

# **SOUTHERN POWER DISTRIBUTION COMPANY OF A.P LIMITED**

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**Aggregate Revenue Requirement and Tariff Proposal for  
the Retail Supply Business for FY 2019-20**

**24<sup>th</sup> November 2018**

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# 1 Introduction

## 1.1 Filings based on Multi-Year Tariff (MYT) Principles

The Andhra Pradesh Electricity Regulatory Commission framed the “Terms and Conditions for determination of Tariff for Wheeling and retail supply of electricity” Regulation 4 of 2005 and First Amendment Regulation 2014 (“Regulation 1”), lays down the principles for determination of Aggregate Revenue Requirement (ARR) for (a) Distribution Business and (b) Retail Supply Business of the licensees. The ARR so determined for each of the businesses will form the basis for fixation of charges for wheeling and for retail sale of electricity.

In the Regulation, the Commission has also laid down the procedures for filing under multi-year tariff principles. The multi-year period is defined as the Control Period and the first Control Period is defined as the three year period starting from financial year 2006-07 and continuing till the end of financial year 2008-09. The second control period was defined as the five year period starting from FY 2009-10 to FY 2013-14. The third control period was defined as the five year period starting from FY 2014-15 to FY 2018-19. The current filing pertains to the forth Control Period (FY 2019-20 to FY 2023-24). The Commission has specified in Para 6.2 of the Regulation the following procedure for ARR filing for the distribution and retail supply business:

*“The ARR filing for the Distribution business shall be for the entire Control Period.  
For the Retail Supply business the ARR filing will be on annual basis .....”*

The current filing follows the principles laid down under this Regulation for determination of the ARR for the retail supply business for the year FY 2019-20, which is the first year of the fourth Control Period.

## 1.2 Filing Contents

The filing is structured in the following way:

Section 2 provides analysis of expected performance for FY 2018-19 for Retail supply Business comprising:

- Operating Performance
- Financial Performance

A brief analysis of the financial and operational performance of the licensee during FY 2017-18 and FY 2018-19 (with projections for second half of FY) are given.

### Expenditure Projections

- Power Purchase Cost
  - Power Purchase and Procurement Cost

- Transmission Charges
- PGCIL & ULDC Charges
- SLDC Charges
- Distribution Cost
- Interest on Consumer Security Deposits
- Supply Margin
- Other Costs
- Aggregate Revenue Requirement for Retail Supply Business

### **Revenue Projections**

- Sales Forecast
- Revenue from Current Tariffs
- Non-tariff Income at Current Charges
- Revenue at Current Tariffs and Charges
- Revenue from RE certificates
- Revenue from Cross Subsidy Surcharge

### **Revenue Gap**

- Revenue Deficit / Surplus at Current Tariff and Charges
- Proposals to handle the Deficit / Surplus
- Government Subsidy Requirement

### **Other Filings**

- Cross Subsidy Surcharge

The sales forecast has been used to determine the revenue from tariff for retail sale of electricity for the first year of the fourth control period i.e. FY 2019-20 and the energy input required for meeting the demand. The power procurement plan is based on the availability of the generation sources during FY 2019-20, cost of procurement (fixed, variable and others) and the merit order dispatch of various sources to meet the demand expected during various months.

Due to reorganization of the State of Andhra Pradesh, two districts i.e., Anantapur & Kurnool districts were merged into APSPDCL w.e.f 02-06-2014. In this context, for FY 2013-14 and FY 2014-15 (during Apr & May, 2014) all the figures / data considered are actuals and pertains to six districts of APSPDCL (viz., Krishna, Guntur, Prakasam, SPSR Nellore, Chittoor & Kadapa). And from June, 2014 onwards all the figures pertain to entire eight districts of APSPDCL including newly added Anantapur & Kurnool districts.

## 2 Analysis of expected performance for Current Year FY 2018-19 for Retail Supply Business

### 2.1 Introduction

This chapter analyses the performance of the licensee during the Current Year as compared to the previous year. Only the key operating and financial parameters have been considered for this analysis.

### 2.2 Operating Performance

#### 2.2.1 Energy Balance

Particulars	2017-18				2018-19			
	APERC Order		Actuals		APERC Order		Present Estimate	
	MU	%	MU	%	MU	%	MU	%
Metered Sales (incl. EHT)	23879.36	66.97%	22694.84	66.41%	26180.06	68.84%	25339.02	66.00%
LT Agricultural Sales	8741.73	24.52%	8640.19	25.28%	8741.73	22.99%	9894.41	25.77%
<b>Total Sales</b>	<b>32621.09</b>	<b>91.48%</b>	<b>31335.03</b>	<b>91.69%</b>	<b>34921.79</b>	<b>91.82%</b>	<b>35233.44</b>	<b>91.77%</b>
EHT Sales	3780.87		4468.28		5339.31		5161.15	
DISCOM Input (Incl. EHT sales)	35657.50	100.00%	34173.54	100.00%	38032.04	100.00%	38392.78	100.00%
<b>DISCOM Losses (Incl. EHT sales)</b>		<b>8.52%</b>		<b>8.31%</b>		<b>8.18%</b>		<b>8.23%</b>
DISCOM Input (Excl. EHT Sales)	31876.63		29705.26		32692.73		33231.63	
<b>Loss Excluding EHT Sales %</b>		<b>9.53%</b>		<b>9.56%</b>		<b>9.51%</b>		<b>9.51%</b>

#### 2.2.2 Distribution Loss

Year	Actual		No. of 11 KV T & Mhq. feeders for which energy audit done	11 KV 2 MVAR capacitor banks added to the system	Additional 33/11 KV sub-stations charged
	Excl. EHT (%)	Incl. EHT (%)			
FY 2009-10	14.03	12.98	823		90
FY 2010-11	13.37	12.21	853	122	13
FY 2011-12	12.53	11.29	866	136	67
FY 2012-13	11.87	10.71	966	193	128
FY 2013-14	11.84	10.68	1024	35	208
FY 2014-15	11.72	10.33	1348	75	75
FY 2015-16	9.57	8.47	1424	35	33
FY 2016-17	9.54	8.47	1563	30	30
FY 2017-18	9.56	8.31	1636	112	112
FY 2018-19 (H1)	9.06	8.09	1663	13	13

As seen from the above table, the actual losses for the FY 2017-18 is 8.31% and reduced compared to previous year loss of 8.47%. The licensee is expected to meet voltage wise loss level targets set by the Honourable APERC. The licensee has taken following steps to reduce the losses further.

- Strict monitoring of feeders to ensure the assured number of hours of supply to agricultural sector.
- Reduction of both technical and commercial losses by vigorously conducting 11 KV feeder wise energy audits around 1663 Nos. feeders in the company.
- Erection of additional substations, DTRs, 11KV capacitor banks and bifurcation of feeders, etc.,

- HVDS conversion of balance agricultural pumpsets.
- Moving to monthly billing across the DISCOMS and rolling out of IR port meters or other new metering technologies.

During the year 2011-12, 866 Nos. 11 KV Town & MHQ feeders were considered for energy audit whereas during the FY 2017-18, 1636 Nos. feeders are available in E-AUDIT for which energy audit is done on regular basis at corporate office level.

112 Nos. additional 11 KV 2 MVAR capacitor banks were proposed for erection during the FY 2017-18 and completed.

For the year 2017-18, 112 Nos. additional 33/11 KV sub-stations were charged and for the year FY 2018-19, 30 Nos. additional 33/11 KV sub-stations are proposed out of this 13 Nos. were already charged to reduce over loaded substations, 33 KV & 11 KV lines and to maintain good voltage profiles at the consumers end.

### **2.2.3 Metered Sales**

As can be seen from the table above, in 2017-18, the percentage of metered sales is 66.41 % as against 63.93% during 2016-17.

The total load curtailment (due to Load relief) during FY 2017-18 is 44.26 MU, which is very negligible and which is due to certain emergencies. In FY 2018-19, the metered sales are expected to increase by 2644.18 MU over 2017-18 levels, which is 11.65 % increase and also the percentage metered sales is expected to change marginally from 66.41% (FY 2017-18) to 66.00% (FY 2018-19).

### **2.2.4 Agricultural Sales**

In the previous year 2017-18 the actual Agriculture Consumption is 8640.19 MU. In the current year FY 2018-19 (H1), the agriculture consumption is 4539.84 MU and the projection for the entire year is 9894.41 MU, which is 1152.68 MU (13.19%) excess over the approved agricultural sales.

## **2.3 Financial Performance**

### **2.3.1 Revenues**

For the key categories, the licensee has estimated the revenue as below:

The actual revenue during FY 2017-18 is Rs. 13725.40 crores (including non-tariff income). The NTI during FY 2017-18 is Rs.751.45 crores. During FY 2018-19, the estimated revenue from sale of power (inclusive of Non-tariff income) is Rs. 15651.35 crores. The expected NTI during FY 2018-19 is Rs. 789.02 crores.

Category	2017-18		2018-19	
	APERC Target	Actuals	APERC Target	Present estimate
<b>HT</b>				
Industrial	6431.77	5227.34	5471.40	5556.71
Others	836.89	798.61	803.91	829.48
Public Infrastructure and Tourism	50.87	41.77	55.27	51.86
Lift Irrigation & CPWS	292.90	623.20	1417.89	1346.48
Railway Traction	318.59	377.30	364.85	408.89
Townships & Colonies	29.63	17.66	24.94	18.61
RESCO's	10.31	14.31	14.03	26.32
Temporary	0.17	0.00	0.11	1.59
<b>HT Total</b>	<b>7971.16</b>	<b>7100.19</b>	<b>8152.40</b>	<b>8239.94</b>
<b>LT</b>				
Domestic	3281.19	3087.13	3451.06	3328.14
Non-Domestic	1918.46	1802.50	1924.78	1939.65
Industrial	1036.97	1083.96	1293.34	1333.80
Cottage Industries	16.84	16.16	17.67	19.11
Agricultural	100.28	130.06	232.53	273.95
Local Bodies	389.62	424.40	462.13	429.88
General Purpose	78.33	79.65	84.36	85.59
Temporary	1.33	1.36	1.73	1.29
<b>LT Total</b>	<b>6823.05</b>	<b>6625.21</b>	<b>7467.60</b>	<b>7411.41</b>
<b>Grand Total (LT+HT)</b>	<b>14794.21</b>	<b>13725.40</b>	<b>15620.00</b>	<b>15651.35</b>

### 2.3.2 Expenditure and Revenue Gap

The following table provides an overview of APSPDCL's financial performance for the current year and compares it with the APERC orders:

2018-19		
Particulars	Approved	Present Estimate
Transmission Cost	775.23	775.23
SLDC Cost	26.56	26.56
Distribution Cost	2919.66	2919.66
PGCIL Expenses	635.03	818.30
ULDC Expenses	12.93	12.93
<b>Network and SLDC Cost (A)</b>	<b>4369.41</b>	<b>4552.68</b>
Power Purchase/Procurement Cost	15947.46	16604.87
Interest on Consumer Security Deposits	154.10	154.10
Supply Margin	13.06	13.05
Other Cost	101.76	92.34
Expenses for Elect. Accident Compensation	15.00	15.00
<b>Supply Cost (B)</b>	<b>16231.38</b>	<b>16879.35</b>
<b>Gross ARR (A+B)</b>	<b>20600.79</b>	<b>21432.04</b>
<b>Total Revenue earned</b>	<b>15663.79</b>	<b>16347.50</b>
Tariff Income	15663.79	16347.50
Non Tariff Income, CSS & RE		
<b>Surplus (Gap)</b>	<b>(4937.00)</b>	<b>(5084.53)</b>
Subsidy	4937.00	4937.00
<b>Net Regulatory Gap</b>	<b>0.00</b>	<b>(147.53)</b>



### **3 Power Purchase Cost for Current Year (FY 2018-19) Second Half and Ensuing Year (FY 2019-20)**

#### **3.1 Introduction**

Subsequent to the bifurcation of the erstwhile State of Andhra Pradesh as per the Andhra Pradesh Reorganization Act, 2014 (Central Act No. 6 of 2014, dated 01.03.2014), the Southern Power Distribution Company of AP Ltd. (APSPDCL) and the Eastern Power Distribution Company of AP Ltd. (APSPDCL) emerged as the Distribution Licensees of the present State of Andhra Pradesh. As per section 92 read with the Twelfth Schedule of the above Act, the districts of Anantapur and Kurnool which were within the jurisdiction of the erstwhile APCPDCL (Central Power Distribution Company AP Ltd., now TSSPDCL (Southern Power Distribution Company of Telangana Limited)) were transferred to the APSPDCL (Southern Power Distribution Company of AP Ltd.). Further, as per the G.O.Ms. No.20 (dated 08.05.2014), 17.45% share of power held by the erstwhile APCPDCL was transferred to APSPDCL based on the last 5 years' average consumption of Anantapur and Kurnool districts at the time of bifurcation. After factoring the above transfer, the present DISCOMS (Distribution Companies) of Andhra Pradesh have 46.11% share of power out of the share held by the erstwhile four Distribution Companies in the Power Stations of Central Sector, erstwhile APGENCO and certain IPPs. The shares of APEPDCL and APSPDCL (Distribution Companies of AP) out of the above 46.11% are 15.8% and 30.31% respectively. The details of capacities being availed by APDISCOMS from various power stations have been described in the subsequent paragraphs.

#### **3.2 Capacities being availed by APDISCOMS from various Generating Stations**

##### **3.2.1 APGENCO STATIONS**

APDISCOMS have been purchasing power from APGENCO Stations based on the long term PPAs/approval of Hon'ble APERC. From FY 2014-15, APDISCOMs have been availing 100% power from APGENCO Hydel stations and similarly TSDISCOMs have been availing 100% power from TSGENCO Hydel Stations. Further, as per the directions of Government of Andhra Pradesh, APGENCO implemented Power Regulation to TSDISCOMS (Distribution Companies of Telangana) from their thermal stations w.e.f 11.06.2017 due to the non-payment of dues by TSDICOMs. Similarly, TSGENCO (Telangana State Generating Company) also regulated Power from their thermal stations to APDISCOMS w.e.f the same date. In view of the Power Regulation to TSDISCOMs, APGENCO requested APDISCOMS to avail 100% power from their thermal Stations. Accordingly, APDISCOMs have been purchasing 100% Power from APGENCO thermal Stations since 11.06.2017. Further, as of now, APDISCOMs are not availing any power from TSGENCO.

The PPAs in respect of Dr.NTTPS-I, II &III, RTPP-I and all Hydel Stations (except Nagarjunasagar Tail Pond PH) of APGENCO are going to be expired by 31.03.2019. It is proposed to continue the purchases from these Stations during FY 2019-20 also subject to the approval of Hon'ble APERC. New Power Plants, Dr.NTTPS-V and DSSTPS-II are expected to be commissioned by Dec'19 and Jan'20 respectively. APDISCOMS propose to purchase the power from these plants subject to the approval of Hon'ble APERC.

Status of present and proposed capacities being availed/to be availed by APDISCOMs in APGENCO Stations and Interstate Hydel Projects are indicated in the following table.

Station	Capacity (MW)
<b>Thermal</b>	
Dr. NTPPS-I, II, III (6 x 210MW)	1260
Dr. NTPPS-IV (1 x 500MW)	500
RTPP-I (2 x 210MW)	420
RTPP-II (2 x 210MW)	420
RTPP- III (1 x 210MW)	210
RTPP- IV (1x 600MW)	600
DSSTPS-I (2 x800MW)	1600
DSSTPS-II (1x800 MW) (To be Commissioned)	800
Dr.NTPPS-V(1x800 MW)(To be Commissioned)	800
<b>Total Thermal</b>	<b>6610</b>
<b>Hydel</b>	
Donkarayi Canal PH (1 x 25MW)	25
Upper Sileru HES (4 x 60MW)	240
Lower Sileru HES (4 x 115MW)	460
Srisailem Right Bank PH (7 x 110MW)	770
Nagarjuna Sagar right canal PH (3x30MW)	90
PABR (2 x 10MW)	20
Mini Hydel Station (2 x 0.5MW)	1
Nagarjuna Sagar Tail Pond PH (2 x 25MW)	50
<b>Interstate Hydel Projects</b>	
Machkund, Orissa (AP share 70%)	84
T.B. Station, Karnataka (AP share 80%)	57.6
<b>Total Hydel including Interstate Projects</b>	<b>1797.6</b>
<b>Total APGENCO</b>	<b>8407.6</b>

### 3.2.2 CENTRAL GENERATING STATIONS

APDISCOMS have been purchasing power from Central Generating Stations controlled/owned by GoI based on the long term PPAs. The list of the Stations along with the APDISCOMS' share of power from these Stations (as per the Regional Energy Account issued by SRPC for the month of Sep'18) are indicated in the following table. Further, APDISCOMS have been purchasing bundled power from thermal Stations of NTPC which was allocated by MOP/GOI against the solar power procurement by APDISCOMS under JNNSM Phase I & II. NNTP (New Neyveli Thermal Plant) of NLC is expected to be commissioned by Dec'18. The Capacities being availed by APDISCOMS in CGS are tabulated below.

Station	Capacity Share (MW)
NTPC-(SR) Ramagundam I & II	274.47
NTPC-(SR) Ramagundam- III	68.84
NTPC-Talcher-II	172.46
NTPC Simhadri Stage-I	461.1
NTPC Simhadri Stage-II	185.69
NLC TS II Stage-I	48.56
NLC TS II Stage-II	87.36
NPC-MAPS	18.4
NPC-Kaiga 1 & 2	56.28

Station	Capacity Share (MW)
NPC-Kaiga 3 & 4	59.97
Vallur (JV) NTPC with TANGEDCO	94.13
NLC-TNPL Tuticorin	128.45
NTPC-Kudigi	247.58
NTPC JNNSM Phase I	39.19
NTPC JNNSM Phase II	500
NNTPS	52.46
<b>Total CGS</b>	<b>2494.94</b>

### 3.2.3 Old Gas Based IPPs (Independent Power Projects)

#### **GGPP (Godavari Gas Power Plant-216.824 MW, formerly GVK PHASE-I)**

The PPA with GVK-I expired on 20.06.2015. Subsequently, APDISCOMs bought the power plant on 22.04.2016 and renamed it as GGPP. The plant is being operated by the employees deputed from APGENCO. GoAP vide letter dated 04.05.2018 approved the proposal of APDISCOMs to hand over the plant to APGENCO. The process of handing over the plant is under progress. APDISCOMs are at present dispatching the energy from this plant based on the approval given by Hon'ble APERC in the Retail Tariff Order for FY 2018-19. APDISCOMs propose to avail the power from this plant during FY 2019-20 also subject to the approval of Hon'ble APERC.

#### **SPGL (SPECTRUM POWER GENERATION LIMITED-205.187 MW)**

Upon the expiry of PPA with the plant on 18.04.2016, APDISCOMs proposed to renew the PPA for a further period of 15 years and accordingly sent the proposal to GoAP for consent. If the consent is received from GoAP, APDISCOMs will file the draft PPA before Hon'ble APERC for approval. APDISCOMs are at present purchasing the power from this plant at the rates approved in the Retail Tariff Order for FY 2018-19. Pending permission from GoAP, APDISCOMs propose to purchase the power from this plant during FY 2019-20 also subject to the approval of Hon'ble APERC

#### **LKPL PHASE-I (LANCO KONDAPALLI POWER LIMITED PHASE-I -361.92 MW)**

PPA of this plant expired on 01.01.2016. APDISCOMs decided to continue the PPA for further period and accordingly sought the consent of GoAP. After receiving the approval from GoAP, APDISCOMs filed the draft PPA before Hon'ble APERC. Pending approval of the PPA by the Hon'ble APERC, APDISCOMs are purchasing the power from this plant at the rates approved in the Retail Tariff Order for FY 2018-19. APDISCOMs propose to continue the purchases from this plant during FY 2019-20 also subject to the approval of Hon'ble APERC.

The capacities being availed by APDISCOMs in the above plants are as tabulated below.

