EASTERN POWER DISTRIBUTION COMPANY

OF ANDHRA PRADESH LIMITED

Retail Supply Business True-up for
FY: 2014-15 &FY:2015-16
&
ARR Proposal
for the Retail Supply Business
for FY: 2016-17

Retail Supply Business True-up

1. Retail Supply Business True-up for FY 2014-15 and FY 2015-16

1.1. Filing for True-up by the Distribution Licensee

This filing is made by the Distribution Licensee, EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED (APEPDCL) under Clause 19, Pg 11 of the Andhra Pradesh Electricity Regulatory Commission '(Terms and Conditions for Determination Of Tariff For Wheeling and Retail Sale of Electricity)' Regulation No. 4 of 2005 and Clause 2, Pg 2 of the Andhra Pradesh Electricity Regulatory Commission 'First Amendment to (Terms and Conditions for Determination of Tariff for Wheeling and Retail Sale of Electricity) Regulation No. 1 of 2014, for corrections for "uncontrollable" and "controllable" items and as well as sharing of gains/losses for FY 2014-15 and FY 2015-16.

1.2. As per Andhra Pradesh Electricity Regulatory Commission (APERC) Regulation No. 4 of 2005, 'Terms and Conditions for Determination of Tariff for Wheeling and Retail Sale of Electricity' –

"4. Controllable and Uncontrollable items of ARR:- The expenditure of the Distribution Licensee considered as "controllable" and "uncontrollable" shall be as follows:

Distribution Business	
ARR Item	**"Controllable"/"Uncontrollable"**
Operation & Maintenance expenses	Controllable
Return on Capital Employed	Controllable
Depreciation	Controllable
Taxes on Income	Uncontrollable
Non-tariff income	Controllable

In addition to the above items the retail supply business shall include the following:

Retail Business	
ARR Item	**"Controllable"/"Uncontrollable"**
Cost of power purchase	Uncontrollable

5. Pass-through of gains and losses on variations in "uncontrollable" items of ARR:- The Distribution Licensee shall be eligible to claim variations in "uncontrollable" items in the ARR for the year succeeding the relevant year of the Control Period depending on the availability of data as per actuals with respect to effect of uncontrollable items:

Provided that the Commission shall allow the financing cost on account of the time gap between the time when the true-up becomes due and when it is actually allowed and the corrections shall not be normally revisited.

6. Sharing of gains and losses on variations in "controllable" items of ARR:- The Distribution Licensee in its annual filings during the Control Period shall present gains and losses for each controllable item of the Aggregate Revenue Requirement. A statement of gain and loss against each controllable item will be presented after adjusting for any variations on account of uncontrollable factors.

7. For the purpose of sharing gains and losses with the consumers, only aggregate gains or losses for the Control Period as a whole will be considered. The Commission will review the

gains and losses for each item of the ARR and make appropriate adjustments wherever required:

Provided that for the first Control Period, insofar as the gains and losses from the Retail Supply Business of the Distribution Licensee are concerned, these will be shared with the consumers on yearly basis."

"MAIN ITEMS OF ARR
The Aggregate Revenue Requirement of the Distribution Licensee, for each year of the Control Period, shall contain the following items:
1. Cost of power for (Retail Supply Business alone)
2. Transmission charges (for Retail Supply Business alone)
3. Load dispatch charges;
4. Operation and maintenance expenses;
5. Return on capital employed;
6. Depreciation;
7. Taxes on Income;
8. Corrections for "uncontrollable" items and "controllable" items (indexed to external parameters);

9. Any other relevant expenditure"

"4. The Distribution Licensee shall be entitled to recover or shall refund, as the case may be, the charges on account of Fuel Surcharge Adjustment as approved by the Commission from time to time, suo-motu or based on the filing made by the Distribution Licensee, as the Commission may deem fit."

"*1. The Distribution Licensee shall be allowed to recover transmission and load despatch charges payable to the Transmission Licensees (Central Transmission Utility, State Transmission Utility etc.) and System Operators (Regional Load Despatch Centre, State Load Despatch Centre etc.) for access to and use of the inter-state transmission system, intra-state transmission system and availing load dispatch services on long-term basis in accordance with the tariffs approved from time to time by CERC and this Commission, as the case may be.*

2. The Distribution Licensee shall also be allowed to recover the expenses, at the approved level, pertaining to (a) use of transmission and load dispatch facilities under short-term procurement of power for the Retail Supply Business; and (b) wheeling charges for use of the distribution system of other Distribution Licensee for procurement of power for the Retail Supply Business."

1.3. As per Andhra Pradesh Electricity Regulatory Commission (APERC) Regulation No. 1 of 2014, 'First Amendment to (Terms and Conditions for Determination of Tariff for Wheeling and Retail Sale of Electricity)Regulation No. 4 of 2005' –

"12.5 ***True-up for Retail Supply Business***

a. *The Distribution Licensee shall include the power purchase cost variation over the previous year Power Purchase cost in the Tariff Order as expense (in the event of incurring excess cost)/rebate (in case of cost saving) in the ARR as special item with relevant details. To arrive the power purchase cost variation, the least of the following power purchase quantity is to be considered:*
   i) *Actual power purchase quantity procured by the Discoms for its consumers.*
   ii) *Power purchase quantity computed based on actual sales except LT Agriculture sales. LT Agriculture sales will be limited to Tariff Order*

quantity. These aggregated sales will be grossed up with approved losses for the relevant year in the MYT orders.

b. *Since the complete information of cost actually incurred relating to previous year will not be available at the time of filing of ARR for a particular tariff year, the Licensee may include provisional cost variation for the previous year in ARR filings which will be subject to final correction by the Commission as and when final accounts for that year become available.*

c. *The Licensees shall also include in the ARR the amounts to be collected on final basis being the difference between the cost incurred based on audited annual accounts report and costs provisionally approved by the Commission in the Tariff Order for the year immediately preceding the previous year.*

The Amendment Regulation mentions about power purchase cost variation. However, deviation in actual and approved ARR and revenue arises because of variation in approved and actual agriculture sales, losses and average realization besides variation in power purchase cost. If this is not accounted for, it will result in the requirement of another Financial Restructuring Plan on account of accumulation of losses.

Hence, this write-up explains the total truing up gap arising out of the deviations in Aggregate Revenue Requirement components and revenue for the Retail Supply Business for FY 2014-15 and FY 2015-16..

1.4. True-up of Aggregate Revenue Requirements components & Gap from Retail Business for FY 2014-15.

1.5. Summary of ARR line items and revenue for Retail Supply Business for FY 2014-15 is shown in the table below.

FY 2014-15	**Rs. Cr**
ARR Line Item	**Actual**
Transmission Cost	305.25
SLDC Cost	12.10
Distribution Cost	1,182.92
PGCIL Expenses	116.97
ULDC Charges	2.90
Network and SLDC Cost	**1,620.15**
Power Purchase / Procurement Cost	6,407.70
Interest on Consumer Security Deposits	77.20
Supply Margin in Retail Supply Business	0.00
Supply Cost	**6,484.90**
Gross ARR	**8,105.05**
Revenue (incl. NTI)	6,235.70
Subsidy	275.46
Total Revenue (incl. subsidy)	**6,511.16**
Total Gap from Retail Business	**(1,593.90)**

As shown in the table above, total gap for Retail Supply Business is Rs 1593.90 Crs for FY 2014-15.

Source	Actual		
	Power Purchase (MU)	Power Purchase Cost (Rs Crs)	Per unit Power Purchase Cost (Rs/unit)
GENCO Thermal	5566.24	2292.54	4.12
GENCO Hydel	1193.84	73.45	0.62
CGS	4150.75	1323.36	3.19
APGPCL	24.58	7.63	3.11
IPP-Gas	376.12	177.54	4.72
NCE	260.02	126.23	4.85
IPP-Others	461.28	194.80	4.22
Market/Short Term/Others	3391.98	2212.14	6.52
Purchase of REC	-	-	-
Total	15424.81	6407.70	4.15

a. The actual average revenue realization for the FY 2014-15 is Rs. 4.80/unit.

Categories	Actual		
	Sales (MU)	Revenue (Rs. Crs)	Realization (Rs./unit)
Domestic	3708.53	1179.53	3.18
Commercial	684.83	621.80	9.08
Industry	622.44	380.53	6.11
Cottage Industries	1.93	0.90	4.66
Agriculture	2166.92	23.07	0.11
Street Light & PWS	224.08	126.33	5.64
General	38.94	27.92	7.17
Temporary	0.5	0.48	9.52
LT Total	**7448.16**	**2360.56**	3.17
Industry	4550.97	2863.26	6.29
Commercial	516.92	497.64	9.63
Air Ports, BS & RS	13.66	11.05	8.09
Agriculture & Irrigation	102.95	55.11	5.35
Railway Traction	628.18	404.84	6.44
Townships	27.87	16.85	6.05
Resco	0	26.39	0.00
Temporary	0	0.00	0.00
HT Total	**6069.75**	**3875.15**	6.38
Total	**13517.9**	**6235.70**	**4.80**

Total actual revenue is Rs. 6154.49 Crs. and Non-Tariff Income (NTI) is Rs. 81.21 Crs. Hence total actual Revenue including Non Tariff income is Rs. 6235.70 Crs.

True-up of Aggregate Revenue Requirements components & Gap from Retail Business for FY 2015-16

Summary of ARR line items and revenue for Retail Supply Business for FY 2015-16 is shown in the table below.

Rs. Crs	**FY 2015-16**		
ARR Line Item	**Approved**	**Revised Estimate**	**Deviation**
Transmission Cost	341.00	341.01	**0.01**
SLDC Cost	10.97	10.97	**0.00**
Distribution Cost	1,216.97	1,216.97	**0.00**
PGCIL Expenses	119.26	119.26	**0.00**
ULDC Charges	2.88	2.55	**(0.330**
Network and SLDC Cost	**1,691.08**	**1,690.77**	**(0.31)**
Power Purchase / Procurement Cost	6,866.00	6,835.76	**(30.24)**
Interest on Consumer Security Deposits	92.16	84.41	**(7.75)**
Supply Margin in Retail Supply Business	4.83	4.83	**0.00**
Other Cost	414.29	447.01	**32.72**
Supply Cost	**7,377.28**	**7,372.01**	**(5.27)**
Gross ARR	**9,068.36**	**9,062.78**	**(5.58)**
Revenue (incl. NTI)	8,200.82	7,634.35	**(566.47)**
Subsidy	867.54	867.54	**0.00**
Total Revenue (incl. subsidy)	**9,068.36**	**8,501.89**	**(566.47)**
Total Gap from Retail Business	**0.00**	**(560.89)**	**(560.89)**

As shown in the table above, the total estimated revenue deficit for Retail Supply Business is Rs 560.89 Crs for FY 2015-16.

2. Prayer

The Petitioner (Distribution Licensee) submits that as per the APERC Regulation 1 of 2014, APDISCOMS have to file for power purchase cost deviation of last two years. The licensee has computed the revenue gap for FY14-15 and FY 15-16, but it has not added this revenue deficit to the ARR for FY16-17 because the GoAP has given in principle approval to UDAY scheme floated by GoI. As per UDAY scheme, GoAP will take over 75% of DISCOM debt as on 30 September 2015 over two years - 50% of DISCOM debt will be taken over in 2015-16 and 25% in 2016-17.DISCOM debt not taken over by GoAP will be converted by the Banks / FIs into loans or bonds with interest rate not more than the bank's base rate plus 0.1%. Alternately, this debt may be fully or partly issued by the DISCOM as GoAP guaranteed DISCOM bonds at the prevailing market rates which shall be equal to or less than bank base rate plus 0.1%.

The licensee would request to Honorable APERC to grant permission to file separate ARR with new O&M expenses due to pay revision in 2014-15 and higher capex required on account of new network up gradation schemes.

EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED

ARR Proposal
for the Retail Supply Business
for the FY: 2016-17

Contents

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 ("Regulation"), which lays 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 wheeling tariff / charges and charges for retail sale of electricity.

In the Regulation, the Commission has also laid down the procedures for filing under multi-year tariff principles. The current filing pertains to the Third Control Period. The Commission has specified the following procedure in Para 6.2 of the Regulation 4 of 2005 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 for the first Control Period and the entire Control Period for the subsequent Control Periods".*

The APDISCOMS have sought permission from Hon'ble APERC to file ARR for Retail Supply Business for FY 2016-17 on annual basis in view of the difficulties in projection of power purchase cost estimation for the entire control period and Tariff uncertainty. The Hon'ble APERC has granted permission for APDISCOMS to file ARR for Retail Supply Business on annual basis for FY 2016-17.

The current filing follows the principles laid down under this Regulation for determination of the ARR for the retail supply business for the year 2016-17, which is the third year of the Third Control Period.

1.2 Filing Contents

The filing is structured in the following way:

Section 2 provides analysis of expected performance for current year for Retail supply Business comprising

- Operating Performance
- Financial Performance

A brief analysis of the financial and operational performance of the licensee during the previous year (2014-15) and the current year (2015-16) is given.

Section 3 provides the ARR for Retail Supply Business for third year of the Third Control Period and the basis of projections of the expense and revenue items comprising:

Expenditure Projections

- Power Purchase Cost
- Transmission and PGCIL 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 Gap

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

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

Section 4 provides the Tariff proposals comprising of Tariffs for ensuing year.

2. Analysis of expected performance for Current Year 2015-16 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 & also with the Tariff Order 2013-14. Only the key operating and financial parameters have been considered for this analysis.

2.2 Operating Performance

2.2.1 Energy Balance

Particulars	2014-15		2015-16	
	Actuals		Present Estimate	
	MU	%	MU	%
I) Total Metered Sales	**11350.98**	**76.87%**	**12913.67**	**79.63%**
a) EHT Sales	3144.66	21.30%	3435.47	20.80%
b) HT Sales	2925.09	19.81%	3458.75	20.94%
c) LT Metered Sales	5281.24	35.76%	6019.45	36.44%
II) LT Agricultural Sales	**2166.92**	**14.67%**	**2281.16**	**13.81%**
III) Total Sales	**13517.9**	**91.54%**	**15194.83**	**91.98%**
IV) ADD: Distribution Losses				
a) Discom Losses (Incl EHT sales)	1248.76	8.46%	1325.53	8.02%
b) Discom Losses (excl EHT sales)	1248.76	10.74%	1325.53	10.13%
V) Discom Power Purchase				
a) Discom Input (Excl EHT sales)	11622.01		13084.89	
b) Discom Input (Incl EHT sales) and excluding Transmission losses	14766.66	100%	16520.37	100%

2.2.1.1 Distribution Loss:

Year	Loss Target as per APERC		Actual		No. of 11 KV T&MHQ feeders for which energy audit done	Additional 33/11 KV sub-stations charged
	Excl. EHT	Incl. EHT	Excl. EHT	Incl. EHT		
2009-10	11.14%	8.82%	10.43%	8.45%	640	59
2010-11	10.80%	8.81%	8.75%	6.96%	650	27
2011-12	10.54%	8.55%	10.37%	8.40%	655	15
2012-13	10.41%	8.42%	12.17%	9.38%	697	52
2013-14	10.21%	8.26%	11.72 %	9.18%	718	19
2014-15	10.21%	8.26%	10.74%	8.46%	742	9
2015-16	9.91	7.48%	10.14 % (up to Sept-15)	8.11 % (up to Sept-15)	778 (up to Sept-15)	31 Nos. (up to September-15)

It is expected to reduce the losses further with the implementation of the following measures.

i) Strict implementation of number of hours of supply to agricultural sector.

ii) Reduction of both technical and commercial losses by vigorously conducting 11 KV feeder wise energy audits around 2783 Nos. feeders in the company.

iii) During the year 2014-15, only 742 Nos. 11 KV Town, MHQ & industrial feeders were considered for energy audit where as during the year 2015-16, 778 Nos. feeders are available for which energy audit is done on regular basis at corporate office level.

For the year 2014-15, 9 Nos. additional 33/11 KV sub-stations were charged and For the year 2015-16, 62 Nos. additional 33/11 KV sub-stations are proposed out of this 31 Nos. were already charged to reduce over loaded 33 KV & 11 KV lines and to maintain good voltage profiles up to the consumers end.

2.2.1.2 Metered Sales –

As can be seen from the table above, in 2014-15, the percentage of metered sales is lower than the Tariff Order level by 2.16 %. The reduction is mainly due to reduction in EHT Ferro alloys consumption nearly 100 MU.

In 2015-16, the metered sales are expected to increase by about 1562 MU over 2014-15 levels.

Agricultural Sales –

In the previous year 2014-15 the actual Agriculture Consumption is 2166.92 MU as against the approved In the current year 2015-16 during the first half of the year the agriculture consumption is 1060.07 MU and The sales projection for second half of FY 2015-16 for this category are 1221.09MU.

2.3 Financial Performance

Previous Year FY 2014-15:

For the period 2014-15, the Licensee incurred a loss of Rs.722.23 Crs, due to Increase in employee cost (pay revision) for Rs.489.01 Crs, Hud-Hud cyclone expenses for Rs.156.10Crs and Interest on Loans for Rs.165 Crs.

Financial Performance:

The financial performance on the actual for the FY: 2014-15 are as under.

Particulars (Rs. Crs)	Actuals audited (2014-15)
Network and SLDC Cost	**2195.83**
Transmission Cost	305.25
SLDC Cost	12.1
Distribution Cost	1758.61
PGCIL Expenses	116.97
ULDC Charges	2.9
Supply Cost	**6484.9**
Power Purchase / Procurement Cost	6407.7
Interest on Consumer Security Deposits	77.2
Supply Margin in Retail Supply Business	0
Other Costs, if any(incl. misc. losses & write-offs)	0
Provision for Govt. receivables	
Aggregate Revenue Requirement	**8680.73**
Total Revenue	**7,960.71**
Revenue from Current Tariffs	6154.49
(Net of incentives & incl. CMC)	
Other income	849.55
Revenue subsidies and grants	275.46
Non-tariff income	81.21
Revenue Deficit (-) / Surplus(+) at Current Tariffs	**(1320.02)**
Revenue - Cost Coverage (%)	**84.79%**

Note: Other income includes Amortisation of consumer contribution Rs. 131.36 Crs, Delayed payment surcharge Rs. 153.35 Crs, U.I. Charges revenue Rs. 5.906Cr.s, Interest from bank and investments Rs.1.74 Crs., Income from trading Rs. 4.263 Crs. Misc. Receipts Rs. 240.471 Crs. Interstate sales and DD sales Rs.297.19 Crs. Interest on ED Rs.1.48 Crs. Misc charges Rs. 4.79 Crs. Recoveries from theft of Energy Rs.9.00 Crs.

For FY 2014-15, the Hon'ble Commission allowed Rs 31.17 crores towards Return on Equity considering 14% rate of return and Rs.4.45 crores towards Retail Supply Margin. The total Regulatory Margin allowed in the revenue a/c is Rs. 35.62 crores. However, during the year 2014-15 the company incurred a Revenue deficit of Rs. 1322.23 Crs due to increase in employ benefit expenses, HUD-HUD cyclone expenses and increase in interest on Loans.

Vide G.O.No.34, Dated: 31-03-2015 the state Government has taken over liability totalling to Rs. 600 Crs. (FRP Bonds) as subsidy accounted in FY 2014-15.

Total Revenue from tariffs and charges:

Total Revenue from tariffs and charges against the Tariff Order Targets for Previous Year FY 2014-15 is as shown in the following Table:

Revenue from current tariffs & charges for FY: 2014-15 (Rs. Crs.)

Consumer Categories		**Actual**
L.T. Supply		**2360.56**
Domestic Supply		1179.53
Non-Domestic Supply		621.80
Industrial Supply		380.53
Cottage Industries		0.90
Irrigation & Agricultural		23.07
Public Lighting		126.33
General Purpose		27.92
Temporary		0.48
H.T. Supply		**3875.15**
Industrial Segregated		2863.26
Industrial Non-Segregated		497.64
Air Ports, BS & RS		11.05
Irrigation & Agricultural		55.11
Traction		404.84
Colony Lighting		16.85
REC Societies		26.39
Temporary supply & Others		0.00
Total Revenue from tariffs & charges		**6235.70**

Total actual revenue is Rs. 6154.49 Crs. and Non-Tariff Income (NTI) is Rs. 81.21 Crs. Hence total actual Revenue including Non-Tariff Income is Rs. 6235.70 Crs.

The following table provides an overview of APEPDCL's financial performance for the current year:

2.3.1 ***Financial Performance Summary***

Particulars	2015-16 Revised Estimate (Rs. Crs.)
Supply Margin	4.83
ROCE / Interest	120.86
Total Financing Cost	**125.6944**
Power purchase	6,835.76
Transmission charges	341.01
PGCIL / ULDC Charges	121.81
SLDC Charges	10.97
O&M (Gross)	952.1
Depreciation	307.81
Interest on consumer deposits	84.41
True up adjustment of 1st control period	0
Other Expenses (Special appropriation & taxes on income)	463.82
Less: Expenses capitalized	(34.3)
ARR	**9,209.09**
Total Revenue	**7780.66**
Non-tariff Income (Distribution Business)	146.31
Revenue at Current Tariffs (incl NTI)	7634.35
Revenue from Wheeling	
Revenue from Trading	
Regulatory Gap/ (Surplus)	**(1428.43)**
Subsidy	867.54
Net Regulatory Gap/ (Surplus)	**(560.89)**

2.3.1.1 *Revenues from sale of electricity:*

The actual revenue for FY 2014-15 excluding NTI is Rs.6154.49 Crs. and for FY: 2015-16 it is estimated to be Rs.7549.37 Crs.

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

Consumer Categories	FY 2014-15 Actual (excl. NTI)	FY 2015-16 (Revised Estimate) Excl NTI
L.T. Supply	**2329.81**	**2781.93**
Domestic Supply	1164.16	1388.69
Non-Domestic Supply	613.70	729.82
Industrial Supply	375.57	462.41
Cottage Industry	0.89	0.97
Irrigation & Agricultural	22.77	27.67
Public Lighting	124.69	134.24
General Purpose	27.56	37.00
Temporary	0.47	1.13
H.T. Supply	**3824.68**	**4767.45**
Indl Segregated	2825.97	3565.21
Indl Non-Segregated	491.16	662.19
Air Ports, BS & RS	10.91	12.99
Irrigation & Agricultural	54.39	64.03
Traction	399.57	433.28
Colony Lighting	16.64	18.97
REC Societies	26.04	10.77
Temporary supply & Others	0.00	0.00
Total	**6154.49**	**7549.37**

3 POWER PURCHASE COST FOR CURRENT YEAR (FY 2015-16) SECOND HALF AND ENSUING YEAR (FY 2016-17)

3.1 BASIS OF ESTIMATION OF QUANTITY AND COST OF POWER PURCHASE

This section discusses the methodology and assumptions considered for estimating the quantum and corresponding cost of power purchase of the Licensee for the second half of the Financial Year ending March 31, 2016 and for the Financial Year ending March 31, 2017.

