in case of breakdowns / shutdowns / stoppage of power due to any external reasons, at least some emergency & critical power supply is fed to consumers. JUSCO's main substation is at Gamharia, which is 30 KM away from Seraikela town. This new source shall act as a backup for connections to Seraikela town's consumers, and this facility shall improve the reliability of the power supply to consumers of this area.
- 1.5.4 The Petitioner submits that the Petition to the Hon'ble Commission for Approval of Power Purchase Agreement for new power connection from JBVNL at Seraikela Town for 200 kVA for Tata Steel Utilities and Infrastructure Service Limited has been submitted vide letter no. PBD/390/ 59-J/09/2020 dated 17.06.2020. It has been registered as Case no. 18 of 2020. However, the approval of PPA from the Hon'ble Commission is on hold due to pendency of draft Power Purchase Agreement from JBVNL.
- 1.5.5 As per JSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2012 Distribution Licensee needs to purchase specified quantum of its energy requirement from Renewable Energy Sources.
- 1.5.6 However, as observed by the Honourable Commission in its Order dated, 19.06.2020, TSUISL is not liable to fulfil RPO. Therefore TSUISL has not considered any Renewable Power Purchase for meeting the Renewable Purchase Obligation as per JSERC RPO Regulation 2012.
- 1.5.7 The power procurement plan from above mentioned sources for the control period is tabulated below:

**Table 5: Power Procurement Plan for Control Period**

Energy Availability (Mus)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Tata Steel Limited</b>					
<b>132 kV, 66 kV, 6.6 kV</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>
<b>Damodar Valley Corporation`</b>					
<i>at 33 kV</i>	120.00	120.00	120.00	120.00	120.00
<i>at 132 kV</i>	253.13	292.21	300.00	300.00	300.00
<i>From Others/Traders</i>		-	32.04	74.04	117.91
<b>Total Pooled Energy Availability (Mus)</b>	<b>773.13</b>	<b>812.21</b>	<b>852.04</b>	<b>894.04</b>	<b>937.91</b>

- 1.5.8 The total power purchase cost implications on the petitioner as Retail Supply Cost is provided in table below:

**Table 6: Power Procurement Cost for Control Period**

Power Purchase Cost	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Tata Steel Limited</b>					
132 kV, 66 kV, 6.6 kV	200.00	203.60	210.40	213.20	216.80
<b>Damodar Valley Corporation`</b>					
at 33 kV	51.69	53.24	54.84	56.49	58.18
at 132 kV	112.38	129.70	136.46	140.55	144.77
<b>From Others/Traders</b>	-	-	15.70	37.04	60.36
<b>Total (Rs. Crores)</b>	<b>364.07</b>	<b>386.55</b>	<b>417.39</b>	<b>447.28</b>	<b>480.11</b>
<b>Per Unit Cost (Rs./Unit)</b>	<b>4.71</b>	<b>4.76</b>	<b>4.90</b>	<b>5.00</b>	<b>5.12</b>

- 1.5.9 The petitioner requests the Hon'ble Commission to approve the total power purchase cost for the control period. Source wise details of power purchase cost was discussed in great detail in Chapter 5 of the Business plan submission.

## 1.6 Capital Investment Plan

- 1.6.1 The Petitioner in the chapter 6 of the Business Plan has provided the details of the Capital Investment Plan, Capitalization, Funding of Capital Expenditure and Computation of Depreciation for the Control Period.
- 1.6.2 TSUISL has made its capital investment plan commensurate with the demand growth projections for the control period from FY 2021-22 to FY 2025-26. The distribution network of TSUISL needs to be developed and strengthened to meet the growing demand of its consumers.
- 1.6.3 Hon'ble Commission had approved various schemes in MYT period FY 2015-16 to 2020-21. However, it was not possible for TSUISL to complete few of the approved schemes in all respect in the current MYT period due to delay in receipt of right of way permission from various agency like MOEF/ RCD/ Railway and general public for laying of power line & land for substation etc. Such schemes are proposed to be completed in this control period.
- 1.6.4 For the MYT period FY 2022-26, new capex schemes have been identified based on various criteria like new requirement as per safety & statutory guidelines, enhancement of reliability of existing network to serve customer better, Load growth related schemes including new substation with source identified by master plan study, introduction of new technology, infrastructure augmentation etc.

- 1.6.5 Petitioner has identified approximately 32 schemes for the control period with the estimated capex of. Rs. 191.4 crores.

**Table 7: Identified Capital Expenditure schemes for the MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	8.2	1.7	0.0	0.0	0.0	9.89
2	New schemes (32)	31.6	48.4	52.3	39.6	19.5	191.44
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Expenditure Plan (Rs. Cr.)		42.8	53.1	55.3	42.6	22.5	216.33

**Table 8: Capitalization schedule for identified schemes (Summary) for MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.4	2.7	0.0	0.0	0.0	25.10
2	New schemes	22.59	40.56	47.39	51.11	29.77	191.42
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Capitalization (Rs. Cr.)		47.99	46.26	50.39	54.11	32.77	231.52

- 1.6.6 In some of the schemes, there is a difference in schedule of capital expenditure and capitalization as Regulation 10.8 of JSERC Distribution Tariff Regulations, 2020. Due to difference in capital expenditure and capitalisation schedule, TSUISL has also factored in IDC component on normative debt in addition to capex amount and considered the same for calculating final capitalisation. Interest incurred on un-capitalisation of debt has been considered at 10% for next Control Period as per Regulation 10.26 of JSERC Distribution Tariff Regulations, 2020.

- 1.6.7 Summary of the capitalization schedule for the carry over and new schemes including the IDC charges is tabulated below. Scheme wise capitalization details of the carry over schemes and new schemes are provided in Annexure...

**Table 9: Capitalization (including IDC) for the identified schemes during the MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.68	2.73	0.00	0.00	0.00	25.41
2	New schemes	23.01	41.51	49.46	52.62	30.40	197
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Capitalization (Rs. Cr.)		48.69	47.24	52.46	55.62	33.4	237.41

1.6.1 Only part of the identified Capex ( Rs 25 Cr only ) has been asked for approval..

1.6.2 However, as per the past experience of the petitioner and difficulty in getting project executed on ground due to various permissions, Right of way issues and local issues, **the petitioner is proposing for an approval of only Rs. 25 crores capex every year in addition to the carry over schemes of last control period and consumer contribution funded schemes. Petitioner therefore requests the Honourable Commission for kind approval of capex up to Rs. 25 crores each year from the identified schemes being submitted along with the Petition. Once the Petitioner reaches the value of Rs 25 crores, the Petitioner will re-approach the commission for further approval of the additional capex.**

1.6.3 In addition there are certain network development schemes which are at forming stage for which cost estimation and preliminary feasibility is yet to be established. Petitioner will approach the Honourable Commission once any of such schemes are firmed up during the control period

**Table 10: Capitalization considered for ARR computation for the MYT Period FY 2021-22 to FY 2025-26**

Sr. no	Schemes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
1	Carry over schemes	22.68	2.73	0.00	0.00	0.00	25.41
2	New schemes	25	25	25	25	25	125
3	Consumer Contribution during the year	3	3	3	3	3	15
Total Capitalization (Rs. Cr.)		50.68	30.73	28	28	28	165.41

- 1.6.1 The petitioner requests Hon'ble Commission to consider the above proposed capital expenditure and capitalisation.

## 1.7 Gross Fixed Assets

- 1.7.1 TSUISL has proposed scheme-wise capital expenditure and capitalisation of the assets in Table 7: Scheme-wise phasing of Capital Expenditure during the Control Period and Table 8: Scheme-wise phasing of Capitalisation during the Control Period during the control period. Further as required under Distribution Tariff Regulations 2020 and as per the Allocation Policy, TSUISL has segregated the opening gross fixed assets as on 1.4.2021. The wheeling assets are 90% and Retail Supply assets are 10% of the total GFA base. The table below provides the summary of the capital expenditure and capitalisation for control period:

**Table 11: Summary of Capital Expenditure and Capitalisation for Control Period  
(Rs. Cr)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
<b>CWIP</b>					
Opening CWIP	24.18	9.99	8.99	8.99	8.99
Add: Capex during year	36.49	29.73	28.00	28.00	28.00
<b>Total CWIP</b>	<b>60.67</b>	<b>39.72</b>	<b>36.99</b>	<b>36.99</b>	<b>36.99</b>
Less: Trfd to GFA	50.68	30.73	28.00	28.00	28.00
<b>Closing CWIP</b>	<b>9.99</b>	<b>8.99</b>	<b>8.99</b>	<b>8.99</b>	<b>8.99</b>
<b>GFA</b>					
Opening GFA	303.75	354.43	385.16	413.16	441.16
Add: Trfd from CWIP	50.68	30.73	28.00	28.00	28.00
<b>Closing GFA</b>	<b>354.43</b>	<b>385.16</b>	<b>413.16</b>	<b>441.16</b>	<b>469.16</b>

## 1.8 Consumer Contribution for Capital Expenditure

- 1.8.1 TSUISL submits The petitioner submits that the expected consumer contribution amount as on 31st March 2021, based on provisional data is Rs. 133.78 crore out of which Rs. 123.93 crore has been capitalized. The remaining amount (Rs. 9.85 crore) is at CWIP stage.
- 1.8.2 TSUISL based on its past experience has envisaged that certain consumers would opt for Self Financing Scheme and would like to create assets out of their own contribution in the next Control Period also. For the purpose of projection TSUISL has considered the estimated consumer contribution of Rs. 3 crores in each year of the Control Period, the entire capitalisation is assumed to be funded through capital contribution. The

average depreciation rate on assets added through consumer contribution is around 6.02%. The petitioner considering such average depreciation rate has projected the depreciation on account of consumer contribution. Such depreciation will then be deducted from the Gross Depreciation for the respective years to arrive at the Depreciation that would form a part of ARR of respective years.