Station	Capacity (MW)
GGPP	216.824
SPGL	205.187
LKPL Phase-I	361.92
<b>Total</b>	<b>783.931</b>

### 3.2.4 NEW GAS BASED IPPs

APDISCOMs of erstwhile united AP State entered into long term PPAs with GVK Extension (220 MW), GVPGL (GMR Vemagiri Power Generation Limited-370 MW), Gouthami CCPP(464 MW) and Konaseema Gas Power Limited(444.08 MW). These new IPPs were commissioned during the years 2006 (GVPGL), 2009 (GVK Extension, Gouthami CCPP) and 2010 (Konaseema Gas Power Limited). After bifurcation of AP State, APDISCOMs of the present AP State were allocated 46.11% of share of capacity in these plants. The Natural gas supplies from RIL KG D-6 fields to the aforesaid IPPs became zero w.e.f. 01.03.2013. As a result, there is no generation from these plants as of now. Further, there is no official communication from MoP & NG on the availability of natural gas to these plants. The e-bid RLNG Scheme ended by 31.03.2017 and MoP/GOI has not extended the scheme. Therefore, APDISCOMs are not proposing to procure any power from these plants. Further, APDISCOMs are not presently paying any fixed charges to these plants.

### 3.2.5. APGPCL (AP GAS POWER CORPORATION LIMITED)

APGPCL is a joint sector gas-based power project. APDISCOMs are availing power from this project to the extent of APTRANSCO's equity share in the project. The share of APDISCOMS power in this project is as follows.

Station	Capacity Share (MW)
APGPCL Stage-I	9.33
APGPCL Stage-II	24.96
<b>Total</b>	<b>34.29</b>

### 3.2.6 RENEWABLE ENERGY BASED POWER PLANTS

APDISCOMs share of Capacities (including anticipated additions) in the Renewable Energy based Projects for FY 2018-19 H2 and FY 2019-20 are given below. Renewable Energy based projects have been allocated to the APDISCOMs based on their geographical location (These projects have signed PPAs with the DISCOM in which they are located. Hence, the entire power is allocated to that DISCOM only) till 31<sup>st</sup> July, 2017 and subsequently in the ratio of 34.27% and 65.73% to APEPDCL and APSPDCL respectively.

Type of Project	Capacity Share (MW) FY 2018-19 H2	Capacity Share (MW) FY 2019-20
Biomass Power Projects including Co-gen	144.5	144.5
Bagasse Cogeneration Projects.	105.2	105.2
Wind Power Projects	3963.4	4146.90
Mini Hydrel Power Projects	46.1	46.1
Industrial Waste Based Power Projects	21.66	21.66
Municipal Waste Based Power Projects	0	68.15
NCL Energy Ltd.	8.25	8.25
Solar Power Projects	687.03	692.03
Solar Parks	2050	3050
NVVNL Bundled Power -SOLAR	39.19	39.19
<b>Total</b>	<b>7065.33</b>	<b>8321.98</b>

### 3.2.7. MINI POWER PLANT (GAS BASED)

APEPDCL had PPA with Srivathsa Power Projects Limited (17.202 MW) which expired on 31.03.2018. APEPDCL is at present purchasing power from this plant as per the approval given by Hon'ble APERC vide order dated 01.09.2018. The approval is valid for power procurement up to 31.03.19. APEPDCL proposes to procure power from this project for FY 2019-20 also subject to the approval of Hon'ble APERC.

### 3.2.8 SEMBCORP ENERGY INDIA LIMITED (FORMERLY THERMAL POWERTECH CORPORATION INDIA LIMITED)

APDISCOMs and Telangana DISCOMs signed PPA with the company for a contracted capacity of 500 MW under Long term basis through case-I bidding for a period of 25 years w.e.f. 20.04.2015. APDISCOMs share of contracted capacity in the plant is 46.11% i.e., 230.55 MW out of the said total contracted capacity of 500 MW. The plant is connected to CTU network in AP. As per the PPA, APDISCOMs are obligated to reimburse the applicable Long Term Open Access (LTOA) charges to the generator.

### 3.2.9 KSK MAHANADI POWER CORPORATION LIMITED

APDISCOMs have PPA with KSK Mahanadi Power Corporation Limited for a contracted capacity of 400 MW. The PPA is valid up to 31.03.2021. The plant is located in Western Region and is connected to the CTU network. As per the PPA, APDISCOMs are obligated to reimburse the applicable Long Term Open Access (LTOA) charges to the generator.

## 3.3 ENERGY AVAILABILITY FOR FY 2018-19 H2 AND FY 2019-20

**3.3.1** The energy availabilities have been estimated after considering the generators projections, actual performance of the generating Stations during FY 2017-18 and FY 2018-19 H1, the availabilities approved in the Retail Tariff Order for FY 2018-19, the availability of fuel, breakdown of units, expiry of the existing PPAs during FY 2018-19 H2 and FY 2019-20, expected commissioning of new stations and the need to maintain the spinning reserve. The proposed availabilities in MU are indicated in the following tables. The coal allocated to RTPP-I and RTPP-III stations from MCL mines is being diverted for use in more efficient DSSTPS-I during FY 2018-19 H2 under flexible Utilization of coal in order to reduce the variable costs. This resulted in reduction of availabilities for RTPP-I, RTPP-III and increase in availability for DSSTPS-I during FY 2018-19 H2.

### 3.3.2 APGENCO STATIONS AVAILABILITY (MU)

Station	FY 2018-19 H2	FY 2019-20
<b>Thermal</b>		
Dr NTTPS-I, II, III	3850.75	7050.27
Dr NTTPS-IV	1717.17	2836.05
RTPP-I	340.53	1943.24
RTPP-II	1162.48	1943.24
RTPP-III	11.94	990.62
RTPP-IV	315.13	543.47
DSSTPS-I	5554.35	7862.98
DSSTPS-II	-	380.27
Dr.NTTPS-V	--	467.52
<b>Total</b>	<b>12952.35</b>	<b>24017.65</b>
<b>Hydel</b>		

Station	FY 2018-19 H2	FY 2019-20
Machkund PH AP Share	166.32	290.47
Tungabadra PH AP Share	68.31	123.57
Upper Sileru HES	251.92	414.71
Lower Sileru HES	594.00	1047.73
Donkarayi Canal PH	83.16	98.01
SSLM (Right Bank) PH	297.00	954.90
Nagarjunasagar Right canal PH	56.43	109.66
PABR	2.38	6.13
Mini Hydel (Chettipeta)	1.10	2.62
Nagarjunasagar Tail Pond PH	62.37	101.97
<b>Total</b>	<b>1582.98</b>	<b>3149.77</b>
<b>Grand Total</b>	<b>14535.33</b>	<b>27167.42</b>

### 3.3.3 CENTRAL GENERATION STATIONS

#### AVAILABILTY (MU)

Station	FY 2018-19 H2	FY 2019-20
NTPC-(SR) Ramagundam I & II	896.97	1795.00
NTPC-(SR) Ramagundam- III	200.66	426.24
NTPC-Talcher-II	643.79	1139.11
NTPC Simhadri Stage-I	1619.52	3061.74
NTPC Simhadri Stage-II	768.51	1233.00
NLC TS II Stage-I	127.95	268.00
NLC TS II Stage-II	235.98	482.12
NPC-MAPS	53.69	112.83
NPC-Kaiga 1 & 2	209.16	394.38
NPC-Kaiga 3 & 4	213.50	420.28
Vallur (JV) NTPC with TANGEDCO	296.45	538.56
NLC-TNPL Tuticorin	451.00	863.00
NTPC-Kudigi	603.72	1226.48
NTPC JNN SM Phase I	159.05	274.64
NTPC JNN SM Phase II	1988.55	3504.00
NNTPS	91.79	324.84
<b>Total</b>	<b>8560.29</b>	<b>16064.22</b>

### 3.3.4 APGPCL

Station	FY 2018-19 H2	FY 2019-20
APGPCL Stage-I	13.97	31.54
APGPCL Satge-II	47.62	87.49
<b>Total</b>	<b>61.59</b>	<b>119.03</b>

### 3.3.5 OLD GAS BASED IPPs

Station	FY 2018-19 H2	FY 2019-20
GGPP	445.43	797.83
SPGL	521.62	1046.11
LKPL Phase-I	780.24	1268.17
<b>Total</b>	<b>1747.29</b>	<b>3112.11</b>

### 3.3.6 NEW GAS BASED IPPs

Availabilities from new gas based IPPS have not been considered due to the non-availability of natural gas.

Station	FY 2018-19 H2	FY 2019-20
GVPGL	0	0
Gautami CCP	0	0
GVK Extension	0	0
Konaseema Gas Power Limited	0	0

### 3.3.7 RENEWABLE ENERGY SOURCES

Source	FY 2018-19 H2	FY 2019-20
Bio Mass Power Projects including Co-gen	103.37	216.66
Bagasse Cogeneration Projects.	72.75	77.66
Wind Power Projects	1664.23	8866.32
Mini Hydel Power Projects	83.06	110.50
Industrial Waste Based Power Projects	6.74	16.11
Municipal Waste Based Power Projects	0	268.18
NCL Energy Ltd.	8.21	12.30
Solar Power Projects	681.70	1230.49
Solar Parks	1992.10	5933.33
NVVNL Bundled Power -SOLAR	21.54	37.82
<b>Total</b>	<b>4633.69</b>	<b>16769.36</b>

### 3.3.8 MINI POWER PLANT

Station	FY 2018-19 H2	FY 2019-20
Srivathsa Power Projects Limited	33.81	68.00

### 3.3.9 SEMBCORP ENERGY AND KSK MAHANADI

Station	FY 2018-19 H2	FY 2019-20
Sembcorp Energy India Limited	984.74	1716.42
KSK Mahanadi Power Corporation Limited	1485.12	2977.37

### 3.3.10 Swap power

In order to avoid the short-term procurements and thereby save the costs, APDISCOMs have been swapping (banking) power with other Govt utilities to the extent possible. The details of power being swapped are indicated in the following table

Description	FY 2018-19 H2	FY 2019-20
Energy availed from other utilities	3344.71	666.79
Energy to be returned to other utilities	-252.16	-4121.85

### 3.3.11 OTHER SHORT-TERM SOURCES

Even after considering the above availabilities, there will still be a gap between demand (energy requirement) and availability for the FY 2019-20. APDISCOMs propose to bridge this gap by short term procurement from SGPL (Sembcorp Gayatri Power Limited) and through Power Exchanges keeping in view that PPA signing with SGPL



under DBFOO is under process and the tariff of the same is lower than the average cost of power in the Exchanges. Further, there is uncertainty on the availability of sufficient power in the Exchanges. If there is an alternate source of power cheaper than this, the same would be preferred. However, this proposed procurement would only be an option but not a compulsion. The details of short term procurement and sales are indicated below.

Station/Source	FY 2018-19 H2	FY 2019-20
Sembcorp Gayatri Power Limited	0	3600.00
Short-term purchases including Power Exchanges	1123.15	445
Short-term sales including Power Exchanges	-573.07	0
<b>Total</b>	<b>550.08</b>	<b>4045</b>

### 3.3. 12 SUMMARY OF ENERGY AVAILABILITY (MU)

Source	FY 2018-19 H2	FY 2019-20
APGENCO-Thermal	12952.35	24017.65
APGENCO-Hydel	1582.98	3149.77
CGS	8560.29	16064.22
APGPCL	61.59	119.03
IPPs	1747.29	3112.11
Renewable Energy Sources	4633.69	16769.36
Mini Power Plant	33.81	68.00
KSK Mahanadi and Sembcorp India	2469.86	4693.79
Sembcorp Gayatri Limited	0	3600.00
Bilateral Purchases including Power Exchanges	1123.15	445
Swap power (From other utilities)	3344.71	666.79
Swap Power (To other utilities)	-252.16	-4121.85
Sales to other utilities	-573.07	0
<b>Total</b>	<b>35684.49</b>	<b>68583.87</b>



### 3.4. POWER PURCHASE COST

#### 3.4.1 APGENCO STATIONS

##### FIXED COSTS IN RS.CRS

The fixed costs for FY 2018-19 H2 were projected based on the tariff approved by the Hon'ble APERC in the Retail Tariff Order for FY 2018-19 and MYT order (for APGENCO stations) dated 26.03.2016 in O.P. No.3 of 2016. For FY 2019-20, in respect of old stations, the fixed costs furnished by APGENCO were considered as the same are less than the fixed costs approved by the Hon'ble APERC for FY 2018-19 in O.P.No.3 of 2016. For RTPP-IV, the fixed rate approved in the Retail Tariff Order for FY 2018-19 was considered. For DSSTPS-I, the fixed rate furnished by APPDCL was considered as this is less than the fixed rate approved by APERC in the Retail Tariff Order for FY 2018-19. For DSSTPS-II and Dr. NTPPS-V which are yet to be commissioned, same fixed rate as that of DSSTPS-I was considered as all these units are of same capacity. The fixed charges computed based on the above are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
<b>Thermal</b>		
Dr NTPPS-I, II, III	331.94	804.38
Dr NTPPS-IV	221.43	345.02
RTPP-I	137.86	303.07
RTPP-II	202.13	292.43
RTPP-III	134.63	271.38
RTPP-IV	0	43.98
DSSTPS-I	566.54	770.57
DSSTPS-II	0	37.27
Dr.NTPPS-V	0	45.82
Interest on Pension Bonds	404.14	861.95
<b>Total</b>	<b>1998.66</b>	<b>3,775.87</b>
<b>Hydel</b>		
MACHKUND PH AP Share	15.95	34.01
TUNGBHADRA PH AP Share	10.93	23.32
Upper Sileru HES	28.72	70.39
Lower Sileru HES	55.05	134.91
Donkarayi Canal PH	2.99	7.33
SSLM (Right Bank) PH	85.26	199.68
Nagarjunasagar Right canal PH	8.93	20.54
PABR	5.28	11.75
Mini Hydel (Chettipeta)	0.39	0.88
Nagarjunasagar Tail Pond PH	24.13	49.67
<b>Total</b>	<b>237.63</b>	<b>552.48</b>
<b>Grand Total</b>	<b>2236.29</b>	<b>4325.50</b>

**VARIABLE RATE IN RS/KWH.**

The variable rates for FY 2018-19 H2 were projected as per the rates approved in the Retail tariff Order for FY 2018-19. For 2019-20, the variable rates were projected by enhancing the rates approved in the Retail Tariff order for FY 2018-19 by 3%. For DSSTPS-I, the variable rate furnished by APPDCL was considered. For DSSTPS-II and Dr. NTPPS-V which are yet to be commissioned, the variable rates considered are same as that of DSSTPS-I as all these plants are of same capacity. The variable rates are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
Dr NTPPS-I, II, III	2.67	2.75
Dr NTPPS-IV	2.41	2.48
RTPP-I	3.14	3.23
RTPP-II	3.14	3.23
RTPP-III	3.14	3.23
RTPP-IV	3.14	3.23
DSSTPS-I	2.61	2.65
DSSTPS-II	--	2.65
Dr.NTPPS-V	--	2.65

**3.4.2 CENTRAL GENERATING STATIONS****FIXED COSTS IN RS. CRS**

The fixed costs for FY 2018-19 H2 and FY 2019-20 were projected as per the latest CERC, DAE orders. The fixed costs are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
NTPC-(SR) Ramagundam I & II	69.81	139.62
NTPC-(SR) Ramagundam- III	18.75	37.51
NTPC-Talcher-II	43.66	87.32
NTPC Simhadri Stage-I	154.73	309.46
NTPC Simhadri Stage-II	100.43	200.86
NLC TS II Stage-I	11.55	23.11
NLC TS II Stage-II	21.54	43.09
NPC-MAPS	-	-
NPC-Kaiga 1 & 2	-	-
NPC-Kaiga 3 & 4	-	-
Vallur (JV) NTPC with TANGEDCO	58.32	116.65
NLC-TNPL Tuticorin	70.02	140.03
NTPC-Kudigi	134.81	317.21
NTPC JNNSM Phase I	-	-
NTPC JNNSM Phase II	-	-
NNTPS	18.16	73.02
<b>Total</b>	<b>701.79</b>	<b>1487.87</b>

### **VARIABLE RATES IN RS/KWH**

The variable rates for FY 2018-19 H2 were projected as per the rates approved in the Retail Tariff Order for FY 2018-19. For 2019-20, the variable rates were projected by enhancing the rates approved in the Retail Tariff order for FY 2018-19 by 3%. The variable rates are indicated in the following table.

<b>Station</b>	<b>FY 2018-19 H2</b>	<b>FY 2019-20</b>
NTPC-(SR) Ramagundam I & II	2.18	2.25
NTPC-(SR) Ramagundam- III	2.15	2.21
NTPC-Talcher-II	1.39	1.43
NTPC Simhadri Stage-I	2.68	2.76
NTPC Simhadri Stage-II	2.68	2.76
NLC TS II Stage-I	2.88	2.97
NLC TS II Stage-II	2.88	2.97
NPC-MAPS	2.23	2.30
NPC-Kaiga 1 & 2	3.22	3.32
NPC-Kaiga 3 & 4	3.22	3.32
Vallur (JV) NTPC with TANGEDCO	2.20	2.27
NLC-TNPL Tuticorin	2.39	2.46
NTPC-Kudigi	3.58	3.69
NTPC JNNISM Phase I	3.58	3.69
NTPC JNNISM Phase II	3.50	3.61
NNTPS	2.49	2.56

### **3.4.3 APGPCL**

#### **FIXED COSTS IN RS. CRS.**

The fixed costs projected for FY 2018-19 H2 and FY 2019-20 are based on the actual fixed rates claimed by APGPCL for the month of Oct'18. The fixed costs computed, based on the above rates, are indicated in the following table.

<b>Station</b>	<b>FY 2018-19 H2</b>	<b>FY 2019-20</b>
APGPCL Stage-I	0.92	2.08
APGPCL Stage-II	2.39	4.39
<b>Total</b>	<b>3.31</b>	<b>6.47</b>

### **VARIABLE RATES IN RS/KWH**

The variable rates projected for FY 2018-19 H2 and FY 2019-20 are based on the actual rates claimed by APGPCL for the month of Oct'18. The variable rates take into account the increase in gas price affected from 1<sup>st</sup> Oct,18. The variable rates are indicated in the following table.

### 3.4.4 OLD GAS BASED IPPs

#### FIXED CHARGES IN RS. CRS.

The fixed rates adopted for computing the fixed charges are same as that approved in the Retail tariff order for FY 2018-19. The fixed costs computed, based on the above rates, are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
APGPCL Stage-I	3.533	3.533
APGPCL Satge-II	3.024	3.024
Station	FY 2018-19 H2	FY 2019-20
GGPP	39.64	79.78
SPGL	47.99	96.24
LKPL Phase-I	87.39	121.74
<b>Total</b>	<b>175.02</b>	<b>297.76</b>

#### VARIABLE RATES IN RS/KWH

The variable rates have been computed by considering the GCVs, SHR, Auxiliary Consumption and latest actual gas price which is effective from 1<sup>st</sup> October,2018(\$3.36/MMBTU) and are tabulated below. It is requested for pass through of gas price in the variable cost may be permitted.

Station	FY 2018-19 H2	FY 2019-20
GGPP	2.89	2.89
SPGL	2.76	2.76
LKPL Phase-I	2.58	2.58

### 3.4.5 NEWGAS BASED IPPs

Fixed and variable costs have not been projected for these plants as there is no generation from these plants.

### 3.4.6 RENEWABLE ENERGY SOURCES

The rates for the energy supplied from different categories of Renewable Energy based projects have been arrived at based on the rates approved by the Hon'ble APERC in different orders. Where there are different rates for different projects in the same category, weighted average rate was adopted. The rates for energy supplied from different categories of Renewable Energy Sources are indicated below.

