



# Analysis of ARR and Tariff Proposal of TPNODL Licensee for FY 2022-23

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BY

WORLD INSTITUTE OF SUSTAINABLE ENERGY, PUNE  
(CONSUMER COUNSEL)

# Demand Forecasting

	Sales							Consumers			
	FY 2020-21 (MU)	FY 2021-22 (MU)			FY 2022-23 (MU)			1 April 2020	1 April 2021	1 April 2022	% of April
	Actual	Proposed	Approved	Estimated	Projected	Projected % over approved FY 2021-22	Projected % over revised FY 2021-22				
<b>LT</b>	2,107.78	2,677.28	2,688.93	2,364.98	2,734.90	1.71%	15.64%	<b>1,905,984</b>	2,007,540	2,086,526	3.9
<b>HT</b>	388.86	395.42	415.60	463.96	485.79	16.89%	4.71%	<b>534</b>	557	623	11.
<b>EHT</b>	1,424.98	1,571.51	1,696.49	1,589.05	1,662.05	-2.03%	4.59%	<b>38</b>	36	37	2.7
<b>Total</b>	3,921.62	4,644.21	4,801.02	4,417.99	4,882.74	1.70%	10.52%	<b>1,906,556</b>	2,008,133	2,087,186	3.9
<b>Power purchase</b>	4941.19	5737.12	5880	4418.07	5980.1						

In FY 2022-23, LT consumer growth is 15.64%, and HT consumer growth is 4.71%.

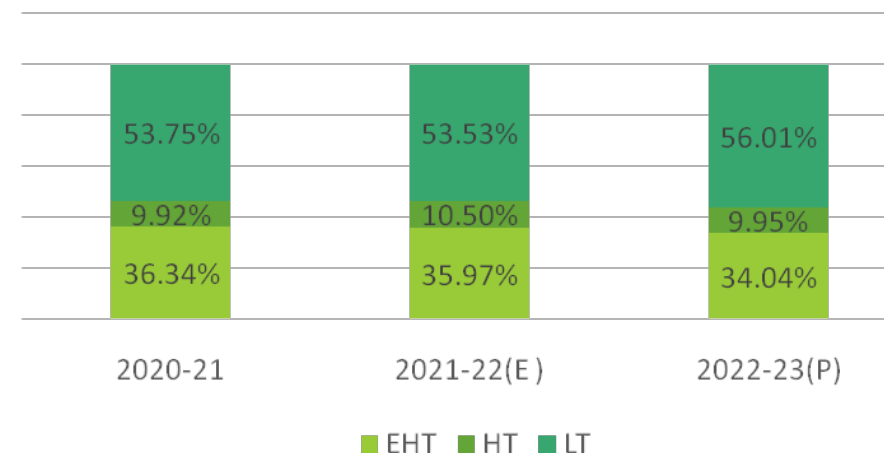
HT number of consumers are increasing every year. In last financial year about 66 consumers added but sales projections are slightly increasing from 463.96 MU to 485.79 MU.

- LT sales need to be rationalized. LT projected sales 22-23 are 15.64% higher against FY2021-22 revised
- Higher LT projections leads to higher need of subsidy and thereby impacts tariff adversely.

# Consumption Streams

Consumption			
	2020-21	2021-22(E )	2022-23(P)
LT consumers	1,905,984	2,007,540	2,086,526
LT consumption (MU)	2,107.78	2,364.98	2,734.90
LT consumer use per month kWh	92.16	98.17	109.23
HT consumers	534	557	623
HT consumption (MU)	388.86	463.96	485.79
HT consumer use per month, kWh	60683.52	69413.52	64979.94
EHT consumers	38.00	36.00	37.00
EHT consumption (MU)	1424.98	1589.05	1662.05
EHT consumer use per month,kWh	3124956.14	3678356.48	3743355.86
Total consumption	3,921.62	4,417.99	4,882.74