As per section 92 read with the Twelfth Schedule of the Andhra Pradesh Reorganization Act, 2014 for bifurcation of united Andhra Pradesh (Central Act No. 6 of 2014, dated 01.03.2014), the districts of Anantapur and Kurnool which was within the jurisdiction of the erstwhile Andhra Pradesh Central Power Distribution Company Ltd. (APCPDCL, now Southern Power Distribution Company of Telangana Limited (TSSPDCL)) was reassigned to the Andhra Pradesh Southern Power Distribution Company Ltd. (APSPDCL). The proportionate share of power was transferred from the allocated share of the erstwhile APCPDCL to APSPDCL.

Before the bifurcation of united Andhra Pradesh, with the implementation of Multi-Buyer Model (MBM) in the state from June 9, 2005, each of the four Discoms of united Andhra Pradesh had been allocated a certain share of the generating stations contracted by APTRANSCO. According to G.O.Ms. No.20 (dated 08.05.2014), based on the last 5 years' average consumption of Anantapur and Kurnool districts, 17.45% of power earlier allocated to the erstwhile APCPDCL has to be transferred to APSPDCL. Power allocation percentages for Andhra Pradesh Discoms and Telangana Discoms have been modified accordingly. Andhra Pradesh has been allocated a percentage of 46.11% of the erstwhile Andhra Pradesh share. The revised power allocation percentages for the two Discoms of Andhra Pradesh (APEPDCL and APSPDCL) are mentioned below.

PP allocation:

- Energy availability for upcoming GENCO (APGENCO and TSGENCO) stations - KTPP Stage II, DSTPP Stages I & II has been considered as per geographical location.
- Power from GENCO (APGENCO and TSGENCO) hydel stations have been allocated based on their geographical location.
- Non-conventional Energy sources have been allocated to the DISCOMs based on their geographical presence/location.
- The two mini-power plants LVS and Srivathsa have been allocated to APEPDCL.
- Entire energy available from Hinduja thermal power plant has been allocated to Andhra Pradesh.

- Allocation percentage for existing APGENCO thermal stations, CGS stations and Gas IPPs is 46.11% of united AP share (based on the last 5 years' average consumption of Anantapur and Kurnool districts).

- The allocation percentages (as on 02.06.2014 as per G.O. Ms. No. 20) for the two Discoms of Andhra Pradesh (among all the 4 Discoms of erstwhile Andhra Pradesh) for GENCO thermal stations and all the other sources(Excluding Bilateral Purchases) has been doneas follows:

S. No.	Name of the Distribution Company	Allocation Percentage
1	APEPDCL	15.80 %
2	APSPDCL	30.31 %

- The energy deficit in each Discom if any is then met through procurement through bilateral sources

- Month-wise surplus has been estimated based on the availability and requirement. A part of this surplus is assumed to be sold through bilateral contracts and a part through open market.

In the following paragraphs, the capacities and availabilities of all the generating sources have been described. The actual energy availability in MU for each Discom has been projected based on the above allocation principles.

3.2 INSTALLED CAPACITY OF MAJOR GENERATING STATIONS

3.2.1 GENCO (ANDHRA PRADESH GENCO & TELENGANA STATE GENCO)

The table below shows the projected capacities of the Thermal and Hydel generating stations of GENCO including the share in the interstate projects.

APGENCO

Energy allocation for existing APGENCO thermal stations has been considered as 46.11% of united Andhra Pradesh share as per G.O. Ms. No. 20.while 100% has been considered from Damodaram Sanjeevaiah TPP I & II. For APGENCO Hydel stations allocation is as per geographical location (100%). Allocation for interstate hydel projects have been taken as per G.O.Ms. No. 20.

Source	Projected erstwhile AP share (MW)	Projected AP share (MW)
THERMAL		
Dr. NTTPS (I, II, III)	1,260	581
Dr. NTTPS – IV	500	231

Source	Projected erstwhile AP share (MW)	Projected AP share (MW)
RTPP-I	420	194
RTPP-II	420	194
RTPP- III	210	97
Damodaram Sanjeevaiah TPP I	800	800
Damodaram Sanjeevaiah TPP II	800	800
TOTAL THERMAL	**4,410**	**2,896**
HYDEL		
Interstate projects:		
Machkund, Orissa (AP share 70%)	84	39
T.B. Station, Karnataka (AP share 80%)	58	27
State projects:		
Donkarayi	25	25
Upper Sileru	240	240
Lower Sileru	460	460
Srisailam right bank PH	770	770
Nagarjuna Sagar right canal PH	90	90
PABM	20	20
Mini hydro	1	1
Nagarjuna Sagar Tail Pond	50	50
TOTAL HYDEL	**1,798**	**1,721**
TOTAL APGENCO	**6,208**	**4,617**

TSGENCO

Energy allocation for existing TSGENCO stations has been considered as 46.11% of united Andhra Pradesh share as per G.O. Ms. No. 20. No availability considered from KTPP Stage II. For TSGENCO hydel stations allocation is as per geographical location (0%).

Source	Projected erstwhile AP share (MW)	Projected AP share (MW)
THERMAL		
Kothagudem-(A,B,C)	720	332
Kothagudem-D	500	231
Kothagudem-VI	500	231
Ramagundam-B	63	29
KTPP -I	500	231
TOTAL THERMAL	**2,283**	**1,054**
TOTAL TSGENCO	**2,283**	**1,054**

3.2.2 CENTRAL GENERATING STATIONS

AP Discoms have Power Purchase Agreements with Central Generating Stations to purchase power from NTPC (SR), NTPC (SR) Stage-III, NTPC -Talcher-II, NTPC Simhadri-I &II, Vallur (JV) Power Project, Tuticorin Thermal Power Plant (upcoming), Neyveli Lignite Corporation Ltd ("NLC"), Madras Atomic Power Station ("MAPS") and Kaiga Atomic Power Station ("KAPS"). Allocation percentage for CGS stations has been considered as 46.11% of united AP share (based on the last 5 years' average consumption of Anantapur and Kurnool districts as per G.O.Ms. No. 20).

Name of the Station	**Total Installed Capacity**	**Projected erstwhile AP share**		**Projected AP share**	
	MW	**MW**	**% (of Total Installed Capacity)**	**MW**	**% (of Total Installed Capacity)**
NTPC-(SR) Ramagundam I & II	2,100	679	32.32	313	14.91
NTPC-(SR) Stage – Ramagundam- III	500	170	33.92	78	15.68
NTPC-Talcher-II	2,000	400	20.01	184	9.22
NTPC Simhadri Stage I	1,000	1,000	100.00	461	46.11
NTPC Simhadri Stage II	1,000	460	46.01	212	21.21
NLC TS II Stage-I	630	116	18.33	53	8.49
NLC TS II Stage-II	840	204	24.33	94	11.20
NPC-MAPS	440	44	9.90	20	4.61
NPC-Kaiga 1 & 2	440	136	30.82	63	14.25
NPC-Kaiga 3 & 4	440	144	32.64	66	15.09
Vallur (JV) NTPC with TANGEDCO	1,500	221	14.75	102	6.79
NLC-TNPL Tuticorin*	1,000	255	25.46	118	11.76
NTPC-Kudgi*	2,400	419	17.5	201	8.36
TOTAL CGS	14,290	3,829		1,965	

* 1000 MW (2x500 MW) Tuticorin Thermal Power Station, is a Joint Venture Company formed between Neyveli Lignite Corporation Limited (NLC) and Tamil Nadu Electricity Board (TNEB) with a equity ratio of 89 : 11 respectively. Minister of Power, Government of India has allocated 254.6 MW as firm power to erstwhile Andhra Pradesh (117.40 MW for residuary Andhra Pradesh). Accordingly, APDISCOMs have signed a Power Purchase Agreement with NLC-Tamil Nadu Power Limited (A Joint Venture Company) on 30.11.2010. 1st Unit of 500 MW was pronounced COD on 18.6.2015 and Unit 2 on 29.8.2015.

** 2400 MW (3x800 MW) Thermal Power Project is being setting up by M/s. NTPC Ltd at Kudgi, Karnataka. The then APDiscoms have signed a PPA with NTPC on 23.09.2010. Power shall be allocated as per the Gadgil formula. However, the same is yet to allocate by MoP, GoI. Tentatively, as per the Gadgil formula, the residuary A.P may get 8.36% power i.e. 200.62 MW from the said Power Project. As informed by NTPC, the scheduled COD of 1st unit (800 MW) in September 2016 and the scheduled COD of 2nd (800 MW) in March 2017.

3.2.3 INDEPENDENT POWER PRODUCERS (IPPs)

The following IPPs are under commercial operation in the Andhra Pradesh:

a) 216.82 MW gas-based plant at Jegurupadu by GVK Industries ("GVK"); Up on the expiry of PPA on 20.06.2015, APDISCOMs have issued Buyout notice to M/s GVK-I and M/s GVK-I is scheduling entire power only to APDISCOMs w.e.f. 20.06.2015.

b) 208.31 MW gas-based plant at Kakinada by Spectrum Power Generation Ltd.,

c) 355 MW (ISO) gas-based plant at Vijayawada by Lanco Kondapalli Power Ltd ("Lanco Kondapalli"); the present PPA gets expired by 01.01.2016 and the negotiations for renewal of PPA is under progress.

d) 220 MW gas based plant at Samalkota, East Godavari District by M/s. Reliance Power Ltd. (formerly M/s. BSES).

The Plant Load Factor (PLF) of above four IPPs has been considered at 40% for the second half of FY 15-16 and FY16-17

Energy allocation for gas-based IPPs has been taken as 46.11% of united Andhra Pradesh share as per G.O. Ms. No. 20. Projected erstwhile Andhra Pradesh share and residuary Andhra Pradesh share are as mentioned below.

Source	**Projected erstwhile AP share (MW)**	**Projected AP share (MW)**
GVK	216	216
Spectrum	208	96
Lanco Kondapalli (Gas)	355	164
Reliance BSES	220	101
TOTAL GAS-BASED IPPs	**999**	**577**

GVK Extension (220 MW), GMR Vemagiri (370 MW), Gowthami (464 MW), and Konaseema (444.08 MW) are the new IPPs which have been commissioned in XIth Five Year Plan.

Project Name	Installed Capacity (MW)	Capacity corresponding to 50% PLF (MW)	AP share under e-bid RLNG scheme for FY 2015-16(H2)	AP share under e-bid RLNG scheme for FY 2016-17	Remarks
GVK Extension (IPP)	220.00	110	50.72	50.72	46.11% as per G.O.Ms.No 20
GMR Vemagiri (IPP)	370.00	185	85.30	85.30	-do-
Gautami (IPP)	464.00	232	0	106.98	-do-
Konaseema (IPP)	444.08	222	102.38	102.38	-do-
LKPL (MPP)*	1108.00	554	277	277	---
GREL (MPP)**	768.00	384	384	384	----

* M/s LKPL offered 50 % of capacity under e-bid RLNG to AP during the period from 01.10.2015 to 31.03.2016. It is assumed that M/s LKPL will offer 50 % of capacity under e-bid RLNG to AP during the period from 01.04.2016 to 31.03.2017 also.

** M/s GREL offered 100 % of capacity under e-bid RLNG to AP during the period from 01.10.2015 to 31.03.2016. It is assumed that M/s GREL will offer 100 % of capacity under e-bid RLNG to AP during the period from 01.04.2016 to 31.03.2017 also.

The Natural gas supplies from RIL KG D-6 fields to the aforesaid IPPs became zero from 01.03.2013 onwards hence there is no generation under long term PPA. The availability is subject to natural gas supply from M/s RIL.

Energy availability has not been considered from these IPPs in the absence of RIL D-6 gas supplies.

3.2.4 AP Gas Power Corporation Ltd ("APGPCL"): Joint Sector

APGPCL is a joint sector gas-based power project. The allocation of power from this project is in proportion to the equity share capital of participating industries. The total installed capacity of the project along with the DISCOMs share is as given below:

Source	Installed Capacity (MW)	Projected erstwhile AP Share (MW)	Erstwhile AP Share (%)	Projected AP Share (MW)	AP Share (%)
Stage I	100	16	16%	7	7%
Stage II	172	43	25%	20	12%
Total	**272**	**59**	**22%**	**27**	**10%**

3.2.5 Non-Conventional Energy (NCE) Sources

The installed capacities of NCE projects in Andhra Pradesh projected for FY 2015-16 2nd half and FY 2016-17 are as given below. NCE based projects have been allocated to the AP Discoms based on their geographical presence/location (NCE projects have signed PPAs with Discoms where they are located. Hence the entire power is allocated to that Discom.)

Type of Project	Projected AP Share (MW) - FY 2015-16	Projected AP Share (MW) - FY 2016-17
Bio Mass Power Projects including Co-gen	143.75	141
Bagasse Cogeneration Projects.	105.20	105.20
Wind Power Projects	914.25	1414.25
Mini Hydel Power Projects	48.50	62.50
Industrial Waste Based Power Projects	21.66	21.66
Municipal Waste Based Power Projects	6.14	6.14
NCL Energy Ltd. (TB Dam)	16.5	16.5
Solar Power Projects	135	635
Solar Parks	0	250
Total	**1391**	**2652.25**

3.2.6 Mini-Power Plants

APTRANSCO had entered into a Power Purchase Agreement with LVS (36.8 MW) on 3rd January, 2009 for purchase of power in compliance with the Orders issued by Hon'ble Supreme Court and had entered into another Power Purchase Agreement with Srivathsa (17.20 MW) power plant. These projects have been allocated completely to APEPDCL.

3.2.7 HNPCL

GoAP directed the then APDiscoms as the successor entities of erstwhile APSEB to enter into a continuation agreement to the PPA dated 15.04.1998 which was entered by erstwhile APSEB with HNPCL. As such, a memorandum of agreement (MoA) was entered between the then APDiscoms and

HNPCL on 17.05.2013. As per the directions of GoAP and MoA dated 17.05.2013, the preparation of amendments to the PPA dated 15.04.1998 is under finalization and it would be signed, shortly, by two DISCOMs of residuary A.P. 1st unit (520 MW) was synchronized on 06.12.2015 and the 2nd unit (520 MW) may be synchronized in June 2016. As per the projections in ARR for FY 2015-16 filed by APDiscoms and the same was approved by APERC in its Retail Tariff Order for FY 2015-16, the entire energy available from HNPCL Thermal Power Plant has been considered for Andhra Pradesh.

3.2.8 Long Term and Medium Term Purchases

3.2.8.1 *Long Term – Thermal Power Tech Corporation India Limited*

APDiscoms and Telangana Discoms have signed a Power Purchase Agreement with M/s. Thermal PowerTech Corporation India Limited (TPCIL) for a contracted capacity of 500 MW under long term basis through Case-I bidding route for a period of 25 years. APDiscoms have been allocated a share of 46.11% (as per G.O. Ms. No. 20) i.e. 231 MW out of the total contracted capacity of 500 MW. Variable cost per unit of Rs.1.76/kWh and fixed cost of Rs. 289.30 Crs have been considered for FY 2015-16. Variable Cost of Rs.1.81/kWh and fixed cost of Rs.302.82 Crs have been considered for FY 16-17. As per the PPA, the scheduled date of delivery for supply of 500 MW to APDiscoms and Telangana Discoms is 01.04.2017. However, TPCIL has requested for preponement of schedule delivery date from 01.04.2017 to 01.04.2015 since early commission of their units (2x660 MW) and the same is under consideration by AP Discoms.

3.2.8.2 *Long Term – 1000MW DBFOO Bidding*

AP DISCOMS are planning to procure electricity of 1000MW on long term basis from Power Stations on BDFOO basis and the bidding process is under progress. The energy from these sources is considered from June 2016 at an energy availability of 90% PLF.

3.2.8.3 *Medium Term – KSK Mahanadi*

In the recently concluded medium term bidding for 3 years i.e. up to 15th June 2016, the AP & Telangana Discoms have signed the Power Purchase Agreement with KSK Mahanadi for 400 MW and are availing power since 14.08.2013. APDiscoms have been allocated a share of 46.11% (as per G.O. Ms. No. 20) i.e. 184 MW out of the total contracted capacity of 400 MW.

AP DISCOMS have signed the Power Purchase Agreement with KSK Mahanadi for 400MW for 100% of its share from 15th June 2016 to March 31st 2017. APERC has accorded approval for the plan under Agreement with M/s KSK Mahanadi vide O.P. No.03 of 2015 on 19.08.2015.

The licensees had also signed a PPA with Corporate Power for 150 MW, but the energy would not be available from the source due to non-allocation of transmission capacity by PGCIL.

3.2.9 Short Term and Bilateral/ Inter-State purchases

3.2.9.1 *Bilateral Purchases*

The licensee has placed order of an average of 800MW to procure short term power from June 2015 to May 2016 to bridge the power deficit.

3.3 BASIS OF ESTIMATION OF POWER AVAILABILITY FOR H2 FY 2015-16 AND FY 2016-17

3.3.1 GENCO (ANDHRA PRADESH GENCO & TELENGANA STATE GENCO)

3.3.1.1 Thermal Energy:

The Energy availability for H2 of FY 2015-16 has been projected based on the actual performance of the plants up to September 2015 and projected performance estimated by GENCO from October 2015 to March 2016. For FY 2016-17, the energy availability has been projected based on the projected performance estimated by GENCO and maintenance schedules of the plants.

The following GENCO plants have been commissioned/ assumed to be commissioned in FY 2015-16 and FY 2016-17:

1. The COD of Damodaram Sanjeevaiah Thermal power plant unit I (APGENCO, 800 MW) was declared on 05.02.2015.

2. The COD of Damodaram Sanjeevaiah Thermal power plant unit II (APGENCO, 800 MW) is was declared on 24.08.2015.

3. KTPP Stage-II (TSGENCO, 600 MW) is expected to be commissioned in December 2015.

GENCO Thermal (Net Energy Availability- MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2015-16**
APGENCO			
1	Dr NTTPS-I,II,III	1857.64	3709.03
2	Dr NTTPS-IV	658.97	1494.52
3	RTPP-I	617.52	1235.04
4	RTPP-II	617.52	1235.04
5	RTPP-III	308.76	617.52
6	Damodaram Sanjeevaiah Thermal Station-I	2614.48	5242.66
7	Damodaram Sanjeevaiah	2614.48	5242.66

GENCO Thermal (Net Energy Availability- MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 20156-167**
	Thermal Station-II		
	Total APGENCO	**9289.38**	**18776.45**
TSGENCO			
1	KTPS-(A,B,C)	1024.37	2084.55
2	KTPS-D	735.14	1470.28
3	KTPS-VI	747.26	1494.52
4	RTS-B	91.89	183.79
5	KTPP-I	739.30	1494.52
	Total TSGENCO	**3337.97**	**6727.65**
	Total	**12627.35**	**25504.11**

3.3.1.2 Hydro Energy:

The hydro energy availability for H2 FY 2015-16 is expected to be 942.37MU and 3241.44 MU for FY 2016-17. Energy allocation for hydel stations is based on geographical location and therefore, energy availability from TS GENCO stations has not been considered.

It has been observed over the past few years that the actual availability from hydel stations has been consistently lower than the value approved in the Tariff Orders issued by APERC. The table below shows the actual hydro energy availability from FY 2002-03 to FY 2014-15 (for erstwhile AP). In this regard, the hydel projections have been considered to be similar to the 10 year average availability.

Year	Approved hydro energy availability in MU (As per Tariff Orders)[1]	Actual hydro energy availability in MU[1]	Variation between Approved and Actual hydro energy availability (%)
2002-03	6,999	3,337	-52%
2003-04	6,757	2,959	-56%
2004-05	6,423	5,267	-18%
2005-06	5,979	7,873	32%
2006-07	7,586	9,328	23%
2007-08	8,592	9,566	11%
2008-09	9,046	7,729	-15%
2009-10	8,969	5,499	-39%
2010-11	7,662	6,751	-12%
2011-12	8238	6221	-24%

[1]For erstwhile AP

Year	Approved hydro energy availability in MU (As per Tariff Orders)[1]	Actual hydro energy availability in MU[1]	Variation between Approved and Actual hydro energy availability (%)
2012-13	6407	3171	-50%
2013-14	7057	6761	-36.55

The following table shows the station-wise projected availability for H2 FY 2015-16 and FY 2016-17:

APGENCO Hydel (Net Energy Availability-MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2016-17**
1	MACHKUND PH AP Share	65.19	153.89
2	TUNGBHADRA PH AP Share	37.80	66.39
3	USL	207.90	445.38
4	LSR	501.93	1103.60
5	DONKARAYI	30.71	98.30
6	SSLM (Right Bank)	72.29	1045.25
7	NSRCPH	12.59	146.76
8	PABM	2.20	5.98
9	Mini hydro (Chettipeta)	1.78	2.62
10	Nagarjuna sagar tail pond dam PH	9.98	173.25
	Total	**942.37**	**3241.44**

3.3.2 CENTRAL GENERATION STATIONS

The energy availability for H2 of FY 2015-16 has been projected based on the actual performance upto August/September 2015 for CGS. For FY 16-17, the energy availability has been projected based on the projected performance estimated by CGS and maintenance schedules of the plants and also based on the details of energy availabilities received from respective generators.

The Vallur Thermal Power Plant which is under generation (present capacity of 1,000 MW) has a total installed capacity of 1,500 MW. In this project, erstwhile AP had a share of 14.75%. The COD of the second unit of Vallur Power Project was 25.08.2013.

Capacity addition from Tuticorin Thermal Power Plant Station is 118 MW (as per AP share).COD for unit 1 has been considered to be in February2015 and for unit 2 to be in March 2015.

The Kudgi Thermal Power Plant has a total installed capacity of 2,400 MW. In this project, the residuary A.P is likely to get a share of 8.36% i.e. 200.62 MW. Now, the Project is in advanced stage of construction. The anticipated COD of first unit of Kudgi Power Project will achieve in September 2016 and second unit in March 2017.