Source	FY 2018-19 H2	FY 2019-20
Bio Mass Power Projects including Co-gen	6.26	6.46
Bagasse Cogeneration Projects.	4.42	4.40

Wind Power Projects	4.73	4.63
Mini Hydel Power Projects	2.34	2.44
Industrial Waste Based Power Projects	6.24	6.23
Municipal Waste Based Power Projects	--	6.90
NCL Energy Ltd.	1.83	1.79
Solar Power Projects	5.81	5.90
Solar Parks	4.62	4.10
NVVNL Bundled Power -SOLAR	10.67	10.67

### 3.4.7 MINI POWER PLANT

#### FIXED COSTS IN RS. CRS.

The fixed rates adopted for computing the fixed charges for FY 2018-19 H2 and FY 2019-20 are same as that approved by Hon'ble APERC vide order dated 01.09.2018. The fixed costs computed based on the above rates are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
Srivathsa Power Projects Limited	0	2.20

#### VARIABLE RTAE RS/KWH

The variable rate has been computed by considering the GCV, SHR, Auxiliary Consumption and latest actual gas price which is effective from 1<sup>st</sup> October,2018(\$3.36/MMBTU). The rate so computed has been adopted for FY 2018-19 H2 and FY 2019-20 and tabulated below. It is requested for pass through of gas price in the variable cost may be permitted.

Station	FY 2018-19 H2	FY 2019-20
Srivathsa Power Projects Limited	3.50	3.50

### 3.4.8 SEMBCORP ENERGY AND KSK MAHANADI

#### FIXED COSTS IN RS. CRS.

These are the bid based projects and the tariffs discovered in the bids were adopted by APERC. Therefore, the fixed costs and variable costs for these Stations have been computed based on the rates discovered in the bid. The fixed costs are indicated in the following table.

Station	FY 2018-19 H2	FY 2019-20
Sembcorp Energy India Limited	148.98	292.02
KSK Mahanadi Power Corporation Limited	222.77	447.98

## VARIABLE RATES RS/KWH

Station	FY 2018-19 H2	FY 2019-20
Sembcorp Energy India Limited	2.02	2.22
KSK Mahanadi Power Corporation Limited	2.60	2.78

### 3.4.9 OTHER SHORT-TERM SOURCES RS/KWH

Station/Source	FY 2018-19 H2	FY 2019-20
Sembcorp Gayatri Power Limited	--	4.57
Short-term purchases including Power Exchanges	5.61	4.57
Short-term Sales including Power exchanges	3.76	--

### 3.4.10 PGCIL CHARGES

The POC rate approved by CERC for the latest quarter i.e. third quarter of FY 2018-19 is Rs.4.414 lakhs/MW which includes POC slab rate, Reliability support charges rate and HVDC charges rate. Apart from the main POC bill, PGCIL raises supplementary bills also from time to time. Further, transmission assets get added to the network regularly which would increase the POC charges in future. To account for the above, the POC rate of Rs.4.414 lakhs/MW has been enhanced by 5% to arrive at a value of Rs. 4.63 lakhs/MW. Based on this value, the POC charges for FY 2018-19 H2 and FY 2019-20 have been computed in the following manner.

POC charges for FY 2018-19 H2

$$= (4.63) \times (\text{number of months in the second half of FY 2018-19}) \times (\text{interstate capacity in MW APDISCOMs are expected to avail})/100$$

$$= (4.63) \times (6) \times (2664)/100 = \text{Rs.740 Crs.}$$

Similarly, the POC charges for FY 2019-20 as per the above formula have been arrived at as Rs. 1480 Crs.

The above charges include the POC charges reimbursable to KSK Mahanadi and Sembcorp Energy plants.

## ENERGY REQUIREMENT

The DISCOM wise Energy Requirement are tabulated below.

DISCOM	FY 2018-19 H2	FY 2019-20
APEPDCL	10755	24606
APSPDCL	20572	43108
<b>Total</b>	<b>31327</b>	<b>67713</b>

The energy requirement of APDISCOMs has been arrived at by grossing up the sales with appropriate transmission and distribution losses. The external losses (PGCIL losses) on the power purchased from CGS (excluding NTPC Simhadri-I), KSK Mahanadi and Sembcorp Energy India Limited have also been factored for arriving at the above energy requirement.

### 3.5 SUMMARY OF POWER PURCHASE COST FOR THE YEAR FY 2018-19 H2 AND ENSUING YEAR FY 2018-19

The availabilities, requirement and cost of the of power purchase for H2 FY 2018-19 & FY 2019-20 are summarized below.

FY 2018-19 H2				
Source	Energy Availability	Energy Dispatch(MU)	Total Cost (Rs Crs)	Per Unit Cost (Rs/kWh)
APGENCO Thermal and DSTPP-I &II	12,952.35	11,240.99	4,930.03	4.39
APGENCO Hydel	1,582.98	1,582.98	237.63	1.50
CGS	8,560.29	6,731.80	2,546.92	3.78
APGPCL	61.59	9.55	6.20	6.49
IPPs – Gas	1,747.29	1,015.94	442.37	4.35
Renewable Energy Sources	4,633.69	4,633.69	2,246.84	4.85
Srivathsa	33.81	-	0.53	-
KSK Mahanadhi	1,485.12	1,485.12	608.90	4.10
Sembcorp Energy	984.74	984.74	347.70	3.53
Swap Power (Availment)	3,344.71	3,344.71	1,351.26	4.04
Short-term Purchases	1,123.15	1,123.15	630.62	5.61
<b>Gross Purchases</b>	<b>36,509.72</b>	<b>32,152.66</b>	<b>13,247.14</b>	<b>4.15</b>
Swap Power (Return)	-252.16	-252.16	-101.87	4.04
Short-term Sales	-573.07	-573.07	-215.70	3.76
<b>Net Purchases</b>	<b>35,684.49</b>	<b>31,327.43</b>	<b>13,031.45</b>	<b>4.15</b>

FY 2019-20				
Source	Energy Availability	Energy Dispatch(MU)	Cost (Rs Crs)	Per Unit Cost (Rs/kWh)
APGENCO Thermal and DSTPP-I &II	24,017.65	23,742.45	10,391.22	4.38
APGENCO Hydel	3,149.77	3,149.77	552.48	1.75
CGS	16,064.22	15,504.67	5,963.87	3.85
APGPCL	119.03	109.59	40.74	3.72
IPPs – Gas	3,112.11	3,112.11	1,144.26	3.68
Renewable Energy Sources	16,769.36	16,769.36	7,706.43	4.60
Srivathsa	68.00	45.52	19.03	4.18
KSK Mahanadhi	2,977.37	2,977.37	1,275.57	4.28
Sembcorp Energy	1,716.42	1,716.42	672.85	3.92
Swap Power (Availment)	666.79	666.79	269.38	4.04
Sembcorp Gayatri (Short-term)	3,600.00	3,600.00	1,645.20	4.57
Short-term purchase	445.00	441.30	201.67	4.57
<b>Gross Purchases</b>	<b>72,705.72</b>	<b>71,835.34</b>	<b>29,882.71</b>	<b>4.16</b>
Swap Power (Return)	-4,121.85	-4,121.85	-1,665.23	4.04
<b>Net Purchases</b>	<b>68,583.87</b>	<b>67,713.49</b>	<b>28,217.48</b>	<b>4.17</b>



## 4 Losses

### 4.1 DISCOM losses

The DISCOM losses for FY 2018-19 is taken as per APERC approved values and for FY 2019-20, losses as per Resource Plan was considered. The below table provides the voltage level losses for projecting APSPDCL energy requirement for FY 2018-19 (H2) and FY 2019-20.

Voltage Level	FY 2018-19 (H2)	FY 2019-20
33 KV	3.35%	3.32%
11 KV	3.37%	3.35%
LT	4.41%	4.36%

The following table gives the details of losses projected by SPDCL for 2018-19 and 2019-20.

	2018-19		2019-20	
	Excl. EHT	Incl. EHT	Excl. EHT	Incl. EHT
Approved by APERC	9.51%	8.18%	-	-
Projection of APSPDCL	9.51%	8.23%	9.43%	8.01%

### 4.2 TRANSCO losses

The Transco losses for H2 FY 2018-19 and for FY 2019-20 have been taken as per approved losses.

	H2 FY 2018-19	FY 2019-20
Transmission Losses	3.27%	3.27%

### 4.3 Losses external to APTRANSCO system

The losses external to the APTRANSCO system are considered to be 3.27 % for H2 FY 18-19 and also for FY 2019-20. This is applicable for procurement of power from Central Generating Stations and other medium and short term purchases. However, external losses have not been considered for bilateral / inter-state purchases due to considering average landed power purchase cost at APTransco periphery.

## 5 Expenditure Projections for APSPDCL

### 5.1 APTransco Charges

The actual transmission charges for FY 2017-18 is Rs.901.9 Crs. The licensee has considered the Transmission cost for FY 2018-19 as approved in the Tariff Order FY 2018-19.

For the fourth control period (FY 2019-20 to FY 2023-24), the transmission licensee has considered State Peak Demand (MW) as filed in the Resource Plan, instead of Installed Generation/Contracted Capacity, for computation of Transmission Tariff. The State Peak Demand is further apportioned to both the Discoms APEPDCL (34.27%) and APSPDCL (65.73%) as per the prevailing energy allocation ratio and the same would be considered as part of Long Term Transmission Agreement (LTTA) to be executed with AP Transco. The Transmission cost for FY 2019-20 as projected in the Transmission MYT for 4th MYT control period (FY 2019-20 to 2023-24) and the apportioned demand are considered for computing the transmission cost of the Licensee.

**Form - 1.1 – Transmission Cost**

Year	Load not eligible for Open Access			Open Access		
	Load Eligible for Open Access					
	MW	Tariff (Rs./kW/month)	Cost (Rs. Crs.)	MW	Tariff (Rs./kW/month)	Cost (Rs. Crs.)
1	2	3	4	5	6	7
<b>APTransco</b>						
2018-19	5544.63	94.44	<b>472.41</b>	2672.03	94.44	<b>302.82</b>
2019-20	6397.17	121.81	<b>935.09</b>	1128.91	121.81	<b>165.02</b>

### 5.2 PGCIL and ULDC Charges

The POC rate approved by CERC for the latest quarter i.e. third quarter of FY 2018-19 is Rs.4.414 lakhs/MW which includes POC slab rate, Reliability support charges rate and HVDC charges rate. Apart from the main POC bill, PGCIL raises supplementary bills also from time to time. Further, transmission assets get added to the network regularly which would increase the POC charges in future. To account for the above, the POC rate of Rs.4.414 lakhs/MW has been enhanced by 5% to arrive at a value of Rs. 4.63 lakhs/MW. Based on this value, the POC charges for FY 2018-19 H2 and FY 2019-20 have been computed in the following manner.

POC charges for FY 2018-19 H2

$$= (4.63) \times (\text{number of months in the second half of FY 2018-19}) \times (\text{interstate capacity in MW APDISCOMs are expected to avail})/100$$

$$= (4.63) \times (6) \times (2664)/100 = \text{Rs.740 Crs.}$$

Similarly, the POC charges for FY 2019-20 as per the above formula have been arrived at as Rs. 1480 Crs.

The above charges include the POC charges reimbursable to KSK Mahanadi and Sembcorp Energy plants. The PGCIL and ULDC Charges pertains to APSPDCL is furnished below:

	2018-19	2019-20
PGCIL Expenses	818.30	1075.14
ULDC Charges	12.93	2.94

### 5.3 SLDC Charges

The actual SLDC charges for 2017-18 are Rs.24.90 Crs. and for FY: 2018-19 it is estimated at Rs. 26.56 Crs. based on the approved SLDC Order for the period 2014-15 to 2018-19.

As per Regulation 1 of 2006, for computation of Annual Fee and Operating Charges, Total Generation Capacity is to be considered. Accordingly, the total generation capacity is apportioned to both the Discoms APEPDCL and APSPDCL, as per the prevailing energy allocation ratio, for the purpose of computation of SLDC charges of the Licensee.

#### Form – 1.2 SLDC Charges

2018-19							
	Annual Fee			Charges			Total Cost (Rs. Crs.)
	MW	Tariff (Rs./MW/year)	Cost (Rs. Crs.)	MW	Tariff (Rs./MW/month)	Cost (Rs. Crs.)	
Load not eligible for Open Access	5544.63	4214.27	2.34	5544.63	2342.73	15.59	17.92
Open Access							
Load Eligible for Open Access	2672.03	4214.27	1.13	2672.03	2342.73	7.51	8.64
Availed (within area of supply)			0.00			0.00	0.00
Availed ( Outside Area of supply)			0.00			0.00	0.00
Total			3.46			23.10	26.56
2019-20							
	Annual Fee			Charges			Total Cost (Rs. Crs.)
	MW	Tariff (Rs./MW/year)	Cost (Rs. Crs.)	MW	Tariff (Rs./MW/month)	Cost (Rs. Crs.)	
Load not eligible for Open Access	10909.45	22448.00	24.49	10909.45	1628.76	21.32	45.81
Open Access							
Load Eligible for Open Access	1925.20	22448.00	4.32	1925.20	1628.76	3.76	8.08
Availed (within area of supply)			0.00			0.00	0.00
Availed ( Outside Area of supply)			0.00			0.00	0.00
Total			28.81			25.09	53.90

### 5.4 Distribution Costs

#### Distribution Costs

The licensee has adopted the Distribution cost for FY 2018-19 as approved in the Wheeling Tariff Order (Distribution Business Tariff Order) for 3<sup>rd</sup> MYT control period (FY 2014-15 to 2018-19).

Name of the Distribution Service Provider	Cost for Load not eligible for Open Access (Rs. Crs)	Cost for Load Eligible for Open Access	Total Cost (Rs. Crs.)
APSPDCL	2850.75	68.91	2919.66
Savings from Capex Restriction of APDISCOMS			-
<b>Total</b>	2850.75	68.91	2919.66

The licensee has estimated the distribution cost for FY 2019-20 on the basis of MYT to be filed for the fourth control period and since FY 2019-20 is the first year of 4<sup>th</sup> Control period (FY 2019-20 to FY 2023-24). However, detailed projections for all five years of the 4<sup>th</sup> control period shall be submitted in MYT petition for Distribution ARR that shall be filed by the Licensee at a later date. The projections in the MYT petition shall be based on APERC's regulation 4 of 2005. The applicable regulations are reproduced below for reference:

**APERC Regulation 4 of 2005 states that** *“Every Distribution Licensee shall file for each of its licensed business an application for approval of its Aggregate Revenue Requirement (ARR) for each year of the Control Period, not less than 120 days before the commencement of the first year of the Control Period. This filing shall be in such form and in such manner as specified and in accordance with the Guidelines issued by the Commission. The Distribution Licensees may file such applications for ARR of the first Control Period within a period not less than 90 days before the commencement of the Control Period. The ARR filing for the Distribution business shall be for the entire Control Period“*

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*“The ARR filings shall contain the following*

*1. The Operation and Maintenance (O&M) costs which include employee-related costs, repair & maintenance costs and administrative & general costs, estimated for the Base Year and the year prior to the Base Year in complete detail, together with the forecast for each year of the Control Period based on the norms proposed by the Distribution Licensee including indexation and other appropriate mechanisms in terms of the principles enunciated in this Regulation for O&M cost allowance.*

*2. Regulated Rate Base (RRB) for the Base Year and each year of the Control Period which requires submission of the working capital requirement and a detailed scheme/project-wise Capital Investment Plan with a capitalization schedule covering each year of the Control Period consistent with the Resource Plan filed by licensee.*

3. A proposal for appropriate capital structure and its cost of financing (interest cost and return on equity) for the purpose of computing Weighted Average Cost of Capital.
4. Targets proposed for reduction of distribution losses during the Control Period duly adhering to the Licensees' Standards of Performance Regulation.
5. Details of depreciation, including Advance against depreciation if any required and capitalization schedules for each year of the Control Period.
6. Description of external parameters proposed to be used for indexation;
7. Details of taxes on income;
8. Any other relevant expenditure;
9. Proposals for sharing of gains and losses;
10. Proposals for efficiency parameter targets;
11. Proposals for rewarding efficiency in performance
12. Any other matters considered appropriate”

Keeping view of the above, the projected revenue requirement for the distribution licensee for FY 2019-20 is shown below:

**Table 1: Projected Distribution Cost in Rs. Cr.**

Particulars	FY20
O&M Charges (Net)	3,074
Depreciation	922
Advance Against Depreciation	0
Taxes on Income	48
Other Expenditure	38
Special Appropriations	0
Total Expenditure	<b>4,082</b>
Less: IDC and expenses capitalized	302
Less: O&M expenses capitalized	0
Net Expenditure	<b>3,780</b>
Add: Return on Capital Employed	617
Distribution ARR	<b>4,398</b>
Less: Wheeling Revenue from Third Party/Open Access/NTI (if any)	466
<b>Total Distribution ARR</b>	<b>3,932</b>

## 5.5 Interest on Consumer Security Deposits

Interest on Security Deposit are calculated based on the past trend. The interest is calculated @ 6.38% per annum for 2018-19 and 6.25% per annum for 2019-20 on the average of opening and closing balances. For previous year 2017-18 the actual average rate of interest is found to be 5.99% per annum

**Form 1.5: The computation on Interest on Consumer Security Deposit is given below**

Revenue Requirement Item (Rs. Crs.)		2018-19	2019-20
A	Opening Balance	2298.86	2528.93
B	Additions during the Year	365.95	402.54
C	Deductions during the Year	135.88	149.47
D	Closing Balance	2528.93	2782.00
E	Average Balance ((A+D)/2)	2413.89	2655.46
F	Interest @ % p.a. #	6.38	6.25
G	Interest Cost (E*F)	154.10	165.97

As per APERC Regulation 6 of 2004 stipulates "Security Deposit amount shall be two months charges in case of monthly billing and 3 months charges for bi-monthly billing".

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*"The interest accruing to the credit of the consumer shall be adjusted annually against the amounts outstanding from the consumer to the Licensee as on 1st May of every year and the amounts becoming due from the consumer to the Licensee immediately thereafter."*

## 5.6 Supply Margin

The licensee has projected Supply Margin for FY 2018-19 and FY 2019-20 are as follows.

Form – 1.6 - Supply Margin		Rs. in Crores	
		FY 2018-19	FY 2019-20
Supply Margin Amount		13.05	27.65

## 5.7 Other Costs

**The licensee has projected the following expenditure under other costs:**

- 1) Amount payable towards DELP to M/s EESL, New Delhi
- 2) Amount payable towards solar pumpsets
- 3) Amount payable towards Energy Efficient Pump sets
- 4) Reserve fund towards to relief to victims of electrical accidents

### 5.7.1 DELP:

The licensee with the approval of Honourable Commission has distributed 2 Nos. LED bulbs in all the districts of its jurisdiction. In accordance with the approval of the Honourable Commission, the licensee has projected the amounts payable to M/s EESL, New Delhi. Number of LEDs distributed up to end of FY 2016-17 is around 1.27 Cr. for which Discom incurred 49.27 Cr. in FY 2016-17 and is liable to pay Rs. 51.25 Cr. in FY 17-18, Rs. 37.71 Cr. in FY 2018-19 and Rs.0.01 Crs. in FY 2019-20 as annuity payments.

### 5.7.2 Solar pumpsets (Off Grid) :

The licensee has erected 7,536 Nos. of solar pumpsets in FY 2017-18 and is expected to erect further 10,039 Nos. and 11,985 Nos. in FY 2018-19 and FY 2019-20 respectively. The following table summarizes the Agricultural demand met through solar off-grid power out of total Agricultural demand of the licensee.

Particulars	FY 2018-19	FY 2019-20
Agricultural Demand met through Grid Power	9894.41	10293.28
Agricultural Demand met through Solar	74	142
Total Agricultural Demand (MU)	9968.45	10434.89

\* Each 5HP Pumpset is expected to produce 6000 Units of energy per year

The power purchase cost saved by these schemes have already been factored in the power purchase calculations. The consumer contribution is 11% of the project cost, the MNRE, Govt. of India provides 33% of the project cost as subsidy and balance 56% is to be borne by the licensee. The following table shows the cost-breakup of solar-pumpsets and Discom's contribution for which it is liable to repay the loan installments. The licensee is projecting to incur costs of Rs.36.34 Crs. and Rs.63.93 Crs. towards repayment of loan towards the above projects for FY 2018-19 and FY 2019-20 respectively.