Consumption/Consumer/Month



HT consumption share has reduced to 34.04% in 2022-23 from 36.34% in 2020-21

LT consumers consumption is proposed to be increasing in FY 22-23

Consumption of Allied agriculture and agro industrial activities consumption is almost doubling in 22-23 from 2020-21

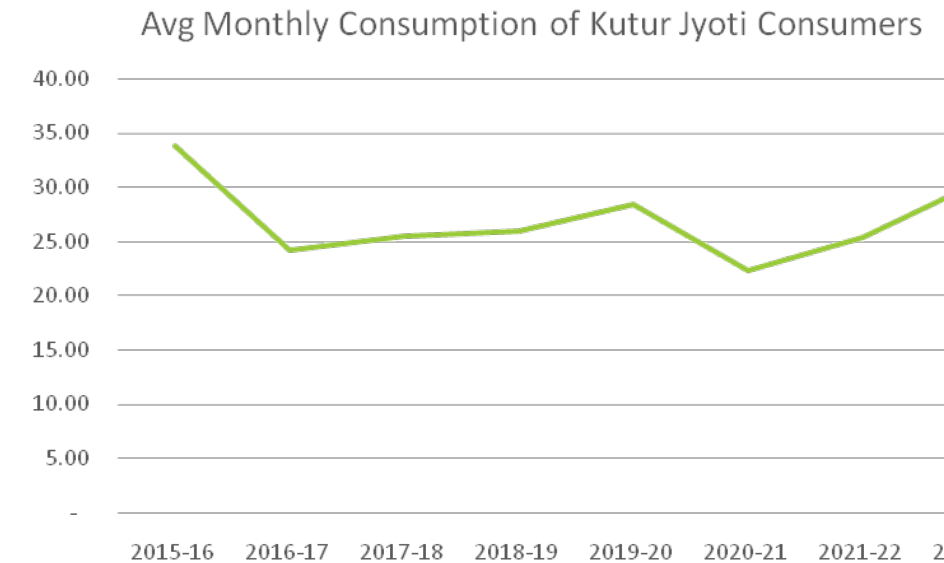
Consumption category		Units/kW	Units/kW	Units/kW
		2020-21	2021-22 E	2022-23(P)
HT	Large Industry	1969.4	2515.4	2200.0
	General Purpose >=110KVA	1696.3	1907.7	1600.0
EHT	Large Industry	2084.8	2566.6	2900.0
	Power Intensive Industry	789.0	1534.3	1500.0

Consumption Category	FY 20-21 MU)	FY 21-22 (MU)	FY 22-23 (MU)
HT Power Intensive Industry	14.05	25.78	27.76
EHT Power Intensive Industry	87.97	53.70	56.01
Allied agricultural activities	14.48	25.98	27.76
Allied agro-industrial activities	14.28	27.76	27.76

# Growth of BPL (Kutir Jyoti) Consumers

	No of Consumers	% increase in no of consumers from past year	Consumption (MU)	% increase in consumption from past year	Consumption per consumer per month (in Unit)
16	209,651	-2.73%	85.068	-20.43%	33.8
17	179,336	-14.46%	52.006	-38.87%	24.1
18	158,571	-11.58%	48.592	-6.56%	25.5
19	147,423	-7.03%	46.023	-5.29%	26.0
20	143,215	-2.85%	48.783	6.00%	28.1
21	133,950	-6.47%	35.921	-26.37%	22.3
22	118,806	-11.31%	36.15	0.64%	25.3
23	93,350	-21.43%	34.108	-5.65%	30.4