Energy availability projections from CGS for H2 FY 2015-16 and FY 2016-17 are tabulated below:

Central Generating Stations (Net Energy Availability - MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2016-17**
1	NTPC-(SR) Ramagundam I & II	1130	2228
2	NTPC-(SR) Stage – Ramagundam- III	293	521
3	NTPC-Talcher-II	705	1361
4	NTPC- Simhadri Stage-I	1487	3129
5	NTPC- Simhadri Stage –II (Unit 3 &4)	692	1336
5	NLC TS II Stage-I	120	297
6	NLC TS II Stage-II	269	503
7	NPC-MAPS	55	120
8	NPC-Kaiga 1 & 2	193	403
9	NPC-Kaiga 3 & 4	202	392
11	Bundled Power under JVNSM	182	354
10	Vallur (JV) NTPC with TANGEDCO	277	526
11	Tuticorin Thermal Power Plant	166	961
12	NTPC - Kudigi	0	306
	TOTAL	**5707**	**12436**

3.3.3 APGPCL

The projections for APGPCL – I and APGPCL – II are as shown below. The actuals till September, 2015 have been factored while estimating energy availability for **H2 FY 2015-16.**40% PLF has been assumed for these plants for **FY 2016-17**

APGPCL Allocated Capacity (Energy Availability- MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2016-17**
1	APGPCL I - Allocated capacity	14	31.66
2	APGPCL II - Allocated capacity	46.81	84.84
	Total	**60.81**	**116.50**

3.3.4 IPPS

The availability of power from the generating stations of GVK, Spectrum, Lanco Kondapalli and Reliance (BSES) have been projected based on the current gas supply levels. Actual energy availability till September, 2015 has been factored while estimating energy availability for H2 FY 2015-16. For FY 2016-17 40% PLF has been assumed. The PPA subsisting with M/s GVK Phase-I was expired on 20.06.2015. APDISCOMs have issued Buyout notice and M/s GVK-I is scheduling entire power only to APDISCOMs w.e.f. 20.06.2015. There is no share for TSDISCOMs up on expiry

of PPA in respect of M/s GVK. The PPA subsisting with M/s SPGL is going to expire by 18.04.2016. The APDISCOMs would opt for either Renewal of PPA or Buyout of the project as per the terms of PPA. M/s LANCO PPA gets completed by 01.1.2016, but the projections are furnished expecting that the PPA gets renewed.

Old IPPs (Energy Availability-MU)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2016-17**
1	GVK	367.19	727.27
2	Spectrum	349.04	711.67
3	Lanco Kondapalli (Gas)	494.42	1263.95
4	Reliance BSES	179.70	350.90
	Total	**1390.34**	**3053.79**

Energy availability form the New IPPs viz; GVK Extn, GMR Vemagiri, Gautami& Konaseema and Merchant Power Plants viz., GREL, LKPL is considered to be zero.

S.No	New IPPs	FY 15 H2 (MU)	FY 16-17 (MU)
1	GVK Extension Project	0	0
2	Vemagiri Power Generation Ltd	0	0
3	Gautami Power Ltd	0	0
4	Konaseema EPS Oakwell Power Ltd.	0	0
5	Lanco Kondapalli Power Ltd.	0	0
6	GMR Rajahmundry Energy Ltd.	0	0

3.3.5 Non-Conventional Energy (NCE) Sources

Wind:

1. For the existing Projects, the newly commissioned & to be commissioned wind projects energy is anticipated based on the threshold PLF of 23.5% considered in APERC Regulation 1 of 2015.

2. Monthly generation is assumed in proportion to the actual monthly generation values of FY14-15

3. Capacity in MWs indicated for the FY: 2015-16 (H2) is actual installed capacity commissioned under Power Purchase Agreements (Preferential & REC mechanism).

4. Capacity in MWs indicated for the FY: 16 -17 is actual installed capacity commissioned under Power Purchase Agreements upto 15-16 plus anticipated capacity of 500MW of the proposed 1016.4 MW by NREDCAP .

5. Tariff for the upcoming wind projects is assumed @ Rs.4.83/unit as per APERC orders dt: 01.08.2015. Further, Income Tax/MAT and ED are pass through and same are to be paid by DISCOMs to the developers over and above the tariff.

Solar:

1. For the existing projects the newly commissioned & to be commissioned solar projects energy is anticipated based on the threshold PLF of 19%.

2. Capacity in MWs indicated for the FY: 2015-16 (H2) is actual installed capacity commissioned under Power Purchase Agreements and anticipated capacity considered based on the target time lines envisaged in the Power Purchase agreements entered by the solar developers with DISCOMs.

3. Monthly generation for FY 16-17 is assumed in proportion to the actual monthly generation values of FY14-15

4. Capacity in MWs indicated for the FY: 16 -17 is anticipated capacity considered based on the target time lines envisaged in the Power Purchase agreements entered by the solar developers with DISCOMs.

5. Tariff for solar projects taken as per the PPA and the same was adopted by APERC.

6. GoAP issued the G.O. Ms No. 46, dated: 27.11.2012 for purchasing solar power of 1000MW through competitive bidding route. Accordingly AP Discoms had initiated the bidding process for procurement of 1000 MW of solar power during 2012-13 and PPA's were entered with solar power developers for a capacity of 33 MW at the tariff of Rs. 6.49/kWh for 20 years. Out of the PPA capacity of 33 MW, 8 MW was commissioned so far.

7. Further, GoAP issued the G.O Ms. No.8, dated: 12.02.2015 and directed APDISCOMs for procurement of 1000 MW Solar Power through competitive bidding process. Accordingly bidding process conducted by APPCC/APSPDCL for procurement of 500 MW solar power in phase-1, the minimum first year tariff obtained was Rs. 5.25/unit and the cut-off first year tariff considered was Rs.5.999/unit. This tariff will be escalated at the rate of 3% per year till 10th year and the 10th year tariff will be continued for the remaining 15 years. The corresponding minimum levelized tariff is Rs. 6.17/unit and maximum Rs. 7.05/unit. And APDISCOMs entered PPAs for a capacity of 619 MW with consent of APERC. Out of 619

MW, 15MW has been commissioned; 500MW of the balance capacity is expected to be commissioned by March 31, 2016.

8. Further, GoAP also targeted to set up 3500 MW solar capacity through Solar Parks in Kurnool and Anantapur districts with the support of Govt. of India. As a part of this, GoAP has entered MoU with NTPC on 16.09.2014 for setting up of 1000MW solar park in Anantapur dist. Subsequently as per the directions of GoAP, APDISCOMs had entered PPAs with M/s NTPC for purchase of solar power from the proposed 250 MW (Phase-1) solar park at NP Kunta, Anantapur Dist on 24.04.2015 and the 250 MW (Phase-1) will be commissioned by April-2016.

Mini Hydel:

1. For the existing Projects anticipated energy for the FY 2015-16 (H2) & FY: 2016-17 has been arrived based on the PLFs for the actual energy supplied for the FY 2014-15 & FY 2015-16 (H1).

2. For upcoming Mini hydel projects energy is anticipated @ 32% PLF.

3. Capacity in MWs indicated for the FY: 2015-16 (H2) and FY: 2016-17 is actual installed capacity commissioned under Power Purchase Agreements and anticipated capacity as per the information given by the NREDCAP.

4. Tariff for the upcoming projects is assumed as Rs. 4/unit since the APERC yet to determine the tariff for new Mini Hydel projects.

5. Presently, Mini hydel developers are being paid APERC tariff which is exclusive of Electricity Duty, Royalty charges and MAT/Income Tax. As and when claimed by the developers, the same needs to be reimbursed.

Biomass, Bagasse, Industrial Waste & Municipal Solid Waste:

1. For the all existing Projects anticipated energy for the FY 2015-16 (H2) & FY: 2016-17 has been arrived based on the PLFs for the actual energy supplied for the FY 2014-15 & FY 2015-16 (H1).

2. Capacity in MWs indicated for the FY: 2015-16 (H2) and FY: 2016-17 is actual installed capacity commissioned under Power Purchase Agreements.

3. Upcoming projects in these categories are nil.

4. Presently, the Biomass, Bagasse, Industrial Waste & Municipal Solid Waste developers are being paid APERC tariff which is exclusive of Electricity Duty and MAT/Income Tax. As and when claimed by the developers, the same needs to be reimbursed.

Energy availability projections for H2 FY 2015-16 and FY 2016-17 from various NCE sources is as summarized in the following table:

Non-Conventional Energy Sources (Net Energy Availability - MUs)			
S. No.	**Station Name**	**H2 FY 2015-16**	**FY 2016-17**
1	Bio Mass Power Projects including Co-gen	162.86	320.20
2	Bagasse Cogeneration Projects.	86.56	98.54
3	Wind Power Projects	548.19	2911.38
4	Mini Hydel Power Projects	56.02	113.45
5	Industrial Waste Based Power Projects	17.16	32.96
6	Municipal Waste Based Power Projects	0.18	0.36
7	NCL Energy Ltd.	16.43	24.84
8	Solar Power Projects	147.61	1046.91
9	Solar Parks	0	416.10
	Total	**1035.00**	**4964.74**

3.3.6 Mini Power Plants

The energy availability projections for FY 2015-16 H2 and FY 16-17 have been projected as declared by the station at PLF 0% for Srivathsa for FY 15 H2 and at PLF 25% for FY 16-17. The energy for LVS for FY 15 H2 and FY 16-17 would not be dispatched owing to high variable cost.

Mini-Power Plants Allocated to EPDCL (Energy Availability-MUs)			
S, No.	**Station Name**	**FY 15 H2**	**FY 16-17**
1	Srivathsa	0	38.14
2	LVS	0	0
	Total	**0.00**	**38.14**

3.3.7 Hinduja National Power Corporation Limited

Energy availability of 606.12 MU and 6,082.77 MU has been considered from Hinduja power plant for H2 of FY 2015-16 and FY 2016-17 respectively considering 80% PLF. As per the projections in ARR for FY 2015-16 filed by APDiscoms and the same was approved by APERC in its Retail Tariff Order for FY 2015-16, the entire energy available from HNPCL Thermal Power Plant has been considered for Andhra Pradesh.

3.3.8 Long Term and Medium Term Purchases

3.3.8.1 Long-term – Thermal PowerTech Corporation India Limited

The licensees (AP & Telangana Discoms) have signed a Power Purchase Agreement with M/s. Thermal PowerTech Corporation India Limited (TPCIL) for a contracted capacity of 500 MW under long term basis through Case-I bidding route for a period of 25 years. In case licensees accepts the revised schedule date of delivery as requested by TPCIL, the supply of said power will commence from 01.04.2015 and the energy availability projected from this plant for Andhra Pradesh is 1,716 MU for FY 2016-17, which has been considered.

3.3.8.2 Long Term – 1000MW DBFOO Bidding

Energy availability has been considered from June 2016 at 90% PLF (ex-bus). The energy availability projected from 1000MW DBFOO bidding is 6,566 MU for FY 2016-17.

3.3.8.3 Medium Term – KSK Mahanadi

AP and Telangana Discoms have signed PPA's with KSK Mahanadi and Corporate Power for supply of power through medium term basis starting from June 2013 for a period of 3 years. But, the energy from Corporate Power has not been considered as the PGCIL has not granted its transmission access.80% PLF (599.44 MU for H2 FY 2015-16 and 2,295.64 MU for FY 2016-17) has been considered from KSK Mahanadi.

3.3.9 Short Term and Bilateral/ Inter-State purchases

3.3.9.1 Bilateral Purchases

Energy availability considered from bilateral sources for FY 2015-16 is 3,406 MUs at a PLF of 85% and 821.81 MUs at a PLF of 85% for FY16-17 in the month of April and May 2016.

3.3.10Summary

A summary of the source wise current estimate of energy available for H2 FY 2015-16 and FY 2016-17 is presented below.

Generating Station	Energy Availability (MU)	
	H2 FY 2015-16	FY 2016-17
Genco (APGenco & TSGenco)-Thermal	12627.35	25504.11
Genco (APGenco & TSGenco)-Hydel	942.37	3241.44

Generating Station	Energy Availability (MU)	
	H2 FY 2015-16	FY 2016-17
CGS	5707.51	12436.63
APGPCL	60.81	116.50
IPPS	1390.34	3053.79
NCEs	1035.00	4964.74
Mini Power Plants	0.00	38.14
HNPCL	606.12	6,082.77
Long Term & Medium Term	1484.03	10,578.73
Short Term & Bilateral Purchases	3,406	821.81
Total	**27,323**	**66,839**

3.4 POWER PURCHASE COST

3.4.1 GENCO (ANDHRA PRADESH GENCO & TELENGANA STATE GENCO)

The annual fixed costs for all APGENCO stations for FY 2015-16 have been considered as approved by APERC in its order dated 31.05.2014 in OP No.15/2009 filed by APGENCO for determination of tariff for FY 2009-14 which includes the year 2013-14. The fixed cost for FY 2014-15 was admitted as per approved tariff order for FY 2013-14 and subsequently, truing up of fixed cost for FY 2014-15 was done as per orders of APERC dt 31.05.2014 in OP No.15/2009.The fixed costs have been considered as per the projections of APGENCO for FY 2016-17.

The total fixed costs for all the GENCO thermal and hydel stations[2] including both existing and new stations is Rs. 2,571.34 Crs for H2 of FY 2015- 16 and Rs. 5,704.87 Crs for FY 2016-17. The fixed costs for GENCO Thermal and Hydel stations have been tabulated below:

Station	Fixed Costs for FY 2015-16 H2 (Rs. Cr.)	Fixed Costs for FY 2016-17 (Rs. Cr.)
APGENCO-Thermal		
VTPS I	45.01	91.71
VTPS II	45.01	91.71
VTPS III	45.01	91.71
VTPS IV	146.86	295.62
RTPP I	68.38	138.86

[2]The fixed costs for TSGENCO stations have not been mentioned because energy availability from only APGENCO hydel stations have been considered (allocation based on geographical location).

Station	Fixed Costs for FY 2015-16 H2 (Rs. Cr.)	Fixed Costs for FY 2016-17 (Rs. Cr.)
RTPP Stage-II	138.87	279.51
RTPP Stage-III	91.36	183.61
Damodaram Sanjeevaiah Thermal power station -I	582.30	1484.45
Damodaram Sanjeevaiah Thermal power station -II	582.30	1484.45
APGENCO Thermal Total	**1745.11**	**4141.63**
TSGENCO-Thermal		
KTPS A	49.57	68.00
KTPS B	49.57	68.00
KTPS C	49.57	68.00
KTPS D	79.12	127.50
KTPS Stage VI	170.86	363.55
RTS B	18.26	24.44
Kakatiya Thermal Power Plant Stage I	176.19	364.87
TSGENCO Thermal Total	**593.14**	**1084.36**
Total Thermal	**2338.25**	**5225.99**
APGENCO –Hydel		
MACHKUND PH AP Share	4.65	9.30
TUNGBHADRA PH AP Share	3.19	6.38
USL	28.25	57.40
LSR	54.15	110.02
DONKARAYI	2.95	5.98
SSLM	103.52	209.56
NSRCPH	9.76	19.67
PABM	5.73	11.60
Mini hydro	0.35	0.72
Nagarjuna sagar tail pond dam PH	20.54	48.26
Total Hydro	**233.09**	**478.88**
TOTAL GENCO	**2571.34**	**5704.87**

For existing GENCO thermal stations, the actual variable cost (including FCA) for H1 of FY 2015-16 has been considered for H2 of 2015-16. For projecting FY 2016-17 variable cost for APGENCO stations, an escalation of 3% is taken on actual H1 FY 2015-16 variable cost per unit, whereas an escalation of 3% has been considered even for TSGENCO stations. For Damodaram Sanjeevaiah Thermal power station unit I variable cost per unit for H2 FY 2015-16 has been estimated to be Rs.

2.52/unit considering that 30% imported coal, 30% MCL washed coal and 40% domestic coal to be used. Rs. 2.20/unit for FY16-17 variable cost has been assumed as the units will be running at 85%PLFfor FY 2016-17.Same variable cost per unit has been considered for Damodaram Sanjeevaiah Thermal power station unit II for FY 2016-17

It has been observed over the past few years that usage of imported coal has become necessary to bridge fuel shortfall, leading to a steady increase in the variable cost over the past few years. The station-wise variable rates that have been projected for APGENCO thermal plants & TSGENCO thermal Plants for H2 FY 2015-16 H2 and for FY 2016-17are as follows:

Station	Variable rate (Rs./kWh) H2 FY 2015-16	Variable rate (Rs./kWh) FY 2016-17
APGENCO Stations		
VTPS (I, II, III)	3.30	3.34
VTPS-IV	3.21	3.3
RTPP-I	3.76	3.87
RTPP-II	3.76	3.87
RTPP-III	3.76	3.87
Damodaram Sanjeeviah TPS-I	2.52	2.20
Damodaram Sanjeeviah TPS-II	2.52	2.20
TSGENCO Stations		
KTPS (A, B, C)	1.64	1.69
KTPS- D	1.50	1.55
KTPS-VI	2.74	2.82
RTS- B	3.01	3.10
KTPP-I	2.42	2.50

The incentives for GENCO thermal stations are calculated based on APERC Regulation No 1 of 2008, at a flat rate of 25 paisa/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target Plant Load Factor.

CGS:

3.4.1.1.1 NTPC (SR) (2100 MW)

CERC had notified the terms & conditions of tariff regulations for the control period FY 2014-19 i.e., for a period of 5 years and the regulations, 2014 was published by CERC by end of February 2014. CERC had modified the terms & conditions for determination of fixed charges as well as energy

charges to the ensuing control period for inter-state generating stations. CERC provided the revised regulations stating that beneficiaries would pay the fixed charges for FY 2016-17 and energy charges to the Inter-State Generating stations based on the approved charges for FY 2013-14 and energy charges norms as per the regulations, 2009 till the finalization of orders for the respective inter-state generating station i.e., NTPC & NLC, JV. Due to non-availability of orders of CERC, the fixed charges were considered based on the CERC approved charges for FY 2013-14. The incentives payable had been considered as 50 paise per unit based on the actual PLF above threshold level of 85% as per the prevailing regulations of CERC, 2014. In the orders of CERC for FY 2013-14, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. Based on the availability projections, the fixed charges along with payable incentives are computed for H2 FY 2015-16 and FY 2016-17 for Ramagundam I & II. AP has a share of 14.91% from Ramagundam I & II. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The recoverable PLF of fixed charges are 83% only based on the availability of generating station subject to any coal shortages occur, as per new regulations, 2014. Due to non-finalization of fixed charges in every year of the control period FY 2014-19, the prevailing fixed charges for FY 2013-14 had been recovered by NTPC by considering 83% PLF on availability. NTPC had submitted the tariff petition of Ramagundam I & II as per Regulations, 2014 before Hon'ble CERC for determination of fixed charges to the control period 2014-19.

3.4.1.1.2 NTPC (SR) STAGE-III (500 MW)

CERC had notified the terms & conditions of tariff regulations for the control period FY 2014-19 i.e., for a period of 5 years and the regulations, 2014 was published by CERC by end of February 2014. CERC had modified the terms & conditions for determination of fixed charges as well as energy charges to the ensuing control period for inter-state generating stations. CERC provided the revised regulations stating that beneficiaries would pay the fixed charges for FY 2016-17 and energy charges to the inter-state generating stations based on the approved charges for FY 2013-14 and energy charges norms as per the regulations, 2009 till the finalization of orders for the respective inter-state generating stations i.e., NTPC & NLC, JV. Due to non-availability of orders of CERC, the fixed charges were considered based on the CERC approved charges for FY 2013-14. The incentives payable had been considered as 50 paise per unit based on the actual PLF above threshold level of 85% as per the prevailing regulations of CERC, 2014. In the orders of CERC for FY 2013-14, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. Based on the availability projections, the fixed charges along with payable incentives are computed for H2 FY 2015-16 and FY 2016-17 in case of Ramagundam III. AP has a share of 15.68% from Ramagundam III. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable

cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The recoverable PLF of fixed charges are 83% only based on availability of generating station subject to any coal shortages occur, as per new regulations, 2014. Due to non-finalization of fixed charges in every year to the control period 2014-19, the prevailing fixed charges for FY 13-14 had been recovered by NTPC by considering 83% PLF on availability. NTPC had submitted the tariff petition of Ramagundam III as per Regulations, 2014 before Hon'ble CERC for determination of fixed charges to the control period 2014-19.

3.4.1.1.3 NTPC-TALCHER -II (2000 MW)

CERC had notified the terms & conditions of tariff regulations for the control period FY 2014-19 i.e., for a period of 5 years and the regulations, 2014 was published by CERC by end of February 2014. CERC had modified the terms & conditions for determination of fixed charges as well as energy charges for the ensuing control period for inter-state generating stations. CERC provided the revised regulations stating that beneficiaries would pay the fixed charges for FY 2016-17 and energy charges to the inter-state generating stations based on the approved charges for FY 2013-14 and energy charges as per the regulations, 2009 till the finalization of orders for the respective inter-state generating station i.e., NTPC & NLC, JV. Due to non-availability of orders of CERC, the fixed charges were considered based on the CERC approved charges for FY 2013-14. The incentives payable had been considered as 50 paise per unit based on the actual PLF above threshold level of 85% as per the prevailing regulations of CERC, 2014. In the orders of CERC for FY 2013-14, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. Based on the availability projections, the fixed charges along with payable incentives are computed for H2 FY 2015-16 and FY 2016-17 for Talcher-II. AP has a share of 9.22% from Talcher-II. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The recoverable PLF of fixed charges are 83% only based on availability of generating station subject to any coal shortages occur, as per new regulations, 2014. Due to non-finalization of fixed charges in every year of the control period FY 2014-19, the prevailing fixed charges for FY 2013-14 had been recovered by NTPC by considering 83% PLF on availability. NTPC had submitted the tariff petition of Talcher II as per Regulations, 2014 before Hon'ble CERC for determination of fixed charges to the control period 2014-19.

3.4.1.1.4 NTPC SIMHADRI STAGE-I (1000 MW)

CERC had notified the terms & conditions of tariff regulations for the control period FY 2014-19 i.e., for a period of 5 years and the regulations, 2014 was published by CERC by end of February 2014. CERC had modified the terms & conditions for determination of fixed charges as well as energy

charges to the ensuing control period for inter-state generating stations. CERC provided the revised regulations stating that beneficiaries would pay the fixed charges for FY 2016-17 and energy charges to the inter-state generating stations based on the approved charges for FY 2013-14 and energy charges norms as per the regulations, 2009 till the finalization of orders for the respective inter-state generating station i.e., NTPC & NLC, JV. Due to non-availability of orders of CERC, the fixed charges were considered based on the CERC approved charges for FY 2013-14. The incentives payable had been considered as 50 paise per unit based on the actual PLF above threshold level of 85% as per the prevailing regulations of CERC, 2014. In the orders of CERC for FY 2013-14, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. Based on the availability projections, the fixed charges along with payable incentives are computed for H2 FY 2015-16 and FY 2016-17 in case of Simhadri Stage-I. AP has a share of 46.11% from Simhadri Stage-I. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The recoverable PLF of fixed charges are 83% only based on availability of generating station subject to any coal shortages occur, as per new regulations, 2014. Due to non-finalization of fixed charges in every year of the control period FY 2014-19, the prevailing fixed charges for FY 2013-14 had been recovered by NTPC by considering 83% PLF on availability. NTPC had submitted the tariff petition of Simhadri Stage I as per Regulations, 2014 before Hon'ble CERC for determination of fixed charges to the control period 2014-19.