Phase wise Cost details of solar pumpsets									
S.No	Name of the phase	Total cost of 5HP Pumpset				Total cost of 3HP Pumpset			
		MNRE Subsidy in Rupees	APDISCOMs in Rupees	Beneficiary contribution in Rupees	Total (in Rupees)	MNRE Subsidy in Rupees	APDISCOMs in Rupees	Beneficiary contribution in Rupees	Total (in Rupees)
1	Phase-I (01.03.2015 - 31.08.2015)	162000	273000	55000	490000	97200	183160	40000	320360
2	Phase-II (01.09.2015 - 30.06.2016)	162000	212000	55000	429000	97200	199178	40000	336378
3	Phase-III (01.07.2016 - 22.03.2017)	162000	152300	55000	369300	97200	152000	40000	289200
4	Phase-IV (23.03.2017 - 23.05.2017)	162000	95253	55000	312253	97200	131800	40000	269000
5	Phase- v (24.05.2017 - 17.10.2017)	162000	88999	55000	305999	97200	122800	40000	260000
6	Phase-VI (18.10.2017 - 26.03.2018)	85000	172200	55000	312200	75000	140365	40000	255365
7	Phase-VII (27.03.2018 - onwards)	85000	184000	55000	324000	75000	121999	40000	236999

**Energy Efficient pump sets :** The licensee proposed to replace 65,000 Nos. of old pumpsets with BEE 5 Star rated 5 HP energy efficient submersible pump sets with smart control panels. The details of the project costs are given below.

Particulars		Amount Rs. crs
Number of Submersible pump sets	65000	
Total cost of EEPS with smart control panel with five years maintenance (Inclusive of Tax)	37676	244.90
EEPS installation cost @ Rs. 4600/ unit		29.90
EESL PMC charges over five years	5%	13.74
Cost for awareness & Distribution (Inclusive of call centre agency & software agency)		4.00
<b>Total Project Cost</b>		<b>292.54</b>

The above project was approved by Honourable APERC vide order in OP.No.20 of 2017, dated 17-06-2017. The licensee is projecting to incur costs of Rs.7.93 Crs. and Rs.32.18 Crs. towards repayment of loan towards the above projects for FY 2018-19 and FY 2019-20 respectively.

**Solar Rooftop :** The APSPDCL is promoting solar PV roof top scheme for LT Cat-I(A) & I(B) consumers consuming below 200 units in Tirupati & Vijayawada cities. The cost of implementation is given below:

S.No	Name of the circle	Capacity in KW	Consumer Contribution (Rs.)	Cost of PV Rooftop (Rs.)
1	Tirupati	0.5	5,000	33,750
		1	15,000	67,500
2	Vijayawada	0.5	5,000	31,000
		1	15,000	56,500

The consumers will be charged only for the consumption from Grid beyond the power generation at regular tariff. The subsidy from MNRE, Central Govt., is 30% of the cost. Rest of the cost is borne by the DISCOM. The DISCOM proposes to install 6000 Nos. each in FY 2018-19 & FY 2019-20



under this scheme. The projected cost for implementation of the above scheme is Rs.12.15 Crs. and Rs.12.15 Crs. in FY 2018-19 & FY 2019-20.

**EV Charging Stations :** APSPDCL proposes to install 30 Nos. & 50 Nos. EV Charging stations in FY 2018-19 (Sep to Mar'19) & FY 2019-20 respectively. The cost for installation is Rs.3.02 lakhs per station. The projected cost for FY 2018-19 & FY 2019-20 is Rs.0.90 Crs. & Rs.1.51 Crs. respectively.

#### 5.7.1 Reserve fund towards to relief to victims of electrical accidents

The licensee is depositing every month Rs.1.29 Crs. into a separate Bank A/c to be used for the purpose of providing relief to victims of electrical accidents in FY 2018-19. Further it is proposed to provide Rs.15 Crs. towards reserve fund for FY 2019-20.

The other costs during FY 2018-19 & FY 2019-20 are submitted below.

Rs. Crs.

	FY 2018-19	FY 2019-20
Payment to M/s EESL towards DELP	37.71	0.01
Solar Pumpsets	36.34	63.93
Energy Efficient Pumpsets	12.15	32.18
Solar PV Rooftop	5.23	12.15
EV Charging Stations	0.90	1.51
Towards Electrical accidents compensation	15.00	15.00
<b>Total</b>	<b>107.34</b>	<b>124.78</b>

## 5.8 Summary of ARR

### Aggregate Revenue Requirement (ARR) for Retail Supply Business (Form-1) (Rs. in Crores)

Revenue Requirement Item (Rs. Crs.)	2018-19	2019-20
1 Transmission Cost	775.23	1,100.10
2 SLDC Cost	26.56	53.90
3 Distribution Cost	2,919.66	3,932.00
4 PGCIL Expenses	818.30	1,075.14
5 ULDC Charges	12.93	2.94
6 <b>Network and SLDC Cost (1+2+3+4+5)</b>	<b>4,552.68</b>	<b>6,164.08</b>
7 Power Purchase / Procurement Cost	16,604.87	17,981.18
8 Interest on Consumer Security Deposits	154.10	165.97
9 Supply Margin in Retail Supply Business	13.05	27.65
10 Other Costs, if any	107.34	124.78
11 <b>Supply Cost (7+8+9+10)</b>	<b>16,879.35</b>	<b>18,299.58</b>
12 <b>Aggregate Revenue Requirement (6+11)</b>	<b>21,432.04</b>	<b>24,463.66</b>

## **6 Revenue Projections**

### **6.1 Sales Forecast**

The factors affecting the actual consumption are numerous and often beyond the control of the licensee due to factors such as Government Policy, economic climate, weather conditions and force majeure events like natural disasters. Therefore, an accurate point-estimate of the consumption (sales by licensee) is not possible. Under such a situation, the attempt is to look into various factors and estimate the interrelationships to arrive at a reasonably accurate forecast within a range and use a single point-estimate within the range for the limited purpose of estimating future costs / revenues.

#### **6.1.1 Trend Method**

This method is a non-causal model of demand forecasting which assumes that the underlying factors, which drive the demand for electricity, are expected to follow the same trend as in the past and hence the forecast for electricity is also based on the assumption that the past trend in consumption of electricity will continue in the future. The strength of this method, when used with balanced judgment, lies in its ability to reflect recent changes and therefore is probably best suited for a short-term projection as used for the ARR/ Tariff filing. However, the trend-based approach has to be adjusted for judgment on the characteristics of the specific consumer groups/ categories. For example, while this method may provide a better estimate of consumption by the domestic and commercial categories of consumers, it may not be very suitable for the industrial category because of the high dependence of demand on the end-use and also on the macroeconomic variables.

In any case, the forecasts arrived at by using the trend method need to be modified for impact of any other considerations like increasing commercialization/ development in certain districts/ regions to incorporate the impact of econometric variables and the load reliefs issued in the past. The Licensee has projected the category –wise sales based on the modified trend approach. Sales Forecast for the ensuing year has been developed primarily based on analysis of historic data for the period FY 2013-14 to H1 of FY 2018-19. The following inputs have been taken to arrive at sales consumption for H2 of FY 2018-19 and FY 2019-20.

- Actual sales (6 districts + Anantapur & Kurnool) captured from FY2013-14 to FY 2017-18
- CAGR computed for historical sales for FY 2013-14 to FY 2017-18
- Actual sales (6 districts + Anantapur & Kurnool) captured for FY 2018-19 (upto Sep'18)
- CAGR computed for actual sales from FY 2013-14 to FY 2018-19
- Growth rate used on FY 2018-19 projected sales to forecast sales for FY 2019-20
- Additional loads for Lift irrigation schemes, CRDA and Industrial clusters etc., added for projecting FY 2018-19 (H2) & FY 2019-20 sales
- Load reliefs (minimal in extent) captured for FY 2017-18 and FY 2018-19 (H1)
- No Load reliefs are expected in FY 2018-19 (H2) & FY 2019-20
- The sales for FY 2018-19 are projected by taking actuals upto Sep'18 and projecting the growth rate based on the trend observed during the period from April'18 to Sep'18 and appropriate CAGR by considering the additional loads.
- The sales for FY 2019-20 are projected based on trend observed and appropriate CAGR duly considering the additional loads.

### **6.1.2 LT Sales forecast**

Sales Forecast for FY 2019-20 has been projected primarily based on analysis of historic data for the period FY 2013-14 to FY 2017-18. The Licensee submits the following forecasts of energy sales (in million units) as part of the current application to the Honourable Commission. For the FY 2014-15, the actual sales pertaining to Anantapur & Kurnool districts are considered from 2<sup>nd</sup> June, 2014.

#### **6.1.2.1 LT Cat-I: Domestic Supply**

The consumption of power by the domestic category is 8167.04MU in the year 2017-18 consisting of 4505.77 MU in the first half and 3661.28 MU in the second half of the year. The sales projected for FY 2018-19 is 8578.20 MU (H1 : 4697.50, H2 : 3880.70) and for FY 2019-20 is 9116.81 MU.

LT Cat-I	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	5946.78	6953.98	7598.85	8167.04	8578.20	9116.81
% Growth	34.30%	16.94%	9.27%	7.48%	5.03%	6.28%

#### 6.1.2.2 LT Cat-II: Non-Domestic / Commercial Supply

The consumption of power by the non-domestic category is 1750.48 MU in the year 2017-18 consisting of 944.42 MU in the first half and 806.06 MU in the second half of the year. The sales projected for FY 2018-19 is 1863.13 MU (H1 : 1003.64, H2 : 859.49) and for FY 2019-20 is 1993.47 MU.

LT Cat-II	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	1314.61	1550.90	1655.76	1750.48	1863.13	1993.47
% Growth	11.38%	17.97%	6.76%	5.72%	6.44%	7.00%

#### 6.1.2.3 LT Cat-III: Industrial Supply

The consumption of power by the category is 2037.91 MU in FY 2017-18 consisting of 1028.68 MU in the first half and 1009.23 MU in the second half of the year. The sales projected for FY 2018-19 is 2293.19 MU (H1 : 1142.01, H2 : 1151.18) and for FY 2019-20 is 2592.24 MU.

LT Cat-III	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	1380.24	1466.13	1686.22	2037.91	2293.19	2592.24
% Growth	59.36%	6.22%	15.01%	20.86%	12.53%	13.04%

#### 6.1.2.4 LT-IV - Cottage Industries & Dhobi Ghats etc.

The consumption of power by this category is 40.43 MU in FY 2017-18 consisting of 20.62 MU in the first half and 19.81 MU in the second half of the year. The sales projected for FY 2018-19 is 44.70 MU (H1 : 22.77, H2 : 21.93) and for FY 2019-20 is 49.44 MU.

LT Cat-IV	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	32.32	36.65	39.94	40.43	44.70	49.44
% Growth	49.75%	13.40%	8.97%	1.23%	10.55%	10.61%

#### 6.1.2.5 LT-V - Agriculture

- a) The Licensed area of APSPDCL covers eight Districts after bifurcation of AP state. Farmers in these eight Districts largely depend on lifting of ground water for their irrigation needs. The Energy Demand has been growing consistently over the past years. Usually, two crops are grown in a year and in some areas where plenty of water is available, particularly in Krishna and Guntur districts & part of other districts, third crop is also grown. Among all the crops, Paddy is the most preferred crop being grown in all the eight Districts resulting in high Energy Demand on Irrigation. In recent years, depth of water table is increased, resulting in increase in the Energy demand.
- b) Large no. of the pump sets under usage are of not as per standard specifications and such pump sets draw more Energy. Also the farmers are replacing the old pump sets with higher capacity pump sets whenever the depth of water table increases.
- c) The Government of Andhra Pradesh declared a modified agriculture policy in January 2005 aimed towards incentivizing Demand side management in the agriculture sector. One of the key features of the policy is to install Capacitors for all the existing pump sets. So far, 89.56% of the existing pump sets as on 30.09.2018 are provided with Capacitors by the consumers. The licensee is taking all necessary steps to provide Capacitors for the balance pump sets also.
- d) There are 13,76,421 Nos. agricultural services in the licensee's area as on 31-03-2018. During FY 2018-19, the licensee has released 42,489 Nos. agricultural connections upto September, 2018 against the present target of 50,000 Nos. The licensee is proposing to address the Govt. of A.P for enhancement of target for release of new agricultural connections from 50,000 Nos. to 75,000 Nos. during the FY 2018-19. By this projected addition of new connections, the total no.of agricultural connections in the licensee area will be 14,51,421 Nos. at end of FY 2018-19. The circle wise break up of no.of agricultural connections existing, added and projections for FY 2018-19 to FY 2019-20 are furnished in the table below:

No.of agricultural services in APSPDCL						
S.No	Circle	Existing as on 31-03-2018	Added during 2018-19 (Proj.)	Existing as on 31-03-19 (Proj.)	Added during FY 2019-20 (Proj.)	Existing as on 31-03-20 (Proj.)
1	Vijayawada	106704	5381	112085	5381	117466
2	Guntur	104713	6386	111099	6386	117485
3	Ongole	162927	13268	176195	13268	189463
4	Nellore	175737	6879	182616	6879	189495
5	Tirupati	281119	8654	289773	8654	298427
6	Kadapa	148069	9368	157437	9368	166805
7	Anantapur	245466	13406	258872	13406	272278
8	Kurnool	151686	11658	163344	11658	175002
<b>APSPDCL</b>		<b>1376421</b>	<b>75000</b>	<b>1451421</b>	<b>75000</b>	<b>1526421</b>

- e) The majority of the agricultural connections are with bore wells. Hence, the average capacity of the pump-sets are increasing at every year. The connected load details of agricultural connections are furnished in the below table:

Connected load (HP) of agricultural services in APSPDCL						
S.No	Circle	Existing as on 31-03-2018	Added during 2018-19 (Proj.)	Existing as on 31-03-19 (Proj.)	Added during FY 2019-20 (Proj.)	Existing as on 31-03-20 (Proj.)
1	Vijayawada	5,88,727	32,079	6,20,806	32,079	6,52,885
2	Guntur	5,58,035	30,407	5,88,442	30,407	6,18,849
3	Ongole	9,01,364	49,115	9,50,478	49,115	9,99,593
4	Nellore	8,45,031	46,045	8,91,076	46,045	9,37,121
5	Tirupati	16,99,765	92,619	17,92,384	92,619	18,85,003
6	Kadapa	11,20,190	61,038	11,81,228	61,038	12,42,266
7	Anantapur	14,84,513	80,890	15,65,403	80,890	16,46,293
8	Kurnool	8,57,324	46,715	9,04,039	46,715	9,50,754
<b>APSPDCL</b>		<b>80,54,949</b>	<b>4,38,907</b>	<b>84,93,856</b>	<b>4,38,907</b>	<b>89,32,763</b>

**f) Initiatives of the licensee to control agricultural sales in line with Tariff Order :**

The licensee has took all possible measures to control agricultural sales within the limits of Tariff Order. The following initiatives are taken in this regard.

- Strict implementation of 7 Hrs. supply a day.
- Anti-pilferage measures.
- APSPDCL has taken Demand side management measures with publicity through handouts, electronic media etc., to the farmers to install energy efficient pump sets, required rating of capacitors, HDPE pipe lines at suction and delivery and frictionless foot-valves to save energy and to avail subsidized tariff.
- Wide publicity is being given among the consumers on installation of capacitors

- With the initiatives of MNRE, Govt. of India, erection of solar pump sets project has been under taken at a large scale. REC is acting as financial agency, MNRE is giving 33% as subsidy, the consumer is contributing 11% and balance 56% is to be borne by the licensee. So far, 17520 Nos. solar pump sets were commissioned at the end of 25-10-18.
- Agreement entered with M/s EESL, New Delhi for 65,000 Nos. replacement of existing old inefficient pump sets with ISI pump sets and the work is under progress.
- HVDS: The APSPDCL has taken to convert existing LT network in to HVDS for all agricultural connections. Majority of services in the districts of Vijayawada, Guntur, Prakasam, Nellore, Tirupati and Kadapa are already provided supply with HVDS. Works are in progress in all the districts of the licensee to provide HVDS to all agricultural connections.

**g) Factors for increased agricultural sales :**

The following factors are expected for the increased agricultural sales in the licensee area.

- Releasing of agricultural services in large number due to increasing demand for new services.
- Low rainfall in majority of the districts.
- Due to low rainfall, more power is being drawn for lifting of ground water resulting in increased energy sales

**h) Sales estimates with ISI methodology :**

The agricultural sales estimations are being done with ISI methodology for all the circles

**i) Sales estimation : Actuals for FY 2017-18, FY 2018-19 (H1) and projections for FY 2018-19 (H2) and FY 2019-20.**

- (i) Based on the methods as explained above, the actual sales are considered for FY 2017-18 and FY 2018-19 (H1).
- (ii) For FY 2018-19 (H2) and FY 2019-20, sales projections are made based on the historical sales, considering new services released / to be released and anticipated seasonal changes.
- (iii) The agricultural demand met through Off-Grid Solar pumpsets (Around 142 MUs) is not considered in the sales projections as the same are new pumpsets.
- (iv) The actual sales estimated and projections made as discussed in the above paras are furnished in the below tables:



S.No	Circle	Actuals (FY 2017-18)												Total
		Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	
1	Vijayawada	62.89	59.52	9.10	21.86	42.37	52.27	50.77	49.14	41.67	79.48	64.10	120.26	653.44
2	Guntur	51.08	47.94	11.45	43.29	41.19	50.72	51.78	54.77	29.77	70.86	44.77	109.41	607.02
3	Ongole	57.87	65.25	32.69	53.16	39.34	48.74	62.92	93.95	99.58	103.18	77.31	93.91	827.89
4	Nellore	70.14	84.64	51.47	77.04	39.90	25.32	44.31	46.23	83.02	115.12	79.33	85.13	801.65
5	Tirupati	195.82	155.72	109.24	162.46	100.02	67.86	55.63	72.38	115.97	182.92	176.26	238.73	1633.01
6	Kadapa	136.69	120.73	81.54	112.10	82.90	80.22	57.81	70.14	103.80	141.36	130.65	155.25	1273.19
7	Anantapur	167.67	142.49	98.63	163.12	139.23	90.14	63.21	138.95	171.45	223.65	219.97	273.21	1891.74
8	Kurnool	62.63	48.18	42.84	84.08	85.35	59.21	56.24	97.74	84.46	103.55	91.91	136.04	952.23
APSPDCL		804.78	724.46	436.97	717.11	570.31	474.48	442.68	623.33	729.72	1020.12	884.29	1211.94	8640.19
S.No	Circle	Actuals (H1 FY 2018-19)						Projections (H2 FY 2018-19)						Total
		Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
1	Vijayawada	65.74	60.05	4.97	15.04	21.99	85.49	55.34	53.57	45.46	86.63	69.87	131.08	695.22
2	Guntur	57.64	49.16	23.06	29.85	52.41	82.96	56.44	59.70	32.48	77.23	48.80	119.26	688.99
3	Ongole	62.31	64.61	44.76	57.01	59.21	79.71	68.58	102.41	108.64	112.47	84.26	102.35	946.32
4	Nellore	70.11	82.15	61.64	92.83	71.67	41.41	48.30	50.39	90.58	125.48	86.46	92.79	913.81
5	Tirupati	219.05	166.14	137.81	173.26	195.45	111.00	60.63	78.90	126.52	199.38	192.11	260.21	1920.47
6	Kadapa	136.20	118.52	109.34	131.43	129.54	131.21	63.01	76.45	113.25	154.08	142.40	169.21	1474.65
7	Anantapur	201.95	142.04	120.99	181.36	201.29	147.43	68.90	151.46	187.06	243.77	239.76	297.79	2183.79
8	Kurnool	73.31	54.27	60.57	67.98	96.88	96.85	61.30	106.54	92.15	112.86	100.17	148.28	1071.17
APSPDCL		886.30	736.95	563.15	748.75	828.43	776.06	482.51	679.41	796.14	1111.90	963.84	1320.97	9894.41
S.No	Circle	Projections (FY 2019-20)												Total
		Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
1	Vijayawada	68.49	62.49	5.18	15.65	22.87	88.91	57.55	55.71	47.28	90.09	72.66	136.32	723.19
2	Guntur	60.05	51.16	24.01	31.06	54.50	86.27	58.70	62.09	33.78	80.32	50.75	124.02	716.72
3	Ongole	64.91	67.23	46.61	59.32	61.58	82.90	71.33	106.50	112.98	116.96	87.63	106.45	984.41
4	Nellore	73.04	85.49	64.18	96.60	74.53	43.07	50.23	52.41	94.20	130.49	89.92	96.50	950.66
5	Tirupati	228.22	172.88	143.49	180.31	203.27	115.43	63.06	82.05	131.58	207.35	199.80	270.61	1998.04
6	Kadapa	141.90	123.32	113.85	136.77	134.72	136.46	65.53	79.51	117.78	160.24	148.10	175.98	1534.15
7	Anantapur	210.40	147.80	125.97	188.73	209.33	153.32	71.66	157.51	194.54	253.52	249.34	309.70	2271.83
8	Kurnool	76.38	56.48	63.06	70.75	100.75	100.72	63.76	110.80	95.84	117.38	104.18	154.21	1114.28
APSPDCL		923.40	766.84	586.35	779.18	861.55	807.07	501.81	706.58	827.97	1156.37	1002.37	1373.78	10293.28

The above sales are inclusive of paying category services.