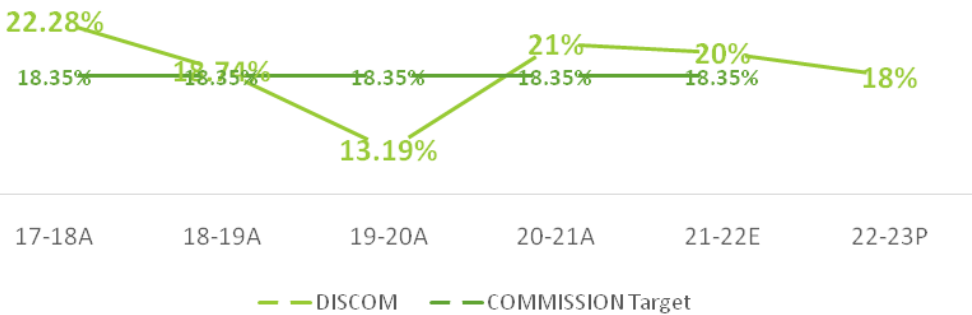
	LT Consumers	Kutir Jyoti	% of Consumers in LT	LT MU	Kutir Jyoti MU	% consumption in LT
21	1,905,984	133,950	7.03%	2,107.78	35.921	1.70%
22	2,007,540	118,806	5.92%	2,364.99	36.15	1.53%
23	2,086,526	93,350	4.47%	2,734.91	34.108	1.25%



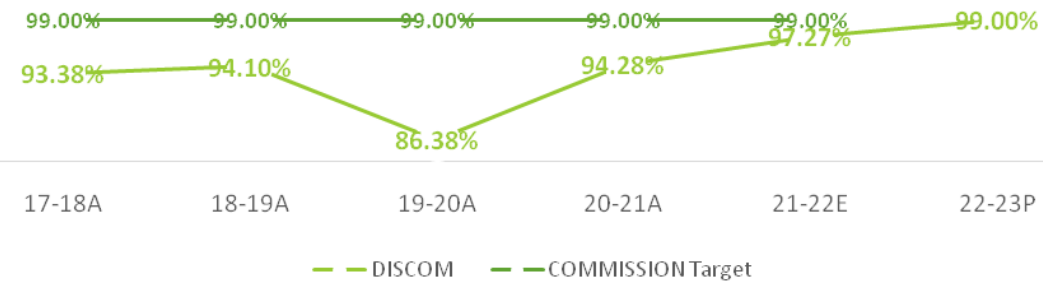
The number of BPL consumers are being proposed to be shifted to other Domestic category.  
 The BPL consumers should not be deprived from BPL category tariff and the DM should take prudent check of annual consumption of BPL category consumer before changing its consumer category