3.4.1.1.5 NTPC- SIMHADRI II (1000 MW)

CERC had notified the terms & conditions of tariff regulations for the control period FY 2014-19 i.e., for a period of 5 years and the regulations, 2014 was published by CERC by end of February 2014. CERC had modified the terms & conditions for determination of fixed charges as well as energy charges for the ensuing control period for inter-state generating stations. CERC provided the revised regulations stating that beneficiaries would pay the fixed charges for FY 2016-17 and energy charges to the inter-state generating stations based on the approved charges for FY 2013-14 and energy charges as per the regulations, 2009 till the finalization of orders for the respective inter-state generating station i.e., NTPC & NLC, JV. Due to non-availability of orders of CERC, the fixed charges were considered based on the CERC approved charges for FY 2013-14. The incentives payable had been considered as 50 paise per unit based on the actual PLF above threshold level of 85% as per the prevailing regulations of CERC, 2014. In the orders of CERC for FY 2013-14, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. Based on the availability projections, the fixed charges along with payable incentives are computed for H2 FY 2015-16 and FY 2016-17 in case of Simhadri Stage-II. AP has a share of 21.11% from Simhadri

Stage-II. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The recoverable PLF of fixed charges are 83% only based on availability of generating station subject to any coal shortages occur, as per new regulations, 2014. Due to non-finalization of fixed charges in every year of the control period FY 2014-19, the prevailing fixed charges for FY 2013-14 had been recovered by NTPC by considering 83% PLF on availability.

3.4.1.1.6 NLC Stage –I (630 MW)

For the APDISCOMs share of 8.49 % of 630 MW, the payable fixed charges and lignite cost for the Control Period of FY 2009-14 was determined by CERC in its final orders of NLC TPS-II (Stage-I). The lignite costs for the Control Period of FY 2014-19 is yet to be determined by Ministry of Coal, GOI. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16.

3.4.1.1.7 NLC Stage –II (840 MW)

For the APDISCOMs share of 11.20 % of 840 MW, the payable fixed charges and lignite cost for the Control Period of FY 2009-14 was determined by CERC in its final orders of NLC TPS-II. (Stage-II). The lignite cost for the Control Period FY 2014-19 is yet to be determined by Ministry of Coal, GOI. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16.

3.4.1.1.8 KAIGA ATOMIC POWER STATION 1 & 2 (440 MW) and 3 & 4 (440MW):

The AP share from Kaiga 1 & 2 is 14.25% and from Kaiga 3 &4 is 15.09%. The tariff for Kaiga 1&2 and Kaiga 3&4 for H2 FY 2015-16 has been considered same as the tariff in H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16.

3.4.1.1.9 Vallur Thermal JV Power Project (NTPC & TANGEDCO):

Ministry of Power, GOI had allocated firm share of 11.87% from total capacity of 1500 MW to erstwhile AP and 12.25% was considered for erstwhile AP inclusive unallocated power. Presently, Units 1, 2 & 3 are under generation and 93 MW is being availed by AP Discoms from this power project. NTECL had made filings before CERC for determination of tariff for the control period 2014-19 for this JV Project and provisional orders were yet to be issued by CERC for payment of fixed

charges. The fixed charges for H2 FY 2015-16 and FY 2016-17 are computed based on the 85% of AFC (for units 1,2&3) as approved by CEO(NTECL) pending tariff order from Hon'ble CERC for FY 2014-15 for Vallur power project. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16.The incentives payable have been factored into the fixed charges. In the orders of CERC, the income tax was grossed up in ROE component as per the regulations, 2009 and hence, the fixed charges determined for H2 FY 2015-16 and FY 2016-17 are inclusive of income tax. As per the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, incentives are also part of fixed charges which are to be computed every month based on the formulae provided in the Regulations. Based on the availability projections, the fixed charges along with payable incentives are considered for H2 FY 2015-16 and FY 2016-17.

3.4.1.1.10 NLC-TNPL Tuticorin

A joint venture power project of NLC and TNEB had implemented at Tuticorin with an installed capacity of 1000MWs. Both the units were declared the COD and presently, AP is availing 132 MWs from this power project. M/s. NTPL had filed the tariff petition before Hon'ble CERC for determination of fixed charges to the control period 2014-19. Based on these filings, CERC had issued the provisional orders. The fixed charges are computed based on the availability projections duly considering the 30% PLF for H2 FY 15-16 and with 100% PLF for FY 16-17, as submitted by NTPL. Variable cost per unit for H2 FY 2015-16 has been considered same as actual per unit variable cost as H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16. The payable incentives were computed by considering the regulations, 2014 i.e., 50 paise per unit above the threshold PLF of 85%.

3.4.1.1.11 NTPC-Kudgi

As informed by NTPC, the estimated total cost per unit is Rs. 4.20 (Fixed Cost of Rs. 2.31 and Variable Cost of Rs. 1.89) during the first year. A petition will be filed before Hon'ble CERC for determination of tariff based on the capital cost before synchronization of the first unit i.e. in March 2016. For the period between the achievement of CoD and determination of tariff by CERC, the Company will raise bills based on the provisional tariff and reconciliation will be done after finalization of tariff by CERC.

3.4.2 APGPCL

The power purchase cost incurred by APDISCOMs for procurement from APGPCL for H2 FY 2015-16 and FY 2016-17 are as per the projections given by APGPCL.

The calculations were done on the basis of availability of 0.65 MSCMD of Natural Gas with the usage of part load i.e., about 172MW (out of 272 MW). As a result, about 100 MW was kept as idle for want of Natural Gas. Consequently, the fixed cost has gone up steeply.

Cost components for H2 FY 2015-16 and FY 2016-17		
Particulars	**H2 FY 2015-16**	**FY 2016-17**
Stage-I		
Fixed cost (Rs. Crs.)	0.69	0.98
Variable cost (Rs. / kWh)	2.78	2.87
Stage –II		
Fixed cost (Rs. Crs.)	1.60	3.04
Variable cost (Rs. / kWh)	2.79	2.87

During FY 2014-15, Natural Gas dollar rate had been drastically increased from USD 59.00 to USD 62.00 Fixed cost also increased due to non-supply of natural gas due to gas pipe line blast at Nagaram Village, East Godavari Dist on 27.06.2014. APGPCL plants were totally closed for about Four and Half months.

Proposed gas cost is USD 3.82 per MMBTU which is effective from October 2015.

S. No	Particulars	H2 FY 2015-2016	FY 2016-2017
1	Gas Availability in SCMD	6,50,000	6,50,000
2	Gas Rate - per MMBTU	3.82 USD	3.82 USD
3	Exchange Dollar Rate [$]	65	65
4	Variable Cost Unit Rate : Rs.		
	Stage-I	2.78	2.87
	Stage-II	2.79	2.87

As plants are running with part load, the gas consumption i.e. SFC (Specific Fuel Consumption) is also more which is contributing to increase in the variable cost and fixed cost.

3.4.3 IPPs

3.4.3.1 GVK JEGURUPADU POWER PROJECT

The fixed cost is fully recoverable at 68.50 % PLF. The variable charge of H2 FY 15-16 is considered same as APERC approved FY 15-16 value of Rs 2.62/ kWh and 3% escalation on APERC approved FY15-16 value has been considered for FY 2016-17.

The capital cost of this plant is Rs. 816 Crs. The estimated fixed cost for Andhra Pradesh is Rs. 68.84 Crs per annum for FY 2015-16 (H2) and Rs.123.87 Crs (estimated) for FY 2016-17 (.The

PPA subsisting with M/s.GVK was expired on 20.06.2015. APDISCOMs had issued Buyout notice and M/s.GVK is scheduling entire power only to APDISCOMs w.e.f. 20.06.2015. There is no share for TSDISCOMs upon expiry of PPA in respect of M/s.GVK). The fixed cost includes foreign exchange variations payable by APDISCOMs to the generator as per the provisions of Power Purchase Agreement. The actual fixed cost as settled by the licensee may be different from the estimates as presented above on account of the monthly Foreign Exchange Rate Variation (FERV). The licensee submits to the Hon'ble Commission to allow the licensee to subsequently claim the change in fixed cost on account of FERV.

Deemed / Notional generation claims will be payable to the generator up to 85 % PLF as per the incentive formulae provided in the PPA.

Computation of incentive has been carried out based on the formula provided in the PPA. As there is gas deficit the expected PLF for H2 FY 2015-16 and for FY 2016-17 is 40%. Hence incentive may not be applicable for H2 FY 2014-15 and FY 2015-16.

Incentive payment = Equity x (PLF - 68.50) x 0.00525;

Equity = Rs. 244.80 Crs;

Projected incentive for H2 FY 2015-16 is Rs. 0.00 Crs and for FY 2016-17 is Rs. 0.00 Crs (as there is deficit of gas).

3.4.3.2 SPECTRUM

The fixed cost is fully recoverable at 68.50 % PLF. The variable charge of H2 FY 15-16 is considered same as APERC approved FY 15-16 value of Rs 2.76/ kWh and 3% escalation on APERC approved FY15-16 value has been considered for FY 2016-17.

The estimated fixed cost for Andhra Pradesh is Rs. 63.12 Crs per annum for FY 2015-16 and Rs.5.60 Crs for FY 2016-17 (In respect of M/s. SPGL power is sharing by AP & TS DISCOMs as per G.O.Ms.No.20 Dt.08.05.2014 but Projections are made considering full capacity of the plant (not AP share). Further, the PPA subsiding with M/s. SPGL is going to expire by 18.04.2016. The APDISCOMs yet to decide for choosing the options either Renewal of PPA or Buyout of the project. Hence the projections are shown only up to 18.04.2016). The fixed cost is inclusive of foreign exchange variations payable by APDISCOMs to the generator as per the provisions of Power Purchase Agreement.

The actual fixed cost as settled by the licensee may be different from the estimates as presented above on account of the monthly Foreign Exchange Rate Variation (FERV). The licensee submits to the Hon'ble Commission to allow the licensee to subsequently claim the change in fixed cost on account

of FERV.

Deemed / Notional generation claims will be payable to the generator up to 85% PLF as per the incentive formulae provided in the PPA.

Computation of incentive has been carried out based on the formula provided in the PPA. As there is gas deficit the expected PLF for H2 FY 2015-16 and for FY 2016-17 is 40% (The projections are taken only up to 18.04.2016). Hence incentive may not be applicable for H2 FY 2014-15 and FY 2015-16.

Incentive payment = Equity x (PLF - 68.50) x 0.004 (if PLF > 68.50 < 80.50);

Incentive payment = Equity x (PLF - 68.50) x 0.005 (if PLF > 80.50 < 85.50);

Incentive payment = Equity x (PLF - 68.50) x 0.006 (if PLF > 85.50);

Equity (considered provisionally) = Rs. 117.92 Crs;

Projected incentive for H2 FY 2015-16 is Rs. 0.00 Crs and for FY 2016-17 is Rs. 0.00 Crs (as there is deficit of gas).

3.4.3.3 LANCO KONDAPALLI

The fixed charges are fully recoverable at 80% PLF. The variable charge of H2 FY 15-16 is considered same as APERC approved FY 15-16 value of Rs 2.28/ kWh and 3% escalation on APERC approved FY15-16 value has been considered for FY 2016-17.

Estimated fixed costs for Andhra Pradesh for FY 2015-16 upto 01.01.2016 is Rs.43.62 Cr. The subsisting PPA with LANCO expires by 01.01.2016.

As per the existing PPA of Lanco Kondapalli with APDiscoms, the FDSC component of the fixed charge will not be payable by APDiscoms after completion of 12 years from the date of commencement of supply of power. This 12 year duration was completed by December 2012. Hence, no FDSC component are payable.

In case the plant achieves a PLF (I) greater than 80% for a tariff year, then the Board shall pay to the generator incentive (as a percentage of the other fixed charges) for any additional unit generated beyond the actual generation in excess of a PLF (I) of 80%. The incentive structure is as shown below:

PLF (I) %	Incentive (%)
Up to 80 %	Nil
Above 80 % and up to 85 %	2 % for every 1 % increase in PLF(I) (i.e. for a PLF(I) of 85 %, the incentive will be 10 % of the Other Fixed Charge)
Above 85 % and up to 90 %	3 % for every 1 % increase in PLF(I) (i.e. for a PLF(I) of 90 %, the Incentive will be 10 % + 15 % = 25 % of the Other Fixed Charge)
Above 90 %	Same as for 90% i.e. 25% of the Other Fixed Charge.

Projected incentive for H2 FY 2014-15 is Rs. 0.00 Crs and for FY 2015-16 is Rs. 0.00 Crs.

3.4.3.4 RELIANCE INFRASTRUCTURE LTD. (BSES)

The fixed charge is fully recoverable at 85 % PLF. The variable charge of H2 FY 15-16 is considered same as APERC approved FY 15-16 value of Rs 2.93/ kWh and 3% escalation on APERC approved FY15-16 value has been considered for FY 2016-17.

Based on the formula provided in the PPA and considering 46.11% of the fixed cost for erstwhile Andhra Pradesh (as per G.O. Ms. No. 20), the fixed costs for Andhra Pradesh for FY 2015-16 and FY 2016-17 are Rs. 3.41 Crs and Rs. 6.82 Crs respectively. Since payment of FDSC component got over by December 2013 and only OFC is payable, fixed charges are being paid as per the actual PLF achieved during the month as there is no alternate fuel facility.

In case the plant achieves a PLF (I) greater than 85% for a tariff year, then the incentive (as a percentage of the other fixed charges) payable for any additional unit of actual generation in excess of a PLF (I) of 85 %. The incentive structure is as shown below:

PLF (I) %	Incentive (%)
Up to 85 %	Nil
Above 85 % and up to 90 %	2 % for every 1 % increase in PLF(I) (i.e. for a PLF(I) of 90 %, the Incentive will be 10 % of the Other Fixed Charge
Above 90 %	Same as for 90% i.e. 10 % of the Other Fixed Charge.

Projected incentive for H2 FY 2015-16 is Rs. 0.00 Crs and for FY 2016-17 is Rs. 0.00 Crs. The licensee shall not bear the tax on incentives payable to the generator.

3.4.3.5 New IPPs & Merchant Plants

No fixed and variable charges are considered from the new IPP plants.

3.4.4 NON CONVENTIONAL ENERGY (NCE) SOURCES:

The Commission issued orders on 20.03.2004, fixing power purchase price applicable for NCE Projects (Biomass/Industrial Waste, Bagasse & Mini Hydel) from 01.04.2004 to 31.03.2009. The NCE Project Developers filed cases before the Appellate Tribunal against the APERC orders. The Appellate tribunal set aside APERC Orders dated. 20.03.2004. APTRANSCO and APDISCOMs filed Appeals before Supreme Court against ATE Orders. The Hon'ble Supreme Court passed Orders dated. 08.07.2010 setting aside ATE Orders. The Supreme Court remanded the matter to APERC with a direction to hear NCE Project developers afresh and determine /fix tariff/power purchase price. APERC has initiated the public hearing in this matter from 28.09.2010 and passed three divergent orders vide its order dt:12.09.2011. The APERC orders are challenged before Appellate Tribunal for Electricity by NCE developers & APDISCOMs.

The Appellate Tribunal in its order dt:20.12.2012, while fixing the parameters, directed APERC to fix the tariff accordingly to be payable to Non-conventional Energy Developers for the period 2004-2009. Aggrieved by the APTEL order dt:20.12.2012, APDISCOMs filed Civil Appeals No's 1376-1385 of 2013 before Hon'ble Supreme Court. The apex court admitted the appeals and are pending for disposal.

The APDISCOMs filed an application I.A. No.22 of 2013 in O.P. No.1075 of 2000 praying the APERC to defer the hearing of the remand proceedings on NCE tariff cases as ordered by the Appellate Tribunal for Electricity in order dt:20.12.2012 till the final disposal of civil appeals (1376 to 1385) filed before Hon'ble Supreme Court. The APERC dismissed the I.A. No.22 of 2013 with the opinion that DISCOMs cannot ask for deferment of the tariff order to give effect to the APTEL order on the plea that the petition has been filed before Hon'ble Supreme Court and the same is admitted for hearing. The APERC issued order dt: 22.06.2013, pursuant to APTEL order dt: 20.12.2012, determining the tariff payable to NCE developers for the period 01.04.2004 to 31.03.2009. The DISCOMs filed Special Leave Petition in the Hon'ble Supreme Court against the order dated 22.6.2013 passed by the APERC vide SLP (Civil) No. 30416 to 30428 of 2013.

APERC issued suo-moto order dt:6.8.13 determining variable cost tariff in respect of Bagasse & Biomass (including Industrial Waste) projects giving consequential effect to the order dated 31.03.2009 in O.P No.5 of 2009 based on Hon'ble APTEL order dated 20.12.2012 & 30.04.2013. DISCOMs filed SLP against APERC order dated 06.08.2013 in the Hon'ble Supreme Court vide SLP (Civil) No. 19508 of 2013.

The Special Leave Petitions (Civil) 30416-28 filed against APERC order dt:22.6.13 & 19508 filed against APERC order dt:06.08.13 came up for admission on 28.10.2013 and the Lordships were not inclined to grant permission to file Special Leave Petitions directly against the orders of APERC and directed to withdraw the Special Leave Petitions. Accordingly, the Special Leave Petitions were

withdrawn.

As such, IAs were filed in C.A 1376-85 of 2013 before Hon'ble Supreme Court requesting for grant of stay of APERC orders dt:22.06.2013 & 06.08.2013 and Appeal Nos. 83 & 84 of 2014 were filed before APTEL against APERC orders dt:22.06.2013 & 06.08.2013. The same were dismissed by APTEL vide order dt: 21.07.2014 as not maintainable. Subsequently, appeals 10448 & 10499 are filed before Hon'ble Supreme Court against the orders of APTEL dt: 21.07.2014. The appeals are tagged with CA 1376-85 of 2013 and are likely to be listed on 20.01.2016.

About Rs. 406 Crs was already paid to the NCE developers in accordance with the various court orders (in the united Andhra Pradesh state).

However, upon the directions of Hon'ble Supreme Court dt: 16.12.2013, APDISCOMs are implementing tariff to the NCE developers as per APERC order dt: 22.06.2013 from the date of order, viz., 22.06.2013.

Further, vide orders dt:11.03.2014 & 13.03.2014, Hon'ble Supreme Court of India directed to release 50% amount due to the NCE developers. Accordingly, the NCE developers were paid Rs.214.96 Crs in erstwhile Andhra Pradesh.

APERC determined the variable cost for the control period FY 2014-19 vide APERC order dt: 16.05.2014. Further, APERC determined the fixed cost tariff for the Biomass, Bagasse, Mini Hydel & Industrial Waste projects for beyond 10 years of operation vide APERC orders dt:19.07.2014, 05.08.2014, 23.08.2014 & 01.09.2014 respectively. The fixed cost & variable cost are adopted as per the above orders for cost projections for H2 FY 2015-16 and FY 2016-17. However, review petitions have been filed by APDiscoms on APERC orders dt: 19.07.2014, 05.08.2014, 23.08.2014& 01.09.2014. The Hon'ble Commission dismissed/rejected these review petitions. Hence, appeals DFR Nos. 645 &646 of 2015 were filed before APTEL.

Further, the Biomass developers filed appeals before APTEL on APERC order dt: 16.05.2014& 19.07.2014 wherein APERC determined variable cost tariff for FY 2014-19 & fixed cost tariff for biomass projects beyond 10 years of operation respectively. Also, bagasse developers preferred appeal before APTEL against APERC order dt: 16.05.2014. The Mini Hydel developers also preferred appeal before APTEL against APERC order dt: 23.08.2014.

The Commission vide its order dt: 31.03.2009 fixed single part tariff for existing Wind and Municipal waste projects for the period from 1.4.2009 to 31.3.2014. Further APERC issued orders dt: 15.11.2012 duly fixing new tariff @Rs 4.70/unit for upcoming wind power projects upto 31.03.2015. The said tariff order was extended till 31.07.2015. Vide order dt:01.08.2015, APERC determined the tariff for the upcoming wind projects for FY2015-16 @ Rs.4.83/unit without AD and @Rs.4.25/unit with AD based on the regulation no 1 of 2015 pertaining to terms and conditions for tariff

determination for wind projects in the state of AP for the period from FY 2015-16 to 2019-20.

The weighted average costs per unit (or Tariff Order rates) for NCE sources considered for FY 2016-17 are shown in the table below:

Project Type	Weighted average Cost / Tariff Order Rate Considered for H2 FY 2015-16 (Rs. / kWh)	Weighted average Cost / Tariff Order Rate Considered for FY 2016-17 (Rs. / kWh)
NCE – Bio-mass including Co - Gen	5.91	6.18
NCE – Bagasse	4.15	4.33
NCE – Municipal Waste to Energy	5.91	6.18
NCE – Industrial Waste based power project	5.93	6.11
NCE – Wind Power	4.27	4.40
NCE – Mini Hydel	2.63	2.30
NCE – NCL Energy Ltd.	1.62	1.67
NCE – Solar Power	6.82	6.80
NCE – Solar Parks	-	6.16

3.4.5 MINI POWER PLANTS

3.4.5.1.1 SRIVATHSA POWER PROJECTS LTD (17.202 MW)

The recovery of fixed charges is limited to the delivery of 110 MU energy units. The fixed cost payable is Rs. 0.00 Crs for FY 15 and Rs. 1.726727 Crs for FY 16-17. The variable tariff for H2 FY 2015-16 has been considered same as the tariff in H1 FY 2015-16. FY 2016-17 per unit variable cost has been projected by considering 3% escalation on the VC of H1 FY 2015-16.

Incentives: In case the project achieves delivered energy in excess of 110 MU in a tariff year, the APDISCOMs shall pay to the generator, an incentive of Rs.0.05 (Rupees Zero and Five Paise only) / kWh for each additional unit of actual delivery of energy at the Interconnection Point.