**The following issues were considered while projecting agricultural consumption for FY 2018-19 and for the next year FY 2019-20:**

- The consumption of power by the category is 8640.19 MU in 2017-18 consisting of 3728.11 MU in the first half and 4912.07 MU in the second half of the year.
- While the consumption during 2017-18 H2 is higher than that of H1, the same trend is expected to continue in second half of 2018-19. The Agricultural consumption during H2 of 2018-19 is expected to be higher than H1 (4539.64 MU) and is estimated at 5354.77 MU and total for FY 2018-19 is 9894.41 MU.
- Growth in agriculture restricted sales are linked to the growth rate in agriculture connections as mentioned above. The licensee is projecting 4.03% growth in sales for FY 2019-20 over the total



sales for FY 2018-19. The licensee is confident that the growth-rate projected would take care of the increase in specific consumption, consumption increase because of new services to be released in FY 2019-20.

LT Cat-V	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	8006.78	8482.33	9269.50	8640.19	9894.41	10293.28
% Growth	45.22%	5.94%	9.28%	-6.79%	14.52%	4.03%

The licensee has assumed 7 hours of supply to agricultural consumers, in its projections, considering the present power supply situation in the state.

#### 6.1.2.6 LT Category- VI: Local bodies, Street lighting and public waterworks

The consumption of power by the category is 699.86 MU in FY 2017-18 consisting of 371.55 MU in the first half and 328.30 MU in the second half of the year. The sales projected for FY 2018-19 is 692.76 MU (H1 : 356.38, H2 : 336.38) and for FY 2019-20 is 725.34 MU.

LT Cat-VI	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	489.42	539.94	638.57	699.86	692.76	725.34
% Growth	49.43%	10.32%	18.27%	9.60%	-1.01%	4.70%

#### 6.1.2.7 LT Category VII: General purpose

The consumption of power by the category is 101.19 MU in FY 2017-18 consisting of 52.35 MU in the first half and 48.84 MU in the second half of the year. The sales projected for FY 2018-19 is 107.25 MU (H1 : 55.39, H2 : 51.86) and for FY 2019-20 is 114.39 MU.

LT Cat-VII	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	77.14	88.61	95.89	101.19	107.25	114.39
% Growth	63.68%	14.86%	8.22%	5.53%	5.98%	6.66%

### 6.1.3 LT Category VIII : Temporary Supply

The consumption of power by the category is 1.26 MU in FY 2017-18 consisting of 0.73 MU in the first half and 0.53 MU in the second half of the year. The sales projected for FY 2018-19 is 1.18 MU (H1 : 0.63, H2 : 0.54) and for FY 2019-20 is 1.24 MU.

LT Cat-VIII	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
MUs	15.57	0.72	1.47	1.26	1.18	1.24
% Growth	1517.46%	-95.36%	104.04%	-14.42%	-6.60%	5.03%

### 6.1.4 HT sales forecast

Details of the trends envisaged for key categories are discussed in the following sections.

#### 6.1.4.1 HT Cat-I – Industrial

The consumption of power by the HT-Industrial category is 6852.49 MU in FY 2017-18 consisting of 3321.55 MU in the first half and 3530.94 MU in the second half of the year. The sales projected for FY 2018-19 is 7321.97 MU (H1 : 3724.43, H2 : 3597.54) and for FY 2019-20 is 7877.01 MU.

HT Cat-I	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	1415.43	1362.77	1439.49	1314.56	1755.39	1864.26
33 KV	3119.20	3437.74	3087.72	2693.39	3249.79	3401.55
132 KV	2397.88	2705.00	2360.62	2844.53	2316.79	2611.20
Total Sales	6932.50	7505.51	6887.82	6852.49	7321.97	7877.01
% Growth	18.10%	8.27%	-8.23%	-0.51%	6.85%	7.58%

#### 6.1.4.2 HT Cat-II: Others

The consumption of power by the HT Others category was 774.26 MU in the FY 2017-18 consisting of 417.38 MU in the first half and 356.88 MU in the second half of the year. The sales projected for FY 2018-19 is 814.22 MU (H1 : 439.48, H2 : 374.74) and for FY 2019-20 is 861.68 MU.

HT Cat-II	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	455.62	551.38	555.76	613.23	642.25	672.59
33 KV	80.94	114.93	118.32	119.56	130.01	146.22
132 KV	16.75	26.75	28.90	41.48	41.97	42.87
<b>Total Sales</b>	<b>553.31</b>	<b>693.06</b>	<b>702.98</b>	<b>774.26</b>	<b>814.22</b>	<b>861.68</b>
% Growth	12.13%	25.26%	1.43%	10.14%	5.16%	5.83%

#### 6.1.4.3 HT III: Public Infrastructure and Tourism:

The consumption of power by the HT Public Infrastructure and Tourism category was 55.93 MU in the FY 2017-18 consisting of 31.30 MU in the first half and 26.43 MU in the second half of the year. The sales projected for FY 2018-19 is 54.45 MU (H1 : 28.91, H2 : 25.54) and for FY 2019-20 is 56.74 MU.

HT Cat-III	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
	17.87	21.94	49.06	55.93	54.45	56.74
% Growth	78.33%	22.79%	123.59%	14.01%	-2.64%	4.21%

Note : The growth rate of sales for FY 2016-17 over FY 2015-16 is high (123.59%) due to inclusion of Hotels, Resorts, Amusement parks, urban Haats, Tourism etc. into this category during FY 2016-17 Tariff Order.

#### 6.1.4.4 HT Cat-IV: Lift Irrigation & CPWS

The consumption of power by the HT Lift Irrigation & CPWS category is 1079.35 MU in FY 2017-18 consisting of 137.90 MU in the first half and 941.46 MU in the second half of the year. The sales projected for FY 2018-19 is 2239.84 MU (H1 : 412.75, H2 : 1827.09) and for FY 2019-20 is 2978.73 MU.

*The Licensee has collected the likely commissioning dates of the upcoming lift irrigation schemes in consultation with Chief Engineer / Lift irrigation / APTransco and projected the sales for FY2018-19 (Oct'18 to Mar'19) & FY 2019-20. In APSPDCL, the following are major State Government Lift Irrigation Schemes are expected to be operational.*

**Projected Sales for upcoming LI Schemes for the FY 2018-19**

Sl. No.	Name of the Scheme	District	Status	No. of Days to be operated in a year	No. of Hrs to be operated in a Day	C.M.D. MVA	Voltage	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total M.U	Month wise total
1	Handrineeva Sujala Sravanthi LIS Phase - II Extn. At Musalikunta 132/6.6 KV (EPC)	Chittoor	Works under progress	120	16	23	132/11KV		Expected to be commissioned					44.16	

**Projected Sales for upcoming LI Schemes for the FY 2019-20**

Sl. No.	Name of the Scheme	District	Status	No. of Days to be operated in a year	No. of Hrs to be operated in a Day	C.M.D. MVA	Voltage	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total M.U
1	<b>Somasila Project High Level Canal LIS</b>	Nellore																		
	b) Marripadu 132/33KV		Scheme cost communicated Irrigation authorities	120	16	30.00	132/33KV			Expected to be commissioned										57.60
2	<b>Bhiravani Thippa Project LIS</b>	Ananthapur	Scheme under Formulation																	
	a) 132/33KV Gangavaram SS			120	16	27.30	132/33KV			Expected to be commissioned										47.17
3	<b>Godavari-Penna Link Phase-I LIS</b>	Guntur	Scheme under Formulation																	
	1) 400/220KV Bhurugubanda SS			120	16	213.33	400/220KV			Expected to be commissioned										368.63
	2) 220/11KV Harischandra Puram SS			120	16	43.33	220/11KV													74.87
	3) 220/11KV Lingapuram SS			120	16	107.00	220/11KV													184.89
	4) 220/11KV Gorantla SS			120	16	133.33	220/11KV													230.39
	5) 220/11KV Nakarikallu SS			120	16	150.00	220/11KV													259.20

HT Cat-IV	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	137.08	76.33	169.00	112.69	107.36	109.51
33 KV	63.15	75.43	94.92	124.00	154.80	157.89
132 KV	328.13	187.51	746.87	842.66	1977.68	2711.33
<b>Total Sales</b>	<b>528.35</b>	<b>339.27</b>	<b>1010.80</b>	<b>1079.35</b>	<b>2239.84</b>	<b>2978.73</b>
<b>% Growth</b>	<b>58.47%</b>	<b>-35.79%</b>	<b>197.93%</b>	<b>6.78%</b>	<b>107.52%</b>	<b>32.99%</b>

#### 6.1.4.5 HT Cat-V: Railway traction

The consumption of power by this category was 739.61 MU in FY 2017-18 consisting of 368.82 MU in the first half and 370.79 MU in the second half of the year. The sales projected for FY 2018-19 is 824.71 MU (H1 : 420.55, H2 : 404.16) and for FY 2019-20 is 849.45 MU.

HT Cat-V	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
132 KV	747.84	692.74	649.67	739.61	824.71	849.45
% Growth	15.31%	-7.37%	-6.22%	13.84%	11.51%	3.00%

#### 6.1.4.6 HT Cat-VI: Townships and Residential Colonies

The consumption of power by this category is 25.83 MU in the FY 2017-18 consisting of 14.46 MU in the first half and 11.38 MU in the second half of the year. The sales projected for FY 2018-19 is 26.77 MU (H1 : 14.20, H2 : 12.57) and for FY 2019-20 (by adding upcoming residential quarters in CRDA Area) is 30.14 MU.

HT Cat-VI	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	33.04	39.89	32.89	22.78	22.32	22.77
33 KV	1.44	2.25	1.87	3.05	4.45	7.37
132 KV	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Sales</b>	<b>34.48</b>	<b>42.14</b>	<b>34.76</b>	<b>25.83</b>	<b>26.77</b>	<b>30.14</b>
% Growth	-9.45%	22.22%	-17.51%	-25.69%	3.64%	12.57%

#### 6.1.4.7 HT Cat-VII : Green Power :

HT Category-VII Green Power was reintroduced in FY 2018-19. Only 1 No. consumer has opted for this category. The sales projected for H2 FY 2018-19 & FY 2019-20 are insignificant.

#### 6.1.4.8 HT Cat-VIII : Temporary :

The consumption of power by this category was 0.48 MU in FY 2017-18 consisting of 0.00 MU in the first half and 0.48 MU in the second half of the year. The sales projected for FY 2018-19 is 1.63 (H1 : 1.15, H2 : 0.48) and for FY 2019-20 is 1.89 MU.

Temp	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	0.00	0.00	0.07	0.48	1.63	1.89
% Growth	35.93%	#DIV/0!	#DIV/0!	586.50%	240.03%	15.84%

#### 6.1.4.9 RESCOs

The consumption of power by this category was 368.72 MU in FY 2017-18 consisting of 160.89 MU in the first half and 207.83 MU in the second half of the year. The sales projected for FY 2018-19 is 475.03 MU (H1 : 225.59, H2 : 249.44) and for FY 2019-20 is 509.44 MU.

Resco	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projections	
11 KV	284.31	298.45	413.14	368.72	475.03	509.44
% Growth	10.45%	4.97%	38.43%	-10.75%	28.83%	7.24%

#### Sales Forecast category wise and Voltage level wise (Form – 3) Sales in MU

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Actuals				Projection	
<b>LT Category</b>	<b>17262.87</b>	<b>19119.26</b>	<b>20986.20</b>	<b>21438.36</b>	<b>23474.81</b>	<b>24886.21</b>
Domestic	5946.78	6953.98	7598.85	8167.04	8578.20	9116.81
Non-domestic/Commercial	1314.61	1550.90	1655.76	1750.48	1863.13	1993.47
Industrial	1380.24	1466.13	1686.22	2037.91	2293.19	2592.24
Cottage Industries, Dhobighats & Others	32.32	36.65	39.94	40.43	44.70	49.44
Irrig & Agriculture	8006.78	8482.33	9269.50	8640.19	9894.41	10293.28
Local Bodies, St. Lighting & PWS	489.42	539.94	638.57	699.86	692.76	725.34
General Purpose	77.14	88.61	95.89	101.19	107.25	114.39
Temporary Supply	15.57	0.72	1.47	1.26	1.18	1.24
<b>HT Category at 11 kv</b>	<b>2343.35</b>	<b>2350.76</b>	<b>2655.53</b>	<b>2479.92</b>	<b>3048.80</b>	<b>3226.25</b>
HT I (A): General	1146.52	998.74	1080.90	1034.79	571.19	604.47
Lights and Fans	31.67	104.47	66.51	17.71	28.65	30.32
Industrial Colonies	2.50	2.55	1.95	2.08	1.83	1.93
Seasonal Industries	59.05	39.91	45.07	28.29	52.48	55.53
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	175.69	217.10	199.47	183.48	526.23	556.89
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	487.08	517.91
HT I (B): Energy Intensive Industries	0.00	0.00	0.46	0.58	5.51	6.06
HT I (C): Aquaculture and Animal Husbandry	0.00	0.00	21.74	27.93	47.36	52.57
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.00	0.00	23.38	19.72	35.06	38.57
HT II: Others	377.31	461.94	456.02	500.82	522.94	545.01
Time of Day Tariffs (6 PM to 10 PM)	78.31	89.44	90.73	101.19	106.05	112.24
HT II (B): Religious Places	0.00	0.00	3.96	5.10	5.38	5.67
HT II (C): Function Halls/Auditoriums	0.00	0.00	5.06	6.12	7.67	9.45
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	0.00	0.00
HT II (F) : Start up power	0.00	0.00	0.00	0.00	0.22	0.23
HT III: Public Infrastructure and Tourism	14.59	18.64	37.24	39.86	37.22	37.96

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Time of Day Tariffs (6 PM to 10 PM)	3.28	3.30	7.94	7.61	7.61	7.84
HT IV Government LIS	88.38	18.52	59.80	40.04	58.33	59.50
HT IV Private Irrigation and Agriculture	23.95	54.90	107.32	0.00	0.00	0.00
HT IV CPWS	24.75	2.91	1.88	72.65	49.02	50.00
HT VI: Townships & Residential Colonies	33.04	39.89	32.89	22.78	22.32	22.77
HT VII: Green Power	0.00	0.00	0.00	0.00	0.00	0.00
HT VIII: Temporary	0.00	0.00	0.07	0.48	1.63	1.89
Category: RESCOs	284.31	298.45	413.14	368.72	475.03	509.44
<b>HT Category at 33 kv</b>	<b>3264.72</b>	<b>3630.35</b>	<b>3306.71</b>	<b>2948.46</b>	<b>3548.68</b>	<b>3723.98</b>
HT I (A): General	2405.91	2687.13	2350.79	2069.93	1024.65	1065.63
Lights and Fans	32.09	47.52	38.85	20.47	36.68	37.78
Industrial Colonies	11.20	12.29	9.87	4.72	12.24	12.61
Seasonal Industries	45.39	41.30	23.05	8.85	22.42	23.54
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	393.86	544.51	463.48	360.65	894.55	930.33
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	892.01	927.69
HT I (B): Energy Intensive Industries	230.75	105.00	183.26	221.14	303.92	334.32
HT I (C): Aquaculture and Animal Husbandry	0.00	0.00	7.04	0.00	0.00	0.00
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.00	0.00	11.37	7.63	63.32	69.65
HT II: Others	67.62	95.67	92.68	66.27	76.40	90.88
Time of Day Tariffs (6 PM to 10 PM)	13.32	19.26	18.43	18.68	10.22	10.73
HT II (B): Religious Places	0.00	0.00	7.20	26.87	25.64	26.15
HT II (C): Function Halls/Auditoriums	0.00	0.00	0.00	7.73	6.98	7.25
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	0.00	0.00
HT II (F) : Start up power	0.00	0.00	0.00	0.00	10.78	11.21
HT III: Public Infrastructure and Tourism	0.00	0.00	3.17	6.97	7.89	8.94
Time of Day Tariffs (6 PM to 10 PM)	0.00	0.00	0.71	1.50	1.73	2.00
HT IV Government LIS	37.70	23.15	42.57	52.66	111.97	114.21
HT IV Private Irrigation and Agriculture	10.20	52.28	52.35	0.00	0.00	0.00
HT IV CPWS	15.25	0.00	0.00	71.34	42.83	43.68
HT VI: Townships & Residential Colonies	1.44	2.25	1.87	3.05	4.45	7.37
HT VII: Green Power	0.00	0.00	0.00	0.00	0.00	0.00
HT VIII: Temporary	0.00	0.00	0.00	0.00	0.00	0.00
Category: RESCOs	0.00	0.00	0.00	0.00	0.00	0.00
<b>HT Category at 132 kv</b>	<b>3490.59</b>	<b>3612.00</b>	<b>3786.06</b>	<b>4468.28</b>	<b>5161.15</b>	<b>6214.85</b>
HT I (A): General	1914.08	2126.19	1828.51	2261.42	1030.37	1246.75
Lights and Fans	15.41	25.74	15.28	46.19	38.54	39.31
Industrial Colonies	12.38	14.52	11.00	11.81	15.12	15.42
Seasonal Industries	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	317.23	407.14	388.07	385.55	563.04	596.83
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	519.01	550.15
HT I (B): Energy Intensive Industries	138.77	131.41	117.76	139.56	150.71	162.74
HT I (C) : Aquaculture and Animal Husbandry	0.00	0.00	0.00	0.00	0.00	0.00
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.00	0.00	0.00	0.00	0.00	0.00

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
HT II: Others	14.25	22.93	24.65	32.83	24.43	24.92
Time of Day Tariffs (6 PM to 10 PM)	2.50	3.82	4.25	6.22	14.74	15.04
HT II (B): Religious Places	0.00	0.00	0.00	0.00	0.00	0.00
HT II (C) : Function Halls / Auditoriums	0.00	0.00	0.00	2.43	0.00	0.00
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	0.00	0.00	0.00	0.00
HT II (F) : Start up power	0.00	0.00	0.00	0.00	2.79	2.91
HT III: Public Infrastructure and Tourism	0.00	0.00	0.00	0.00	0.00	0.00
Time of Day Tariffs (6 PM to 10 PM)	0.00	0.00	0.00	0.00	0.00	0.00
HT IV Government LIS	328.13	187.51	746.87	842.66	1977.68	2711.33
HT IV Agriculture	0.00	0.00	0.00	0.00	0.00	0.00
HT IV CPWS	0.00	0.00	0.00	0.00	0.00	0.00
HT V: Railway Traction	747.84	692.74	649.67	739.61	824.71	849.45
HT VI: Townships & Residential Colonies	0.00	0.00	0.00	0.00	0.00	0.00
HT VII: Green Power	0.00	0.00	0.00	0.00	0.00	0.00
HT VIII: Temporary	0.00	0.00	0.00	0.00	0.00	0.00
Category: RESCOs	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total (LT + HT)</b>	<b>26361.53</b>	<b>28712.37</b>	<b>30734.50</b>	<b>31335.03</b>	<b>35233.44</b>	<b>38051.30</b>
<b>YoY Growth (%)</b>		<b>8.92%</b>	<b>7.04%</b>	<b>1.95%</b>	<b>12.44%</b>	<b>8.00%</b>



## 6.2 Revenue from Current Tariffs

The computation of revenue at current tariff for FY 2018-19 and FY 2019-20 for each customer category is carried out as follows:

### Revenue from Tariffs =

Energy Estimate \* Approved Energy Charges ... (a)  
+ Contracted Demand / Load Estimate \* Approved Demand / Fixed Charges ..... (b)  
+ Incremental Revenue on account of Monthly Minimum Charges ('MMC') ... (c)  
+ Customer Charges (d)  
+ Other Charges ----- (e)

### Energy charges:

For customer categories having telescopic energy tariffs, the energy estimates have been apportioned into the slabs and then have been multiplied with the corresponding slab tariff. The apportionment has been based on the historical break up of telescopic consumption into the various slabs as captured in the billing information database. The energy charges are calculated as per the billing parameters i.e., kWh and kVAh for the category and the existing tariff rates of that category.