# Overall Losses

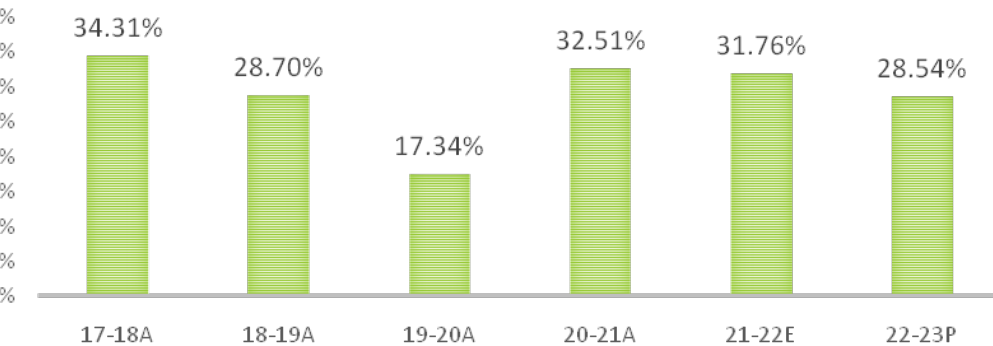
DISTRIBUTION LOSS %



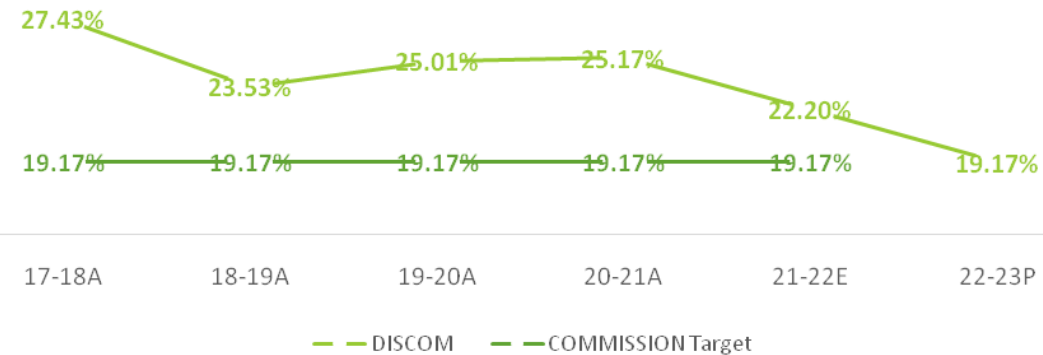
COLLECTION EFFICIENCY %



LT DIST. LOSS % (WITH 8% HT AND 0% EHT LOSS)



AT&C LOSS



AT&C and Distribution loss have decreasing trend though approval is constant. The gap of approve and actual needs to reduce further and lower approval target is needed. The HT loss of 8% needs to be revised as they are constant for long period .

- LT Distribution losses are about 28.54% if the HT loss of 8% and EHT loss of 0% is considered.
- Considering the increasing electronic payment the collection efficiency should improve. The collection efficiency achieved 20-21 was of 94.28%.

# ARR Proposal for FY 2022-23 (Rs. Cr)

Cost/Income Component	ARR Approved for FY 2021-22	ARR for FY 2022-23	Percentage of total Dist Cost	% Rise over Approved ARR
1 Total Power Purchase Cost	2047.25	2082.09	65.55%	1.70%
2 Employee Cost	357.24	408.93	12.87%	14.47%
<b>3 Repair &amp; Maintenance Cost</b>	<b>114.23</b>	<b>240.01</b>	<b>7.56%</b>	<b>110.11%</b>
<b>4 Administrative &amp; General Expenses</b>	<b>49.2</b>	<b>155.18</b>	<b>4.89%</b>	<b>215.41%</b>
5 Bad & Doubtful Debt including Rebate	14.84	26.57	0.84%	79.04%
6 Depreciation	32.86	70.78	2.23%	115.40%
7 Interest on Loan	26.78	84.15	2.65%	214.23%
8 Return on Equity	40	65.85	2.07%	64.63%
9 Tax on ROE	0	22.15	0.70%	
10 Special Appropriation Carrying Cost	0	20.51	0.65%	
<b>Total Dist Cost</b>	<b>2682.4</b>	<b>3176.23</b>	<b>100.00%</b>	<b>18.41%</b>
1 Less Misc Receipts	137.42	154.15		12.17%
<b>Total ARR Requirement</b>	<b>2544.98</b>	<b>3022.08</b>		<b>18.75%</b>
<b>Total Revenue</b>	<b>2545.61</b>	<b>2657.21</b>		4.38%
<b>GAP at Existing tariff (+/-)</b>	<b>0.63</b>	<b>-364.87</b>		

# Administrative and General Expenses

(Rs.Cr)	Proposed	Approved	Actual
2014-15	55	20.68	36.68
2015-16	55.18	27.2	44.08
2016-17	53	40.31	43.41
2017-18	75.37	46.77	45.31
2018-19	44.89	41.33	42.46
2019-20	58.85	37.5	53.60
2020-21	50.10	<b>39.29</b>	<b>95.58</b>
2021-22	63.45	<b>49.20</b>	<b>81.87</b>
2022-23	155.18		

- A&G Expenses approved in FY 2021-22 were 49.20 Cr and Licensee has requested for 155.18 Cr as A&G Expenses. The proposed Expenses are 315.40 % higher.
- As per Regulation A&G expenses were approved as 7% over the existing A&G expenses and some additional expenses are allowed as per allowed.
- Higher A&G costs will increase the ARR and tariff and hence needs prudent check.