- 1.8.3 The petitioner in the table below has presented the Consumer Contribution received, Consumer contribution capitalised and depreciation on Consumer Contribution booked during the previous years

**Table 12: Summary of Consumer Contribution during the Control period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Consumer Contribution Amount (received)	133.78	136.78	139.78	142.78	145.78
Add: Contribution for the year (received)	3	3	3	3	3
Closing Consumer Contribution Amount (received)	136.78	139.78	142.78	145.78	148.78
Consumer Contribution towards Opening GFA	123.93	126.93	129.93	132.93	135.93
Add: Contribution for the year towards GFA	3	3	3	3	3
Consumer Contribution towards Closing GFA	126.93	129.93	132.93	135.93	138.93
<b>Opening GFA excluding Consumer Contribution</b>	<b>179.82</b>	<b>227.50</b>	<b>255.23</b>	<b>280.23</b>	<b>305.23</b>
<b>Closing GFA excluding Consumer Contribution</b>	<b>227.50</b>	<b>255.23</b>	<b>280.23</b>	<b>305.23</b>	<b>330.23</b>

## 1.9 Funding of Capital Expenditure

- 1.9.1 Continuing with the past practice, TSL has calculated funding of GFA by Debt and Equity on basis of normative principles determined in JSERC Distribution Tariff Regulations 2020. The extract of the relevant regulations from JSERC Distribution Tariff Regulations 2020, regarding funding ratio is provided below:

### ***“Debt-Equity Ratio***

*10.17 New Schemes – For capital expenditure schemes capitalised after April 01, 2021:*

- a) A normative debt-equity ratio of 70:30 shall be considered for the purpose of determination of Tariff;*
- b) In case the actual equity employed is in excess of 30%, the amount of equity for the purpose of tariff determination shall be limited to 30%, and the balance amount shall be considered as normative loan;*
- c) In case the actual equity employed is less than 30%, the actual debt-equity ratio shall be considered;*
- d) The premium, if any raised by the Licensee while issuing share capital and investment of internal accruals created out of free reserve, shall also be reckoned as*

*paid up capital for the purpose of computing return on equity, provided such premium amount and internal accruals are actually utilized for meeting capital expenditure.”*

- 1.9.2 Such funding principles were adopted by petitioner in the past and have been approved by Hon’ble Commission. Accordingly, TSL has considered a Debt Equity ratio of 70: 30 for funding its proposed capitalization.
- 1.9.3 Further, Regulation 10.11 of JSERC Tariff Regulation, 2020 also provides that amount funded through Consumer Contribution, Grants or Deposit Works for connection to the distribution system of the Licensee shall be deducted from the original cost of the scheme for the purpose of calculating the amount under debt and equity. As per the methodology given in Tariff Regulations, any GFA addition after deducting consumer contribution has been considered to be funded by TSL in a Debt: Equity ratio of 70:30.
- 1.9.4 Year wise addition in debt and Equity for next Control Period as per relevant provisions of JSERC Distribution Tariff Regulations, 2020 is tabulated below:

**Table 13: Addition in Debt and Equity in Next Control Period (Rs. Crore)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Transferred To GFA during year	50.68	30.73	28.00	28.00	28.00
Capitalization from Consumer Contribution	3.00	3.00	3.00	3.00	3.00
GFA Addition (Debt & Equity)	47.68	27.73	25.00	25.00	25.00
Addition in Debt	<b>33.37</b>	<b>19.41</b>	<b>17.50</b>	<b>17.50</b>	<b>17.50</b>
Addition in Equity	<b>14.30</b>	<b>8.32</b>	<b>7.50</b>	<b>7.50</b>	<b>7.50</b>

## 1.10 Depreciation

- 1.10.1 Regulation 24 of the JSERC Distribution Tariff Regulation, 2020 provides that the Depreciation expense for a Distribution licensee shall be computed year on year on the original cost of the fixed assets as admitted by the Commission. In line with the provisions of the Regulations, TSUISL has computed depreciation annually on a straight line method.
- 1.10.2 Depreciation has been computed year on year on the average Gross Fixed Asset base of the licensee for the control period as discussed above. The methodology adopted for computation of gross depreciation is as follows:-
- Depreciation on the average Gross Fixed Asset base for each year of the Control period: TSUISL has considered an average depreciation rate of 6.02% (which is approximate average of last few years) to arrive at the year on year depreciation for the control period FY 2021-22 to FY 2025-26.



- Depreciation on Consumer Contribution- Distribution Licensee is entitled to avail depreciation on assets which have been commissioned from its own resources. It is therefore necessary to remove depreciation on assets funded by consumers. Regulation 24 of the JSERC Distribution Tariff Regulation, 2020 also provides that depreciation shall not be allowed on assets funded by Consumer Contribution and Capital Subsidies/Grants. Depreciation on account of consumer contribution has been arrived at in **Table 12: Summary of Consumer Contribution during the Control period** In accordance with the provisions of the JSERC Regulations, TSUISL has subtracted the depreciation against consumer contribution from the total depreciation on the asset base to arrive at the net depreciation to be claimed in the ARR.

1.10.3 The computation of net depreciation for the control period is provided below:

**Table 14: Depreciation for Control Period (Rs Crs)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening GFA	303.75	354.43	385.16	413.16	441.16
Closing GFA	354.43	385.16	413.16	441.16	469.16
<b>Average GFA</b>	<b>329.09</b>	<b>369.79</b>	<b>399.16</b>	<b>427.16</b>	<b>455.16</b>
Gross Depreciation for the Year	19.82	22.27	24.04	25.73	27.41
<b>Average Gross Depreciation Rate</b>	<b>6.02%</b>	<b>6.02%</b>	<b>6.02%</b>	<b>6.02%</b>	<b>6.02%</b>
Depreciation on account of Consumer Contribution	7.10	7.51	7.73	7.93	8.12
<b>Net Depreciation for the year</b>	<b>12.72</b>	<b>14.76</b>	<b>16.31</b>	<b>17.80</b>	<b>19.30</b>

1.10.4 The petitioner requests Hon'ble Commission to approve the Net Depreciation amount as presented in Table 14 above for the control period.

## 1.11 Operation and Maintenance Expenses

1.11.1 Operation and Maintenance Expenses of TSUISL includes salaries, wages, Administrative & General Expenses and Repairs & Maintenance Expenses.

1.11.2 As per Regulation 6.5 of JSERC (Terms & Conditions of Determination of Distribution Tariff) Regulations, 2020; O&M Expenses of a Distribution Licensee shall be determined by the following formula:

*"6.5 The O&M expenses permissible towards ARR of each year of the Control Period shall be approved based on the formula shown below:*

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) + \text{Terminal Liabilities}$$

Where,

$R\&M_n$  – Repair and Maintenance Costs of the Licensee for the  $n^{th}$  year;

$EMP_n$  – Employee Costs of the Licensee for the  $n^{th}$  year excluding terminal liabilities;

$A\&G_n$  – Administrative and General Costs of the Licensee for the  $n^{th}$  year;

Terminal Liabilities will be approved as per actual submitted by the Licensee along with documentary evidence such as actuarial studies.

- 1.11.3 The R&M, Employee and A&G costs for “nth” year shall be indexed by using inflationary factors. The index will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding year before the base year. As per Regulation 6.6 (c), Inflation Factor is calculated by giving 55% weightage to the CPI index and 55% weightage to the WPI index as per the following formula.

$$INDX_n = 0.55 * CPI_n + 0.45 * WPI_n$$

- 1.11.4 In line with the above formula, the inflation factor for the Control Period works out as follows:

**Table 15: Inflation Factor for WPI & CPI**

Period	WPI	CPI	Total
Weightage	0.45	0.55	1.00
Avg Indexation for FY 19-20	121.80	322.50	
Avg Indexation n-1 (Index * Wt.)	54.81	177.38	232.19
Avg Indexation for FY18-19	119.79	299.92	
Avg Indexation n (Index * Wt.)	53.91	164.95	218.86
<b>Combined Inflation (Indxn/Indxn-1)</b>	<b>6.09%</b>		

- 1.11.5 As per the provisions of the JSERC Distribution Tariff Regulations, 2020, TSUISL has used the same  $INDX_n / INDX_{n-1}$  value for all years of the control period for the purpose of estimation. However, TSUISL understands that the Honorable Commission will consider the actual values in the  $INDX_n / INDX_{n-1}$  at the end of each year during the Annual Performance Review exercise and true up the employee cost and A&G expenses on account of this variation, for the Control Period.
- 1.11.6 The month wise WPI data from office of economic advisor and CPI data from Bureau of Labour statistics for FY 2018-19 and FY 2019-20 has been provided at **Annexure 3** of this document.

## 1.12 Repairs and Maintenance Expenses

- 1.12.1 As per Regulation 10.6 (a) of the Distribution Tariff Regulation, 2020, **Repair & Maintenance** cost of the licensee is to be calculated as follows:

$$R\&M_n = K * GFA * (INDX_n / INDX_{n-1})$$

Where,

- ‘K’ is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) and will be calculated based on the % of R&M to GFA of the preceding year of the Base Year in the MYT order after normalising any abnormal expenses.....;
- ‘GFA’ is the opening value of the gross fixed asset of the  $n^{th}$  year;

#### ‘K’ Factor

- 1.12.2 The Commission has provided in the regulation to compute R&M expenses in relation to the Gross Fixed Assets by arriving at the ‘K’ Factor as per the figures of FY 2019-20 i.e. preceding year of base year (FY2020-21).
- 1.12.3 The Tariff Regulation also provides for indexation of R&M expense using inflationary indices as discussed above. The combined inflationary factor of 6.09% has been considered for year on year projection of R&M expense.
- 1.12.4 The Tariff Regulations also need to make provision for statutory increases like wages & labour charges, service tax levy, taxes & duties etc. while allowing the R&M expenses for the period FY 2021-22 to FY 2025-26 with respect to base year. It is submitted that such kind of increases has direct impact on the expenses of the company which are not in the control of the company.
- 1.12.5 The ‘K’ factor considered for the entire Control Period is 5.04%. Based on the foregoing paragraphs, the R&M expense for the Control Period is shown in the table below.

**Table 16: R&M Expenses for Control Period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
<b>Repairs &amp; Maintenance Expenses</b>					
Opening GFA	303.75	354.43	385.16	413.16	441.16
K' Factor	3.30%	3.30%	3.30%	3.30%	3.30%
Inflation Factor	6.09%	6.09%	6.09%	6.09%	6.09%
<b>Total R&amp;M Expenses</b>	<b>10.63</b>	<b>13.16</b>	<b>15.17</b>	<b>17.26</b>	<b>19.56</b>

- 1.12.6 The petitioner requests the Hon’ble Commission to approve the same as per submissions.

#### 1.13 Employee and A&G expenses

- 1.13.1 As per Regulation 10.6 (b), **Employee and A&G cost** of the licensee area is calculated as follows:

$$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX_n / INDX_{n-1}) + G_n$$

Where,

- *INDX<sub>n</sub> is the Inflation factor to be used for indexing the employee cost and A&G cost.*
- *G<sub>n</sub> is the Increase in Employee Expenses in n<sup>th</sup> year and it can be greater than or lesser than 0 based on the actual performance. Values of G<sub>n</sub> shall be determined by the Commission in the MYT order for meeting the additional manpower requirement based on distribution Licensees filing, benchmarking and any other factor that the Commission feels appropriate...*

1.13.2 As discussed in the Business Plan, TSUISL has envisaged an additional manpower recruitment of 17 nos. arising out of new functional requirement and 102 nos. of manpower for Capital Execution and O&M of new network constructed through the capital expenditure plans.

1.13.1 Petitioner would like to submit that these additions are commensurate to the proposed network addition during the control period. Petitioner further submits that employees are to be recruited well in advance (approx. 6 months to one year) to enable them to acquire requisite field information, training and knowledge before they start delivering the service. Further network assets created and employee recruited for O&M of these network will also serve the future consumer in those areas.

1.13.2 The additional cost due to recruitment of additional manpower has been considered in the Employee expense at the prevailing average cadre/ designation wise CTC levels and escalated at the inflationary indices approved by the Hon'ble Commission in its Distribution Tariff Regulation, 2020.