**Demand/Fixed Charges:** The estimate of demand has been made in "HP/kW" or in "MVA" as the case maybe. Billing demand has been assumed to grow in proportion to the growth of sales in FY 2019-20. Additional demand due to additional load has been added to arrive at final demand for the year FY 2019-20.

**Monthly Minimum charges (MMC):** The 'incremental' revenue due to MMC for each category is the difference between cost of units recorded and monthly minimum charges notified in the tariff order in respect of LT categories.

**Customer Charges:** Customer charges are as approved in tariff Order for each of the category of consumers. As per the revised regulatory formats income from customer charges is considered as part of revenue from tariffs.

**Other Charges:** These are the charges other than the above charges.

Based on the above approach, the gross revenue (excl. NTI) for FY 2018-19 is expected to be Rs.14862.33 Cr, while that for FY 2019-20 is expected to be Rs 16313.40 Cr. The NTI for FY 2018-19 is Rs. 789.02 Crs., while for FY 2019-20 NTI is Rs.828.47 crores. The table below provides the category-wise revenue for FY 2018-19 and FY 2019-20:

<b>Category-wise revenue (Excl. NTI) (Form-5)</b>		<b>(Rs. Crores)</b>	
<b>Category</b>	<b>2018-19</b>	<b>2019-20</b>	
<b>LT Category</b>	<b>6885.71</b>	<b>7378.42</b>	
Domestic	3136.03	3330.95	
Non-domestic/Commercial	1897.93	2030.77	
Industrial	1282.44	1420.83	
Cottage Industries, Dhobighats & Others	18.11	20.03	
Irrig & Agriculture	52.37	55.43	
Local Bodies, St. Lighting & PWS	414.37	430.98	
General Purpose	83.19	88.09	
Temporary Supply	1.27	1.33	
<b>HT Category at 11 kv</b>	<b>2334.65</b>	<b>2510.82</b>	
HT I (A): General	791.40	883.45	
Lights and Fans	18.14	19.19	
Industrial Colonies	1.15	1.22	
Seasonal Industries	40.20	42.54	
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	388.36	410.99	
Time of Day Tariffs Off Peak (10 PM to 6 AM)	259.61	276.05	
HT I (B): Energy Intensive Industries	3.24	3.59	
HT I (C): Aquaculture and Animal Husbandry	19.25	21.57	
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	24.02	28.08	
HT II: Others	551.27	574.69	
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	92.37	97.76	
HT II (B): Religious Places	2.82	2.97	
HT II (C): Function Halls/Auditoriums	9.24	11.38	
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00	
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00	
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00	
HT II (F) : Start up power	0.26	0.27	
HT III: Public Infrastructure and Tourism	36.03	36.64	
Time of Day Tariffs (6 PM to 10 PM)	6.36	6.55	
HT IV Government LIS	34.71	35.53	
HT IV Private Irrigation and Agriculture	0.00	0.00	
HT IV CPWS	24.12	24.57	
HT VI: Townships & Residential Colonies	14.89	15.17	
HT VII: Green Power	0.00	0.00	
HT VIII: Temporary	1.55	1.80	
Category: RESCOs	15.68	16.81	
<b>HT Category at 33 kv</b>	<b>2529.27</b>	<b>2691.29</b>	
HT I (A): General	1006.43	1073.17	
Lights and Fans	21.53	22.18	
Industrial Colonies	7.74	7.97	
Seasonal Industries	15.65	16.43	
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	619.03	643.79	
Time of Day Tariffs Off Peak (10 PM to 6 AM)	434.41	451.78	

Category	2018-19	2019-20
HT I (B): Energy Intensive Industries	163.25	179.58
HT I (C) : Aquaculture and Animal Husbandry	0.00	0.00
HT I (D) : Poultry Hatcheries and Poultry Feed Mixing Plants	44.71	59.69
HT II: Others	76.15	90.10
Time of Day Tariffs (6 PM to 10 PM)	8.21	8.62
HT II (B): Religious Places	13.12	13.38
HT II (C) : Function Halls / Auditoriums	8.59	8.90
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00
HT II (F) : Start up power	12.68	13.19
HT III: Public Infrastructure and Tourism	6.91	7.61
Time of Day Tariffs (6 PM to 10 PM)	1.34	1.55
HT IV Government LIS	65.40	66.79
HT IV Agriculture	0.00	0.00
HT IV CPWS	21.00	21.40
HT VI: Townships & Residential Colonies	3.13	5.15
HT VII: Green Power	0.00	0.00
HT VIII: Temporary	0.00	0.00
Category: RESCOs	0.00	0.00
<b>HT Category at 132 kv</b>	<b>3112.70</b>	<b>3732.86</b>
HT I (A): General	833.64	976.76
Lights and Fans	20.96	21.38
Industrial Colonies	9.55	9.75
Seasonal Industries	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	365.42	387.34
Time of Day Tariffs Off Peak (10 PM to 6 AM)	230.44	244.27
HT I (B): Energy Intensive Industries	74.61	80.56
HT I (C) : Aquaculture and Animal Husbandry	0.00	0.00
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	0.00	0.00
HT II: Others	21.75	20.30
Time of Day Tariffs (6 PM to 10 PM)	11.46	11.69
HT II (B): Religious Places	0.00	0.00
HT II (C) : Function Halls / Auditoriums	0.02	0.00
HT II (E): Electric Vehicles (Evs) / Charging stations	0.00	0.00
Time of Day Tariffs Peak (6 AM to 10 AM & 6 PM to 10 PM)	0.00	0.00
Time of Day Tariffs Off Peak (10 PM to 6 AM)	0.00	0.00
HT II (F) : Start up power	3.32	3.48
HT III: Public Infrastructure and Tourism	0.00	0.00
Time of Day Tariffs (6 PM to 10 PM)	0.00	0.00
HT IV Government LIS	1151.10	1578.13
HT IV Agriculture	0.00	0.00
HT IV CPWS	0.00	0.00
HT V: Railway Traction	390.42	399.20
HT VI: Townships & Residential Colonies	0.00	0.00
HT VII: Green Power	0.00	0.00
HT VIII: Temporary	0.00	0.00
Category: RESCOs	0.00	0.00
<b>Total (LT + HT)</b>	<b>14862.33</b>	<b>16313.40</b>

### 6.2.1 Detailed category wise Revenue computation

The detailed category wise computation of revenue is as follows.

### 6.2.2 Low Tension Categories

#### 6.2.2.1 LT I: Domestic Category

To overcome the drawbacks in the tariff structure continued upto FY 2016-17, a new simplified tariff structure of domestic category was introduced in the tariff order for FY 2017-18 by grouping the consumers based on FY 2016-17 annual consumption. The licensee would like to propose the same grouping structure for FY 2019-20 as per the filings made by the licensee in FY 2018-19 filings based on the annual consumption of FY 2018-19.

- **Group A:** Only Domestic consumers with annual consumption upto 900 Units (upto 50 units/month)
- **Group B:** Only Domestic consumers with annual consumption greater than 900 Units and upto 2,700 Units
- **Group C:** Domestic consumers with annual consumption more than 2,700 Units and three phase consumers.

Accordingly, revenue at current tariff is projected. Estimated revenue for FY 2018-19 & FY 2019-20 are submitted below:

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	2738.53	0.00	69.74	327.77	0.00	3136.03
2019-20	2910.51	0.00	73.23	347.22	0.00	3330.95

Based on the above the total revenue estimate for the category is Rs. 3136.03 Crores for FY 2018-19 and Rs.3330.95 Crores for FY 2019-20.

#### 6.2.2.2 LT II: Non-Domestic & Commercial Category

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	1692.50	155.26	15.90	34.27	0.00	1897.93
2019-20	1812.30	165.49	16.69	36.28	0.00	2030.77

Based on the above the total revenue estimate for the category is Rs.1897.93 Crores for FY 2018-19 and Rs.2030.77 Crores for FY 2019-20.

### 6.2.2.3 LT III: Industrial (Normal & Optional) Category

The revenue computation has been done for FY 2018-19 and FY 2019-20 slab wise and submitted below:

2018-19						
Sub-Cat	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
Industries (General)	666.02	86.13	0.00	3.43	0.00	755.58
Seasonal Industries (off season)	0.02	0.01	0.00	0.00	0.00	0.03
Aquaculture and Animal Husbandry	497.02	20.16	0.00	2.46	0.00	519.64
Sugarcane crushing	0.83	0.04	0.00	0.01	0.00	0.87
Mushroom and Rabbit farms	0.04	0.01	0.00	0.00	0.00	0.05
Floriculture in Green House	0.01	0.00	0.00	0.00	0.00	0.02
Poultry Hactcheries & Poultry Feed mixing plants, Aqua Hatcheries and Aqua Feed mixing plants	5.24	0.94	0.00	0.07	0.00	6.25
<b>Total</b>	<b>1169.19</b>	<b>107.29</b>	<b>0.00</b>	<b>5.97</b>	<b>0.00</b>	<b>1282.44</b>
2019-20						
Sub-Cat	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
Industries (General)	698.61	90.35	0.00	3.60	0.00	792.56
Seasonal Industries (off season)	0.02	0.01	0.00	0.00	0.00	0.03
Aquaculture and Animal Husbandry	591.78	24.01	0.00	2.93	0.00	618.72
Sugarcane crushing	2.06	0.09	0.00	0.01	0.00	2.16
Mushroom and Rabbit farms	0.05	0.01	0.00	0.00	0.00	0.05
Floriculture in Green House	0.01	0.00	0.00	0.00	0.00	0.02
Poultry Hactcheries & Poultry Feed mixing plants, Aqua Hatcheries and Aqua Feed mixing plants	6.11	1.10	0.00	0.08	0.00	7.29
<b>Total</b>	<b>1298.65</b>	<b>115.55</b>	<b>0.00</b>	<b>6.62</b>	<b>0.00</b>	<b>1420.83</b>

The total revenue estimate for the category is Rs 1282.44 Crores for FY 2018-19 and Rs.1420.83 Crores for FY 2019-20.

#### 6.2.2.4 LT IV: Cottage Industries & Dhobi Ghat Category

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	16.76	0.89	0.00	0.46	0.00	18.11
2019-20	18.54	0.98	0.00	0.51	0.00	20.03

The total revenue estimate for the category is Rs 18.11 Crores for FY 2018-19 and Rs.20.03 Crores for FY 2019-20.

#### 6.2.2.5 LT V: Agriculture Category

The revenue from agricultural category has been computed with reference to each subcategory. Agricultural consumers following DSM measures with less than or equal to three service connections or agricultural consumers having agricultural land less than or equal to 2.5 acres are eligible for free power. The other subcategories come under paying category. The revenue computation from the category is given below:

Category V - Irrigation and Agriculture	Gross Revenue from Tariff (Rs crores)	
	2018-19	2019-20
<b>Category V (A) - Agriculture (DSM)</b>	<b>42.94</b>	<b>45.42</b>
Corporate Farmers & IT Assesses	8.46	8.91
Wet Land Farmers (Holdings >2.5 acre)	0.26	0.28
Dry Land Farmers (Connections > 3 nos.)	0.06	0.06
Wet Land Farmers (Holdings <= 2.5 acre)	6.65	7.01
Dry Land Farmers (Connections <= 3 nos.)	27.51	29.16
<b>Category V (A) - Agriculture (Non-DSM)</b>	<b>8.12</b>	<b>8.55</b>
Corporate Farmers & IT Assesses	7.28	7.67
Wet Land Farmers (Holdings >2.5 acre)	0.69	0.72
Dry Land Farmers (Connections > 3 nos.)	0.10	0.10
Wet Land Farmers (Holdings <= 2.5 acre)	0.03	0.03
Dry Land Farmers (Connections <= 3 nos.)	0.02	0.03
<b>Category - V (C) - Others</b>	<b>1.32</b>	<b>1.46</b>
Category V(A)(i) Salt Farmers	1.27	1.36
Category V(A)(ii) Rural Horticulture Nurseries	0.05	0.10
<b>Total</b>	<b>52.37</b>	<b>55.43</b>

Based on the above computations the gross revenue from agricultural category is Rs.52.37 Crores for FY 2018-19 and Rs.55.43 Crores for FY 2019-20.

#### 6.2.2.6 LT VI: Street Lighting & PWS Category

2018-19						
Sub-Cat	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
Street Lighting	114.58	9.35	0.00	2.47	0.00	126.40
PWS Scheme	258.58	25.76	0.00	1.83	0.00	286.17
NTR Sujala Padhakam	1.74	0.03	0.00	0.03	0.00	1.79
<b>Total</b>	<b>374.90</b>	<b>35.14</b>	<b>0.00</b>	<b>4.32</b>	<b>0.00</b>	<b>414.37</b>
2019-20						
Sub-Cat	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
Street Lighting	113.99	9.00	0.00	2.37	0.00	125.35
PWS Scheme	274.95	26.77	0.00	1.90	0.00	303.63
NTR Sujala Padhakam	1.94	0.04	0.00	0.03	0.00	2.00
<b>Total</b>	<b>390.88</b>	<b>35.80</b>	<b>0.00</b>	<b>4.30</b>	<b>0.00</b>	<b>430.98</b>

The total revenue estimate for the category is Rs.414.37 Crores for FY 2018-19 and Rs.430.98 Crores for FY 2019-20.

#### 6.2.2.7 LT VII: General Purpose Category

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	74.23	4.11	1.32	3.53	0.00	83.19
2019-20	78.61	4.41	1.38	3.69	0.00	88.09

The total revenue estimate for the category is Rs.83.19 Crores for FY 2018-19 and Rs.88.09 Crores for FY 2019-20

#### 6.2.2.8 LT VIII: Temporary supply Category

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	1.24	0.03	0.00	0.00	0.00	1.27
2019-20	1.30	0.03	0.00	0.00	0.00	1.33

The total revenue estimate for the category is Rs.1.27 Crores for FY 2018-19 and Rs.1.33 Crores for FY 2019-20.



## 6.2.3 High Tension Categories

### 6.2.3.1 HT Cat-I: Industrial

2018-19						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	1107.66	431.41	0.00	6.31	0.00	1545.38
33 KV	1893.99	417.39	0.00	1.35	0.00	2312.74
132 KV	1261.50	272.97	0.00	0.15	0.00	1534.63
<b>Total</b>	<b>4263.15</b>	<b>1121.77</b>	<b>0.00</b>	<b>7.82</b>	<b>0.00</b>	<b>5392.74</b>
2019-20						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	1175.29	503.97	0.00	7.41	0.00	1686.68
33 KV	1981.27	471.78	0.00	1.55	0.00	2454.59
132 KV	1421.53	298.37	0.00	0.17	0.00	1720.06
<b>Total</b>	<b>4578.09</b>	<b>1274.11</b>	<b>0.00</b>	<b>9.13</b>	<b>0.00</b>	<b>5861.33</b>

Based on the above the total revenue estimate for the category is Rs.5392.74 Crores for FY 2018-19 and Rs.5861.33 Crores for FY 2019-20.

### 6.2.3.2 HT Cat-II: Others

2018-19						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	504.92	148.10	0.00	2.93	0.00	655.95
33 KV	95.32	22.88	0.00	0.55	0.00	118.75
132 KV	31.16	5.33	0.00	0.06	0.00	36.55
<b>Total</b>	<b>631.41</b>	<b>176.31</b>	<b>0.00</b>	<b>3.53</b>	<b>0.00</b>	<b>811.25</b>
2019-20						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	529.48	154.50	0.00	3.10	0.00	687.07
33 KV	106.93	26.69	0.00	0.56	0.00	134.19
132 KV	31.85	3.55	0.00	0.06	0.00	35.46
<b>Total</b>	<b>668.26</b>	<b>184.74</b>	<b>0.00</b>	<b>3.72</b>	<b>0.00</b>	<b>856.73</b>

Based on the above consumption the total revenue estimate for the category is Rs.811.25 Crores for FY 2018-19 and Rs.856.73 Crores for FY 2019-20.



### 6.2.3.3 HT Cat-III: Public Infrastructure and Tourism

2018-19						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	33.52	8.75	0.00	0.11	0.00	42.39
33 KV	6.62	1.62	0.00	0.01	0.00	8.25
132 KV	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>40.14</b>	<b>10.37</b>	<b>0.00</b>	<b>0.12</b>	<b>0.00</b>	<b>50.64</b>
2019-20						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	34.26	8.82	0.00	0.11	0.00	43.19
33 KV	7.53	1.62	0.00	0.01	0.00	9.16
132 KV	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>41.79</b>	<b>10.44</b>	<b>0.00</b>	<b>0.12</b>	<b>0.00</b>	<b>52.35</b>

Based on the above consumption the total revenue estimate for the category is Rs.50.64 Crores for FY 2018-19 and Rs.52.35 Crores for FY 2019-20.

### 6.2.3.4 HT Cat- IV: Lift Irrigation & CPWS

2018-19						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	57.92	0.00	0.00	0.90	0.00	58.82
33 KV	86.11	0.00	0.00	0.29	0.00	86.40
132 KV	1151.01	0.00	0.00	0.09	0.00	1151.10
<b>Total</b>	<b>1295.05</b>	<b>0.00</b>	<b>0.00</b>	<b>1.28</b>	<b>0.00</b>	<b>1296.32</b>
2019-20						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	59.08	0.00	0.00	1.02	0.00	60.11
33 KV	87.83	0.00	0.00	0.36	0.00	88.19
132 KV	1578.00	0.00	0.00	0.14	0.00	1578.13
<b>Total</b>	<b>1724.91</b>	<b>0.00</b>	<b>0.00</b>	<b>1.52</b>	<b>0.00</b>	<b>1726.43</b>

The total revenue estimate for the category is Rs.1296.32 Crores for FY 2018-19 and Rs.1726.43 Crores for FY 2019-20.

### 6.2.3.5 HT Cat-V: Railway Traction

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	292.77	97.56	0.00	0.09	0.00	390.42
2019-20	301.55	97.56	0.00	0.09	0.00	399.20

The total revenue estimate for the category is Rs 390.42 Crores for FY 2018-19 and Rs.399.20 Crores for FY 2019-20.

### 6.2.3.6 HT Cat -VI: Township & Residential Colonies

2018-19						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	14.11	0.71	0.00	0.07	0.00	14.89
33 KV	2.82	0.28	0.00	0.03	0.00	3.13
132 KV	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>16.92</b>	<b>0.99</b>	<b>0.00</b>	<b>0.10</b>	<b>0.00</b>	<b>18.01</b>
2019-20						
Voltage	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
11 KV	14.39	0.71	0.00	0.07	0.00	15.17
33 KV	4.66	0.45	0.00	0.04	0.00	5.15
132 KV	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>19.05</b>	<b>1.16</b>	<b>0.00</b>	<b>0.11</b>	<b>0.00</b>	<b>20.32</b>

The total revenue estimate for the category is Rs 18.01 Crores for FY 2018-19 and Rs.20.32 Crores for FY 2019-20.