## – Additional Proposed A&G

Expense Head/Costs in Rs Lakhs	20-21 Actual	21-22 Actual (Up to Dec 21)	21-22 (Est)	22-23 (Proposed)
Finance	32.99	2.13	478.00	1434.04
Postage and Telegram	2.06	0	2.00	50
Printing Expenses	21.73	0	1.00	300
Consultancy Charges	94.32	4.35	196.00	257.88
Advertising Costs and Campaign	0	0	157.00	167.00
Consumer Campaign Expenses	9.31	0	445.00	25

# Administrative and General Expenses – Additional Proposed A&G



Expense Head/Costs in Rs Lakhs	20-21 Actual	21-22 Actual (Up to Dec 21)	21-22 (Proposed)	22-23 (Est)
Billing expenses	1406.37	?	3748.00	6006
Connection Squad Expenses	22.05	0	0	1
Equipment up-keep/Facility Management	50.88	0	91	3
Entry Expenses	9.31	0	445.00	25
Customer care center / call center	0	0	098	2
Integrity, Ethics	0	0	80	1
Printing	7.77	0	23	3
Expenses on IT Automation	0	0	150	950
IT related running expenses	0	0	0	5
Employee Welfare expenses	0	0	76	277
Insurance in AMC	0	0	112	



# Employee Expenses (Rs Cr)

Employee expenses			
FY	Proposed	Approved	Actual
14-15	285.79	231.45	201.92
15-16	256.06	210.86	242.45
16-17	288.49	216.12	316.17
17-18	392.24	230.69	354.69
18-19	401.07	256.14	364.62
19-20	373.12	327.13	401.94
20-21	392.51	348.84	
21-22	362.63	357.24	
22-23	408.93		

NESCO Utility	No. of employees			
	Executive		Non-Executive	
	Technical	Non-Technical	Technical	Non-Technical
As on 01-04-21	318	89	1443	308
Recruitment during 21-22	350	46	0	0
Diploma Trainees	119	-	-	-
Retirement during 21-22	12	2	72	12
As on 01-04-22	775	133	1371	296
Recruitment during 22-23	350	0	0	0
Retirement during 22-23	3	0	81	9
As on 01.04.2023	1122	133	1290	287

The licensee is outsourcing many activities and also incurring costs on meter reading, billing and collection etc.

Proposed employee cost is expenses are 14.46% higher than last year's approved employee cost.

- The number of employees have been reducing however, the cost is increasing. Further, implementation of IT enabled solution, electronic payment systems the Manpower requirement cost should reduce.

# Repair and Maintenance Costs (Rs Cr)

	Proposed	Approved	Actual/ (Audited)
5	86.91	70.54	19.9
5	97.33	61.05	27.7
7	73.3	70.54	18.61
3	88.53	87.97	13.77
9	89.79	84.92	17.02
0	99.11	89.48	15.66
L	138.96	95.09	19.67
2	106.48	114.23	147.49 E
3	240.01		

Particulars	Previous Year FY20-21	Actual up to Dec 21	Current Year FY21-22(E)	Ensu FY
Civil repairs & maintenance	0.62	?	3.90	
Distribution line repairs & maintenance	12.29	?	103.90	5
Transformer maintenance	6.61	?	38.75	1
Other repairs & maintenance	0.14	?	0.94	
<b>TOTAL</b>	<b>19.69</b>	<b>?</b>	<b>147.49</b>	<b>2</b>