**Table 17: Additional Manpower Cost (Rs Crs)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26	Total
Managerial Manpower	15	6	2	0	0	23
Supervisory / O level Manpower	5	19	1	2	0	27
ITI Workmen	15	26	14	7	7	69
<b>Total</b>	<b>35</b>	<b>51</b>	<b>17</b>	<b>9</b>	<b>7</b>	<b>119</b>
<b>Year on year man power addition cost impact (INR Crores)</b>	<b>2.98</b>	<b>3.77</b>	<b>1.24</b>	<b>0.65</b>	<b>0.51</b>	<b>9.16</b>

1.13.3 Based on the above, the total employee expenditure considering inflation factor, increase in connected load and additional man power for each year of the Control period is as presented in the table below:-

**Table 18: Employee Expense for Control Period (Rs Crs)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Employee Expense- Base year	13.73	19.31	25.51	29.90	34.25
Inflation Factor	6.09%	6.09%	6.09%	6.09%	6.09%
Increase in connected load	12.07%	6.09%	5.91%	5.92%	6.24%
<b>Employee Expenses</b>	<b>16.32</b>	<b>21.73</b>	<b>28.66</b>	<b>33.60</b>	<b>38.60</b>
<b>Add: Additional Manpower cost</b>	<b>2.98</b>	<b>3.77</b>	<b>1.24</b>	<b>0.65</b>	<b>0.51</b>
<b>Total Employee Expense - Crs</b>	<b>19.31</b>	<b>25.51</b>	<b>29.90</b>	<b>34.25</b>	<b>39.11</b>

1.13.4 The Administrative & General (A&G) Expenses consists of Billing & Collection expenses, electricity surcharge, rates, taxes and consultancy fees. The A&G expense for the control period computed as per regulations is shown below:

**Table 19: A&G Expense for Control Period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
A & G Expenses- base year	4.75	5.65	6.36	7.14	8.03
Inflation Factor	6.09%	6.09%	6.09%	6.09%	6.09%
Increase in Connected Load	12.07%	6.09%	5.91%	5.92%	6.24%
<b>A &amp; G Expenses</b>	<b>5.65</b>	<b>6.36</b>	<b>7.14</b>	<b>8.03</b>	<b>9.04</b>

## 1.14 Net Operation & Maintenance Expenses

1.14.1 Based on the foregoing paragraphs, the net O&M expenses for the control period is as follows:

**Table 20: Net O&M Expenses for Control Period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
<b>Total R&amp;M Expenses</b>	<b>10.63</b>	<b>13.16</b>	<b>15.17</b>	<b>17.26</b>	<b>19.56</b>
<b>Total Employee Expenses</b>	<b>19.31</b>	<b>25.51</b>	<b>29.90</b>	<b>34.25</b>	<b>39.11</b>
<b>Total A&amp;G Expenses</b>	<b>5.65</b>	<b>6.36</b>	<b>7.14</b>	<b>8.03</b>	<b>9.04</b>
<b>Total O&amp;M Expenses</b>	<b>35.59</b>	<b>45.02</b>	<b>52.22</b>	<b>59.54</b>	<b>67.71</b>

## 1.15 Interest on Normative Loan

1.15.1 The opening debt for FY 2021-22 has been considered equal to closing value of FY 2020-21 as submitted above in chapter regarding APR for FY 2020-21 in accordance with the Regulation 10.22 of the JSERC Tariff Regulations, 2020.

1.15.2 Annual addition in Debt for next Control Period has been considered as calculated in Table 13 above

1.15.3 In line with the Regulation 10.23 of the JSERC Tariff Regulations, 2020 repayment of loan for MYT Control Period has been considered equal to net Depreciation as calculated above in Table 14 above.

1.15.4 Further, the rate of interest on long-term loan, has been considered as prevailing Marginal Cost of Lending Rate of SBI plus 200 basis points as per Regulation 10.26 of the JSERC Distribution Tariff Regulations, 2020. Interest cost thus calculated vis-à-vis as approved by the Hon'ble Commission is provided in the table below.

**Table 21: Interest & finance charges of TSUISL for MYT Control Period**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Balance	37.11	57.76	62.41	63.61	63.31
Addition	33.37	19.41	17.50	17.50	17.50
Repayment	12.72	14.76	16.31	17.80	19.30
Closing Balance	57.76	62.41	63.61	63.31	61.51
Average Loan	47.44	60.09	63.01	63.46	62.41
Rate of Interest	9.00%	9.00%	9.00%	9.00%	9.00%
<b>Interest Cost</b>	<b>4.27</b>	<b>5.41</b>	<b>5.67</b>	<b>5.71</b>	<b>5.62</b>

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

## 1.16 Return on Equity

1.16.1 The Petitioner has considered the opening balance of normative equity for FY 2021-22 as per the closing balance for the FY 2020-21 as submitted above in chapter regarding APR for FY 2020-21.

1.16.2 Annual addition in Equity for next Control Period has been considered as calculated in Table 13 above

1.16.3 Further, the rate of Return on Equity (RoE) is considered to be 14.5 % as per the provisions of Regulation 10.19 of JSERC Distribution Tariff Regulations, 2020

1.16.4 The return on equity is provided in the table below for kind consideration of Hon'ble Commission

**Table 22: Return on equity of TSUISL for MYT Control Period (Rs. Crore)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Balance	51.34	65.64	73.96	81.46	88.96
Addition	14.30	8.32	7.50	7.50	7.50
Closing Balance	65.64	73.96	81.46	88.96	96.46
Average Equity	58.49	69.80	77.71	85.21	92.71
Rate of Equity	14.50%	14.50%	14.50%	14.50%	14.50%
<b>Return On Equity</b>	<b>8.48</b>	<b>10.12</b>	<b>11.27</b>	<b>12.36</b>	<b>13.44</b>

1.16.5 Accordingly, TSUISL submits to the Hon'ble Commission to approve the Return on Equity as submitted for the Control Period.

### 1.17 Interest on Working Capital – Wheeling Business

1.17.1 The JSERC Distribution Tariff Regulation, 2020 provides the following with respect to computation of Interest on Working Capital for Wheeling Business:

*“10.30 Working capital for the Wheeling Business of electricity for the Control Period shall consist of:*

- a) Maintenance spares at 1% of Opening GFA of wheeling business; plus*
- b) Two months equivalent of the expected revenue from wheeling charges at the prevailing tariffs; minus*
- c) Amount, if any, held as security deposits.”*

*10.32 Rate of interest on working capital shall be equal to the Bank Rate as on September 30 of the financial year in which the MYT Petition is filed plus 350 basis points. At the time of true up, the interest rate shall be adjusted as per the actual rate prevailing on April 01 of the financial year for which truing up exercise has been undertaken.”*

1.17.2 TSUISL has arrived at the Working Capital requirement based on the provisions of the JSERC Distribution Tariff Regulations, 2020 as cited above. The Normative Interest on this Working Capital has been computed on the prevailing Bank rate as on 30<sup>th</sup> September, 2020 plus 350 basis points. The detailed computation of IOWC for the wheeling business is shown in the table below:

**Table 23: Interest on Working Capital – Wheeling Business**

Interest on Working capital - Wheeling Function	Control Period				
	FY 22	FY 23	FY 24	FY 25	FY 26
Maintenance Spares - 1% of Opening Wheeling GFA	2.73	3.19	3.47	3.72	3.97
Expected Revenue from Wheeling Supply Charges - 2 Months	7.97	11.96	13.39	14.80	16.30
<b>Less:</b>					
Less: Security Deposits for Wheeling	-	-	-	-	-
<b>Total Working Capital</b>	<b>10.70</b>	<b>15.15</b>	<b>16.85</b>	<b>18.52</b>	<b>20.27</b>
Rate of Interest on Working Capital - SBI base Rate +3.5%	10.50%	10.50%	10.50%	10.50%	10.50%
<b>Total Interest on Working Capital</b>	<b>1.12</b>	<b>1.59</b>	<b>1.77</b>	<b>1.94</b>	<b>2.13</b>

1.17.3 Accordingly, TSUISL submits to the Hon'ble Commission to approve the Interest on Working Capital for wheeling business for control period.

### 1.18 Interest on Working Capital – Retail Supply Business

1.18.1 The JSERC Distribution Tariff Regulation, 2020 provides the following with respect to computation of Interest on Working Capital for Retail Supply Business:

*“10.31 Working capital for the Retail Supply of Electricity for the Control Period shall comprise:*

- a) Maintenance spares at 1% of Opening GFA for retail supply business; plus*
- b) Two months equivalent of the expected revenue from sale of electricity at the prevailing tariffs; minus*
- c) Amount held as security deposits under clause (a) and clause (b) of subsection (1) of Section 47 of the Act from consumers and Distribution System Users net of any security held for wheeling business; minus*
- d) One month equivalent of cost of power purchased including the Inter-State and Intra-State Transmission Charges and Load Despatch Charges, based on the annual power procurement plan.”*

*10.32 Rate of interest on working capital shall be equal to the Bank Rate as on September 30 of the financial year in which the MYT Petition is filed plus 350 basis points. At the time of true up, the interest rate shall be adjusted as per the actual rate prevailing on April 01 of the financial year for which truing up exercise has been undertaken.”*

1.18.2 TSUISL has arrived at the Working Capital requirement based on the provisions of the JSERC Distribution Tariff Regulations, 2020 as cited above. The Normative Interest on this Working Capital has been computed on the prevailing Bank rate as on 30<sup>th</sup> September, 2020 plus 350 basis points. The detailed computation of IOWC for the wheeling business is shown in the table below:

**Table 24: Interest on Working Capital for Control Period – Retail Supply Business**

Interest on Working capital - Supply Function	Control Period				
	FY 22	FY 23	FY 24	FY 25	FY 26
Maintenance Spares - 1% of Opening Supply GFA	0.30	0.35	0.39	0.41	0.44
Expected Revenue from Retail Supply Charges - 2 Months	64.28	70.92	76.74	82.42	88.65
<b>Less:</b>					
Power Purchase Cost - 1 Month	30.34	32.21	34.78	37.27	40.01



Interest on Working capital - Supply Function	Control Period				
	FY 22	FY 23	FY 24	FY 25	FY 26
Security Deposits for Supply	77.17	79.93	82.36	84.92	87.64
<b>Total Working Capital</b>	<b>(42.93)</b>	<b>(40.86)</b>	<b>(40.01)</b>	<b>(39.36)</b>	<b>(38.55)</b>

1.18.3 Since the working capital requirement of TSUISL is negative for Retail Supply Business, TSUISL has not projected any interest on working capital to be recovered through ARR during the Control Period FY 2021-22 to FY 2025-26.

### 1.19 Interest on Security Deposit

1.19.1 The JSERC Distribution Tariff Regulation, 2020 provides the following with respect to computation of Interest on Security Deposit:

*“10.33 Interest paid on consumer security deposits shall be as specified by the Commission JSERC (Electricity Supply Code) Regulations, 2015 as amended or as replaced from time to time.”*

1.19.2 Apart from the security deposit received in cash, TSUISL also receives security deposit in the form of Bank Guarantee (BG) as per provision 8.2.20 of Supply Code Regulations 2015.

*“..8.2.20 The Consumer whose total amount of Security Deposit exceeds Rs. 10 Lacs may, at his option, furnish irrevocable Bank Guarantee from a nationalized or scheduled commercial Bank initially valid for a period of two years. It shall be the responsibility of the consumer to keep the Bank Guarantee valid at all times and to renew the Bank Guarantee at least 2 months prior to its expiry.”*

1.19.3 In accordance with the above regulation, TSUISL assumes that most of the Industrial consumers will furnish Security Deposit in the form of BG.