### 6.2.3.7 HT Cat-VII : Green Power :

HT Category-VII Green Power was reintroduced in FY 2018-19. Only 1 No. consumer has opted for this category. The expected revenue for H2 FY 2018-19 & FY 2019-20 are insignificant.

**6.2.3.8 HT Cat-VIII : Temporary :** The expected revenue for H2 FY 2018-19 & FY 2019-20 are insignificant.

### 6.2.3.9 RESCOs

Year	Energy Charges (Rs crores)	Demand /Fixed charges (Rs crores)	Minimum Charges (Rs crores)	Customer Charges (Rs crores)	Others (Rs crores)	Gross Revenue from Tariff (Rs crores)
2018-19	15.68	0.00	0.00	0.00	0.00	15.68
2019-20	16.81	0.00	0.00	0.00	0.00	16.81

The total revenue estimate for the category is Rs 15.68 Crores for FY 2018-19 and Rs.16.81 Crores for FY 2019-20.

## 7 Average Revenue Realized vs Average CoS break up for APSPDCL in FY 2018-19

### Average Revenue Realized vs Average CoS break up for APSPDCL in FY 2019-20

- Average Revenue Realisation (ARR) for FY 2019-20 is Rs.4.60/kWh
- Average Cost of Supply (CoS) for APSPDCL - Rs. 6.43/kWh
- Average CoS break-up (per unit of Sales) for APSPDCL is as follows:-

Cost Components	FY 18-19 Approved (Rs./Unit)	FY 18-19 Projected (Rs./Unit)	FY 19-20 Projected (Rs./Unit)
Power purchase cost	4.05	4.07	4.17
T&D Loss Cost	0.51	0.67	0.55
Network	1.25	1.29	1.63
Other Cost	0.08	0.08	0.08
<b>Cost of Service</b>	<b>5.90</b>	<b>6.11</b>	<b>6.43</b>

- The estimated revenue gap for the licensee for FY 2019-20 is as follows:

S.No.	Particulars	FY 2019-20
A	Aggregate Revenue Requirement (Rs. Crs.)	24,463.66
B	Total Revenue at current tariffs (Rs. Crs.)	17,141.87
C	Revenue changed through proposed tariff	62.80
D	Revenue from Cross Subsidy Surcharge	148.15
E	Revenue from REC	135.17
<b>F=(B+C+D+E) - A</b>	<b>Revenue (Deficit) / Surplus at Current Tariffs (Rs. Crs.)</b>	<b>-6,975.67</b>

## 8 Performance Parameters

The details as required by the APERC as per the fresh directive (1) in the Retail supply Tariff order 2008-09 are given below:

### 8.1.1 Compensation awarded by the CGRF to the consumers for deficiency of service as per the Regulations of the Commission

Compensation paid by the licensee to consumers for deficiency of service as per the Regulations of the Commission					
Compensation awarded for the year 2017-2018					
S.No	C.G.No & Date	Circle	Date of Order	Compensation awarded	Brief Cause
1	386/2015-16	Anantapur	26-09-2017	Rs.10,000 /-	Delay in resolving the billing complaint due to defect in Transformer
2	54/2017-18	Vijayawada	20-02-2018	Rs.6,200/-	Compensation for 31 days @ Rs. 200 /- per each day works out to Rs.6200/-
3	58/2017-18	Vijayawada	20-02-2018	Rs.17,400/-	Compensation for 29 days @ Rs.100 /- per each day for six consumers works out to Rs.17,400/-

Compensation paid by the licensee to consumers for deficiency of service as per the Regulations of the Commission					
Compensation awarded for the year 2018-2019 (Upto Aug' 18)					
S.No	C.G.No & Date	Circle	Date of Order	Compensation awarded	Brief Cause
1	213/2017-18	Kurnool	28-08-2018	Rs.4,000/-	Compensation for 40 days @ Rs.100/- per works out to Rs.4,000/-

**8.1.2 Details of Electrical Accidents and ex-gratia paid during FY 2017-18 and FY 2018-19 (upto Aug'18):**

2017-18 (Non-Departmental)						2018-19 (upto Aug'18) (Non-Departmental)			
S. No	Circle	Human		Animal		Human		Animal	
		Fatal	Non-fatal	Fatal	Non-fatal	Fatal	Non-fatal	Fatal	Non-fatal
1	Vijayawada	29	10	86	0	18	5	29	0
2	Guntur	31	9	44	0	22	4	45	0
3	Ongole	22	0	47	0	24	1	27	0
4	Nellore	11	3	13	0	7	3	5	0
5	Tirupati	9	1	3	0	4	0	0	0
6	Kadapa	47	6	21	0	21	2	9	2
7	Anantapur	86	9	26	0	26	9	13	48
8	Kurnool	69	11	17	0	50	14	35	0
<b>Total</b>		<b>304</b>	<b>49</b>	<b>257</b>	<b>0</b>	<b>172</b>	<b>38</b>	<b>163</b>	<b>50</b>

Ex-gratia Paid								
Circle	FY 2017-18				FY 2018-19 (upto Aug, 2018)			
	Human (Nos.)	Amount (Rs.)	Animal (Nos.)	Amount (Rs.)	Human (Nos.)	Amount (Rs.)	Animal (Nos.)	Amount (Rs.)
Vijayawada	13	6200000	53	1617000	0	0	3	110000
Guntur	11	3403669	29	2610000	8	4000000	23	866000
Ongole	8	2795700	17	1505700	3	900000	2	70000
Nellore	8	2500000	17	360000	2	1000000	3	110000
Tirupati	10	3422833	3	125000	0	0	0	0
Kadapa	21	8700000	20	710000	3	1500000	0	0
Anantapur	15	6900000	9	220000	0	0	2	60000
Kurnool	30	10300000	11	400000	5	2200000	5	190000
<b>SPDCL</b>	<b>116</b>	<b>44222202</b>	<b>159</b>	<b>7547700</b>	<b>21</b>	<b>9600000</b>	<b>38</b>	<b>1406000</b>

**8.1.3 Replacement of burnt transformers, installation of additional transformers.**

S. No	Circle	2017-18			2018-19 (upto Aug'18)		
		Total No. of DTRs Failed	Replacement of failed transformers	Installation of additional transformers	Total No. of DTRs Failed	Replacement of failed transformers	Installation of additional transformers
1	Vijayawada	2479	2479	2334	1106	1106	988
2	Guntur	3920	3920	766	1609	1609	255
3	Ongole	4817	4817	322	1776	1776	46
4	Nellore	5143	5143	475	1912	1912	291
5	Tirupati	8651	8651	351	4785	4785	178
6	Kadapa	8585	8585	5386	4181	4181	1356
7	Anantapur	8326	8326	196	3397	3397	19
8	Kurnool	4257	4257	6264	1757	1757	4614
<b>Total</b>		<b>46178</b>	<b>46178</b>	<b>16094</b>	<b>20523</b>	<b>20523</b>	<b>7747</b>

### 8.1.4 Number of burnt-out, non-functioning or faulty meters (Circle-wise).

Burnt meters for FY 2017-18												
Circle	Defective as on			Defective during			Replaced during			Defective as on 31-03-2018		
	01-04-2017			2017-2018			2017-2018					
	1 Ph.	3 Ph.	Total	1 Ph.	3 Ph.	Total	1 Ph.	3 Ph.	Total	1 Ph.	3Ph	Total
Vijayawada	0	0	0	3463	1431	4894	3463	1431	4894	0	0	0
Guntur	2269	141	2410	4597	686	5283	5509	806	6315	1357	21	1378
Ongole	1179	62	1241	1677	323	2000	1926	321	2247	930	64	994
Nellore	41	20	61	4882	1169	6051	4828	1159	5987	95	30	125
Tirupati	0	0	0	2595	711	3306	2595	711	3306	0	0	0
Kadapa	531	54	585	2708	413	3121	2862	327	3189	448	69	517
Anantapur	528	63	591	18848	2514	21362	18583	2697	21280	791	113	905
Kurnool	409	69	478	6107	1133	7240	6516	1124	7640	487	78	565
Total	4957	409	5366	44877	8380	53257	46282	8576	54858	4108	375	4484

Burnt meters for FY 2018-19 (Upto Aug, 2018)												
Circle	Defective as on			Defective during			Replaced during			Defective as on 31-08-2018		
	01-04-2018			2018-2019 (upto Aug'18)			2018-2019 (upto Aug'18)					
	1 Ph.	3 Ph.	Total	1 Ph.	3 Ph.	Total	1 Ph.	3 Ph.	Total	1 Ph.	3Ph	Total
Vijayawada	0	0	0	1095	447	1542	1095	447	1542	0	0	0
Guntur	1357	21	1378	4970	600	5570	5175	462	5637	1152	159	1311
Ongole	930	64	994	1092	172	1264	1019	145	164	1003	91	1094
Nellore	95	30	125	1724	423	2147	1802	428	2230	17	25	42
Tirupati	0	0	0	1351	387	1738	1351	387	1738	0	0	0
Kadapa	448	69	517	1095	194	1289	1260	138	1398	350	58	408
Anantapur	791	113	905	1408	231	1639	1713	241	1954	487	103	590
Kurnool	487	78	565	2942	503	3445	2756	473	3229	673	108	781
Total	4108	375	4484	15677	2957	18634	16171	2721	17892	3682	544	4226

Struck-up meters for FY 2017-18												
Circle	Defective as on			Defective during			Replaced during			Defective as on 31-03-2018		
	01-04-2017			2017-2018			2017-2018					
	1 Ph.	3 Ph.	Total	1 Ph	3 Ph	Total	1 Ph	3 Ph	Total	1 Ph	3Ph	Total
Vijayawada	0	0	0	54795	4358	59153	54795	4358	59153	0	0	0
Guntur	15973	492	16465	45601	2188	47789	55572	2510	58082	6002	170	6172
Ongole	6226	200	6426	29752	1257	31009	31654	1230	32884	4324	227	4551
Nellore	621	149	770	30016	3070	33086	29923	3061	32984	714	158	872
Tirupati	0	0	0	29918	1607	31525	29918	1607	31525	0	0	0
Kadapa	3221	123	3344	23261	1069	24330	23892	1216	25108	2459	107	2566
Anantapur	473	26	499	29616	2514	32130	29551	2576	32127	1155	123	1278
Kurnool	3032	146	3178	45567	1895	47462	45944	1923	47867	2655	118	2773
Total	29546	1136	30682	288526	17958	306484	301249	18481	319730	17309	903	18212

Stuck-up meters for FY 2018-19 (Upto Aug, 2018)												
Circle	Defective as on			Defective during			Replaced during			Defective as on 31-08-2018		
	01-04-2018			2018-2019 (upto Aug'18)			2018-2019 (upto Aug'18)					
	1 Ph.	3 Ph.	Total	1 Ph	3 Ph	Total	1 Ph	3 Ph	Total	1 Ph	3Ph	Total
Vijayawada	0	0	0	20111	1460	21571	20111	1460	21571	0	0	0
Guntur	6002	170	6172	9815	386	10201	9103	150	9523	6714	406	7120
Ongole	4324	227	4551	13911	363	14274	12993	363	13356	5242	227	5469
Nellore	714	158	872	11388	1558	12946	11365	1508	12873	737	208	945
Tirupati	0	0	0	11960	784	12744	11960	784	12744	0	0	0
Kadapa	2459	107	2566	8609	409	9018	8823	453	9276	2197	111	2308
Anantapur	1155	123	1278	11278	478	11756	11346	508	11854	1087	93	1180
Kurnool	2655	118	2773	19923	789	20712	17344	737	18081	5234	170	5404
<b>Total</b>	<b>17309</b>	<b>903</b>	<b>18212</b>	<b>106995</b>	<b>6227</b>	<b>113222</b>	<b>103045</b>	<b>5963</b>	<b>109278</b>	<b>21211</b>	<b>1215</b>	<b>22426</b>

### 8.1.5 Performance with regard to attending fuse-off calls.

Performance with regard to attending fuse -off calls					
S.No	Circle	2017-18		2018-19 (Upto Aug, 2018)	
		Received	With in the stipulated time	Received	With in the stipulated time
1	Vijayawada	25978	24114	14686	11548
2	Guntur	20145	19073	10041	8414
3	Ongole	28320	27924	12159	11717
4	Nellore	26595	25752	9824	8872
5	Tirupati	20813	19368	8443	7378
6	Kadapa	40091	39669	20590	20131
7	Anantapur	46867	46412	25326	24876
8	Kurnool	21714	21388	12039	11537
<b>APSPDCL</b>		<b>230523</b>	<b>223700</b>	<b>113108</b>	<b>104473</b>

### 8.1.6 Breakdowns and interruptions in power supply to consumers (Circle-wise) and time taken for restoration.

Number and Duration of supply interruptions on 33KV and 11KV networks									
For FY 2017-18									
S.No	Circle	No of interruptions		Duration in hours		No of Breakdowns		Duration in Hours	
		33KV	11KV	33KV	11KV	33KV	11KV	33KV	11KV
1	Vijayawada	1076	12132	262:21	606.60	187	392	756:22	1012:05
2	Guntur	1171	11088	358:19	554.40	141	383	986:36	1050:23
3	Ongole	1071	14508	251:26	725.40	123	216	581:51	927:14
4	Nellore	858	12960	245:42	648.00	126	311	775:45	915:06
5	Tirupati	755	11052	182:49	552.60	77	527	485:50	1633:32
6	Kadapa	1107	10872	331:37	543.60	113	574	737:15	2586:03
7	Anantapur	742	8460	246:38	423.00	114	466	1104:30	2092:33
8	Kurnool	1011	8748	252:28	437.40	75	138	316:32	695:47
<b>SPDCL</b>		<b>7790</b>	<b>89820</b>	<b>2131:21</b>	<b>4491:00</b>	<b>956</b>	<b>3007</b>	<b>5744:44</b>	<b>10912:47</b>
For FY 2018-2019 (up to Aug,2018)									
1	Vijayawada	327	5055	95:37	252.75	138	463	550:25	1112:38
2	Guntur	455	4620	124:21	231.00	96	191	521:38	571:36
3	Ongole	394	6045	97:45	302.25	61	77	334:14	271:08
4	Nellore	320	5400	98:22	270.00	70	78	360:16	915:06
5	Tirupati	283	4605	89:32	230.25	28	183	129:48	486:54
6	Kadapa	465	4530	117:48	226.50	44	305	310:07	1272:40
7	Anantapur	333	3525	92:42	176.25	47	283	320:01	1719:33
8	Kurnool	401	3645	96:19	182.25	56	99	292:54	500:33
<b>SPDCL</b>		<b>2978</b>	<b>37425</b>	<b>812:29</b>	<b>1871.25</b>	<b>540</b>	<b>1679</b>	<b>2819:26</b>	<b>6850:12</b>

Number and Duration of supply interruptions on 33KV and 11KV networks								RURAL	
For FY 2017-18									
S.No	Circle	No of interruptions		Duration in hours		No of Breakdowns		Duration in Hours	
		33KV	11KV	33KV	11KV	33KV	11KV	33KV	11KV
1	Vijayawada	1997	15360	487:13	768.00	347	729	1404:40	1879:36
2	Guntur	2174	17472	665:28	873.60	221	710	1832:17	1950:42
3	Ongole	1990	31872	466:58	1593.60	228	402	1080:34	1722:02
4	Nellore	1593	32160	456:18	1608.00	235	578	1440:41	1699:29
5	Tirupati	1402	56736	339:32	2836.80	143	979	902:17	3033:44
6	Kadapa	2055	36336	615:52	1816.80	209	1065	1369:12	4802:39
7	Anantapur	1377	34032	458:02	1701.60	213	565	2051:13	3886:09
8	Kurnool	1877	27552	468:52	1377.60	138	257	587:50	1292:11
SPDCL		14466	251520	3958:18	12576:00	1775	5584	10668:48	20266:35
For FY 2018-2019 (upto Aug,2018)									
1	Vijayawada	608	4800	177:36	240.00	256	861	1022:12	2066:19
2	Guntur	845	5460	230:57	273.00	178	354	968:44	1061:34
3	Ongole	732	9960	181:33	498.00	114	143	620:44	503:33
4	Nellore	593	10050	182:41	502.50	131	146	669:05	1699:29
5	Tirupati	525	17730	166:17	886.50	53	341	241:05	904:15
6	Kadapa	864	11355	218:46	567.75	82	567	575:56	2363:32
7	Anantapur	619	10635	172:09	531.75	88	526	594:19	3193:27
8	Kurnool	744	8610	178:52	430.50	104	185	543:59	929:37
SPDCL		5530	78600	1508:55	3930	1005	3121	5236:07	12721:49

### 8.1.7 Frequency at various levels of interface over the period.

Month	Average	Max.		Min.	
	Hz.	Hz.	Date	Hz.	Date
Apr.17	49.96	50.25	09.04.17	49.66	18.04.17
May.17	49.90	50.32	21.05.17	49.64	11.05.17
Jun.17	49.96	50.24	07.06.17	49.72	02.06.17
July.17	49.96	50.23	06.07.17	49.69	08.07.17
Aug.17	49.95	50.20	20.08.17	49.65	08.08.17
Sep.17	49.92	50.32	17.09.17	49.62	23.09.17
Oct.17	49.93	50.20	10.10.17	49.65	13.10.17
Nov.17	49.91	50.27	19.11.17	49.66	14.11.17
Dec.17	49.93	50.25	03.12.17	49.70	15.12.17
Jan.18	49.95	50.23	09.01.17	49.72	19.01.18
Feb.18	49.95	50.28	04.02.18	49.71	23.02.18
Mar.18	49.93	50.25	21.03.18	49.68	14.03.18
<b>Average 2017-18</b>	<b>49.94</b>				
Apr.18	49.97	50.21	29.04.18	49.62	23.04.18
May.18	49.95	50.22	12.05.18	49.57	26.05.18
Jun.18	49.98	50.24	12.06.18	49.60	19.06.18
Jul.18	49.94	50.24	24.07.18	49.62	19.07.18
Aug.18	49.98	50.22	06.08.18	49.62	28.08.18
Sep.18	49.98	50.20	22.09.18	49.62	29.09.18
<b>Average 2018-19</b>	<b>49.97</b>				



### 8.1.8 Pending applications and connections released to different categories of consumers

	LT Cat-I	LT Cat-II	LT Cat-III	LT Cat-IV	LT Cat-V	LT Cat-VI	LT Cat-VII	LT Cat-VIII	HT	Total
Pending at the beginning of the month (Nov'18)	11842	3167	1617	125	162359	2500	387	103	324	<b>182424</b>
Received during the month till 19th Nov 2018	15754	3963	155	53	2578	38	151	17	7	<b>22716</b>
No.of applications for which amounts paid	24222	5611	1628	124	52890	560	290	69	67	<b>85461</b>
Deleted during the month	1091	262	6	4	26	5	17	35	2	<b>1448</b>
Services released during the month	13001	2967	171	64	3089	57	103	4	1	<b>19457</b>
<b>No.of applications Pending as on 19-11-2018</b>	<b>10130</b>	<b>2382</b>	<b>1451</b>	<b>56</b>	<b>49775</b>	<b>498</b>	<b>170</b>	<b>30</b>	<b>64</b>	<b>64556</b>

### 8.1.9 Arrears of consumers over Rs.50, 000 pending for over six months and details of bad debts written off

Defaulters list of individual consumers (circle wise) whose arrears are more than Rs.50,000/- as on 30-09-2018 is displayed in APSPDCL website ([www.apspdcl.in](http://www.apspdcl.in))