## STATEMENT OF REPAIR & MAINTENANCE (FY 2021-22) - UPTO DEC'21

Rs. In Crore

PARTICULARS	Upto June-21	For Jul-21	For Aug-21	For Sept-21	For Oct-21	For Nov-21	For Dec-21	Total
Building	0.01	0.06	0.31	0.21	0.57	0.64	-1.73	0.06
Plant and equipment	7.86	1.07	2.17	1.86	0.99	1.67	1.95	17.56
Wires, Cables, Network	7.39	0.23	0.52	14.29	20.23	14.82	16.10	73.57
Tools	-	-	-	-	0.00	0.00	0.01	0.01
Furniture & Fixtures	-	-	-	-	-	-	-	-
Office Equipment	0.00	-	-	0.02	-	0.01	-0.03	-
<b>TOTAL</b>	<b>15.27</b>	<b>1.36</b>	<b>2.99</b>	<b>16.37</b>	<b>21.80</b>	<b>17.13</b>	<b>16.29</b>	<b>91.20</b>

R&M Expenses proposed for 21-22 is more than the approved. Further, 210% hike is proposed for ensuing year from last year approved;

Transformer maintenance is proposed as 178.15 Cr. Extraordinary hike in transformer expenses and be justified and explained .

Line maintenance has been proposed to be increased from 12.29 in FY 20-21 to 103.90 in current FY and further reducing to 57.36 .

Expenses headings are different in ARR petition and reply to technical queries. R&M Expenses heads needs to be kept same in all submissions to keep track. Line maintenance expenses should reflect in performance improvement.

# Observation of Other Components

## ○ Provision for Bad Debt :

- **Rs. 26.57 Cr proposed for FY 2022-23 considering collection efficiency of 99%**  
*(This has been estimated considering 50% of uncollected portion.)*
- “The Business Plan order of the Commission dated 20.03.2010 approved collection efficiency of 99% for FY 2011-12 and FY 2012-13. The benchmark of collection efficiency would continue to be at the level of 99% during the third control period also. Accordingly the Bad and Doubtful debt during the third control period would also be allowed @ 1% of the total annual revenue billing in HT and LT sales only.”
- **Accordingly, Rs.15.77 Cr (1% of LT and HT revenue, i.e. 1253.16 + 323.89 Cr) may be allowed.**

## ○ Depreciation

- **Licensee has proposed Rs 70.78Cr Cr towards depreciation for FY 2033-23 compared to the previous year approval of Rs. 32.86 Cr.**
- The depreciation should be calculated on the approved asset base as on 1.04.2021 at Pre-92 rate for the assets inherited from WESCO. Commission may undertake prudence check before allowing the costs. As regards the assets to be added by TPSODL the depreciation rates will be as per pre 99 rates notified by the Gol as per the vesting Order.
- As per Regulation 7.56 of RST Regulations 2014, depreciation should not be allowed on the assets funded by Consumer contribution and capital subsidies / grants.

# Debtors outstanding as on 31.03.2019

Categories of Consumer/Region	0 – 2 m	2 – 6 m	6 – 12 m	12 – 24 m	Over 24 m	Total Out-standing	% Outstanding
& Agro Allied	34.19	13.36	19.02	25.23	26.25	118.05	0.00
<b>Domestic</b>	<b>5094.92</b>	<b>4912.01</b>	<b>7260.93</b>	<b>8560.90</b>	<b>43441.37</b>	<b>69270.13</b>	<b>40.00</b>
General(Commercial)	1700.77	940.10	1445.21	1962.53	9018.53	15067.13	8.00
Industrial						0.00	
<b>Tension</b>	<b>7526.67</b>	<b>4167.52</b>	<b>5566.17</b>	<b>8803.99</b>	<b>46959.09</b>	<b>73023.43</b>	<b>43.00</b>
High/low tension	267.68	91.23	101.40	148.94	1132.50	1741.74	1.00
Street Lighting(Street Lighting)	67.47	140.07	133.23	84.01	1610.19	2034.97	1.00
Industrial/Agricultural	172.18	238.92	345.60	473.35	2553.28	3783.33	2.00
Supply & public works	169.14	223.11	288.10	258.82	692.43	1631.60	0.00
Industrial/Railways	965.12	0.00	0.00	0.00	0.00	965.12	0.00
Street Lighting						0.00	
Industrial Lighting						0.00	
Supplies						0.00	
<b>TOTAL</b>	<b>16206.72</b>	<b>10912.52</b>	<b>15434.59</b>	<b>20651.56</b>	<b>106409.50</b>	<b>169614.89</b>	<b>100.00%</b>

Outstanding bills data needs to be presented as per consumer categorization given in RST.