1.19.4 The JSERC Supply code regulation, 2015 states the following with regards to interest on Security deposit is as represented below:

*8.2.16 The Distribution Licensee shall pay interest to the consumer at the State Bank of India base rate prevailing on the 1st of April for the year, payable annually on the consumer's security deposit with effect from date of such deposit in case of new connections energized after the date of this notification, or in other cases, from the date of notification of these Regulations.*

*The interest accrued during the year shall be adjusted in the consumer's bill for the first billing cycle of the ensuing financial year.*

1.19.5 The petitioner has computed security deposit additions for the control period in proportion to increase in connected load for that relevant year and assuming that most of the Industrial consumers will furnish Security Deposit in the form of BG. The Interest on Security Deposits by considering an interest rate of 7.4% during the Control Period is provided in the table below:

**Table 25: Interest on Security for Control Period**

Particulars	Control Period				
	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Security Deposit	77.17	79.93	82.36	84.92	87.64
Security Deposit Received	2.75	2.43	2.56	2.72	3.39
<b>Closing Security Deposit</b>	<b>79.93</b>	<b>82.36</b>	<b>84.92</b>	<b>87.64</b>	<b>91.02</b>
<b>Average Security Deposit</b>	<b>78.55</b>	<b>81.14</b>	<b>83.64</b>	<b>86.28</b>	<b>89.33</b>
Rate of Interest : SBI Base Rate	7.40%	7.40%	7.40%	7.40%	7.40%
<b>Interest on Security Deposit</b>	<b>5.81</b>	<b>6.00</b>	<b>6.19</b>	<b>6.38</b>	<b>6.61</b>

1.19.6 The Hon'ble Commission is requested to approve the Interest on security deposits for control period.

## 1.20 Non-Tariff Income

1.20.1 The Non-Tariff income for TSUISL primarily consists of income against Delayed payment surcharge and meter rent. However, going forward, the Honble Commissioned has abolished the meter rent from the NTI. Also, there are lots of incentives provided to the consumers in the form of rebate on online and prompt payment, it is envisaged that the consumers will pay bill on time. Further, there is also a reduction in the DPS rate, accordingly, TSUISL has considered NTI at Rs. 20 lakhs for the control period. However, it will depend on the actual payment pattern of the consumers.

**Table 26: TSL Non-Tariff Income for MYT Control Period (Rs. Crore)**

Particulars	FY 22	FY 23	FY 24	FY 25	FY 26
Opening Balance	0.20	0.20	0.20	0.20	0.20

## 1.21 DSM Expenses

1.21.1 TSUISL envisages to incur approximately ₹ 60 lacs in each year of the Control Period against DSM expenses. It is requested to the Hon'ble Commission to kindly approve the same.

## **1.22 CGRF Expenses**

- 1.22.1 TSUISL has envisaged that approximately 30 lacs would be incurred in FY 2021-22 against the CGRF expenses with a year on year escalation of 6.02%. It is requested to the Hon'ble Commission to kindly approve the same.

## 2. AGGREGATE REVENUE REQUIREMENT FOR THE CONTROL PERIOD (FY 2022 TO FY 2026)

This chapter summarises the aggregate revenue requirement for the control period FY 2021-22 to FY 2025-26 and also provides the break-up into Wheeling and Supply business.

### 2.1 Average Revenue Requirement for Control Period

Based on the allocation policy, the summary of the ARR for control period is provided in the table below:

**Table 27: ARR for Control Period**

ARR		FY 22	FY 23	FY 24	FY 25	FY 26
Sr. No.	Particulars	Projected	Projected	Projected	Projected	Projected
1	Total Power Purchase Expense	364.07	386.55	417.39	447.28	480.11
2	O&M Expenses	35.59	44.27	50.53	56.74	63.59
2.1	Employee Expense	19.31	25.51	29.90	34.25	39.11
2.2	Administration & General Expense	5.65	6.36	7.14	8.03	9.04
2.3	Repair & Maintenance Expense	10.63	12.40	13.48	14.46	15.44
3	Depreciation	12.72	14.76	16.31	17.80	19.30
4	Interest on Long Term Loan	4.27	5.41	5.67	5.71	5.62
5	Interest on Working Capital Loan	1.12	1.34	1.49	1.62	1.76
6	Interest on Consumer Security Deposit	5.81	6.00	6.19	6.38	6.61
7	Return on Equity Capital	8.48	10.12	11.27	12.36	13.44
8	Other expenses (DSM, CGRF etc.)	0.90	0.92	0.94	0.96	0.98
9	Total Expenditure	432.96	469.36	509.78	548.85	591.41
10	Less: Non-Tariff Income	0.20	0.20	0.20	0.20	0.20
11	Net: Aggregate Revenue Requirement	<b>432.76</b>	<b>469.16</b>	<b>509.58</b>	<b>548.65</b>	<b>591.21</b>

### 2.2 Segregation of ARR into Retail and Wheeling Business

2.2.1 The Regulation 6.8 of the JSERC Distribution Tariff Regulations 2020, requires the distribution licensee to segregate its ARR into wheeling and retail supply business, as reproduced hereunder:

*“6.8 In case clear and reasoned methodology for allocation is not submitted by the Distribution Licensee, the Commission may consider the segregation as approved for*

the previous Control Period as specified below or may decide on the manner in which such allocation can be done;”

- 2.2.2 The ARR of TSUISL for FY 2021-22 has been segregated , as per JSERC Distribution Tariff Regulations as per below Table:
- 2.2.3 The summary of segregation of various components of ARR into wheeling and retail supply business is provided in the table below.

**Table 28: ARR Components into Wheeling and retail business**

Particulars (Rs. Cr.)	Share of Retail Supply	Share of Wheeling Business
	%age	%age
O&M Cost		
<i>Employee cost</i>	40%	60%
<i>A&amp;G Expense</i>	50%	50%
<i>R&amp;M Cost</i>	10%	90%
Power purchase (Inc. PGCIL)	100%	0%
Interest Cost	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%

- 2.2.4 Considering the general principles of segregation of above heads into wheeling and retail supply business as provided in JSERC Distribution Tariff Regulations, 2020 TSUISL has considered different ratio to Wheeling Business and retail supply business based on the nature of heads. Based on above, the segregated ARR of Retail supply business and wheeling business for FY 2021-22 has been provided below:

**Table 29: ARR Components for Retail business for FY 2021-22**

Particulars	FY 2021-22 (Rs. Cr.)
Power purchase	364.07
O&M Cost	11.61
<i>Employee cost</i>	7.72
<i>A&amp;G Expense</i>	2.82
<i>R&amp;M Cost</i>	1.06
Depreciation	1.27
Interest on Long Term Loan	0.43
Interest on Working Capital Loan	1.01
Interest on Consumer Security Deposit	5.81
Return on Equity Capital	0.85
Other Expenses	0.45
Less: NTI	0.18
<b>Total ARR required</b>	<b>385.32</b>

**Table 30: ARR Components into Wheeling business for FY 2021-22**

Particulars	FY 2021-22 (Rs. Cr.)
Power purchase	-
O&M Cost	23.98
<i>Employee cost</i>	11.59
<i>A&amp;G Expense</i>	2.82
<i>R&amp;M Cost</i>	9.57
Depreciation	11.45
Interest on Long Term Loan	3.84
Interest on Working Capital Loan	0.11
Interest on Consumer Security Deposit	-
Return on Equity Capital	7.63
Other Expenses	0.45
Less: NTI	0.02
<b>Total ARR required</b>	<b>47.44</b>

### 3. REVENUE GAP TILL FY 2021-22

#### 3.1 Cumulative Gap / (Surplus) till FY 2020-21

- 3.1.1 Based on the Revenue Gap for FY 2016-17, FY 2017-18 and FY 2018-19 as approved in previous tariff orders and the submissions of FY 2019-20 and FY 2020-21 in the FY 2019-20 True up and FY 2020-21 APR petition, the cumulative revenue gap/ (surplus) till FY 2020-21 as per the methodology adopted by the Hon'ble Commission is presented in the table below:

**Table 31: Cumulative Revenue Gap/ (Surplus) till FY 2020-21**

Particulars (All figures in Rs. Cr.)	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Revenue Gap/(Surplus) as on 1 April of FY	20.45	7.52	(8.70)	(5.81)	18.37
Revenue Gap/ (Surplus) created during the year	(12.15)	(15.26)	3.72	23.44	44.40
Rate of Interest	12.80%	12.60%	12.20%	12.55%	11.65%
Carrying Cost on Opening Gap/(Surplus)	-	-	(1.06)	(0.73)	2.14
Carrying cost on Gap/(Surplus) created during the FY	(0.78)	(0.96)	0.23	1.47	2.59
Total Gap/(Surplus) including carrying cost	7.52	(8.70)	(5.81)	18.37	67.50

- 3.1.2 The Petitioner also submits that it has submitted Review Petition to Hon'ble Commission vide letter no. PBD/2038 /59-J/09/2020 dated 06.11.2020. In this review petition, the petitioner has raised the following three points: three points.

- Review of R&M and A&G expenses approved for FY 2018-19,
- Review of capitalization of Capital contribution considered by the Hon'ble Commission while determining addition to normative equity and normative loan for FY 2018-19, and
- Review of rate of Carrying cost considered on opening revenue surplus for FY 2018-19.

- 3.1.3 ON the certain disallowance of costs in the True-up orders for FY 2016-17 and FY 2017-18 petitioner has made an Appeal.

- 3.1.4 The petitioner humbly requests the Hon'ble Commission to kindly consider the outcome of the aforementioned review /appeal petition, while deciding upon the revenue gap / (surplus) for the period.

#### 3.2 Standalone and Cumulative Gap till FY 2021-22

- 3.2.1 As part of calculating stand-alone revenue gap of FY 2021-22, TSUISL has calculated revenue which is expected to be billed at existing tariff (approved vide T.O dated 29th

Sep'2020) and at projected Energy Sales, Connected Load and number of consumers as projected in Business Plan for FY 2021-22. Rebate and Surcharges are considered in line with the rebate availed by consumers in FY 2019-20 by each category, as it also has component of load factor, power factor and voltage rebate which is dependent upon their consumption pattern. However the impact of load factor rebate on full units rather than incremental units and additional rebate for online payment up to 1% in the recent tariff order effective from 01.10.2020 has adversely impacted ( approx.. Rs 12 Cr/Year) the petitioner's revenue. The same has also been factored while computing the rebates and surcharges at existing tariff.