### 8.1.10 Court cases involving the Licensee

S.No	Petition No.	Name of the petitioner	Subject
1	211/MP/2017 (Before Hon'ble CERC)	SPDs Association & Others	Seeking relief on account of a 'Change in Law' viz. the introduction of Goods and Service Tax Laws at the Central and State levels, resulting in additional recurring and non-recurring expenditure in the form of an additional tax burden to be borne by the petitioner after the effective date of the PPA
2	108/MP/2017 (Before Hon'ble CERC)	ACME Bhiwadi Solar Power Pvt. Ltd.,	
3	190/MP/2017 (Before Hon'ble CERC)	ACME Hisar Solar Power Pvt. Ltd.,	
4	189/MP/2017 (Before Hon'ble CERC)	ACME Karnal Solar Power Pvt. Ltd.,	
5	OP.No.07/2017 (Before Hon'ble APERC)	M/s SEI Green Flash Pvt., Ltd.	To pass appropriate orders with regard to energy pumped in to the grid during synchronization of their solar plant
6	OP.No.08/2017 (Before Hon'ble APERC)	M/s SEI Arushi Pvt., Ltd.	
7	OP.No.09/2017 (Before Hon'ble APERC)	M/s Rain Coke Ltd.	
8	OP.No.16/2017 (Before Hon'ble APERC)	M/s Waaneep Solar Pvt., Ltd.	
9	OP.No.07/2017 (Before Hon'ble APERC)	M/s Southern Rock & Minerals Pvt., Ltd.	Regarding the date of synchronization of the solar plant

S.No	Petition No.	Name of the petitioner	Subject
10	47/MP/2018 (Before Hon'ble CERC)	M/s Azure Power Thirty Six Pvt., Ltd.	Seeking relief on account of a 'Change in Law' viz. the introduction of Goods and Service Tax Laws at the Central and State levels, resulting in additional recurring and non-recurring expenditure in the form of an additional tax burden to be borne by the petitioner after the effective date of the PPA
11	W.P.No.33612/2018 (Before Hon'ble High Court)	M/s Varshini Exim Pvt., Ltd.	For allowing the Developer for Open Access with HT Cat-II category Consumers

### 8.1.11 Number of cases filed in respect of pilferage of power in various categories giving comparative picture with respect to FY 2017-18 & 2018-19 (upto Sep'18)

PARTICULARS OF CASES REPORTED AND COMPOUNDED DURING THE FINANCIAL YEAR (Apr 2017 - Mar- 2018)																						
SL. No.	Circle	No. of Cases Reported			Cases registered category wise								Compounded Amount	No. of cases compounded								Persons arrested
		Ope	DPE	Total	Cat-I	Cat-II	Cat-III	Cat-IV	Cat-V	Others	M.T.C	Total		Cat-I	Cat-II	Cat-III	Cat-IV	Cat-V	Others	Total	U.I to P.T	
1	Vijayawada	1278	999	2277	1943	189	93	0	46	6	0	2277	3999000	1942	189	93	0	46	6	2276	0	0
2	Guntur	2263	2635	4898	4368	311	85	28	95	11	0	4898	5886500	4772	333	82	28	129	10	5354	3	0
3	Ongole	2998	1958	4956	4098	457	14	0	375	12	0	4956	5024000	4316	455	15	0	359	12	5157	1	0
4	Nellore	3110	1243	4353	3496	124	570	0	163	0	0	4353	8784000	3498	127	573	0	166	0	4364	5	0
5	Tirupati	5430	1850	7280	7199	65	11	0	3	2	0	7280	4553500	6018	52	9	0	3	1	6083	4	0
6	Kadapa	10480	4511	14991	14746	230	5	0	0	10	0	14991	13991500	15613	220	6	0	0	9	15848	8	0
7	Anantapur	6570	2548	9118	8822	271	7	1	3	14	0	9118	7922500	8936	272	7	1	4	13	9233	10	0
8	Kurnool	7932	3823	11755	11570	174	4	0	4	3	0	11755	8109500	12330	178	5	0	4	3	12520	0	0
Total		40061	19567	59628	56242	1821	789	29	689	58	0	59628	58270500	57425	1826	790	29	711	54	60835	31	0

PARTICULARS OF CASES REPORTED AND COMPOUNDED DURING THE FINANCIAL YEAR (Apr 2018 - Sep 2018)																						
SL. No.	Circle	No. of Cases Reported			Cases registered category wise								Compounded Amount	No. of cases compounded								Persons arrested
		Ope	DPE	Total	Cat-I	Cat-II	Cat-III	Cat-IV	Cat-V	Others	M.T.C	Total		Cat-I	Cat-II	Cat-III	Cat-IV	Cat-V	Others	Total	U.I to P.T	
1	Vijayawada	445	624	1069	908	109	40	1	11	0	0	1069	1685000	908	109	40	1	11	0	1069	2	0
2	Guntur	788	1503	2291	2005	198	23	0	60	5	0	2291	3195000	2082	197	26	0	46	6	2357	1	0
3	Ongole	1875	1091	2966	2345	357	9	0	243	12	0	2966	3740500	2329	403	6	0	263	13	3014	2	0
4	Nellore	1109	756	1865	1313	62	437	0	53	0	0	1865	6436500	1165	54	418	14	38	0	1689	3	0
5	Tirupati	1514	1614	3128	3076	45	7	0	0	0	0	3128	2104000	3309	45	3	0	0	0	3357	1	0
6	Kadapa	2979	2764	5743	5634	96	5	1	2	5	0	5743	5217500	5937	98	4	0	2	5	6046	2	0
7	Anantapur	3334	2042	5376	5117	246	8	0	1	4	0	5376	8071000	4026	224	8	0	0	4	4262	4	0
8	Kurnool	2254	2617	4871	4783	84	3	0	1	0	0	4871	3641000	4827	85	1	0	1	0	4914	0	0
Total		14298	13011	27309	25181	1197	532	2	371	26	0	27309	34090500	24583	1215	506	15	361	28	26708	15	0

## **9 Cost of Service for FY 2019-20**

### **9.1 Introduction**

#### **Category wise Load Curves**

- Load Shapes of different categories of consumers are constructed based on the hourly demand data from feeder samples.
  - Data is collected from sample feeders from all the circles for each category
  - From each sample feeder hourly data was collected for upto 10 days per quarter.
  - The samples include normal working days as well as non-working days like Sundays, Festivals and other Holidays.
- Based on the collected feeder samples, load curve for each category has been arrived.

#### **Estimation of Coincident and Non-Coincident Demand for each Category**

- Demand at customer voltage level for FY 2019-20 is estimated using the load curves and FY 2019-20 projected sales of each category.
- Hourly demand for each category is grossed up with respective T&D losses to arrive at the demand contributed by each category to the grid demand.
- Maximum Demand of each category is considered as Non-Coincident Demand.
- Based on the hourly demands of each category at the grid level the peak time is arrived.
- Corresponding demand contributed by each category during the peak hour is considered as Coincident Demand.

**Based on the above methodology Coincident Demand (MW) and Non-Coincident Demand (MW) for APSPDCL for FY 2019-20**

S.No.	Category	Coincident Demand (MW)	Non-Coincident Demand (MW)
<b>Low Tension Supply</b>			
1	Domestic - Category I	998	1,462
2	Non-domestic Supply - Category II	251	339
3	Industrial Supply - Category III	376	380
4	Cottage Industries - Category IV	7	7
5	Irrigation and Agriculture - Category V	1,849	1,863
6	Public Lighting - Category VI	94	129
7	General Purpose - Category VII	15	20
8	Temporary - Category VIII	0	0
	<b>Total Low Tension Supply</b>	<b>3,590</b>	<b>4,200</b>
<b>High Tension Supply</b>			
9	Industrial Segregated - Cat- I (11KV)	259	267
10	Industrial Segregated - Cat- I (33KV)	457	471
11	Indusl. Segregated - Cat-I (220/132KV)	339	350
12	Indusl. Non-Segregated - Cat- II (11KV)	84	116
13	Indusl. Non-Segregated - Cat- II (33KV)	18	24
14	Indusl. Non-Segre - Cat-II (220/132KV)	5	6
15	Irrigation and Agriculture - Cat-IV (11KV)	19	19
16	Irrigation and Agriculture - Cat-IV (33KV)	26	27
17	Irrigation and Agriculture - Cat-IV (132KV)	435	442
18	Railway Traction - Cat V (132KV)	101	105
19	Colony Consumption (11KV)	3	3
20	Colony Consumption (33KV)	1	1
21	Temporary	0	0
22	RESCOS Cat VI	71	73
	<b>Total High Tension Supply</b>	<b>1,818</b>	<b>1,904</b>
	<b>Total Demand</b>	<b>5,408</b>	<b>6,104</b>

## **Allocation of expenditure to consumer categories**

- **Power Purchase Cost Allocation**

- As fixed costs of power purchase is driven primarily by the system peak demand, hence fixed cost component of Power Purchase is allocated to various categories based on the Coincident Demand.
- Variable costs are allocated based on the energy requirement of each category

- **Transmission Cost Allocation**

- Transmission Costs including PGCIL Costs, SLDC Costs and ULDC Charges is dependent on the Non-Coincident Demand and hence are allocated in proportion to the Non-Coincident Demand of each category.

- **Distribution Cost Allocation**

- Distribution Cost consists of Employee Expenses, Interest and Depreciation costs of Distribution Assets. These costs are dependent on both the Non-coincident Demand of each category as well as on the number of customers.
- 80% of the distribution cost of the licensee is allocated based on the Non-Coincident Demand
- 20% of the distribution costs is allocated in the proportion of number of consumers in each category.

- **Interest on Security Deposit**

- As Consumer Security Deposit is dependent on the energy consumed by each category, interest on CSD is allocated based on the energy requirement of each category

- **Supply Margin**

- Supply Margin is linked to the Distribution Assets. Hence the Supply Margin is allocated in the proportion of Non-Coincident Demand.

- **Other Costs**

- Other costs are incurred on distribution assets and hence is allocated in proportion to the Non-Coincident Demand of each category.

#### **Allocation of Expenditure of APSPDCL for FY 2019-20**

<b>Cost Description</b>	<b>Demand Related Expenditure (Rs Crs)</b>	<b>Energy Related Expenditure (Rs Crs)</b>	<b>Consumer Related Expenditure (Rs Crs)</b>	<b>Total Expenditure</b>
<b>Power Purchase Cost</b>	5148.83	12832.35	0.00	<b>17981.18</b>
<b>Transmission + PGCIL + ULDC + SLDC Costs</b>	2232.08	0.00	0.00	<b>2232.08</b>
<b>Distribution Cost</b>	3324.20	0.00	607.54	<b>3932</b>
<b>Supply Margin</b>	27.65	0.00	0.00	27.65
<b>Interest on Consumption Deposit</b>	0.00	165.97	0.00	165.97
<b>Others</b>	124.78	0.00	0.00	124.78
<b>Total</b>	<b>10857.55</b>	<b>12998.32</b>	<b>607.54</b>	<b>24463.66</b>

## 10 Retail Supply Business True-up for FY 2016-17, FY 2017-18 and Provisional True-up for FY 2018-19 :

The licensee will submit the True-up for FY 2016-17, FY 2017-18 and provisional True-up for FY 2018-19 separately at a later date.

## 11 Tariff Proposals for FY 2019-20

Licensees proposed to continue with current tariffs as approved by Hon'ble Commission during FY 2018-19 for all categories. This has benefited all consumers (1.71 Cr.) of the state of Andhra Pradesh. Total number of consumers in the APSPDCL are 1.13 Cr. However, following changes have been proposed:

- a. **LT IV (A) Cottage Industries:** For dhobi ghats the applicable demand charge is Rs. 20/kW/month with energy charge of Rs. 3.75/unit as per ARR Tariff Order 2018-19. However, the Licensee is providing free supply to these consumers based on G.O.Rt. No. 75 dated 27<sup>th</sup> June, 2018, wherein the Government directed the Licensee to extend all benefits on par with agriculture connections (free category) to extend helping hand and as an encouragement to the washerman in the state.
- b. **LT V (C) Others: Rural Horticulture Nurseries:** For nursery farmers the applicable demand charge is Rs. 20/HP/month with energy charge of Rs. 1.50 per unit for consumers with connected load upto 5 HP and Rs. 3.70 per unit for consumers with connected load upto 25 HP as per ARR Tariff Order 2018-19. However, the Licensee is providing free supply to these consumers based on G.O.Rt. No. 39 dated 14<sup>th</sup> March, 2018, directed the Licensee to extend all benefits on par with agriculture connections (free category) to extend helping hand and as an encouragement to the nursery farmers in the state.
- c. **LT II (E) and HT II (E): Electric Vehicles EV's /Charging stations:** As per the directions of the GoAP , the Licensee proposes to decrease the Energy Charges as given below:

Category	Current Tariff (Rs. Per kWh/kVAh)			Proposed Tariff (Rs. Per kWh/kVAh)		
	Energy Charges	ToD (6 am to 10:00 am & 6:00 pm to 10:00 pm)	ToD (10:00 pm to 6:00 am)	Energy Charges	ToD (6 am to 10:00 am & 6:00 pm to 10:00 pm)	ToD (10:00 pm to 6:00 am)
LT-II (E) and HT-II (E): Electric Vehicles (EVs)/Charging Stations	6.95	8.00	5.95	5.95	7.00	4.95

Note: All other conditions are as per the Chapter-XII of Retail Supply Tariff Schedule for FY 2018-19 unless and otherwise mentioned in this document.

- d. **HT V: Railway Traction:** Licensee proposes increase in tariff for Railway Traction (HT-V).

The Licensee proposes an increase in Demand charges and Energy Charges as given below:

Category	Current Tariff		Proposed Tariff	
	Energy Charges	Demand charges	Energy Charges	Demand charges
	Rs./kVAh	Rs./kVA/month	Rs./kVAh	Rs./kVA/month
HT-V : Railway Traction	3.55	300	3.95	390

## 12 Determination of Cross Subsidy Surcharge for FY 2019-20

The licensee has calculated the cross surcharge subsidy based on the formula specified in the revised National Tariff Policy issued on 28.01.16.

As per the said Tariff Policy, the surcharge is to be computed as per the following formula;

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

Where,

‘S’ in Rs./unit is the Cross Subsidy Surcharge ,

‘T’ is the tariff payable by the relevant category of consumers in Rs./unit, 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 in Rs./unit ,

‘D’ is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level in Rs./unit and ‘L’ in percentage is the aggregate of transmission, distribution and commercial losses, applicable to the relevant voltage level and

‘R’ is the cost of carrying regulatory assets in Rs. /unit.

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



## Computation of CSS

For the computation of CSS;

T – is the average revenue realization excluding NTI, customer charges, minimum charges, DPS

C – Weighted average Cost of Power purchase (As per Tariff filing)

D – Calculated from the MYT orders of Transmission and Distribution

L – As per Tariff filing

R – Considered as zero

**The category-wise CSS computation for APSPDCL is as follows :**

Category	Average Revenue Realization (Only Demand & Energy Charges)	Per Unit Cost of Power Purchase	Wheeling Charges	Applicable Loss	Cost of Regulatory Asset	CSS (Rs./Unit)	20 % of Average Revenue Realization	CSS (Rs./Unit)
High Tension								
HT Category at 11 kv								
HT I (A): General	9.20	4.17	1.46	10.36%	0.00	3.09	1.84	1.84
HT I (B): Energy Intensive Industries	5.82	4.17	1.46	10.36%	0.00	-	1.16	-
HT I (C): Aquaculture and Animal Husbandry	4.07	4.17	1.46	10.36%	0.00	-	0.81	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	7.25	4.17	1.46	10.36%	0.00	1.14	1.45	1.14
HT II: Others	10.19	4.17	1.46	10.36%	0.00	4.07	2.04	2.04
HT II (B): Religious Places	5.20	4.17	1.46	10.36%	0.00	-	1.04	-
HT II (C): Function Halls/Auditoriums	11.77	4.17	1.46	10.36%	0.00	5.65	2.35	2.35
HT II F Startup power	11.77	4.17	1.46	10.36%	0.00	5.65	2.35	2.35
HT III: Public Infrastructure and Tourism	9.40	4.17	1.46	10.36%	0.00	3.29	1.88	1.88
HT IV Government LIS	5.82	4.17	1.46	10.36%	0.00	-	1.16	-
HT IV CPWS	4.89	4.17	1.46	10.36%	0.00	-	0.98	-
HT VI: Townships & Residential Colonies	6.63	4.17	1.46	10.36%	0.00	0.52	1.33	0.52
HT VIII: Temporary	9.50	4.17	1.46	10.36%	0.00	3.38	1.90	1.90
Category: RESCOs	0.33	4.17	1.46	10.36%	0.00	-	0.07	-
HT Category at 33 kv								
HT I (A): General	7.39	4.17	0.54	7.25%	0.00	2.35	1.48	1.48
HT I (B): Energy Intensive Industries	5.37	4.17	0.54	7.25%	0.00	0.33	1.07	0.33
HT I (D) : Poultry Hatcheries and Poultry Feed Mixing Plants	8.55	4.17	0.54	7.25%	0.00	3.51	1.71	1.71
HT II: Others	9.14	4.17	0.54	7.25%	0.00	4.10	1.83	1.83
HT II (B): Religious Places	5.12	4.17	0.54	7.25%	0.00	0.08	1.02	0.08
HT II (C) : Function Halls / Auditoriums	11.77	4.17	0.54	7.25%	0.00	6.73	2.35	2.35
HT II F Startup power	11.77	4.17	0.54	7.25%	0.00	6.73	2.35	2.35
HT III: Public Infrastructure and Tourism	8.37	4.17	0.54	7.25%	0.00	3.33	1.67	1.67
HT IV Agriculture								
HT IV CPWS	4.89	4.17	0.54	7.25%	0.00	-	0.98	-
HT VI: Townships & Residential Colonies	6.93	4.17	0.54	7.25%	0.00	1.90	1.39	1.39
HT Category at 132 kv								
HT I (A): General	6.70	4.17	0.46	4.06%	0.00	1.88	1.34	1.34
HT I (B): Energy Intensive Industries	4.95	4.17	0.46	4.06%	0.00	0.14	0.99	0.14
HT II: Others	8.00	4.17	0.46	4.06%	0.00	3.19	1.60	1.60
HT II F Startup power	8.00	4.17	0.46	4.06%	0.00	3.19	1.60	1.60
HT IV Government LIS	5.82	4.17	0.46	4.06%	0.00	1.01	1.16	1.01
HT V: Railway Traction	5.44	4.17	0.46	4.06%	0.00	0.63	1.09	0.63

### 13 Additional Surcharge

The Licensee filed for Additional Surcharge of Rs. 0.95 per unit in petition for ARR of FY 2018-19.

The Hon'ble Commission disallowed it with following comments:

*“the Licensees have not been able to demonstrate the above conclusively, as the parameters for grant of additional surcharge prescribed by section 42(4) read with clause 8.5.4 of the National Tariff Policy, 2016 are not satisfactorily established to exist to sustain such a claim. Therefore, the Commission is not rendering any decision on the eligibility or otherwise of the licensees to collect such additional surcharge from a consumer or any class of consumers for FY2018-19 in the present consideration. However, the licensees are at liberty to move an appropriate application for the purpose in accordance with law sufficiently supported by the relevant data and material which may be considered on merits.”*

In view of the above, the Licensee seeks liberty from the Hon'ble Commission from filing of the Additional Surcharge in the ARR petition for FY 2019-20. Further, the Licensee also requests the Hon'ble Commission to determine the methodology for determination of the Additional Surcharge. Based on the methodology, the Licensee shall file the Additional Surcharge in supplementary filings.

## **14 Prayer**

Based on the information available, the Applicant has made sincere efforts to comply with the Regulation of the Honourable Commission and discharge its obligations to the best of its abilities. However, should any further material information become available in the near future, the Applicant shall file such additional information and consequently amend/ revise the application.

In the aforesaid facts and circumstances, the Applicant requests that this Honourable Commission may be pleased to:

- a. Take the accompanying ARR, Tariff Proposal and Cross Subsidy Surcharge Application of APSPDCL on record and treat it as complete;
- b. Grant suitable opportunity to APSPDCL within a reasonable time frame to file additional material information that may be subsequently available;
- c. Consider and approve APSPDCL's ARR and Tariff application including all requested regulatory treatments in the filing;
- d. Pass such order as the Honourable Commission may deem fit and proper in the facts and circumstances of the case.