3.6% arrears from HT consumer are less than 12 months old. All old arrears of commercial and industrial consumers should be recovered on priority as the number of consumers are also very less.

- About 25% of the Domestic consumer's arrears are less than 12 months old and 75% arrear more than 12 months old (amounting to around 520 Cr). **OTS Proposal can be thought of to recover old arrears.**

# Tariff Rationalization Measures

## Increasing rebate on Digital Payment

**Proposed:** Increase in rebate from 2% to 3% for digital payment for LT Domestic, LT GP single phase & Single phase irrigation consumers: Licensee is proposed to increase the rebate offered for digital payment from 2 to 3 % to improve collection

**Justification:** Licensee is selling 21.86% of its power to LT Domestic Consumers and considering the arrears in domestic unpaid electricity bill. Adoption of payment through digital mode will help to reduce the manpower cost in future and also will help to get the timely recovery of electricity bill payments.

## Introduction of Amnesty Arrear Clearance Scheme

**Proposed:** Introduction of Amnesty arrear clearance scheme for LT non industrial category of consumer: The past arrears outstanding of LT Non-Industrial consumers as on 31st March 2021 is around 2096 Cr, out of which Rs.398Cr of arrear is due from PDC consumers. In order to improve the committed collection out of past arrears the licensee proposes to introduce Amnesty Arrear clearance scheme.

**Justification:** Major arrears (amounting to around 520 Cr) are from LT Domestic and HT consumers. About 75% of the LT Domestic arrears are more than 24 months old. The introduction of Amnesty arrear clearance for LT Domestic consumers will help to recover past dues.

# Tariff Rationalization Measures

## Special Tariff for Cold Storage Units through Govt. Subsidy

for Cold Storage units through Govt. Subsidy: Licensee has submitted that Govt. subsidy may be offered to Cold Storage to rationalize the tariff difference in Allied Agriculture Activities and that of Allied Agro Industrial Activity further to help the cold storage industry which is in distress.

**Assessment:** Licensee has projected about 53.98 MU consumption for Allied Agriculture Activities and that of Allied Agro Industrial Activities during the ensuing FY. This is around 3.25% of total sales. Special tariff can be considered on upfront subsidy commitment from the state government.

## Installation of Smart Meters for Govt. Connections

Installation of Smart Prepaid Meters for Govt. Connection: Licensee requested to allow separately for replacement of all the meters of the Govt. connections available in all the block level and above with smart prepaid meters during the ensuing year.

# Tariff Rationalization Measures

## Withdrawal of concessional benefits to RE Open Access

Withdrawal/Reduction of concessional charges viz (a) Nil Cross Subsidy Surcharge and (b) 20% of the Applicable Wheeling and Transmission Charges for sourcing Renewable Power on Open Access: Licensee proposed withdraw the concessional Wheeling and Transmission Charges being offered to RE OA consumers

**Justification: Continuation of preferential OA charges for RE Open Access will help to add RE capacity in the state which is beneficial to the state. Further considering --- capacity of RE in the state which is about --% same preferential treatment is required for improving the Renewable Energy Share in State**

## Additional Suggestions for AT&C Loss reduction and performance improvement

Third party SOP audit should be undertaken by DISCOM for each division and to submit the action plan. DISCOM being Designated consumer has to undertake third party energy audit in each division this will also help to identify the loss and act on the same to improve efficiency. Based on Energy Audit at HT level correction in HT loss of 8% can be implemented as HT loss of 8% is constant for past few years and that needs to be corrected.



# Thank You

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