3.4.6 HNPCL

M/s. HNPCL has filed an application vide O.P.No. 21/2015 before Hon'ble APERC for determination of tariff of 1040 MW Coal fired Thermal Power Plant to be set up at Visakhapatnam under cost plus basis and the hearings are under progress. Pending determination of Tariff by APERC, M/s. HNPCL has claimed the variable cost per unit of Rs. 1.8/kWh and fixed cost of Rs. 2.16/kWh at 85% availability for FY 2016-17.

3.4.7 Long Term & Medium Term

3.4.8 Long Term – Thermal Power Tech Corporation India Limited

Variable cost per unit of Rs.1.76/kWh have been considered for H2 FY 2015-16. And 3% escalation for FY 16-17. Fixed cost per unit of Rs.1.76/kWh have been considered for FY 16-17.

Long Term – 1000MW DBFOO Bidding

Total cost per unit considered for FY 16-17 is Rs.3.87/kWh. With variable cost of Rs.1.41/kWh

Medium Term – KSK Mahanadi

Total cost per unit considered for FY 2016-17 is Rs. 3.79/kWh.

Short Term and Bilateral/ Inter-State purchases

Month-wise shortfall has been estimated based on the availability and requirement. A part of this deficit would be met from external sources such as power traders and power exchange. The cost of power purchase is considered at Rs.5.17/kWh same as of H1 FY 15-16

Bilateral Purchases/Sale of Surplus Power

Month-wise surplus has been estimated based on the availability and requirement. A part of this surplus is assumed to be sold through bilateral contracts at a price of Rs.4.89/kWh. The estimated sale of such surplus power is 4,334 MUs and the remaining will be sold in the open market provided the variable cost is lower than market price. (Monthly Market Price for FY16-17 is assumed to remain same as S2 grid market price of FY 2015-16.The estimated sale from such external sources are estimated to be 2,808 MUs for FY 2016-17.

3.4.9 D-D Purchases

Month-wise availability of each APDiscom has been calculated based on PPA allocation. The requirement of each Discom at APTRANSCO periphery has been calculated, by grossing up the sales with losses. The D-D purchases / sales for each Discom have been estimated after taking into account the respective allocations to each Discom as per the Final Transfer Scheme. The D-D pool price has been considered at Rs. 5.17/kWh for FY 2016-17 (price of energy from bilateral purchases).

3.5 ENERGY REQUIREMENT

Based on the availability shown above and the energy requirement from all the Discoms, the actual energy to be purchased Discom-wise has been projected as follows:

DISCOMS	H2 FY 2015-16	FY 2016-17
	MU	MU
APEPDCL	8,407	19,083
APSPDCL	17,878	38,481
Total	**26,286**	**57,565**

The above energy requirement of the licensees has been arrived at by grossing up the sales of the licensee sales with appropriate transmission and distribution losses. The external loss on the power purchased from CGS and KSK Mahanadi only has also been factored in the above energy requirement.

3.6 SUMMARY OF POWER PURCHASE FOR CURRENT YEAR H2 FY 2015-16 AND ENSUING YEAR FY 2016-17

Based on the availability, requirement and costs for each source, the summary of power purchase cost for Andhra Pradesh for H2 FY 2015-16 is projected as follows:

Source	2015 -16 H2 Projection			
	Power Purchase (MU) Available	Power Purchase (MU) Despatch	Costs (INR Crs)	PP Cost (INR/kWh)
APGENCO Thermal	9,289	9,289	4,467	4.81
TSGENCO Thermal	3,338	3,338	1,287	3.86
APGENCO Hydel	942	942	233	2.47
TSGENCO Hydel	-	-	-	-
CGS	5,771	5,771	1,966	3.41
APGPCL	61	61	19	3.16
IPPs - Gas	1,390	1,390	482	3.46
NCE	1,035	1,035	492	4.76
Others*	2,090	2,090	700	3.35
Market	3,406	2,335	1,207	5.17
Total	**27,323**	**26,252**	**10,853**	**4.13**

*Others include Srivathsa, Long term and Medium term purchases, Hinduja

Based on the availability, requirement and costs for each source, the summary of power purchase cost

for Andhra Pradesh for FY 2016-17 is projected as follows:

Source	FY 16-17 Projection			
	Power Purchase (MU) Available	Power Purchase (MU) Despatch	Costs (INR Crs)	PP Cost (INR/kWh)
APGENCO Thermal	18,776	16,915	8,703	5.14
TSGENCO Thermal	6,728	6,720	2,514	3.74
APGENCO Hydel	3,241	3,241	479	1.48
TSGENCO Hydel	-	-	-	
CGS	12,437	12,437	4,252	3.42
APGPCL	117	107	35	3.25
IPPs - Gas	3,054	3,048	1,119	3.67
NCE	4,965	4,965	2,539	5.11
Others*	16,700	16,700	6,440	3.86
Market	822	575	297	5.17
Total	**66,839**	**64,706**	**26,378**	**4.08**
DISCOM Energy Requirement	57,565	57,565	22,877	3.97
Sale of Surplus Power	9,274	7,142	(3,502)	(4.90)

*Others include Srivathsa, Long term and Medium term purchases, Hinduja

3.7 Losses

DISCOM losses

The DISCOM losses for H2 FY 15-16 is taken as per APERC approved values and 5% reduction is considered for FY16-17

The below table provides the voltage level losses for projecting the energy requirement for H2 FY 2015-16 and FY 2016-17.

EPDCL - DISCOM losses		
Voltage Level	**H2 FY 2015-16**	**FY 2016-17**
33 kV	3.39%	3.22%
11 kV	4.00%	3.80%
LT	4.99%	4.74%

TRANSCO losses

The Transco losses for H2 FY 2015-16have been taken as per approved. And for FY 16-17 Transco losses for FY 15-16 H1 actuals are considered

Transmission Losses H2 FY 2015-16	Transmission Losses FY 2016-17
3.95%	3.34%

Losses external to APTRANSCO system

The losses external to the APTRANSCO system are considered to be 3.57 % for H2 FY 15-16 and also for FY16-17 APERC approved values for FY15-16. 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.

3.8 Expenditure Projections

3.8.1 Power Purchase and Procurement Cost

The Energy dispatch from various generating stations is estimated to be 17026.49 MU for FY 2015-16 and 19083.51 MU for 2016-17 and the cost of this energy would be Rs. 6835.76 Cr. and Rs. 7495.72 Cr. respectively.

	EPDCL	
	2015-16	2016-17
Power Purchase from Generators (in MUs)	17026.49	19083.51
Power Purchase from Generators (in Rs. Crores)	6835.76	7495.72

3.8.2 AP Transco Transmission Charges

The actual Transmission charges for FY 2014-15 are Rs. 305.25 Crs. and for FYs 2015-16 & 2016-17 it is estimated at Rs. 367.96 Crs. and Rs. 469.28 Crs. based on the approved MYT Transmission Tariff Order for FYs 2014-15 to 2018-19.

FY 2015-16

Name of the Transmission Service Provider	Load not eligible for Open Acces			Load Eligible for Open Access			Total Cost (Rs. Crs.)
	MW	Tariff (Rs./kW/mont)	Cost (Rs. Crs.)	MW	Tariff Rs./kW/mont	Cost (Rs. Crs.)	
APTransco	3087.92	76.66	284.06	619.08	76.66	56.95	341.01
Total							**341.01**

FY 2016-17

Name of the Transmission Service Provider	Load not eligible for Open Acces			Load Eligible for Open Access			Total Cost (Rs. Crs.)
	MW	Tariff (Rs./kW/mo th)	Cost (Rs. Crs.)	MW	Tariff Rs./kW/month	Cost (Rs. Crs.)	
APTransco	3250.01	91.36	356.31	680.99	91.36	74.66	430.96
APERC approved True down amount t APTransco			-92.98				
Total			**263.33**			**74.66**	**337.98**

3.8.3 SLDC Charges

The actual SLDC charges for 2014-15 are Rs. 12.10 Crs. and for FYs: 2015-16 and 2016-17 it is estimated at Rs.11.84 Crs. and Rs.13.06 Crs. based on the approved SLDC Order for FYs: 2014-15 to 2018-19.

2015-16	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	3087.92	3092.78	0.96	3087.92	2209.34	8.19	10.1
Load Eligible for Open Access	619.08		0.19	619.08		1.64	2.02
Total	**3707.0**		**1.15**	**3707**		**9.83**	**12.12**

2016-17	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	3250.01	3533.18	1.15	3250.01	2247.62	8.77	9.91
Load Eligible for Open Access	680.99		0.24	680.99		1.84	2.08
TOTAL	**3931**		**1.39**	**3931**		**10.6**	**11.99**

3.8.4 PGCIL & ULDC Charges:

The PGCIL and ULDC charges have been computed based on the information sought by the licensee from APTransco. The licensee has projected the PGCIL & ULDC charges for FY 16-17 based on the actual of FY: 2014-15 and first half of FY 2015-16.

Particulars (Rs. Crs.)	2015-16	2016-17
PGCIL Expenses	119.26	131.19
ULDC Charges	2.55	2.81
Total	**121.81**	**133.99**

3.8.1 Distribution Costs

The licensee has adopted the Distribution cost for FY 2015-16 & 2016-17 as approved in the Wheeling Tariff Order (Distribution Business Tariff Order) for 3rd MYT control period (FY 2014-15 to 2018-19).

The distribution costs for FY: 2015-16 and FY: 2016-17 are Rs. 1,216.97 Crores and Rs. 1,382.3 Crores respectively as approved in the Wheeling Tariff Order.

FY 2015-16

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.)
APEPDCL	**1180.06**	36.91	**1216.97**
Total	**1180.06**	36.91	**1216.97**

FY 2016-17

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.)
APEPDCL	1339.26	43.04	**1382.30**
Total	1339.26	43.04	**1382.30**

The details of the Distribution cost considered in present retail supply filing for the current year -2015-16 and the ensuing year 2016-17 are as below:

Rs. Crs.

Distribution Cost Breakup Particulars	2015-16	2016-17
Operation & Maintenance Charges	952.1	1088.15
Return on capital employed	120.86	131.93
Depreciation	307.81	343.26
Other Expenditure	0.64	0.65
Taxes on income	11.17	12.19
Special Appropriations	5	5
True up adjustment of 1st control period Revenue		
Less: IDC/Expenses capitalized	34.3	38.53
Less: Wheeling Revenue		
Less: NTI	146.31	160.28
Net Distribution Cost	**1216.97**	**1382.30**

The licensee would request to Honorable APERC that the distribution cost as filed by the licensee before the Honorable Commission (still pending to be approved) should be considered in the present retail supply filing for the FY 2015-16 & FY 2016-17.

The distribution costs (as mentioned in the Review petition filed) for FY: 2015-16 and FY: 2016-17 are Rs. 1269.22 Crores and Rs. 1434.62 Crores respectively.

FY 2015-16

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.)
APEPDCL	1232.31	36.91	**1269.22**
Total	1232.31	36.91	**1269.22**

FY 2016-17

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.)
APEPDCL	1391.58	43.04	**1434.62**
Total	1391.58	43.04	**1434.62**

The details of the Distribution cost that the licensee requests to Honorable APERC commission to consider in present retail supply filing for the current year -2015-16 and the ensuing year 2016-17 are as below:

Rs. Crs.

Distribution Cost Breakup Particulars	**2015-16**	**2016-17**
	(based on Review Petition pending with APERC)	(based on Review Petition pending with APERC)
Operation & Maintenance Charges	952.1	1088.15
Return on capital employed	168.69	179.76
Depreciation	307.81	343.26
Other Expenditure	0.64	0.65
Taxes on income	15.59	16.61
Special Appropriations	5	5
True up adjustment of 1st control period Revenue		
Less: IDC/Expenses capitalized	34.3	38.53
Less: Wheeling Revenue		
Less: NTI	146.31	160.28
Net Distribution Cost	**1269.22**	**1434.62**

3.8.5 Interest on Consumer Security Deposits

The details showing the interest on Consumer Security Deposit is as below.

Rs. Crs.

		2014-15	**2015-16 Estimated**	**2016-17 Projected**
(a)	Opening Balance	924.62	933.17	942.58
(b)	Additions during the Year	76.93	94.62	153.54
(c)	Deductions during the Year	68.38	75.22	142.26
(d)	Closing Balance	933.17	942.58	953.86

		2014-15	2015-16 Estimated	2016-17 Projected
(e)	Average Balance ((Opening + Closing)/2)	928.90	937.87	948.22
(f)	Interest @ % p.a.	8.31	9.00	9.50
(g)	Interest Cost (e x f)	**77.20**	**84.41**	**90.08**

Interest on consumer security deposits are 8.45% in FY: 2012-13, 8.38% in FY: 2013-14 and 8.31% in FY: 2014-15. Based on the past trend, the licensee has considered the 9% & 9.5% rate of interest for estimation of interest on consumer security deposits for FY 2015-16 and 2016-17.

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."

The Licensee would like to submit that the Power Purchase Cost contributes to nearly 80% of the total Retail ARR while Subsidy contributes to more than 10% of the Retail ARR. While payments to generators is being done on a monthly basis, the revenue cycle is nearly 2 months. Hence, The working capital requirement of the Distribution Licensees has increased significantly and hence the Licensee request the Hon'ble Commission to increase the duration of Security Deposit from the current two month charges to 75 days charges in case of monthly billing while continuing with 3 months charges for bi-monthly billing.

This would ensure the Working Capital Requirements of the Licensees are met.

This change would not increase the ARR for FY 16-17 as the interest would be paid out in May 2017 only and hence the Licensees have projected Interest on CSD for FY 16-17 considering duration of Security Deposit of 60 days only.

3.8.6 Supply Margin

Supply margin has been projected as per norms approved by Hon'ble Commission based on RRB approved by Hon'ble APERC in Distribution business Tariff Order for 3rd Control Period:

Particulars (in Rs. Crs)	2015-16	2016-17
Supply Margin Amount	4.83	5.28

3.8.7 Other Costs

Other cost includes the payment to EESL under DELP schemes towards distribution of 7920000 LED bulbs to all domestic consumers covering all the five districts of APEPDCL in FY 2016-17. Expenditure towards energization of 400N0s. Solar agricultural pump sets. In the FY 2015-16 1000Nos pumpsets were energized and is projected for releasing of another 2000Nos. pumpsets in FY16-17.The power purchase cost saved by this DELP schemes has already been factored in the power purchase calculations.

The details of Other Costs projected by Licensee for FY: 2015-16 & 2016-17 are as follows:

Particulars (in Rs. Crs)	2015-16	2016-17
Distribution of LED bulbs under DELP	37.24	35.23
Energization of Solar Agricultural pumpsets	3.77	10.44
True up FY14-15	406	
Total	447.01	45.67

3.8.8 Aggregate Revenue Requirement (ARR) for Retail Supply Business

The Aggregate revenue requirement for FY 2015-16 and for FY 2016-17 are as shown below:

(Rs. Crs)

Expenditure Item	2015-16 (Est.)	2016-17 (Projected)
Power Purchase and procurement cost	6835.76	7495.72
Transmission Cost	341.01	337.98
PGCIL & ULDC Cost	121.81	133.99
SLDC Charges	10.97	11.99
Distribution Cost	1216.97	1382.30
Interest on Consumer Security Deposits	84.41	90.08
Supply Margin	4.83	5.28
Other Costs	447.01	45.67
Total	**9062.78**	**9503.03**

3.9 Revenue Projections

3.9.1 Sales Forecast

The table below is a summary of the sales forecast for FY 2015-16 & FY 2016-17. The trend of sales of FY 2013-14 and FY 2014-15 has also been shown:

Sales / Forecast Sales (MU)	2013-14	2014-15	2015-16	2016-17
LT Category	**6604.74**	**7448.16**	8300.61	9141.30
Category I Domestic	3434.582	3,708.53	4231.34	4766.50
Category II (A,B&C) - Non-domestic/ Commercial	647.405	684.83	778.91	874.72
Category III (A&B) - Industrial	494.511	622.44	733.01	837.85
Category IV (A,B&C)- Cottage Industries &Dhobi Ghats	1.823	1.93	2.16	2.36
Category V (A,B&C)-Irrigation and Agriculture	1752.447	2,166.92	2281.16	2372.34
Category VI - Local Bodies, St. Lighting & PWS	236.102	224.08	229.49	238.13
Category VII (A & B) - General Purpose	37.218	38.94	43.42	48.29
Category VIII-Temporary Supply	0.653	0.50	1.12	1.12
HT Category at 11 KV	**1602.77**	**1689.38**	1967.50	2237.26
HT I (A): General	830.37	942.09	1109.95	1282.97
Lights and Fans	21.28	26.93	31.31	36.38
Industrial Colonies	2.09	1.44	1.72	1.98
Seasonal Industries	2.32	3.26	3.75	4.37
Time of Day Tariffs (6 PM to 10 PM)	145.90	121.46	139.27	161.92
HT I (B): Ferro Alloy Units	0.00	-	0.00	0.00
HT II: Others	250.81	248.39	296.67	341.58
Time of Day Tariffs (6 PM to 10 PM)	62.46	58.31	65.09	70.56
HT III: Airports, Bus Stations and Railway Stations	5.98	6.91	7.48	8.10
Time of Day Tariffs (6 PM to 10 PM)	1.66	1.65	1.69	1.89
HT IV Government LIS	14.35	18.84	20.73	20.73
HT IV Agriculture	0.00	-	0.00	0.00
HT IV CPWS	9.31	10.91	11.93	12.47
HT VI: Townships & Residential Colonies	20.94	20.00	21.46	21.59
HT VII: Green Power	0.00	-	0.00	0.00
HT VIII: Temporary	0.00	-	0.00	0.00
Category: RESCOs	235.30	229.20	256.44	272.72
HT Category at 33 KV	**1022.36**	**1235.71**	1491.25	1763.68
HT I (A): General	611.54	764.6	1068.86	1266.36
Lights and Fans	4.91	7.4	6.00	6.69
Industrial Colonies	0.76	0.8	0.52	0.58
Seasonal Industries	2.46	3.8	3.09	3.62
Time of Day Tariffs (6 PM to 10 PM)	139.14	111.7	53.41	63.63
HT I (B): Ferro Alloy Units	101.49	135.9	135.93	147.02
HT II: Others	92.37	113.3	132.36	160.33
Time of Day Tariffs (6 PM to 10 PM)	19.63	21.8	13.06	16.18
HT III: Airports, Bus Stations and Railway Stations	5.58	4.2	4.69	5.25
Time of Day Tariffs (6 PM to 10 PM)	1.11	0.9	0.48	0.54
HT IV Government LIS	36.37	63.4	63.64	83.10
HT IV Agriculture	0.00	-	0.24	0.24
HT IV CPWS	0.00	-	0.00	0.00
HT VI: Townships & Residential Colonies	7.02	7.9	8.96	10.13
HT VII: Green Power	**0**	-	0.00	0.00

Sales / Forecast Sales (MU)	2013-14	2014-15	2015-16	2016-17
HT VIII: Temporary	0	-	0.00	0.00
Category: RESCOs	0	-	0.00	0.00
HT Category at 132 kV	**2889.16**	**3144.66**	3435.47	3780.92
HT I (A): General	626.78	993.33	1377.02	1559.57
Lights and Fans	45.92	49.72	31.33	35.75
Industrial Colonies	66.72	58.79	30.65	34.96
Seasonal Industries	0.00	0.00	0.00	0.00
Time of Day Tariffs (6 PM to 10 PM)	188.19	158.24	71.34	81.08
HT I (B): Ferro Alloy Units	1270.37	1171.54	1175.18	1269.56
HT II: Others	58.45	62.26	76.15	94.07
Time of Day Tariffs (6 PM to 10 PM)	12.54	12.82	6.69	8.60
HT III: Airports, Bus Stations and Railway Stations	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
HT IV Government LIS	0.00	9.78	18.81	18.81
HT IV Agriculture	0.00	0.00	0.00	0.00
HT IV CPWS	0.00	0.00	0.00	0.00
HT V: Railway Traction	620.20	628.18	648.29	678.53
HT VI: Townships & Residential Colonies	0.00	0.00	0.00	0.00
HT VII: Green Power	0.00	0.00	0.00	0.00
HT VIII: Temporary	0.00	0.00	0.00	0.00
Category: RESCOs	0.00	0.00	0.00	0.00
HT TOTAL	**5,514.30**	**6,069.75**	6894.22	7781.86
Total	**12119.04**	**13517.90**	**15194.83**	**16923.17**

3.9.2 Trend Method

For the purpose of Sales Forecast for H2 of FY 2015-16 and for FY 2016-17 Trend Method has been followed.

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 2010-2011 to H1 of FY 2015-16.

The following inputs have been taken to arrive at sales projections for H2 of FY 2015-16 and FY 2016-17.

- Actual Sales till September 2015 have been taken.
- Actual Load Relief imposed during H2 of FY2014-15 and H1 of FY 2015-16 were considered for projection of H2 of FY 2015-16 & FY 2016-17 sales.
- Category wise CAGR (Compounded Annual Growth Rate) trend during the last 5 years, 4years and 3years, year-on-year growth rates and first half of FY 2015-16 over first half of FY 2014-15 and second half of FY 2014-15 over second half of FY 2013-14 growth rates have been considered for projecting sales for second half of the current year FY 2015-16 and ensuing year FY 2016-17.

Forecasting Sales: LT-I Domestic Category

Based on the past 5 years CAGR and number of services released during the 1st half of the current year, growth rate of 14% is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rate of 14% has been adopted for forecasting unrestricted sales for ensuing year. This 12.65 % Growth rate includes Power for all and Additional load growth rate.

The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			**Projection (Sales in MU) (Unrestricted)**		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
3434.58	3708.53	2,334.35	1,896.99	4,231.34	4,766.50

Forecasting Sales: LT-II Commercial Category

Based on the past 5 years CAGR, a growth rate of 13% is considered for projecting second half sales of the current year 2015-16 over 2014-15.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates moderated growth rate of 12.3% has been adopted for forecasting sales for ensuing year. The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales

for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
647.41	684.83	420.88	358.03	778.91	874.72

Forecasting Sales: LT III – Industrial

Based on the past 5 years CAGR, a moderated growth rate of 13% is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates moderated growth rate of 14.3% has been adopted for forecasting sales for ensuing year.

The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
494.51	622.44	363.55	369.46	733.01	837.85

Forecasting Sales: LT IV – Cottage Industries

Based on the past 5 years CAGR, a moderated growth rate of 6% is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates moderated growth rate of 9.2% has been adopted for forecasting sales for ensuing year.

The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
1.82	1.93	1.13	1.04	2.16	2.36

Forecasting Sales: LT V (Agriculture)

The Energy demand has been growing consistently over the past years. As per the present year experience the usage of power for agriculture purpose is substantially increasing when compared to the previous years.