**Table 32: Revenue from Existing Tariff from FY 2021-22**

Consumer Category	No. of Consumers	Connected Load- KVA*	Sales (MUs)	Demand Charges	Demand Charge Unit	Variable Charges	Variable Charge Unit	Fixed Charges (Rs. Cr)	Energy Charges (Rs. Cr)	Penalty/ Rebate (Rs. Cr)	Total Revenue (Rs. Cr)
Domestic Rural & Urban	6,019	42,998	24					0.49	7.05	0.05	<b>7.59</b>
LT Rural	785	1721	0.98	15.00	Rs/Conn/mth	2.50	Rs/kwh	0.01	0.25	0.01	0.27
LT Urban	5,234	41277	22.68	75.00	Rs/Conn/mth	3.00	Rs/kwh	0.47	6.80	0.05	7.32
Domestic Service - DSHT	36	8908	9.49	75.00	Rs./kVA/month	2.75	(Rs/kVAh)	0.68	2.35	0.01	<b>3.04</b>
CS - Rural	69	487	0.29					0.01	0.07		<b>0.08</b>
Commercial Below 5 kW	58	154	0.08	15.00	Rs/Conn/mth	2.50	Rs/kwh	0.00	0.02		0.02
Commercial Above 5 Kw	11	334	0.21	25.00	Rs./kW/month	2.50	Rs/kwh	0.01	0.05		0.06
CS - Urban	1,072	10691	8.57					1.32	3.13	-0.04	<b>4.40</b>
Commercial Below 5 kW	762	2,150	1.27	15.00	Rs/Conn/mth	2.50	Rs/kwh	0.01	0.32		0.33
Commercial Above 5 kW	310	8,541	7.30	150.00	Rs./kW/month	3.85	Rs/kwh	1.31	2.81	-0.00	4.12
LTIS	309	16174	14.28	150.00	Rs./kVA/month	4.05	(Rs/kVAh)	2.47	5.21	0.24	<b>7.93</b>
HTS	323	235671	698.69	300.00	Rs./kVA/month	4.45	(Rs/kVAh)	72.12	296.11	-23.44	<b>344.79</b>
Temporary services	1	2	0.01		Rs./kVA/month			-	-		
<b>Total</b>	<b>7,829.00</b>	<b>3,14,930.85</b>	<b>754.99</b>					<b>77.09</b>	<b>313.92</b>	<b>-23.18</b>	<b>367.83</b>

- 3.2.2 Considering revenue at existing tariff for FY 2021-22 as calculated above and projected ARR for FY 2021-22, standalone and cumulative revenue gap for FY 2021-22 at existing tariff is tabulated below:

**Table 33: Cumulative Revenue Gap till FY 2021-22 at Existing Tariff (Rs. Crore)**

Particulars	FY 2021-22
ARR for FY 2021-22	432.76
Revenue from Sales at Approved Tariff	367.83
Standalone Gap/(Surplus) for FY 2021-22	64.93
Closing Gap/(Surplus) till FY 2020-21	67.50
Interest on Closing Gap/(Surplus) till FY 2020-21	7.09
Interest on Gap/(Surplus) during FY 2021-22	3.41
<b>Cumulative-Gap/(Surplus) till FY 2021-22</b>	<b>142.93</b>

- 3.2.3 Petitioner would like to submit that such accumulation of revenue gap has happened due to deferment of tariff increase in the past due to various reasons. Such accumulation of revenue Gap not only affects the financial viability and sustainability of the entire system; but also puts burden of carrying cost on the consumers of the Licensee.
- 3.2.4 The last effective tariff increase of TSUISL happened in June'2018. Thereafter in subsequent orders Hon'ble Commission primarily focussed on tariff simplifications. TSUISL always maintained a balanced approach while proposing the tariff increases in the past. If proposed tariff would have been considered in previous years, building up of such gaps could have been avoided and the current Gap could have been liquidated by only marginal increase in tariff.
- 3.2.5 Petitioner would like to communicate that in the last tariff order effective 01.10.2020, Hon'ble Commission did several changes in the rebates and surcharge. Some of the changes have adversely impacted the revenue of the petitioner.
- 3.2.5.1 Applicability of domestic tariff on commercial consumers below 5 kW. Commercial consumers charges the input cost of their products and service to another consumers and therefore it is against the generally accepted principles to provide subsidised tariff to commercial consumers.
- 3.2.5.2 Additional 1% rebate on online payment in place of 1% limited to Max Rs 250 for online payment.

- 3.2.5.3 **Load Factor Reate on full energy units above 45%.** Earlier it was applicable only on incremental energy above 50%. This has led to almost 10% to 15% reduction in tariff for select cosumers , who were already working in all the three shift. The cost of such lower payment by these consumers will have to be borne by other consumers in future. There is aan urgent need to review this and allow the Load Factor rebate only on incremental units above 50%.

**All these ( mostly LF rebate) have led to effectively decrease in TSUISL tariff by approx 5% w.e.f 01.10.2020. Though the benefit of such decrease is going onlyo to very select consumers, petitioners revenue is adversely impacted by this change. These is an ugent need to correct these provisions.**

- 3.2.6 MultiYear tariff regulations focus on cleaning the balance sheet, liquidation of the regulatory assets and improve the financial status of the distribution companies without compromising on the interest of the consumers. Liquidation of regulatory asset is therefore essential to ensure the financial health of distribution companies, which ensures quality power supply to consumers. TSUISL envisages to recover the Revenue gap through tariff increase in subsequent years.

## 4. TARIFF PHILOSOPHY

### 4.1 Increase in Tariff

- 4.1.1 Cumulative Revenue Gap till FY 2021-22 if existing tariff is retained for FY 2021-22 would reach Rs 142.93 crore as calculated in **Table 33: Cumulative Revenue Gap till FY 2021-22 at Existing Tariff** (Rs. Crore).
- 4.1.2 The Honourable Commission may kindly consider that the accumulated Revenue Gap till FY 2021-22 at existing tariff is primarily due to **zero to negative** tariff hike for TSUISL consumers in the past. Further, the Hon'ble Commission vide its Order dated 29<sup>th</sup> September 2020, has increased all the rebates offered to consumers significantly while reducing late payment surcharge as cited below (details cited in the table below).
- 4.1.3 The Additional rebates and relaxation in penalty has adversely impacted the revenue realization for TSUISL (Average Tariff in FY 2019-20 – Rs 5.48/Unit, FY2020-21-Rs 5.52/Unit, FY2020-22 (@approved)-Rs 4.87/Unit). Considering that the Hon'ble Commission has almost kept the tariff at the same level for TSUISL over past few years, the financials of the Petitioner is under tremendous stress. The increased tariff rebates without any increase in tariffs have increased the revenue gap of TSUISL considerably.

Rebate/Surcharge	Before 01 <sup>st</sup> October, 2020		After 01 <sup>st</sup> October, 2020	
Voltage Factor Rebate	Voltage rebate to the High Tension consumers will be applicable <b>on the energy charges</b> as given below:		Voltage Rebate to be applicable on <b>Demand and Energy Charge</b> as per the JSERC (Electricity Supply Code) Regulations, 2015, as amended from time to time at the rate given below	
	Consumer Category	Voltage Rebate	Consumer Category	Voltage Rebate
	HTIS-33 kV	3.00%	HTIS-33 kV	3.00%
	HTIS-132 kV	5.00%	HTIS-132 kV	5.00%
	HTSS-220 kV	5.50%	HTSS-220 kV	5.50%
	HTSS-400 kV	6.00%	HTSS-400 kV	6.00%
Load Factor Rebate	Load Factor	Load Factor Rebate	The Load factor rebate shall be allowed to all the consumers whose load factor exceeds 55%. For any „X“ % increase in the load factor over and above 55%, the rebate shall be allowed at the rate of „X“ % on the total energy charges corresponding to <b>energy consumption of the consumer</b> subject to a maximum ceiling rebate of 15%.	
	40%-60%	Nil		
	60%-70%	7.50%		
	70%-100%	10.00%		
Prompt Payment Rebate	The above Load factor rebate was given on incremental basis i.e was applicable on <b>units above cut-off consumption</b> for availing load factor rebate			
	The due date for making payment of energy bills or other charges shall be as stipulated in the JSERC (Supply Code) Regulations, 2015 and its amendments which is presently minimum 15 days after issue date of bill for		A <b>rebate of 1.00%</b> shall be allowed on the billed amount for payment within the due date of the entire billed amount made either through online or any digital mode or through cash.	

	LT Domestic, Commercial and Agriculture category and minimum 21 days after issue date of bill for other categories. Rebate of 0.5% on the billed amount for payment of the bills within ten (10) days of issue date of bill for all the category of consumers shall be allowed	Further, <b>additional 1.00% rebate</b> shall be allowed if the bills are paid in full within the due date through online web portal or any digital methods.
Prompt Online Rebate	To motivate the consumers to make online payment of the bills through online web portal or digital methods, a <b>rebate of 1%</b> of the billed amount in addition to <b>rebate @ 0.5%</b> for prompt payment, shall be allowed. However, online payment rebate shall be applicable if the consumer makes full payment of the bill within due date.	
Interest on Delayed Payment	The Delayed Payment Surcharge will be levied for all consumers at the rate of <b>1.5% per month</b> and part thereof for all consumer categories	The Delayed Payment Surcharge will be at the rate of <b>1.00%</b> per month chargeable proportionately

4.1.4 Accordingly, TSUISL submits that appropriate and immediate tariff hike is inevitable for sustainable operations of TSUISL. TSUISL has therefore proposed a tariff hike of approximately 30% in FY 2021-22 over existing tariff as issued by Hon'ble Commission vide Order dated 29<sup>th</sup> Sep'2020 to bridge the accumulated revenue gap.

4.1.5 The Tariff hike is proposed with an idea to bring the tariffs for individual categories closer to the cost of supply. The resultant tariff increase would lead to reduction in revenue gap by the end of FY 2021-22 as shown in the table below. However, TSUISL submits that the balance gap of Rs. 25.60 crores shall still remain and shall be recovered in subsequent years of the control period.

**Table 34: Cumulative Revenue Gap till FY 2021-22 at Existing and proposed Tariff (Rs. Crore)**

Particulars (All figures in Rs. Cr.)	FY 2019	FY 2020	FY 2021	FY 2022 (@ approved Tariff)	FY 2022 (@ Proposed Tariff)
Opening Revenue Gap/(Surplus) as on 1 April of FY	(8.70)	(5.81)	18.37	67.50	67.50
Revenue Gap/ (Surplus) created during the year	3.72	23.44	44.40	64.93	-46.54
Rate of Interest	12.20%	12.55%	11.65%	10.50%	10.50%
Carrying Cost on Opening Gap/(Surplus)	(1.06)	(0.73)	2.14	7.09	7.09
Carrying cost on Gap/(Surplus) created during the FY	0.23	1.47	2.59	3.41	-2.44
Total Gap/(Surplus) including carrying cost	<b>(5.81)</b>	<b>18.37</b>	<b>67.50</b>	<b>142.93</b>	<b>25.60</b>

**4.2 Tariff Rationalisation: The proposed tariff is based on the following tariff rationalisation.**

- 4.2.1 Hon'ble Commission in Previous T.O dated 29.09.2020 has greatly increased load factor rebate by making it applicable on cumulative units rather than incremental units above the cut-off value. TSUISL is facing very high revenue loss (~Rs. 12 crore) due to the same.
- 4.2.2 Moreover, there is no marked increase in Load factor of HT consumers (with low load factors) pursuant to increase in Load Factor Rebate. Industrial units which used to 3 shifts and therefore have higher load factor are the only getting the maximum rebate, while the cost of the same will have to be paid by the others who are already having low load factor. Some of the industries are availing 10% to 15% rebate on their energy charge and demand charge which results in significant revenue loss for TSUISL. TSUISL has proposed that Load Factor Rebate should be made applicable on incremental units consumed by consumers above cut-off level (50%) and not on cumulative units consumed. Giving LF rebate on cumulative units also drives inefficiency and wastage in the system. TSUISL humbly submits that the current revenue gap at the proposed tariff has been computed based on the assumption that the Honourable Commission will consider Load Factor rebate on incremental basis. In case the Honourable Commission continues with Load Factor rebate on cumulative basis, it will have a further adverse impact on the revenue gap.
- 4.2.3 **Tariff Increase in domestic and commercial category:** Existing average tariffs for domestic and consumer category is highly cross-subsidized and also much lower than the average cost of supply. The current Tariff is ineffective in bringing out efficient use of electricity, hence the Petitioner has tried to align the tariffs closer to Average cost of Supply.
- 4.2.4 Further, TSUISL submits that since Domestic Tariff is subsidised, it should not be used for commercial purposes. Hon'ble Commission in its previous Tariff Order has made Domestic Tariff applicable on commercial and industrial consumers having connected load below '5 kW'. Providing subsidised electricity for commercial use promotes inefficient use of electricity. Hence TSUISL proposes to de-classify commercial and industrial consumers having connected load below 5 kW from domestic category to category specified as per applicability clause of respective consumer category.
- 4.2.5 Accordingly, tariff increase/ rationalisation has been proposed for different consumer categories.
- 4.2.6 As per the existing supply code regulation in the State all new consumer connections are to be provided with appropriate meter (Ref. Clause 5.4.3(e) of JSERC Electricity Supply

Code, Regulations, 2015). In view of the same no tariff is proposed under the unmetered category.