Most of the pump sets under usage are not as per standard specification and therefore the pump sets draw more Energy. The farmers are replacing the old pump sets with higher capacity pump sets, with the hope that more water can be pumped out.

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, 90% of the existing pump sets as on 30-09-2015 are provided with Capacitors. The licensee is taking all steps necessary to provide Capacitors for the balance pump sets also.

EPDCL is taking the following measures for Loss reduction in agricultural sector

- Strict implementation of Restriction and Control measures to assure the assumed number of hrs. of supply to agricultural sector.
- Notices are issued to all farmers in EPDCL to adopt DSM measures along with pamphlets. Posters got prepared and displayed in all prominent places. Substation wise Meetings are conducted in all Circles and conservation of Energy by fixing the capacitors at Motor terminals demonstrated. Farmers are explained on the importance of DSM measures during weekly Vidyut Adalats also.

Process of Estimation:

In compliance to the directive of the Hon'ble APERC with regard to estimation of Agriculture consumption in the service area of APEPDCL, the Agriculture consumption in all the 5 circles are being worked out. Meters were fixed on L.V. side of sampled DTRs feeding exclusively agricultural services in each Mandal. In EPDCL, there are about 2,11,445 number of Agricultural services existing at the end of September'2014. There are 3856 Meters existing at the LV side of the DTRs to gauge the agricultural consumption as shown in the following table.

Name of the Circle	No. of Mandals having agricultural services	The mandals having sampled DTRs as per TF-2.10	DTRs metered
Srikakulam	38	30	180
Vizianagaram	34	30	307
Visakhapatnam	43	25	299
Rajahmundry	59	36	1290
Eluru	46	29	1780
Total	**220**	**150**	**3856**

The monthly meter readings of all the agricultural DTRs are collected from the five circles and the consumptions are arrived. The consumptions recorded at LV side of the DTRs will be netted off by a pre specified percentage to take care of LT network losses. The instruction of the Commission in qualifying a particular type of LT feeder based on Line Length, Loading pattern to a certain percentage pre specified losses is followed. The specific Agriculture consumption per HP is estimated for all the DTRs existing in that mandal and the same is extrapolated to all other Agriculture Pump sets spread across the mandal to arrive at mandal wise estimated consumption.

The Distribution Licensee humbly request the Hon'ble Commission to accept the actual agriculture sales filed by the Licensee based on the old methodology. The Licensee will adopt the ISI methodology to measure actual agriculture sales in the future.

According to GoAP policy of releasing new agriculture connections in the year 2016-17, the target for EPDCL during the year is to release 13,300 new connections. The consumption from these new connections (addition in agriculture pumpsets) has also been taken into consideration while projecting the sales.

The actual growth rate for H1 of 2015-16 over H1 of 2014-15 is 7 %. For the year 2015-16, APEPDCL has estimated the power consumption by the Agricultural category at 2,282.68 MU, taking into account actual sales till September 2015. The sales for second half of FY 2015-16 for this category are 1,222.61 MU.

The licensee has assumed 7 hours of supply to agricultural consumers, in its projections, considering the present power supply situation in the state. The deficit situation is expected to continue in all months of FY 2015-16 as per current estimates. EPDCL has considered a growth-rate of 4% for projecting the sales for FY 2016-17.The sales of FY 2016-17 for this category are 1949.627 MU.

The final abstract is as follows:

Year	H1 (in MU)	H2 (in MU)	TOTAL(in MU	APERC Target (in MU)
2012-13	747.07	781.34	1528.41	1714.02
2013-14	855.61	896.83	1752.45	1714.02
2014-15	989.41	1,177.51	2,166.92	1714.02
2015-16	1,060.07 (Actual)	1221.09 (Revised Estimate)	2,281.16 (Projection)	
2016-17 (Projections)	1,102.44	1,269.90	2,372.34	

Forecasting Sales: LT VI (Street lighting & PWS)

This category has witnessed (–) ve growth rate due to fall in consumption by implementing Energy Conservation measures like replacement of existing SV/MV lamps with LED bulbs etc.,

The CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates moderated growth rate of 4% has been adopted for forecasting sales for ensuing year. The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
236.10	224.08	114.13	115.36	229.49	238.13

Forecasting Sales: LT VII – General Purpose

Based on the past 5 years CAGR, a moderated growth rate of 8% is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates moderated growth rate of 11.22 % has been adopted for forecasting sales for ensuing year.

The Actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
2013-14	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
37.22	38.94	22.32	21.10	43.42	48.29

HT – Sales Forecast

HT IA - Industrial Segregated:

Keeping in view of the additional loads sanctioned, the prevailing growth rates, economic factors and the CAGR, a moderated growth rate of 16%, 15%, 16% for 11 KV, 33 KV, and 132 KV respectively is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates of 16%, 18%, 13% for 11 KV, 33 KV and 132 KV respectively has been adopted for forecasting sales for ensuing year.

The voltage wise actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Voltage	Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
11 KV	1001.95	1095.18	646.82	639.19	1,286.01	1,487.62
33 KV	758.81	888.26	608.87	523.02	1,131.89	1,340.88
132 KV	927.61	1260.08	745.77	764.57	1,510.34	1,711.36

Forecasting Sales: HT IB (Ferro Alloys)

Based on past 5 years CAGR, a moderated growth rate of 11%, 11% for 33 KV, 132 KV respectively is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates of 8% and 8% for 33 KV and 132 KV has been adopted for forecasting sales for the ensuing year.

The voltage wise actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Voltage	Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
33 KV	101.49	135.91	48.30	87.63	135.93	147.02
132 KV	1270.37	1171.54	571.90	603.29	1,175.18	1269.56

Forecasting Sales: HT II (Others):

Based on past 5 years CAGR, a moderated growth rate of 15%, 14%, 13% for 11 KV, 33 KV, and 132 KV respectively is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR of FY 2015-16 over FY 2010-11, year-on-year growth rates of 14%, 21%, 24% for 11 KV, 33 KV, and 132 KV respectively has been adopted for forecasting sales for the ensuing year.

The voltage wise actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Voltage	Actual (Sales in MU)			Projection (Sales in MU)(Unrestricted)		
	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
11 KV	313.27	306.70	205.08	156.67	361.75	412.14
33 KV	112.00	135.14	69.69	75.73	145.42	176.50
132 KV	70.99	75.08	44.16	38.69	82.85	102.66

Forecasting Sales: HT III (Aviation activity at airport)

The Actual sales from 2014-15 to H1 of 2015-16 and projections for H2 of 2015-16 and FY 2016-17 are as given below:

Projection (Sales in MU)						
Voltage	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
11KV	7.65	8.56	4.42	4.75	9.17	9.99
33 KV	6.69	5.10	2.88	2.29	5.17	5.79

Forecasting Sales: HT IVA (Govt. Lift Irrigation Schemes)

The applications pertaining to various upcoming lift irrigation schemes received from irrigation department, APSIDC and other various societies are considered for projecting consumption for the ensuing year FY 2016-17.

After evaluating the existing running schemes, progress of the new schemes and estimates sanctioned, additional loads of around 10MVA has been considered for the FY 2016-17.

S. No	Name of the Scheme	Name of the District	Addl. Mu requirement
1	Pattiseema LIS 33 KV	West Godavari	19.20

The Actual sales from 2014-15 to H1 of 2015-16 and projections for H2 of 2015-16 and FY 2016-17 are as given below:

	Actual (Sales in MU)			**Projection (Sales in MU)**		
Voltage	**2013-14**	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
11 KV	14.35	18.84	9.90	10.82	20.73	20.73
33 KV	36.37	63.42	25.12	38.52	63.64	83.10

Forecasting Sales: HT IV B (Agriculture) & HT IV C (Composite Water Supply Schemes)

The voltage wise actual and projected sales for HT IV (B) & HT IV(C) is shown below

	Actual (Sales in MU)			**Projection (Sales in MU)**		
Voltage	**2013-14**	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 H1+H2)**	**2016-17**
11 KV	9.31	10.91	5.65	6.28	11.93	12.47
33 KV	0.00	0.00	-	0.24	0.24	0.24

Forecasting Sales: HT V (Railway Traction)

Based on CAGR, a moderated growth rate of 5.4 % for H2 of FY 2015-16 has been considered and for FY 2016-17 4.66% growth rate which includes upcoming Traction loads and PFA requirement has been considered.

The Actual sales from 2014-15 to H1 of 2015-16 and projections for H2 of 2015-16 and FY 2016-17 are as given below:

	Actual (Sales in MU)			**Projection (Sales in MU)**		
Voltage	**2013-14**	**2014-15**	**2015-16 H1**	**2015-16 H2**	**2015-16 (H1+H2)**	**2016-17**
132 KV	620.20	628.18	329.55	318.75	648.29	678.53

Forecasting Sales: HT VI – Townships & Residential Colonies

Based on past 5 years CAGR, a moderated growth rate of 5% and 13% for 11 KV and 33 KV respectively is considered for projecting second half sales of the current year 2015-16.

Similarly considering CAGR for the period FY 2010-11 to FY 2015-16, year-on-year growth rates moderated growth rate 1% and 13% for 11 KV and 33 KV respectively has been adopted for forecasting sales for the ensuing year.

The voltage wise actual sales for FY 2013-14,FY 2014-15 and first half (H1) of FY 2015-16 and projected unrestricted sales for H2 of FY 2015-16 & FY 2016-17 are as given below:

Voltage	Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
11 KV	20.94	20.00	12.40	9.06	21.46	21.59
33 KV	7.02	7.87	5.20	3.76	8.96	10.13

HT- RESCOS:

There are two RESCOs in EPDCL area, one at Anakapalli (Visakhapatnam circle), and another at Cheepurupalli (Vizianagram circle). The actual growth rate for H1 of 2015-16 over H1 of 2014-15 is 6.68 %. For the year 2015-16, APEPDCL has estimated the power consumption by this category at 220.16 MU, taking into account actual sales till September 2015.

The licensee has considered an appropriate 6.35% growth-rate for projecting the unrestricted sales for ensuing year 2016-17

The Actual sales from 2013-14 to H1 of 2015-16 and projections for H2 of 2015-16 and FY 2016-17 are as given below:

Voltage	Actual (Sales in MU)			Projection (Sales in MU) (Unrestricted)		
	2013-14	2014-15	2015-16 H1	2015-16 H2	2015-16 (H1+H2)	2016-17
11 KV	235.30	229.20	146.36	110.08	256.44	272.72

3.9.3 ross Revenue from Current Tariffs

The gross revenue from current tariffs (excl. NTI) estimated for FY 2015-16 & FY 2016-17are tabulated below:

Revenue from Current Tariffs (excl. NTI) (Rs. Crs.)	2015-16 estimated	2016-17 projected
LT Category	**2781.93**	**3380.73**
Domestic	1388.69	1825.94
Non – Domestic	729.82	817.07
Industrial	462.41	525.31
Cottage Industries	0.97	1.05

Revenue from Current Tariffs (excl. NTI) (Rs. Crs.)	2015-16 estimated	2016-17 projected
Irrigation and Agriculture	27.67	29.96
Street Lightning & PWS	134.24	139.34
General Purpose	37.00	40.95
Temporary Supply	**1.13**	1.11
HT Category	**4767.45**	**5232.95**
Indl Segregated	2928.11	3251.78
Ferro-Alloys	637.10	688.32
Indl Non-Segregated	662.19	718.54
Aviation	12.99	14.29
Irrigation & Agricultural (incl. CWS)	64.03	75.28
Traction	433.28	453.49
Colony Lighting	18.97	19.69
RESCOs	10.77	0.00
Temporary	0.00	11.55
Total	**7549.37**	**8613.69**

3.9.4 Non-tariff Income at Current Charges

(Rs. in crores)

Items of Non - Tariff Income (Rs. Crs.)	2014-15	2015-16 estimated	2016-17 projected
Recoveries from theft of power or malpractices			
Interest Income from Bank Deposits / Investments etc.	14.42	15.14	15.90
Interest income from staff advances and loans	1.66	1.75	1.83
Power Purchase Rebates earned	9.76	9.96	10.25
Securitisation benefits			
Miscellaneous / Other Receipts	19.62	20.60	21.63
R.C.fees	16.59	17.42	18.29
L.T.Application fees	0.73	0.76	0.80
Compensation from power traders	18.43	19.35	20.32
Total Non tariff income	**81.21**	**84.98**	**89.22**

Revenue from Theft of Power or malpractices: The licensee would like to state that it is not appropriate to include this item in the ARR. This is because the forecasts are made assuming that there will be no theft or malpractice. The Discom has been provided a distribution loss target under the MYT and this is the basis of ARR computation. Any instances of theft or malpractice will have a

bearing on the loss target achievement and since that is not subject to true-up, revenue from theft and malpractice should not be considered.

Interest income from Bank Deposits / investments

Interest income from bank deposits has been estimated at Rs. 15.14 Crs., Rs. 15.90 Crs. for the Financial Years 2015-16 and 2016-17 respectively. The estimate is made considering the existing deposits and their maturity periods and also considering the financial position of the company to make fixed deposits in the coming two years.

Power Purchase Rebates earned:

It is estimated that Power Purchase Rebates will be earned to the extent of Rs.10 Crs. for FY: 2015-16 and Rs.10.25 Crs. for FY: 2016-17.

Miscellaneous /Other Receipts:

Miscellaneous receipts for retail supply business comprise mainly of the following receipts-

(a) Capacitor Surcharge

(b) Penalties from suppliers

(c) Others

Miscellaneous receipts for FY 2015-16 is estimated as Rs. 20.60 Crs based on first half of FY 2015-16 and for FY 2016-17 based on past trend it was estimated as Rs. 21.63 Crores .

R.C.fees and Application fees:

Taking into consideration of the past trend, R.C.fees and Application fees are projected at Rs. 17.42 Crs and Rs. 18.29 Crs for FY 2015-16 and FY 2016-17.

Revenue at Current Tariffs and Charges

The revenue from current tariffs estimated for FY 2016-17 is tabulated as under:

Category	Net Revenue including NTI (Rs. Crores)
Low Tension	
LT I: Domestic	**1,842**
Group A: All Single phase consumers with annual consumption < = 600 Units	**273**
0-50	240
51-100	30
101-200	2
Above 200	0

Category	Net Revenue including NTI (Rs. Crores)
Group B: All single phase consumers with consumption (< =2400 and > 600 units)	**942**
0-50	410
51-100	302
101-200	157
201-300	52
Above 300	21
Group C: All single phase consumers with annual consumption >2400 units and all three phase consumers	**628**
0-50	70
51-100	81
101-200	109
201-300	116
301-400	111
401-500	57
Above 500 units	84
LT II: Non-Domestic/Commercial	**826**
LT II (A): Upto 50 Units/Month	**82**
0-50	82
LT II (B): Above 50 Units/Month	**743**
0-50	82
51-100	83
101-300	153
301-500	78
Above 500	347
LT II (C): Advertisement Hoardings	1
LT III: Industry	**531**
Industries	413
Seasonal Industries (off season)	-
Pisciculture/Prawn culture	107
Sugarcane crushing	1
Poultry farms	10
Mushroom and Rabbit farms	-
Floriculture in Green House	-
LT IV: Cottage Industries	**1**
Cottage Industries	1
Agro Based Activities	0
LT V: Agriculture	**30**
LT V (A): Agriculture with DSM Measures	**19**
Corporate Farmers & IT Assesses	6
Wet Land Farmers (Holdings >2.5 acre)	3
Dry Land Farmers (Connections > 3 nos.)	1

Category	Net Revenue including NTI (Rs. Crores)
Wet Land Farmers (Holdings <= 2.5 acre)	1
Dry Land Farmers (Connections <= 3 nos.)	8
LT V (B): Agriculture without DSM Measures	**11**
Corporate Farmers & IT Assesses	3
Wet Land Farmers (Holdings >2.5 acre)	5
Dry Land Farmers (Connections > 3 nos.)	2
Wet Land Farmers (Holdings <= 2.5 acre)	1
Dry Land Farmers (Connections <= 3 nos.)	1
LT V (C): Others	**0**
Salt farming units with CL upto 15HP	0
Rural Horticulture Nurseries	0
LT VI: Street Lighitng & PWS	**141**
LT VI (A): Street Lighting	**88**
Panchayats	51
Municipalities	11
Municipal Corporations	26
LT VI (B): PWS Schemes	**53**
Panchayats	45
Municipalities	4
Municipal Corporations	4
LT-VI (C): NTR Sujala Padhakam	**0.13**
LT VII: General	**41**
LT VII (A): General Purpose	34
LT VII (B): Religious Places	8
LT VII: Temporary Supply	1
Total LT	**3,414**
High Tension	
HT Category at 11 kv	**1,717**
HT I (A): General	1,074
Lights and Fans	22
Industrial Colonies	1
Seasonal Industries	6
Time of Day Tariffs (6 PM to 10 PM)	116
HT I (B): Ferro Alloy Units	-
HT II: Others	386
Time of Day Tariffs (6 PM to 10 PM)	59
HT III: Airports, Bus Stations and Railway Stations	8
Time of Day Tariffs (6 PM to 10 PM)	2
HT IV Government LIS	12
HT IV Agriculture	-

Category	Net Revenue including NTI (Rs. Crores)
HT IV CPWS	6
HT VI: Townships & Residential Colonies	14
HT VII: Green Power	-
HT VIII: Temporary	-
Category: RESCOs	12
HT Category at 33 kv	**1,238.57**
HT I (A): General	885
Lights and Fans	4
Industrial Colonies	0
Seasonal Industries	4
Time of Day Tariffs (6 PM to 10 PM)	43
HT I (B): Ferro Alloy Units	78
HT II: Others	155
Time of Day Tariffs (6 PM to 10 PM)	12
HT III: Airports, Bus Stations and Railway Stations	4
Time of Day Tariffs (6 PM to 10 PM)	0
HT IV Government LIS	47
HT IV Agriculture	0
HT IV CPWS	-
HT VI: Townships & Residential Colonies	6
HT VII: Green Power	-
HT VIII: Temporary	-
Category: RESCOs	-
HT Category at 132 kv	**2,334**
HT I (A): General	1,036
Lights and Fans	19
Industrial Colonies	21
Seasonal Industries	-
Time of Day Tariffs (6 PM to 10 PM)	51
HT I (B): Ferro Alloy Units	618
HT II: Others	114
Time of Day Tariffs (6 PM to 10 PM)	6
HT III: Airports, Bus Stations and Railway Stations	-
Time of Day Tariffs (6 PM to 10 PM)	-
HT IV Government LIS	11
HT IV Agriculture	-
HT IV CPWS	-
HT V: Railway Traction	458
HT VI: Townships & Residential Colonies	-
HT VII: Green Power	-

Category	Net Revenue including NTI (Rs. Crores)
HT VIII: Temporary	-
Category: RESCOs	-
Total HT	**5,289**
Total (LT + HT)	**8,703.14**

Subsidy targeting for domestic consumers

At present, domestic consumers are billed on the basis of monthly consumption only. The licensee submits that the existing tariff structure has the following drawbacks:

- Tariff shock observed by consumers on the verge of moving from one slab to another:

Consumption in Units	Category	Bill in Rs / month	Additional Charge for extra unit in Rs
100	Category I (B)	233	66
101	Category I (C)	300	
200	Category I (C)	667	210
201	Category I (D)	877	

- Tariff is dynamic based on consumption during the month. Consumers cannot be designated with any sub-category of Domestic due to non-static consumption of a consumption.
- Tariffs are independent of affordability / income level of consumers: Under the existing tariff regime, high-income consumers are likely to enjoy concessional tariffs intended for low-income consumers, in case their consumption during any month is reduced. Ex- if a consumer having an average consumption of 200 units/month consumes 30 units/month will be charged at 1.45 / unit.
- Non requirement of sub-category LT I (A) in presence of LT (B).

Considering above, the licensee would like to propose simplified tariff structure of Domestic category by grouping consumers, with no tariff change, based on certain conditions as shown below:

- Group A: Only Single-phase consumers with annual consumption upto 600 Units (upto 50 units/ month)
- Group B: Only Single-phase consumers with annual consumption greater than 600 Units and upto 2,400 Units
- Group C: Single-phase consumers with annual consumption more than 2,400 Units and all three-phase consumers

Grouping of domestic consumers will be done based on annual consumption of FY 2015-16 during the start of FY 2016-17 and will continue to be in the same group till the annual threshold limits stipulated above.

In case of a new consumer, the following rules will be applicable

- Group A - if a consumer is Single-phase consumer
- Group C - if a consumer is Three phase consumer

.The existing tariff structure is as under:

Existing Category / Slab Structure (Units)	Energy charge (Rs./Unit)
LT I (A): Upto 50 Units/Month	**1.45**
LT I (B): Above 50 Units/Month and Up to 100 Units/Month	
<50	**1.45**
51-100	**2.60**
LT I (C): Above 100 Units/Month and Up to 200 Units/Month	
<50	2.60
51-100	2.60
101-150	3.60
151-200	3.60
LT I (D): Above 200 Units/Month	
<50	2.60
51-100	3.25
101-150	4.88
151-200	5.63
201-250	6.70
251-300	7.22
301-400	7.75
401-500	8.27
>500	8.80

The licensee proposes a simplified tariff structure with grouping, with no change in in tariff, as under:

Proposed Category / Slab Structure (Units)	Energy charge (Rs./Unit)
Group A: All Single phase consumers with annual consumption < = 600 Units	
0-50	1.45
51-100	2.60
101-200	3.60
Above 200#	6.90
Group B: All single phase consumers with consumption (< =2400 and > 600 units)	
0-50	2.60
51-100	2.60
101-200	3.60
201-300	6.90
Above 300	7.75

Group C: All single phase consumers with annual consumption >2400 units and all three phase consumers	
0-50	2.60
51-100	3.25
101-200	5.26
201-300	6.90
301-400	7.75
401-500	8.27
Above 500 units	8.80

computed average existing tariff for a consumer whose consumption is > 200 but < 300 units

3.10 Revenue Gap

3.10.1 Revenue Deficit / Surplus at Current Tariff and Charges

Revenue Deficit / Surplus (Rs. Crs.)	2015-16 (Estimates)	2016-17 (Projections)
Aggregate Revenue Requirement (Rs. Crs.)	9062.78	9503.03
Revenue from Current Tariffs (Rs. Crs.)	7549.37	8613.68
Non - Tariff Income (Rs. Crs.)	84.98	89.22
Revenue from trading (Rs. Crs.)		
Revenue Deficit (-) / Surplus (+) at Current Tariffs (Rs. Crs.)	**-1428.43**	**-800.13**
Subsidy*	867.54	
Net gap- Deficit(-) / Surplus	**-560.89**	**-800.13**

5. Status on implementation of Directives

Compliance with directives issued by the Hon'ble Commission in the Tariff Order for FY: 2015-16

Dir. No.	Directive	Remarks
1	"report to the Commission by or before 30-06-2015, their readiness to measure agricultural consumption based on method-II within the respective areas of their operation comprehensively and completely and thereafter deliver the progress report at the office of the Commission on measurement of agricultural consumption based on method-II before the last working day of every month for the previous month without fail until further orders of the Commission on this subject. The Commission may cause such reports made by the Licensees to be posted on the websites of the Commission and the Licensees for the information of all the stakeholders. In default of either licensee reporting such readiness by 30-06-2015, it shall submit its explanation and reasons for the default to enable the Commission to consider taking necessary corrective action for enforcement of this direction".	For projecting Agricultural consumption in EPDCL new Robust methodology is being implemented file is under process and soon after finalization rate contract will be issued to the local section contractors. .
2	"The licensees shall, as far as possible, adhere to the sales volumes approved in this Order with an overall intent of avoiding under recovery of revenue. In case, there is any abnormal variation in actual sales compared with the approved sales, the licensees may approach the Commission for remedial measures in accordance with the applicable statutory and regulatory provisions. If the Commission finds any such deviation/ variation/ contravention to be unjustified, the Commission may be compelled to invoke the penal provisions provided by law".	Directive complied vide DNO.2570/15dt.26.10.2015

ENERGY CONSERVATION MEASURES TAKEN BY APEPDCL

I. APEPDCL comprising of 5 districts namely Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari with approximately 52.13 lakhs consumers having an average demand of 1015MW per day comprises Domestic sector 27.41%,Commercial 9.36%, Industrial 44.77%,AGL 14.95% and Others 3.4% .