4.2.7 Under HT category, penalty for exceeding Contract Demand continuously for three months in a year is proposed to be levied at 200% in place of existing 150%.

4.2.8 In schedule for Miscellaneous Charges, no changes have been proposed.

4.2.9 Thus, the tariff increase has been proposed to ensure that the cumulative revenue gap for the petitioner is further reduced by the end of FY 2021-22. Post implementation of proposed tariff, the cumulative revenue gap as on 31st March 2022 is expected to reduce to level of Rs. 25.60 crore in comparison to Rs. 142.93 crore at existing tariff as calculated in Table 34 above.

4.2.10 Thus, the Tariff proposed by the Petitioner for FY 2021-22 is presented in the Table below:

Consumer Category	Fixed Charges	Energy Charge	Existing Tariff (T.O.29.09.2020)		TSUISL Proposed Tariff now	
			Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
	Unit	Unit	Rate	(Rs./kWh)	Rate	(Rs./kWh)
<b>DOMESTIC SERVICE</b>						
<b>DS LT</b>						
<i>LT Rural</i>	Rs./Conn/Month	Rs/kwh	15.00	2.50	50.00	3.25
<i>LT Urban</i>	Rs./Conn/Month	Rs/kwh	75.00	3.00	200.00	4.65
<b>DS HT</b>	Rs/KVA/ Month	Rs/kVAh	75.00	2.75	200.00	4.40
<b>IRRIGATION &amp; AGRICULTURE SERVICE (IAS)</b>	Rs./HP/month	Rs/kwh	20	3.70	25	4.65
<b>COMMERCIAL SERVICES (CS)</b>						
<i>CS Rural</i>	Rs./kW/Month	Rs/kwh	25	2.50	100.00	4.00
<i>CS Urban</i>	Rs./kW/Month	Rs/kwh	150	3.85	200.00	5.60
<b>INDUSTRIAL SERVICES</b>						
<i>Low Tension Industrial Service</i>	Rs./KVA/ Month	Rs/kVAh	150.00	4.05	150.00	5.60
<i>High Tension Service</i>	Rs./KVA/ Month	Rs/kVAh	300.00	4.45	350.00	5.60
<b>INSTITUTIONAL SERVICES</b>						
<i>Street Light</i>	Rs./kW/ Month	Rs/kwh	50	5.00	60	5.20

Consumer Category	Fixed Charges	Energy Charge	Existing Tariff (T.O.29.09.2020)		TSUISL Proposed Tariff now	
			Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
	Unit	Unit	Rate	(Rs./kWh)	Rate	(Rs./kWh)
Railway Traction Services, Military Engineering Services and Other Distribution Licensees* (Excluding JUSCO)	Rs/KVA/ Month	Rs/kVAh	160	4.00	245	5.25

\* (in Rs/kVAh)

### 4.3 Revenue from Sale of Power at Proposed Tariff

4.3.1 Based on above philosophy & proposal, the petitioner hereby submits revenue from sale of power at proposed tariff for FY 2021-22 as given in the table below. TSUISL expects that new tariff would get applicable from 01<sup>st</sup> April, 2021 onwards.



**Table 35: Revenue at Proposed Tariff for FY 2021-22**

Consumer Category	No. of Consumers	Connected Load- KVA*	Sales (MUs)	Demand Charges	Demand Charge Unit	Variable Charges	Variable Charge Unit	Fixed Charges (Rs. Cr)	Energy Charges (Rs. Cr)	Penalty/ Rebate (Rs. Cr)	Total Revenue (Rs. Cr)
<b>Domestic Rural &amp; Urban</b>	6,019	42,998	24					1.30	10.87	0.01	12.18
LT Rural	785	1721	0.98	50.00	Rs/Conn/mth	3.25	Rs/kwh	0.05	0.32	0.01	0.37
LT Urban	5,234	41277	22.68	200.00	Rs/Conn/mth	4.65	Rs/kwh	1.26	10.55	0.00	11.80
<b>Domestic Service - DSHT</b>	36	8908	9.49	200.00	Rs./kVA/month	4.65	(Rs/kVAh)	1.82	3.98	-0.02	5.78
<b>Commercial Services - Rural</b>	69	487	0.29	100.00	Rs./kW/month	4.00	Rs/kwh	0.05	0.11		0.16
<b>Commercial Services - Urban</b>	1,072	10,691	8.57	200.00	Rs./kW/month	5.60	Rs/kwh	2.18	4.80	-0.03	6.95
LTIS	309	16174	14.28	150.00	Rs./kVA/month	5.60	(Rs/kVAh)	2.47	7.21	0.22	9.90
HTS	323	235671	698.69	350.00	Rs./kVA/month	5.60	(Rs/kVAh)	84.13	372.63	-12.43	444.34
<b>Temporary services</b>	1	2	0.01					-	-		
<b>Total</b>	<b>7,829.00</b>	<b>3,14,930.85</b>	<b>754.99</b>					<b>91.96</b>	<b>399.60</b>	<b>-12.25</b>	<b>479.30</b>

## 5. TARIFF PROPOSAL

### 5.1 Retail Tariff Proposal

This chapter discusses the approach and philosophy for the proposed Tariff.

### 5.2 Tariff Philosophy and Proposed tariff Schedule

5.2.1 The consumers classified under different categories will be charged different tariff for energy supplied to them as given below based on the nature of use of energy, supply voltage and demand of power

### 5.3 Domestic Service (DS) - (Rural & Urban)

#### 5.3.1 Applicability:

This schedule shall apply to private residential premises for domestic use for household electric appliances such as Radios, Fans, Televisions, Desert Coolers, Air Conditioner, etc. and including motor pumps for lifting water for domestic purposes and other household electrical appliances not covered under any other schedule.

This rate is also applicable for supply to religious institutions such as Temples, Gurudwaras, Mosques, Church and Burial/ Crematorium grounds, Rural Drinking Water Schemes and other recognised charitable institutions, where no rental/fees are charged for the energy needs and for its products and services.

#### 5.3.2 Category of Services

Domestic Service – Rural: areas not covered by Nagar Nigam, Nagar Parishad and Nagar Panchayat.

Domestic Service – Urban: areas covered by Nagar Nigam, Nagar Parishad and Nagar Panchayat.

#### 5.3.3 Service Character

- i. For Rural: AC, 50 Cycles, Single Phase at 230 Volts, Three Phase at 400 Volts.
- ii. For Urban: AC, 50 Cycles, Single Phase at 230 Volts, Three Phase at 400 Volts

#### 5.3.4 Proposed Tariff:

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Energy Charges
Domestic	Unit	Rate	Rate (₹/kWh)	Rate	Rate (₹/kWh)
LT-Rural	₹/Conn/ Month	15.00	2.50	50.00	3.25
LT-Urban	₹/Conn/ Month	75.00	3.00	200.00	4.65

5.3.5 **Delayed Payment Surcharge:** In accordance with **Clause III of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.3.6 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

#### 5.4 **Domestic Service (HT)**

##### 5.4.1 **Applicability:**

This schedule shall apply to private residential premises for domestic use for household electric appliances such as Radios, Fans, Televisions, Desert Coolers, Air Conditioner, etc. and including motor pumps for lifting water for domestic purposes and other household electrical appliances not covered under any other schedule.

##### 5.4.2 **Category of Services**

5.4.3 **Domestic Service - HT:** This Schedule shall apply for domestic connection in Housing Colonies/ Housing Complex/Houses of multi storied buildings purely for residential use for single point metered supply, with power supply at 33kV or 11kV voltage level.

##### 5.4.4 **Service Character**

For HT: AC, 50 Cycles, at 11kV or 33kV

##### 5.4.5 **Proposed Tariff:**

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Energy Charges
Domestic	Unit	Rate	Rate Rs/kVAh	Rate	Rate Rs/kVAh
DS-HT	Rs/KVA/ Month	75.00	2.75	200.00	4.40

5.4.6 **Billing Demand:** The Billing Demand shall be the Maximum Demand recorded during the month or 75% of Contract Demand whichever is higher. The penalty on exceeding Billing Demand will be applicable in accordance with **Clause I: Penalty for exceeding Billing/ Contract Demand** of Terms & Conditions of Supply as provided in section on Terms and conditions of supply of the present petition.

5.4.7 **Delayed Payment Surcharge:** In accordance with **Clause III of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.4.8 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

## 5.5 Irrigation & Agriculture Service (IAS)

### 5.5.1 Applicability:

This schedule 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.

### 5.5.2 Service Character:

AC 50 Cycles, Single Phase at 230 volts /Three Phase at 400 volts

### 5.5.3 Proposed Tariff:

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Energy Charges
	Unit	Rate	Rate (₹/kWh)	Rate	Rate (₹/kWh)
All units	Rs./HP/Month	20	3.70	25	4.65

5.5.4 **Delayed Payment Surcharge:** In accordance with **Clause III of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.5.5 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

## 5.6 Commercial Services (CS):

### 5.6.1 Applicability:

This schedule shall apply to all 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, central air-conditioning units, offices (govt. or private), commercial establishments, cinemas, X-ray plants, schools and colleges (govt. or private), boarding/ lodging houses, libraries (govt. or private), research institutes (govt. or private), railway stations, fuel - oil stations, service stations (including vehicle service stations), All India Radio / T.V. installations, printing presses, commercial trusts / societies, Museums, poultry farms, banks, theatres, common facilities in multi-storied commercial office/buildings, Dharmshalas, public Electric

Vehicles Charging stations and such other installations not covered under any other tariff schedule whose Contracted Demand is greater than 5 kW and less than or equal to 100 kVA (or equivalent in terms of HP or kW). The equivalent HP for 100 kVA shall be 114 HP and the equivalent kW for 100 kVA shall be 85 kW.

This schedule shall also be applicable to electricity supply availed through separate (independent) connections for the purpose of advertisements, hoardings and other conspicuous consumption such as external flood light, displays, neon signs at public places (roads, railway stations, airports etc.), departmental stores, commercial establishments, malls, multiplexes, theatres, clubs, hotels and other such entertainment/ leisure establishments whose Connected Load/Contracted Demand is greater than 5kW and less than or equal to 100 kVA (or equivalent in terms of HP or kW). The equivalent HP for 100 kVA shall be 114 HP and the equivalent kW for 100 kVA shall be 85 kW.

#### 5.6.2 Service Category:

Commercial Service-Rural: Areas not covered by area indicated for Commercial Service Urban. Commercial Service-Urban: Areas covered by Nagar Nigam, Nagar Parishad, Nagar Panchayat.

#### 5.6.3 Service Character:

Rural: AC 50 Cycles, Single phase at 230 Volts or Three Phase at 400 Volts. Urban: AC 50 Cycles, Single phase at 230 Volts or Three Phase at 400 Volts.

#### 5.6.4 Proposed Tariff:

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Energy Charges
	Unit	Rate	Rate (₹/kWh)	Rate	Rate (₹/kWh)
Rural	Rs. /kW/ Month	25	2.50	100.00	4.00
Urban	Rs. /kW/ Month	150	3.85	200.00	5.60

5.6.5 **Billing Demand:** For the purpose of simplicity the Billing Demand shall be the 75% of Contract Demand The penalty on exceeding Contract Demand will be applicable in accordance with **Clause I: Penalty for exceeding Billing/ Contract Demand** as provided in section on Terms and conditions of supply of the present petition.

5.6.6 In case Recorded Demand is more than 100 kVA/85 kW for any month for more than three instances within a Financial Year, the average of the Maximum Demand recorded during such instances shall be treated as the new Contract Demand for the purpose of billing of future months and the consumer will be billed at 1.1 % of

applicable HT tariff till such time consumer does not take physical connection at High tension.

5.6.7 **Delayed Payment Surcharge:** In accordance with **Clause III of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.6.8 **Installation of Shunt capacitors:** In accordance with **Clause VI as provided in section on Terms and conditions of supply** of the present petition.

5.6.9 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

## 5.7 Low Tension Industrial Service (LTIS)

### 5.7.1 Applicability:

**Low Tension Industrial Service (LTIS):** This schedule shall apply to all industrial units having a Contracted Load more than 5 kW and less than or equal to 100 kVA (or equivalent in terms of HP or kW). The equivalent HP for 100 kVA shall be 114 HP and the equivalent kW for 100 kVA shall be 85 kW.

### 5.7.2 Service Character:

**Low Tension Industrial Service (LTIS):** AC, 50 Cycles, Single Phase supply at 230 Volts or Three Phase Supply at 400 Volts. High Tension Industrial Service (HTS): 50 Cycles, 3 Phase at 6.6 kV / 11 kV / 33 kV / 132 kV / 220 kV / 400 kV

### 5.7.3 Proposed Tariff:

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Proposed Energy Charges
	Unit	Rate	Rate (₹/kVAh)	Rate	Rate (₹/kVAh)
LTIS	Rs./kVA/ Month	150.00	4.05	150.00	5.06

5.7.4 **Billing Demand:** The Billing Demand shall be the Maximum Demand recorded during the month or 75% of Contract Demand, whichever is higher. The penalty on exceeding Contract Demand will be applicable in accordance with Clause I of Terms & Conditions of Supply as provided in Clause IV of Terms & Conditions of Supply.

5.7.5 In case Recorded Demand is more than 100 kVA/85 kW for any month for more than three instances within a Financial Year, the average of the Maximum Demand recorded during such instances shall be treated as the new Contract Demand for the

purpose of billing of future months and the consumer will be billed at 1.1 time of applicable HT tariff till such time consumer does not get physically connected at HT level.

**5.7.6 Delayed Payment Surcharge:** In accordance with Clause III of Terms & Conditions of Supply.

**5.7.7 Installation of Shunt Capacitors for LTIS:** In accordance with Clause VI of Terms & Conditions of Supply.

**5.7.8 Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

## **5.8 High Tension Service (HTS):**

### **5.8.1 Applicability:**

All the consumers drawing power at voltage level at 6.6 kV and above except Domestic-HT consumers and HT- Institutional Consumers.

### **5.8.2 Service Character:**

**High Tension Service (HTS):** 50 Cycles, Three Phase at 6.6 kV/11 kV/33 kV/132 kV/220 kV/400 kV

### **5.8.3 Proposed Tariff:**

Consumer Category	Existing tariff			Proposed tariff- Current Petition	
	Fixed Charges		Energy Charges	Fixed Charges	Proposed Energy Charges
	Unit	Rate	Rate (₹/kVAh)	Rate	Rate (₹/kVAh)
<b>HTS</b>	Rs./kVA/ Month	300.00	4.45	350.00	5.60

**5.8.4 Billing Demand:** The Billing Demand shall be the Maximum Demand recorded during the month or 75% of Contract Demand, whichever is higher. The penalty on exceeding Contract Demand will be applicable in accordance with **Clause I: Penalty for exceeding Billing/ Contract Demand** as provided in section on Terms and conditions of supply of the present petition.

**5.8.5 Load Factor Rebate:** In accordance with **Clause V: Load Factor Rebate** as provided in section on Terms and conditions of supply of the present petition.

**5.8.6 Delayed Payment Surcharge:** In accordance with Clause III of Terms & Conditions of Supply.

5.8.7 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.8.8 **TOD Tariff:** In accordance with **Clause VII: ToD Tariff** as provided in section on Terms and conditions of supply of the present petition.

## 5.9 **Street Light:**

This tariff schedule shall apply for use of Street Lighting system.

### 5.9.1 **Applicability:**

**Street Light Service (SS):** This tariff schedule shall apply 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 case where number of lamps is less than 5 , billing shall be done based on equivalent consumption of lights assuming 12 hours of use.

5.9.2 **Service Character: Street Light Service (SS):** AC, 50 cycles, Single phase at 230 Volts or Three phase at 400 Volts

### 5.9.3 **Proposed Tariff:**

Consumer Category	Existing tariff		Proposed tariff- Current Petition		
	Fixed Charges		Energy Charges	Fixed Charges	Energy Charges
	Unit	Rate	Rate	Rate	Rate
Street Light	Rs./kW / Month	50	5.00	60	5.20

5.9.4 **Delayed Payment Surcharge:** In accordance with Clause III of Terms & Conditions of Supply.

5.9.5 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

## 5.10 **HT Institutional Services**

This tariff schedule shall apply for use of Railway Traction, Military Engineering Services and Other Distribution Licensees.

### 5.10.1 **Applicability:**



- **Railway Traction (RTS) and Military Engineering Services (MES):** This tariff schedule shall apply for use of railway traction and Military Engineering Services (MES) for a mixed load in defence cantonment and related area.
- **Other Distribution Licensees:** This tariff schedule shall apply to other distribution licensees procuring power from the Licensee for the sole purpose of supplying it to its consumers. It is clarified that such tariff shall not be applicable for the quantum of power utilised in industrial units owned by it or its parent or affiliate company.

#### 5.10.2 Service Character:

- Railway Traction Service (RTS): AC, 50 cycles, Single phase at 132 kV.
- Military Engineering Services (MES): AC, 50 cycles, three phase at 11 KV/ 33 KV/ 132 kV
- Other Distribution Licensees: AC, 50 cycles, three phase at 11 KV/ 33 KV/ 132 kV

#### 5.10.3 Proposed Tariff

Consumer Category	Existing tariff		Proposed tariff- Current Petition	
	Fixed Charges		Fixed Charges	Energy Charges
	Unit	Rate	Rate	Rate
HT- Institutional Services	Rs/KVA/ Month	160	4.00	245

5.10.4 **Billing Demand:** The Billing Demand shall be the Maximum Demand recorded during the month or 75% of Contract Demand, whichever is higher. The penalty on exceeding Contract Demand will be applicable in accordance with Clause I: Penalty for exceeding Billing/ Contract Demand as provided in section on Terms and conditions of supply of the present petition.

5.10.5 **Load Factor Rebate:** In accordance with Clause V: Load Factor Rebate of Terms & Conditions of Supply as provided in section on Terms and conditions of supply of the present petition.

5.10.6 **Delayed Payment Surcharge:** In accordance with **Clause III of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.10.7 **Rebate for Online Payment and Due Date Payment:** In accordance with **Clause VIII of Terms & Conditions of Supply** as provided in section on Terms and conditions of supply of the present petition.

5.10.8 **TOD Tariff:** In accordance with **Clause VII: ToD Tariff** as provided in section on Terms and conditions of supply of the present petition.

**5.10.9 RPO Compliance:** RPO Compliance for Sale to Other Licensees, RTS and MES shall be made by the first Licensee which sells the power viz., in case TSUISL buys power from TSL which in turn has procured such quantum of power from DVC then the onus to comply with RPO will be with DVC only.

## 5.11 Temporary Connections

**5.11.1 Applicability:** The Temporary tariff shall be applicable as per the following conditions:

- Temporary tariff shall be equivalent to 1.5 times of the applicable fixed and energy charges for temporary connections falling in each prescribed tariff category with all other terms and conditions of tariff remaining the same.
- Temporary connections may be given with normal meters with security deposit as per JSERC (Electricity Supply Code) Regulations, 2015.
- Temporary connections may also be given with prepaid meters with minimum prepaid balance equivalent to 45 days of sale of power, which shall be based on the assessment formula as per JSERC (Electricity Supply Code) Regulations, 2015 and amendment thereof.

### 5.11.2 Proposed Tariff

Consumer Category	Existing tariff/ Proposed in Previous petition		Proposed tariff	
	Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
		Rate(₹/kWh)		Rate(₹/kWh)
All units	1.5 times of the applicable fixed charges	1.5 times of the applicable energy charges	1.5 times of the applicable fixed charges	1.5 times of the applicable energy charges

## 5.12 Terms and Conditions of Supply

Besides the terms & conditions provided in the JSERC (Electricity Supply Code) Regulations, 2015, the Petitioner proposes the following additional terms & conditions of supply:

### 5.12.1 Clause I: Penalty for exceeding Billing/ Contract Demand

In case the Recorded/Actual Demand exceeds 110% of the Contract Demand, the consumer shall pay penal charges. The penal charges would be charged as follows: If the Recorded Demand exceeds 110% of Contract Demand, then the Demand Charge up to Contract Demand will be charged as per the normal Tariff rate. The remaining Recorded Demand over and above the Contract Demand will be charged at 1.5 times the normal Tariff rate.

In cases where contract demand is exceeded in more than 3 billing months in a financial year, penal rate will be 200% of applicable demand on months exceeding 3 months.

#### 5.12.2 **Clause II: Jharkhand Electricity Duty**

The charges in this tariff schedule do not include charges because of State Electricity Duty/Surcharge to the consumers under the State Electricity Duty Act and the rules framed there under as amended from time to time and any other statutory levy which may take effect from time to time.

#### 5.12.3 **Clause III: Delayed Payment Surcharge**

In case the payment of any bill for charges payable under these Regulations is delayed by a Consumer beyond a period of 21 days from the date of billing, a late payment surcharge shall be levied by the Distribution Licensee at the rate of 1.5% per month of part thereof.

#### 5.12.4 **Clause IV: Voltage Rebate**

Voltage rebate\* will be applicable on Demand and Energy Charges as per the JSERC (Electricity Supply Code) Regulations, 2015 as amended from time to time at the rate given below:

Consumer Category	Voltage Rebate
HTS/HT Institutional -33 kV	2.50%
HTS/ HT Institutional -132 kV	3.00%

The above rebate will be available only on monthly basis and consumer with arrears shall not be eligible for the above rebates. However, the applicable rebates shall be allowed to consumers with outstanding dues, wherein such dues have been stayed by the appropriate authority/Courts.

#### 5.12.5 **Clause V: Load Factor Rebate**

Load Factor rebate will be applicable on energy charges only as given below:

Load Factor	Load Factor Rebate *
40-60%	Nil
60-70%	7.50%
70-100%	10.00%

The Load Factor rebate would be applicable only on units consumed above 60% Load factor

The above rebate will be available only on monthly basis and consumer with arrears shall not be eligible for the above rebate. However, the applicable rebate shall be allowed to consumers with outstanding dues, wherein such dues have been stayed by the appropriate authority/Courts.

**5.12.6 Clause VI: Installation of Shunt Capacitors**

Connections with inductive load/motors as specified in Clauses 8.2.34 and 8.2.35 of the JSERC (Electricity Supply Code) Regulations, 2015, as amended from time to time, shall be installed with Shunt Capacitors to meet the Power Factor requirements.

For existing consumer, the Petitioner should first serve one month's notice to all such consumers who do not have or have defective shunt capacitors. In case the consumers do not get the capacitor installed/replaced within the notice period, the consumer shall be levied a surcharge at 5% on the total billed amount charge (metered or flat), till they have installed the required capacitors.