II. As part of Energy Conservation week APEPDCL organized the following activities to create awareness on Energy Conservation, Energy Efficiency and Renewable Energy Sources i.e Solar etc.,

- ✓ Rally is conducted for creating awareness
- ✓ Painting Competitions were conducted for School going children in Sub Junior, Junior & Senior Categories on the Topic Energy Conservation & Solar Energy.
- ✓ Technical quiz conducted for school going children to create awareness on Energy Resources and Energy Conservation.
- ✓ Solar Expo conducted from 22nd to 24th August 2015 with Solar panel vendors and other energy efficient devices suppliers to promote Roof top solar Energy.
- ✓ Work shop conducted for creating awareness on Energy Conservation for general public and Engineering College Students.

ENERGY CONSERVATION INITIATIVES TAKEN BY APEPDCL

III. As a part of Loss Reduction and Energy Conservation Measures the following initiatives are taken

a. Erected BEE 5 Star rated DTRs

- APEPDCL is the first power utility in procurement of DTRs with BEE 5 star rating among all power utilities in India.

b. Erected Capacitor Banks

- 119 No's of 1MVAR and 03 No's 2MVAR Capacitor Banks totaling to 125 MVAR were erected.
- 184Nos. 600 KVAR capacitor banks totaling 110.4 MVAR erected on 11 kV Agriculture feeders for improving power factor and consequent reduction of load current on the feeders.

c. Distribution of LED Bulbs to each domestic consumer

- Implemented DELP (DSM Based Efficient Lighting Programme) scheme in APEPDCL wherein which 2 Nos. LED Bulbs are distributed to each domestic service at free of cost. Expected energy savings per month is 48.92MU.

d. Proposed to implement Domestic Efficient Fan Programme (DEFP) in Narasapuram

- APEPDCL proposed to implement the Domestic Efficient Fan Programme (DEFP) in Narasapuram and its adjoin areas in West Godavari District with the Financial support of M/s. EESL for

distribution of 1,00,000 Nos. BEE 5 star rated fans to 50,000 Nos. domestic consumer with a cost of Rs.15.55 Crs. The estimated energy savings per annum is 14.70 MU.

e. Installed Ag DSM Project

- APEPDCL has initiated implementation of Ag DSM based project at Rajanagaram Mandal in East Godavari District on ESCROW model with M/s EESL. Under this project 2496 inefficient agricultural Pump sets are being replaced with energy efficient pumps (EEPS) and the total estimated energy savings per annum is about 21.37 MU.

IV. Due to the above and various other activities the Energy loss of APEPDCL has got reduced to 6.32%. If it is further reduced by 1%, Approx 168MU of power can be saved annually cost of which is Rs/- 70crores and hence loss reduction activities are being continuously monitored.

V. Solar Roof Top Project

- 10KW Roof top Solar Project were installed at ATC building and circuit house / Visakhapatnam during the year 2012.
- Encouraging consumers for Solar Power generation and net metering by installing grid connected roof top Solar PV system by individual consumer with 30% subsidy on the project cost. 44 No's Solar Roof top units commissioned with a total capacity of 622 KW in APEPDCL.

VI. Installed Solar Agriculture Pump sets

- As a measure to reduce power purchase cost especially in Agriculture which is the highest loss potential pocket ,995 Nos. solar Agriculture Pump sets were installed and 49 Nos. Agreements given to the channel partners covering 1000 Nos. beneficiaries and the 5 No's works are under progress. Agreements are concluded for additional 1000Nos. Pump sets.

VII. NEW IT INITIATIVES IN APEPDCL

- **Implementation of ON LINE NSC in Call Centers.**
- **Implemented Centralized Payment System where** system of decentralized payments to the suppliers and contractors was centralized as a part of rationalization of payment system in APEPDCL.
- **Implemented E-Stores**: E-stores is developed in SAP to resolve the problems faced by the sections officers and to save time and manpower where in the material is directly sent to respective section officers by district stores.
- **IMPLEMENTED LMC Module for tracking no. of interruptions and duration of interruptions on the feeders online.**

6. CoS Report

1 Introduction

This report presents the estimated cost of service for various consumer categories of the Eastern Power Distribution Company Limited (APEPDCL), for the year starting on April 1, 2016 and ending on March 31, 2017. The objective of this report is to classify the costs into demand; energy and customer related components and then apportion the same to various customer categories.

The steps involved in the analysis are:

- Forecasting the energy and peak demand requirements for the power system in the year under consideration;
- Forecasting the energy and peak demand requirements at the transmission-distribution interface in that year;
- Estimating the energy and peak demand requirements for each customer category for that year;
- Estimating the costs of providing the energy and peak demand required for each customer category; and
- Classifying and allocating the above costs to various consumer categories of APEPDCL at the retail level.

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2 COST OF SERVICE MODEL FOR APEPDCL

The cost of service calculations are based on the cost of service model developed for EPDCL. The model, as currently used, calculates the cost of serving all customers categories of APEPDCL.

All financial input into the model is as per the ARR for the year 2016-17, including revenue, and expenditure data.

The following section gives a brief overview of the Cost of Service model developed for APEPDCL

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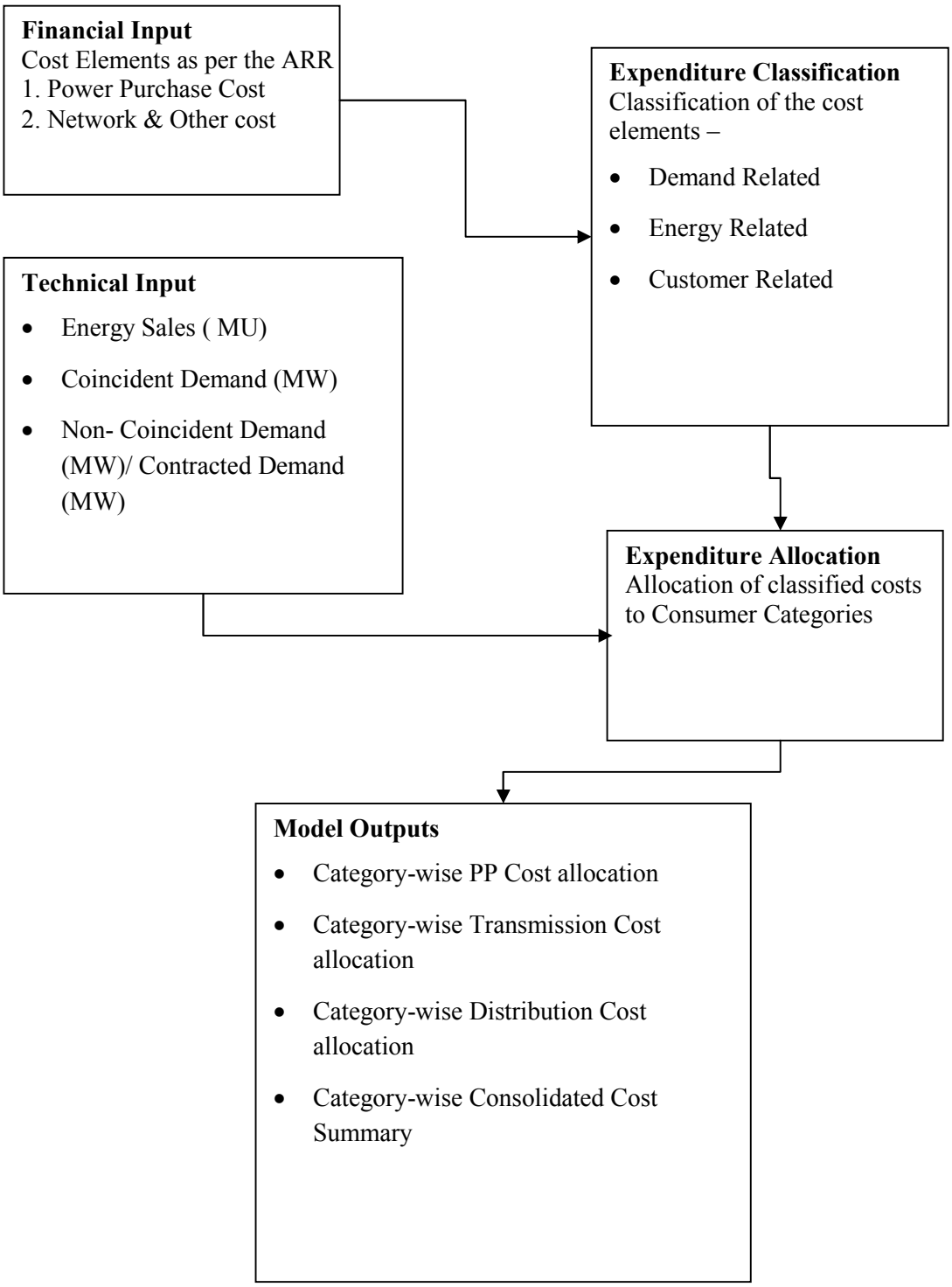
Financial Input
Cost Elements as per the ARR
1. Power Purchase Cost
2. Network & Other cost
Expenditure Classification
Classification of the cost elements –
Demand Related
Energy Related
Customer Related
Technical Input
Energy Sales (MU)
Coincident Demand (MW)
Non- Coincident Demand (MW)/ Contracted Demand (MW)
Expenditure Allocation
Allocation of classified costs to Consumer Categories
Model Outputs
Category-wise PP Cost allocation
Category-wise Transmission Cost allocation
Category-wise Distribution Cost allocation
Category-wise Consolidated Cost Summary

Financial Input Sheet

This forms the base for the income and expenses data for the APEPDCL. The values are as per the ARR for the year 2016-17.

Technical Input Sheet

This part includes the system data required for the cost of service calculation. The energy handled, load shapes, losses and number of customers are captured as part of technical input sheet. The percentage loss stated is the loss in the distribution system and hence accounts for the energy that is unavailable for sale to the retail customers.

APEPDCL customers are segregated into LT and HT customers which includes EHT (220 kV and 132 kV), Sub-transmission (33kV) and distribution (11kV and LV). The EHT customers are included as APEPDCL customers, even though they may be connected at 220 kV or 132 kV. The total losses are apportioned to all the voltage levels.

The HT customer categories in the APEPDCL system are;

HT Customers

- Industrial – Cat- I (11KV, 33KV and 220/132 KV)
- HT Others – Cat- II (11KV, 33KV and 220/132 KV)
- Irrigation and Agriculture – Cat-IV (11KV, 33KV and 220/132KV)
- Railway Traction – Cat V (132KV)
- RESCOs Cat – VI (11KV & 33 KV)
- Temporary
- Colony Consumption (11KV, 33KV)

The LT (400 Volts) customer categories in the APEPDCL system are;

LT Customers

- Domestic – category I
- Non-domestic – category II
- Industrial – category III
- Cottage industries – category IV
- Irrigation and Agriculture – category V
- Public lighting – category VI
- General purpose – category VII
- Temporary – category VIII

Energy Sales in MU, Non- coincident demand and coincident demand data is entered for the above customer categories.

The coincident demand is the estimated contribution of each category to the system peak demand and the non-coincident demand has been estimated from system load shapes derived and represents the peak demand of each customer category, irrespective of the time of occurrence of system peak.. Values used in this analysis are shown in Table 2-1.

Table 2-1

Coincident Factors and Load Factors used	Coincidence Factor	Class Load Factor
L.T Customers	**Average**	**Peak**
Domestic Category – Category – I	**86.2%**	**75.5%**
Non-Domestic – Category – II	**87.7%**	**65.4%**
Industrial – Category – III	**98.3%**	**68.8%**
Cottage Industries – Category IV	**98.3%**	**68.8%**
Irrigation and Agriculture – Category V	**91.4%**	**101.1%**
Public Lighting – Category VI	**87.2%**	**17.4%**
General Purpose – Category VII	**87.2%**	**17.4%**
Temporary – Category VIII	**87.2%**	**17.4%**
H.T Consumers		
Industrial– Category I 11KV	**98.9%**	**85.4%**
33KV	**99.0%**	**89.2%**
220/132 KV	**99.9%**	**89.9%**
HT Others – Category II 11KV	**93.0%**	**79.7%**
33KV	**100.0%**	**53.9%**
220/132 KV	**100.0%**	**20.0%**
Irrigation and Agriculture – Category IV 11KV	**59.2%**	**17.0%**
33KV	**48.4%**	**11.8%**
220/132 KV	**0.0%**	**11.8%**
Railway Traction – Category – V (132KV)	**99.4%**	**86.0%**
Colony Consumption – 11KV	**58.2%**	**0.0%**
Colony Consumption – 33KV	**58.2%**	**0.0%**
Temporary	**58.2%**	**0.0%**
RESCOs Cat – VI 11KV	**58.2%**	**0.0%**

The DISCOM peak demand, both coincident and non-coincident are estimated using basic load shape synthesis model. Load shapes of different categories of consumers are constructed based on the Load Shapes data collected from feeder sample, covering different consumer categories. The following tabulation provides a derivation of the coincident peak demand, along with the assumptions for APEPDCL used in that derivation:

EPDCL	Energy (MU)	Average Coincident Demand (MW)
Sales	16,923	2120
Loss as % of input	8.00%	
Losses	1391	184
Sub Total	18314	2304

The load factor and coincidence factor included in the Model for each category are assumed based on a review of the characteristics of the loads and load mix in APEPDCL. One of the key assumptions is on the assessment of the timing of the system peak in the test year and this has a significant bearing on the coincidence factor for each of the customers. Recent data indicate that:

- The system peak demand of APEPDCL is occurring during Morning hours due to Agricultural loads.
- During the morning peak occurrence , the coincidence factor of agriculture is 100% and the same is reduced to zero at the time of evening peak

Based on above considerations, it is felt that average demand method would be suitable for allocation of costs to consumer categories since it allocates the cost equitably on all consumer categories based on morning and evening peak loads. In the average demand method, as the name suggests, average of coincident morning peak and coincident evening peak is taken. In the model there is provision to calculate the cost based on the coincident morning peak, evening peak and average. The current option selected in the model is the average method.

Expenditure Functionalization

The new model is developed keeping in view the unbundled nature of the power sector in A.P, hence the expenditure pertaining to EPDCL is taken as per the ARR in the financial input sheet.

- Power Purchase Cost
- Transmission & SLDC Charges
- Repairs and maintenance
- Employee costs
- Administration and general expenses
- Depreciation
- Interest and financial charges
- Other expenses

Expenditure Classification

This section classifies the expenditure into demand, energy and customer related items. The options with respect to classification are;

- Demand
- Energy
- 80% Demand , 20% Customer
- Customer
- Manual entry

The fixed costs in the power purchase are treated as demand related expense and the variable cost of power purchase is treated as energy related expense.

Entire transmission cost is considered to be a demand related expense. The O & M expenditure in distribution is classified into demand and customer related in the ratio of 80:20. The same has been arrived at based on subjective judgment, as it is felt that some portion of the assets and employee expenses are used for catering to the needs of the customer such as customer service/call centers. The other cost elements in distribution viz ROCE, depreciation and other costs have been fully considered

under demand related costs.

Expenditure Allocation

The expenditures which have been classified into demand, energy and consumer related are apportioned to the individual customer categories.

Power Purchase Cost Allocation:

Demand related costs of Power Purchase are primarily driven by the system peak. Hence they are allocated to customer categories based on the Coincident Demand. Energy costs in Power Purchase are allocated based on the loss-adjusted category energy consumption.

Transmission Cost Allocation:

The transmission costs (including PGCIL and ULDC) are considered as demand related cost and the same is allocated to LT categories based on Non-coincident demand and contracted demand (CMD) for HT categories

Distribution Cost Allocation:

a) Operation and Maintenance Expenditure

The demand related portion of O & M expenses are allocated to LT consumer categories based on non -coincident demand and contracted demand (CMD) for the HT consumer categories.

The customer related costs are allocated to customer categories based on the number of customers in each category.

b) ROCE

Return on capital employed is driven by assets and it is fully considered as demand related expense. ROCE is allocated to LT consumer categories based on non -coincident demand and contracted capacity for the HT consumer categories.

c) Depreciation

Depreciation expense is driven by the level of fixed assets in the utility and is entirely considered under demand related expenses. Depreciation is allocated to LT consumer categories based on non -coincident demand and contracted capacity for the HT consumer categories.

d) Interest on Consumer Security Deposit

This is allocated to consumer categories based on the energy consumption grossed up for losses.

A summary of the results of the model are the outputs and these are discussed in the next section and a comparison of revenues and costs by customers is made in this part of the computation.

3 Results

The following tabulation summarizes the results of the process:

- APEPDCL needs to handle 18,314 MU, which consist of sale of 16,923 MU to its customers and losses of 1,391 MU.
- Average Peak demand required by APEPDCL is 2,304 MW, which consist of 2,120 MW to serve the customers, and 184 MW of losses in the system.
- The average unit cost of supplying the customers of APEPDCL is estimated at Rs.5.62 /kWh.

Cost of Service Model - Eastern Power Distribution Company Limited

Financial Year **2016-17** **Nature of expected Peak Demand** ***Average***

	CONSUMER CATEGORIES	Revenue from Sale of Power		Non- Tariff Income	Cost of Service	
		Revenue from Sale of Power	Average realisation per unit (paise/kWh)		Allocated Expedniture (Rs/Crs)	Cost of Service
Low Tension Supply						
	Domestic - Category I	1,842.4	3.87	-	2,981.9	6.26
	Non-domestic Supply - Category II	825.8	9.44	-	563.2	6.44
	Industrial Supply - Category III	530.9	6.34	-	529.1	6.31
	Cottage Industries - Category IV	1.1	4.49	-	1.6	6.64
	Irrigation and Agriculture - Category V	30.3	0.13	-	1,213.9	5.12
	Public Lighting - Category VI	140.8	5.91	-	180.2	7.57
	General Purpose - Category VII	41.4	8.57	-	38.7	8.01
	Temporary - Category VIII	1.1	10.11	-	0.8	7.47
	Total Low Tension Supply	**3,413.8**	**3.73**	**-**	**5,509**	**6.03**
High Tension Supply						
	Industrial - Cat- I	1,219.0	8.19	-	825.7	5.55
	Industrial Segregated - Cat- I (33KV)	1,012.7	6.81	-	747.2	5.02
	Indusl. Segregated - Cat-I (220/132KV)	1,744.1	5.85	-	1,443.4	4.84
	HT Others - Cat-II	454.6	10.77	-	259.9	6.16
	Indusl. Non-Segregated - Cat- II (33KV)	172.0	9.43	-	102.4	5.62
	Indusl. Non-Segre - Cat-II (220/132KV)	120.5	11.74	-	63.0	6.14
	Irrigation and Agriculture - Cat-IV	17.8	5.37	-	17.4	5.23
	Irrigation and Agriculture - Cat-IV (33KV)	47.5	5.70	-	48.2	5.78
	Irrigation and Agriculture - Cat-IV (132KV)	10.7	5.70	-	10.5	5.56
	Railway Traction - Cat V (132KV)	458.3	6.75	-	343.4	5.06
	Colony Consumption (11KV)	13.6	6.32	-	12.3	5.70
	Colony Consumption (33KV)	6.3	6.19	-	5.2	5.11
	Temporary	-		-	-	
	RESCOS Cat VI	11.7	0.43	-	115.2	4.22
	Total High Tension Supply	**5,288.9**	6.80	**-**	**3,994**	**5.13**
TOTAL		**8,702.8**	**5.14**	**-**	**9,503**	**5.62**

CONSUMER CATEGORIES	Cost to Serve Rs /KWH
Low Tension Supply	
Domestic - Category I	6.26
Non-domestic Supply - Category II	6.44
Industrial Supply - Category III	6.31
Cottage Industries - Category IV	6.64
Irrigation and Agriculture - Category V	5.12
Public Lighting - Category VI	7.57
General Purpose - Category VII	8.01
Temporary - Category VIII	7.47
Total Low Tension Supply	**6.03**
High Tension Supply	
Industrial - Cat- I (11KV)	5.55
Industrial Segregated - Cat- I (33KV)	5.02
Indusl. Segregated - Cat-I (220/132KV)	4.84
HT Others - Cat-II (11 KV)	6.16
Indusl. Non-Segregated - Cat- II (33KV)	5.62
Indusl. Non-Segre - Cat-II (220/132KV)	6.14
Irrigation and Agriculture - Cat-IV	5.23
Irrigation and Agriculture - Cat-IV (33KV)	5.78
Irrigation and Agriculture - Cat-IV (132KV)	5.56
Railway Traction - Cat V (132KV)	5.06
Colony Consumption (11KV)	5.70
Colony Consumption (33KV)	5.11
Temporary	
RESCOS Cat VI	4.22
Total High Tension Supply	**5.13**
TOTAL	**5.62**