**5.12.7 Clause VIII: Rebate for Online Payment and Due Date Payment**

The due date for making payment of energy bills or other charges shall be 21 days after issue date of the bill. A rebate of 1.00% shall be allowed on the billed amount for payment within the due date of the entire billed amount made either through online or any digital mode or through cash.

Further, additional 1.00% rebate (subject to maximum of Rs 100 ) shall be allowed if the bills are paid in full within the due date through online web portal or any digital methods.

No rebate shall be allowed after due date irrespective of the mode of payment.

**5.12.8 Clause XI: Other Terms & Conditions****Point of Supply**

The Power supply shall normally be provided at a single point for the entire premises. In certain categories like coal mines , public facilities which has come up in phases, power may be supplied at more than one point on request of consumer subject to technical feasibility. But in such cases metering and billing shall be done separately for each point.

**Dishonored Cheques**

In the event of dishonored cheque for payment against a particular bill, the Licensee shall charge a minimum of Rs. 500 or 0.5% of the billed amount, whichever is higher. The DPS shall be levied extra as per the applicable terms and conditions of DPS for the respective category.

**Sale of energy**

No consumer shall be allowed to sell the electricity purchased from the Licensee to any other person/ entity.

**Release of new connections**

No new connections shall be provided without appropriate meter.

**Conversion factors**

The following shall be the conversion factors, as and where applicable (PF=0.85):

1 Kilowatt (KW) = 1.176 Kilovolt ampere (kVA)

1 Kilowatt (KW) = 1 / 0.746 Horse Power (HP)

1 Horse Power (1 HP) = 0.878 Kilovolt ampere (KVA)

Fuel Price & Power Purchase Adjustment (FPPPA)

Applicable as per the Regulation 6.59 to 6.65 of the Distribution Tariff Regulations, 2010 and Regulation 6.60 to 6.68 of the Distribution Tariff Regulations, 2015 and as amended by the Hon'ble Commission from time to time

### 5.13 Schedule of General and Miscellaneous Charges

No	Purpose	Scale of Charges	Proposed Charges	Manner in which payment will be realized
1	Application fee			
	LT Connection	100	No change	Payable with energy bill
	HT Connection	500	No change	
2	Revision of Estimate on Consumer Request based on Revision in Original Application			
	LT Connection	100	No change	Payable with energy bill
	HT Connection	500	No change	
3	Testing of consumers Installation (1)			
	LT Supply	100	No change	Payable with energy bill
	HT Supply	500	No change	
4	Meter test when accuracy disputed by consumer (2)			
	Single Phase/Three Phase	200	No change	Payable with energy bill
	Trivector/Special Type Meter, HT, EHT Metering Equipment	1000	No change	
9	Fuse call – Replacement			
	Consumer fuse	100	No change	Payable with energy bill
10	Disconnection/ Reconnection			
	LT Connection	200	350	Payable in advance along with the Consumer request. In case, the same consumer is reconnected or disconnected Within 12 months, 50% will be charged extra.
	HT Connection	1500	No Change	
11	Replacement of meter card, if lost or damaged by Consumer	Rs. 100	No Change	Payable with Energy Bill
12	Replacement of Burnt Meter	Cost of meter	No change	Payable with Energy Bill
13	Security Deposit	As per JSERC (Electricity Supply Code)		

No	Purpose	Scale of Charges	Proposed Charges	Manner in which payment will be realized
		Regulations, 2015 as amended from time to time		
14	Transformer Rent*			
	Upto 200 kVA	5500/Month	No Change	Payable with energy bill
	Above 200 kVA	7500/Month	No Change	

*1First test & Inspection free of charge, but should any further test and inspection be necessitated by faults in the installation or by not compliance with the conditions of supply for each extra test or inspection.*

*2If the meter is found defective within the meaning of the Indian Electricity Rules 1956, no charge shall be levied. If it is proved to be correct within the permissible limits laid down in the Rules, the amount will be charged in the next energy bill.*

*3Applicable for 6 month duration from the date of taking the transformer on rent, thereafter monthly escalation of 10% would be applicable.*

## 6. PROPOSAL FOR OPEN ACCESS CHARGES

### 6.1 Proposal for Open Access Charges

- 6.1.1 As per the provisions of Electricity Act 2003 the distribution utilities are mandated with Universal Service Obligation to consumers. Nationwide, the present tariff structure has cross subsidization mechanism whereby the tariff for some category of consumers are lower than cost of supply to them.
- 6.1.2 Open Access consumers are required to bear transmission charges, transmission losses, wheeling charges, wheeling losses, reactive charges, cross subsidy surcharge, additional surcharge, standby charges etc as may be applicable depending upon the voltage level at which open access power is availed and the charges as may be approved by Hon'ble Commission from time to time.
- 6.1.3 The Petitioner submits that Section 2 (47) of the Electricity Act 2003 defines "Open Access", while Section 42 of the said Act inter-alia mandates the Distribution Licensee to provide Open Access to eligible consumers, subject to payment of "Cross Subsidy Surcharge", "Additional Surcharge" & other applicable charges.
- 6.1.4 Section 42 (2) of the Electricity Act 2003 provides following provisions wherein the powers have been given to State Commissions for specifying cross subsidy surcharge. The relevant part of the same is reproduced as under:

*"The State Commission shall introduce open access in such phases and subject to such conditions, (including the cross subsidies, and other operational constraints) as may be specified within one year of the appointed date by it and in specifying the extent of open access in successive phases and in determining the charges for wheeling, it shall have due regard to all relevant factors including such cross subsidies, and other operational constraints:*

*Provided that such open access shall be allowed on payment of a surcharge in addition to the charges for wheeling as may be determined by the State Commission:*

*Provided further that such surcharge shall be utilised to meet the requirements of current level of cross subsidy within the area of supply of the distribution licensee:*

*Provided also that such surcharge and cross subsidies shall be progressively reduced in the manner as may be specified by the State Commission:*

*Provided also that such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use:"*

*"to provide non-discriminatory open access to its transmission system for use by- (i) any licensee or generating company on payment of the transmission charges;*

*or (ii) any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the State Commission:*

*Provided that such surcharge shall be utilised for the purpose of meeting the requirement of current level cross-subsidy:*

*Provided further that such surcharge and cross subsidies shall be progressively reduced in the manner as may be specified by the State Commission:*

*Provided also that the manner of payment and utilisation of the surcharge shall be specified by the State Commission.”*

- 6.1.5 Section 86 deals with the functions of State Commission and its sub-section (1) (a) reads as follows:

*"86. (1) The State Commission shall discharge the following functions, namely: (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:*

*Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;"*

- 6.1.6 As per Regulation 3.1 of the JSERC Distribution Tariff Regulations, 2015, the Hon'ble Commission shall determine wheeling tariff, cross-subsidy surcharge, additional surcharge and other open access related charges. The relevant extract of the regulations has been reproduced below:

*"3.1*

*...*

*Provided further that where the Commission has permitted open access to any category of consumers under Section 42 of the Act, the Commission shall determine the wheeling tariff, cross-subsidy surcharge, additional surcharge and other open access related charges in accordance with these Regulations and JSERC (Open Access in Intra-State Transmission and Distribution) Regulations, 2005 and as amended from time to time;"*

- 6.1.7 As per the JSERC (Terms and Conditions for Intra-State Open Access) Regulations, 2016, the Open Access charges include wheeling charges, wheeling losses, Cross subsidy charges and additional surcharge apportioned volt-age wise at HT/ EHT and LT levels.

- 6.1.8 In line with the directions of the Hon'ble Commission, the Petitioner hereby submit its proposal for the determination of open access charges for FY 2021-22.



## 6.2 Wheeling charges

- 6.2.1 The Petitioner hereby submits that it had provided the allocation ratio for Wheeling & Retail Supply business in line with Regulation 6.8 of the JSERC Distribution Tariff Regulations 2020. Accordingly, the allocation for wire and supply business for each ARR component for FY 2021-22 is discussed in Table 29 and Table 30 of this Petition. The wheeling ARR segregated from total ARR was Rs. 47.80 crore and the corresponding wheeling charges based on projected energy sales for FY 2021-22 works out to Rs. 0.63 /kWh. (Rs. 47.80 Crs/ 754.99 MUs x 10 = Rs. 0.63/kWh)

## 6.3 Cross Subsidy Surcharge

- 6.3.1 The Petitioner has determined the Cross-Subsidy Surcharge as per the methodology outlined in National Tariff Policy 2016. The methodology keeps the interest of distribution companies as well as consumers in mind while determining a mathematical formula, thus ensuring competition in electricity through open access is not constrained.

“Surcharge formula:

$$S = T - [C / (1 - L/100) + D + R]$$

Where

- *S is the surcharge*
- *T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation*
- *C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation*
- *D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level*
- *L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level - R is the per unit cost of carrying regulatory assets.*

*Provided that the surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access.”*

- 6.3.2 In line with the above formula and methodology adopted by Hon’ble Commission in previous tariff order, CSS for consumers connected to TSL is calculated as per table below based on proposed tariffs:

**Table 36: Cross Subsidy Surcharge calculation for FY 2020-21**

Consumer Categories	Voltage Level	T-Tariff Payable ABR (Rs/kWh)	C-Power Purchase Cost (Rs/kWh)	L-System losses for applicable voltage (%)	D- Wheeling Charges (Rs/kWh)	Cross Subsidy Surcharge (Rs/kWh)
Domestic	LT	5.15	4.71	14.00%	0.63	-
Commercial	LT	8.03	4.71	14.00%	0.63	1.93
Industrial- HTS	6.6 KV HT	6.36	4.71	1.31%	0.63	0.95
	33 KV HT	6.36	4.71	1.31%	0.63	0.95
	130 KV HT	6.36	4.71	1.31%	0.63	0.95
LTIS	LT	6.93	4.71	14.00%	0.63	0.82

#### 6.4 Additional Surcharge:

6.4.1 Clause 8.5 of the National Tariff Policy 2016 provides following provision that deals with applicability of additional surcharge to be paid by open access consumers. “8.5.4 The additional surcharge for obligation to supply as per section 42(4) of the Act should become applicable only if it is conclusively demonstrated that the obligation of a licensee, in terms of existing power purchase commitments, has been and continues to be stranded, or there is an unavoidable obligation and incidence to bear fixed costs consequent to such a contract. The fixed costs related to network assets would be recovered through wheeling charges.”

6.4.2 The Petitioner craves for determination of additional surcharge on case to case basis and reserves its right to approach Hon’ble Commission for the same at appropriate time within the given provisions of applicable regulations.

#### 6.5 Regulatory Surcharge for Open Access Consumers

6.5.1 The Petitioner submits that a Regulatory Asset Surcharge ought to be levied on Open Access consumers to protect the interest of other consumers who shall continue to take power from the Licensee.

6.5.2 The Petitioner has proposed liquidation of regulatory assets by way of increase in tariff by the year 2022. As of now there is no open access consumer. However, looking at the revenue Gap for FY2021 and FY2021-22, the regulatory assets surcharge applicable on open access consumers comes out to be as follows-

Rs/Unit	FY2021-22	FY2022-23
Opening Gap	67.50 Cr	25.60 Cr
Sales	755 MU	790 MU
Regulatory Asset surcharge	Rs 0.89 per unit	0.32per unit

\*\*\*\*\* ( End of Document)\*\*\*\*\*