7. Performance Reports

DETAILS OF COMPENSATION AWARDED TO CONSUMERS AND PENALTIES IMPOSED AND DISCIPLINARY ACTION PROPOSED ON DEPARTMENT STAFF

ABSTRACT (2014-15)

Sl. No	Circle	Total No. of Cases	No. of Cases Penalties imposed/ Compensation awarded	Penalties imposed/ Compensation Awarded	No. of cases disciplinary action proposed	No. of cases both Penalty/ DC action proposed
1	Srikakulam	1	1	804005	0	
2	Vizianagaram	1	1	542240	0	
3	Visakhapatnam	0	0	0	0	
4	Rajahmundry	0	0	0	0	
5	Eluru	1	1	831920	0	
Total		**3**	**3**	**2178165**	**0**	**0**

DETAILS OF COMPENSATION AWARDED TO CONSUMERS AND PENALTIES IMPOSED AND DISCIPLINARY ACTION PROPOSED ON DEPARTMENT STAFF

ABSTRACT (April-15 to Sept-15)

Sl. No	Circle	Total No. of Cases	No. of Cases Penalties imposed/ Compensation awarded	Penalties imposed/ Compensation Awarded Amount (Rs.)	No. of cases disciplinary action proposed	No. of cases both Penalty/ DC action proposed
1	Srikakulam	0	0	0	0	0
2	Vizianagaram	0	0	0	0	0
3	Visakhapatnam	0	0	0	0	0
4	Rajahmundry	0	0	0	0	0
5	Eluru	1	1	684936	0	0
Total		**1**	**1**	**684936**	**0**	**0**

No. of DTRs failed & erected during 2014-15 and 2015-16 (upto 30.09.15)

Sl. No.	Name of the Circle	No. of DTRs existing as on 31-03-2014	No. of DTRs erected during 2014-15	No. of DTRs failed during 2014-15	No. of DTRs existing as on 31-03-2015	No. of DTRs erected during 2015-16 (upto 30.09.15)	No. of DTRs failed during 2015-16 (upto 30.09.15)	No. of DTRs existing as on 30-09-15
1	SKLM	12249	12585	905	12585	1703	562	14288
2	VZM	11496	12036	974	12036	1321	556	13357
3	VSP	22266	23493	685	23493	771	640	24264
4	RJY	39704	41232	2139	41232	1733	1477	42965
5	ELR	59249	62101	4122	62101	1770	1887	63871
EPDCL		**136862**	**151447**	**8825**	**144964**	**7298**	**5122**	**158745**

Non-departmental Fatal Electrical Accidents (Human) occurred during 2014-15 and amount of Ex-gratia paid

Sl. No.	District	No. of accidents occurred			No. of cases for which ex-gratia paid	
		Due to Dept. Faults (Snapping of conductor, defective appliances etc.,)	Not due to Dept. Faults (unauthorized work etc.,)	Total	No. of cases	Amount in Rs Lakhs
1	Srikakulam	9	13	**22**	10	22
2	Vizianagaram	15	8	**23**	5	15
3	Visakhapatnam	14	16	**30**	11	25
4	East Godavari	13	30	**43**	21	37.2
5	West Godavari	7	27	**34**	11	17
EPDCL		**58**	**94**	**152**	**58**	**116.2**

Note: Payment of ex-gratia for the balance cases could not be made due to non-receipt of necessary documents required for payment viz., Death & Legal Heir Certificates

Non-departmental Fatal Electrical Accidents (Human) occurred during the period 04/15 to 09/15 and amount of Ex-gartia paid

Sl. No.	District	No. of accidents occurred			No. of cases for which ex-gratia paid	
		Due to Dept. Faults (Snapping of conductor, defective appliances etc.,)	Not due to Dept. Faults (unauthorized work etc.,)	Total	No. of cases	Amount in Rs
1	Srikakulam	3	8	**11**	2	8
2	Vizianagaram	4	11	**15**	10	19
3	Visakhapatnam	4	15	**19**	5	10
4	East Godavari	8	12	**20**	10	22
5	West Godavari	8	12	**20**	8	13.5
EPDCL		**27**	**58**	**85**	**35**	**72.5**

Note: Payment of ex-gratia for the balance cases could not be made due to non-receipt of necessary documents required for payment viz., Death & Legal Heir Certificates

Departmental Fatal Electrical Accidents occurred during 2014-15

Sl. No.	District	Total	No. of cases for which compensation paid during 2013-14	
			No. of cases	Amount in Rs
1	Srikakulam	1	1	774374
2	Vizianagaram	1	1	797600
3	Visakhapatnam	0	0	0
4	East Godavari	0	0	0
5	West Godavari	1	1	747600
EPDCL		**3**	**3**	**2319574**

Departmental Fatal Electrical Accidents occurred during 04/14 to 09/15

Sl. No.	District	Total	No. of cases for which compensation paid 2014-15 (Upto Sep.)	
			No. of cases	Amount in Rs
1	Srikakulam	1	1	747600
2	Vizianagaram	1	1	759091
3	Visakhapatnam	2	2	1513720
4	East Godavari	0	0	0
5	West Godavari	2	2	1575080
EPDCL		6	6	4595491

DTR COMPLAINTS RECEIVED DURING FY: 2014-15, ATTENDED AND BALANCE AT CALL CENTERS AS ON 31-03-15

S. No.	Circle	No. Of DTR Complaints to be attended as on 01-04-14		No. of DTR Complaints Received during FY: 2014-15	No. of DTR Complaints attended during FY: 2014-15		No. of Complaints Rejected	Balance No. of DTR complaints to be attended as on 31-03-15	
		WRT	BRT		WRT	BRT		WRT	BRT
1	SRIKAKULAM	0	5	1915	1387	526	1	6	0
2	VIZIANAGARAM	1	0	1680	1488	182	4	6	1
3	VISAKHAPATNAM	7	0	876	772	84	15	3	9
4	RAJAHMUNDRY	2	2	2597	2112	471	10	6	2
5	ELURU	30	18	4845	4328	515	16	26	8
Total		**40**	**25**	**11913**	**10087**	**1778**	**46**	**47**	**20**

DTR COMPLAINTS RECEIVED DURING FY: 2015-16, ATTENDED AND BALANCE AT CALL CENTERS AS ON 30-09-15

S. No.	Circle	No. Of DTR Complaints to be attended as on 1-04-15		No. of DTR Complaints Received during FY; 2015-16 (upto Sep.)	No. of DTR Complaints attended during FY: 2015-16 (up to Sep.)		No. of Complaints Rejected during FY: 2015-16 (upto Sep.)	Balance No. of DTR complaints to be attended as on 30-09-15	
		WRT	BRT		WRT	BRT		WRT	BRT
1	SRIKAKULAM	6	0	679	646	39	0	0	0
2	VIZIANAGARAM	6	1	759	597	163	0	4	2
3	VISAKHAPATNAM	3	9	435	381	63	2	1	0
4	RAJAHMUNDRY	6	2	1682	1544	144	1	1	0
5	ELURU	26	8	2132	1940	216	0	10	0
Total		**47**	**20**	**5687**	**5108**	**625**	**3**	**16**	**2**

DETAILS OF CIRCLE WISE AND CATEGORY WISE BURNT METERS IN APEPDCL AS ON 30.09.2015

S. No.	Circle	I	II	III	IV	V	VI	VII	Others	Total
1	Srikakulam	171	22	9		4	31	4		241
2	Vizianagaram	108	20	4		4	10	6		152
3	Visakhapatnam	203	28	1	1	6	48	24		311
4	Rajahmundry	368	78	11	2	11	112	10		592
5	Eluru	216	48	19		21	130	5		439
Total for APEPDCL		**1066**	**196**	**44**	**3**	**46**	**331**	**56**	**0**	**1735**

DETAILS OF CIRCLE WISE AND CATEGORY WISE STUCK-UP METERS IN APEPDCL AS ON 30.09.2014

S. No.	Circle	I	II	III	IV	V	VI	VII	VIII	Others	Total
1	Srikakulam	5614	273	26	2	4	13	63			5995
2	Vizianagaram	3102	203	25	0	3	21	28			3382
3	Visakhapatnam	5575	426	27	1	4	113	44			6190
4	Rajahmundry	6971	583	49	1	13	142	114			7873
5	Eluru	5773	515	123	1	15	135	101			6663
Total for APEPDCL		**27035**	**2000**	**250**	**5**	**39**	**424**	**350**			**30103**

Frequency and voltage at various levels of interface over the period Apr - 2014 to Sep - 2015

CIRCLE	132KVSS	33KVSS	Parameter	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15
SKLM	PALASA SS	PALASA SS	AVG VOLTAGE	32.50	33.00	33.50	33.80	34.00	34.00	33.5	33	33	33.5	33	32	31.5	32	32.5	33.5	34	33.5
			FREQ.	49.20	49.50	49.60	49.80	50.00	50.00	49.5	49.5	49.5	49.6	48.5	48.5	48.5	48.5	49.6	49.8	50	49.5
	CHILAKAPALEM SS	SRIKAKULAM SS	AVG VOLTAGE	32.00	32.00	32.50	33.00	33.50	34.00	33.5	33.5	33.5	33	32	32	32	32	33.5	33.5	33.5	33.5
			FREQ.	48.00	48.00	49.00	49.00	49.50	50.00	49.5	49.5	49.5	49.5	48.5	48.5	48.5	48.5	49	49	49.5	49.5
	TEKALI SS	SANTHABOMMALI SS	AVG VOLTAGE	33.00	33.50	34.00	34.00	34.00	34.00	34	33.5	33.5	33.5	32	32	32	32	33.5	33.5	33.5	33.5
			FREQ.	49.50	49.50	50.00	50.00	50.00	50.00	49.5	49.5	49.5	49.5	48.5	48.5	48.5	48.5	49.5	49.5	49.5	49.5
VZM	BOBBLI	PARVATHIPURAM SS	AVG VOLTAGE	10.60	10.50	10.70	10.70	10.80	10.70	10.60	10.7	10.8	10.7	10.7	10.6	10.6	10.5	10.7	10.6	10.8	10.7
			FREQ.	49.40	49.60	49.70	49.80	49.90	49.90	49.80	49.8	49.9	50	49.9	49.3	49.2	49.3	49.6	49.8	49.9	49.8
		SALURU SS	AVG VOLTAGE	10.90	10.70	1.80	10.70	10.70	11.20	11.10	10.9	11.2	11.1	10.9	10.7	10.8	10.7	10.8	10.9	11.1	11.2
			FREQ.	48.60	48.80	49.40	49.50	49.50	49.80	49.70	49.9	49.9	49.9	49.5	49.2	49.3	49.2	49.4	49.3	49.6	49.8
	PARAVATHIPURAM	NAGURU SS	AVG VOLTAGE	10.80	10.70	10.80	10.90	10.80	10.70	10.80	10.9	11.1	11.3	11	10.9	10.6	10.7	10.8	10.8	10.9	10.8
			FREQ.	49.60	49.60	49.80	49.70	49.90	49.90	49.80	49.7	49.8	50	49.7	49.6	49.5	49.2	49.4	49.6	49.7	49.8
		KOMARADA SS	AVG VOLTAGE	10.70	10.60	10.60	10.70	10.70	10.80	10.70	10.7	10.9	10.8	10.8	10.6	10.6	10.7	10.6	10.6	10.7	10.9
			FREQ.	48.90	49.10	49.30	49.50	49.80	49.80	49.70	49.8	49.8	49.9	49.8	49.6	49.5	49.4	49.6	49.8	49.9	49.8
	VONTITHADI	RAJAPULOVA SS	AVG VOLTAGE	10.80	10.80	10.90	11.10	11.10	10.90	11.00	11.2	11.1	10.8	10.7	10.9	10.8	10.6	10.8	10.7	10.8	11.2
			FREQ.	49.10	49.30	49.40	49.50	49.70	49.70	49.80	49.8	49.9	49.9	49.7	49.6	49.5	49.5	49.7	49.8	49.7	49.8
		T.B.VARA SS	AVG VOLTAGE	10.60	10.80	10.70	10.80	10.70	10.80	10.70	10.9	10.9	11.1	10.9	10.7	10.6	10.5	10.6	10.6	10.8	10.9
			FREQ.	49.20	49.60	49.80	49.60	49.80	49.70	49.60	49.8	49.7	49.9	49.9	49.8	49.8	49.6	49.8	49.8	49.7	49.8
RJY	R.C.PURAM SS	33 KV Tallarevu SS	AVG VOLTAGE	11.6	11.7	11.4	11.4	11.8	11.6	11.4	11.4	11.5	11.6	11.3	11.1	12	11.9	12	12	12	11.9
			FREQ.	49.8	49.9	49.7	49.8	49.9	49.9	50	49.9	49.8	49.7	49.8	49.8	49.7	49.9	50	49.7	50	50
	PEDDAPURAM SS	33KV DIVILI SS	AVG VOLTAGE	11.6	11.9	11.8	11.6	11.7	11.8	11.7	11.8	11.7	11.8	11.7	11.8	11.7	11.8	11.8	11.8	11.8	12
			FREQ.	49.7	49.9	49.8	49.9	49.8	49.7	49.8	49.8	49.9	50	50	49.7	49.7	49.7	49.9	49.8	49.8	49.7
ELURU	NIDADAVOL SS	33KV NIDADAVOL SS	AVG VOLTAGE	11.5	11.5	11.4	11.2	11.1	11.6	11.7	11.2	11.8	11.9	11.9	11.6	11.9	11.9	11.5	11.2	11.5	11.2
			FREQ.	49.5	49.4	49.5	49.6	49.8	49.5	49.5	49.8	49.7	49.6	49.8	49.6	49.5	49.6	49.8	49.	49.	49.1

																		5	2		
	J.R.GUDEM SS	33KV J.R.GUDEM SS	AVG VOLTAGE	11.4V	11.3V	11.4V	11.5V	11.3V	11.6	11.4	11.4	11.3	11.7	11.2	11.2	11.5	11.6	11.1	11.12	11.12	11.4
			FREQ.	49.5	49.4	49.5	49.6	49.8	49.5	49.2	49.1	49.5	49.5	49.4	49.5	49.5	49.6	49.4	49.3	49.5	49.3
	P.T.PALLI SS	33KV P.T.PALLI SS	AVG VOLTAGE	11.56	11.254	11.57	11.51	11.52	11.63	11.55	11.66	11.76	11.7	11.68	11.76	11.67	11.74	11.81	11.16	11.18	11.79
			FREQ.	49.5	49.4	49.5	49.6	49.8	49.5	49.5	49.4	49.5	49.6	49.8	49.6	49.5	49.6	49.8	49.5	49.5	48.5
VSP	132KV Anandapuram SS	33KV Anandpuram SS	AVG VOLTAGE	33	32	33	32	32	34	34	33	34	33	34	34	32	32	34	33	34	30
			FREQ.	49	50	50	49.8	49.9	49.9	49.9	50	49.8	49.9	50	49.9	50	50	49.9	50	49.8	49.9
		33KV Bheemli SS	AVG VOLTAGE	33	32	33	32	32	34	34	33	34	33	34	34	32	32	34	33	34	30
			FREQ.	49	50	50	49.8	49.9	49.9	49.9	50	49.8	49.9	50	49.9	50	50	49.9	50	49.8	49.9

Services released from 1-APR-2014 TO 31-MAR-2015 in APEPDCL									
CATEGORY	**OPENING BALANCE**		**REGISTERED**	**RELEASED**		**REJECTED**	**BALANCE**	**CB_WRT**	**CB_BRT**
	WRT	**BRT**		**WRT**	**BRT**				
Agriculture	2242	2048	9825	2734	4711	1484	5186	2645	2541
Commercial	1780	582	25620	16436	7587	1306	2653	1453	1200
Cottage Industries	11	5	90	37	32	15	22	16	6
Domestic	6679	2794	126202	82679	38787	4286	9923	7591	2332
General Purpose	51	20	774	540	210	25	70	44	26
Industrial Normal	653	132	2141	1268	824	388	446	364	82
Industrial Optional	77	29	312	166	95	31	126	84	42
PWS Schemes	309	210	994	443	416	205	449	223	226
Street Lights	88	124	411	179	194	96	154	70	84
Temporary	28	16	127	80	23	17	51	16	35
TOTAL	**11918**	**5960**	**166496**	**104562**	**52879**	**7853**	**19080**	**12506**	**6574**

Services released from 1-APR-2015 TO 30-SEP-2015 in APEPDCL									
CATEGORY	**OPENING BALANCE**		**REGISTERED**	**RELEASED**		**REJECTED**	**BALANCE**	**CB_WRT**	**CB_BRT**
	WRT	**BRT**		**WRT**	**BRT**				
Agriculture	2645	2541	2792	2007	2333	199	199	742	2697
Commercial	1453	1200	15689	11570	2481	415	415	1115	2761
Cottage Industries	16	6	52	26	21	2	2	11	14
Domestic	7591	2332	90107	68674	13981	2024	2024	6782	8569
General Purpose	44	26	421	300	77	6	6	32	76
Industrial Normal	364	82	400	371	170	31	31	88	186
Industrial Optional	84	42	462	260	177	19	19	72	60
PWS Schemes	223	226	482	193	277	30	30	52	379
Street Lights	70	84	509	209	148	26	26	21	259
Temporary	16	35	266	117	12	16	16	16	156
TOTAL	**12506**	**6574**	**111180**	**83727**	**19677**	**2768**	**24088**	**8931**	**15157**

Amounts realized through intensive inspections by field staff							
Sl. No.	Name of the circle	FY 2014-15			FY 2015-16 (upto Sep-15)		
		No. of services inspected	No. of cases booked	Amount realized in Rs. Lakhs	No. of services inspected	No. of cases booked	Amount realized in Rs. Lakhs
1	Srikakulam	13,727	119	2.78	1035	29	0.30
2	Vizianagaram	27,151	35	1.18	4987	8	0.57
3	Visakhapatnam	109,860	307	15.83	18127	102	6.12
4	Rajahmundry	118,393	630	45.52	27668	99	9.19
5	Eluru	156,696	461	33..80	39419	111	11.68
6	DPE/ VSP	57,253	2,003	1528.63	23993	929	625.92
EPDCL		483,080	3,555	1,593.95	115,229	1,278	653.78

Court cases involving the Licensee as on 30-09-2015

S. No.	Name of the Circle	No. of Cases	Amount involved in Rs. Lakhs.
1	Srikakulam	60	638.81
2	Vizianagaram	84	5095.65
3	Visakhapatnam	190	21089.7
4	Rajahmundry	54	4741.41
5	Eluru	186	13196.3
APEPDCL		574	44761.9

No. of cases filed in respect of pilferage of power by DPE wing

S.No	Circle	Amounts Assessed in Rs. Lakhs					
		2014-15			2015-16 (upto 9/15)		
		No. of services inspected	No. of pilferage cases booked	Amount realized in Rs. Lakhs	No. of services inspected	No. of pilferage cases booked	Amount realized in Rs. Lakhs
1	Srikakulam	11389	322	55.33	3694	148	49.38
2	Vizianagaram	11000	371	90.15	5563	186	84.14
3	Visakhapatnam	13505	232	338.96	5024	227	104.21
4	Rajahmundry	9811	536	333.90	3917	173	148.23
5	Eluru	10518	542	222.83	5367	195	108.22
6	HT-DPE	1030	0	487.46	428	0	131.75
TOTAL		57253	2003	1528.63	23993	929	625.92

Details of Arrears of consumers over Rs. 50000 pending for over 6 months

Sl. No	Particulars	SKLM		VZM		VSP		RJY		ELR		TOTAL	
		SCs	Amount (Rs.in lakhs)	SCs	Amount (Rs.in lakhs)	SCs	Amount (Rs.in lakhs)	SCs	Amount (Rs.in lakhs)	SCs	Amount (Rs.in lakhs)	SCs	Amount (Rs.in lakhs)
1	Court Cases/Disputed /BIFR	36	4463	36	4451	118	19580	116	4369	186	13196	492	46058
2	Govt./ Local bodies	3498	4292	940	1540	4047	6442	4720	11066	4850	12168	18055	35507
3	UDC Services	17	369	6	96	17	36	43	79	35	73	118	653
4	Dismantled / Bill Stopped	37	201	56	1261	60	821	93	760	62	180	308	3224
5	Instalments/Others	1	4	5	1496	5	1444	0	0	0	0	11	2943
	TOTAL	**3589**	**9328**	**1043**	**8844**	**4247**	**28322**	**4972**	**16273**	**5133**	**25617**	**18984**	**88385**

SCHEME-WISE DETAILS OF BASE CAPITAL EXPENDITURE AGAINST TARIFF ORDER PROVISIONS (Rs. Crores)

Sl. No.	Name of the scheme	Inv. Plan for FY 2014-15 as per Tariff Order	Actual base capital expenditure during FY 2014-15	Inv. Plan for FY 2015-16 as per Tariff Order	Actual base capital expenditure during FY 2015-16 (Upto Sep, 2015)
1	Release of Services (Normal Plan)	156.25	113.80	150.00	68.32
2	RAPDRP Part-A: IT Works	16.45	2.88	14.84	2.63
3	RAPDRP Part-B	32.20	21.74	32.90	10.52
4	SI-Conductors	13.38	1.05	13.13	0.91
5	SI - Lines	14.00	2.72	14.25	0.99
6	SI - VCBs	16.00	0.98	15.00	0.66
7	SI - Meters	31.63	20.50	33.50	35.29
8	SI - PTRs	34.52	8.64	37.75	8.52
9	SI - DTRs	38.75	25.38	56.50	16.94
10	HVDS (Ph-3 & 4) for RJY Circle	6.00	3.42	11.11	0.33
11	HVDS (Ph-5) for ELR Circle	0.00	0.00	0.00	0.00
12	HVDS (Ph-3) New for SKL, VZM & VSP	20.00	0.09	3.50	0.00
13	RGGVY including DDG Projects	13.20	8.60	34.64	12.35
14	New 33/11 KV SS (T&D SS)	51.00	33.79	49.83	33.54
15	33 KV Interlinking Lines	15.38	5.04	13.58	3.43
16	Segregation of Agl. Feeders	0	0 0	0	0.00
17	24 Hrs. supply to SS Head Qtrs.	9.28	1.10	8.04	0.00
18	Non-RAPDRP Works	0	0	0	0.00
19	SPA:PE (Agricultural Services)	112.25	45.33	76.00	24.96
20	T&D Civil Works	30.00	15.72	26.24	8.01
21	T&D Other Works	83.50	46.84	90.00	39.32
22	T&D IT Works	4.00	0.82	8.76	0.84
Grand Total		**697.78**	**358.43**	**689.55**	**267.56**

8. E-Filing Forms