

Aggregate Revenue Requirement &  
Tariff Petition for FY 2014-15

Main Text & Formats (Volume I)  
&  
Annexure (Volume II)

Submitted to:

Joint Electricity Regulatory Commission  
Gurgaon

By

DEPARTMENT OF ELECTRICITY, LAKSHADWEEP

January 2014

**BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION  
FOR THE STATE OF GOA & UNION TERRITORIES**

Filing No.....

Case No.....

IN THE MATTER OF:            Filing of Aggregate Revenue Requirement (ARR) for the  
FY 2014-15 for Union Territory of Lakshadweep under  
Section 61, 62 and 64 of the Electricity Act, 2003

AND

IN THE MATTER OF            Department of Electricity Lakshadweep  
(hereinafter referred to as "LED" or "The Petitioner" or  
"The Department")  
..... Petitioner

The Applicant respectfully submits as under: -

1. The Electricity Department of Union Territory of Lakshadweep ("LED") is a statutory body engaged in the electricity generation, transmission and distribution in the Union Territory of Lakshadweep. Consequent to the enactment of the Electricity Act, 2003 (hereinafter referred to as the "Act"), the process of approval of proposed tariffs is vested with the State Commission. Based on the provisions of Section 61, 62 and 64 of the Act, LED is filing the current petition, in order to meet its financial requirements.
2. This is a Petition indicating the Aggregate Revenue Requirement (ARR) of LED and Tariff Revision Proposal of LED for the FY 2014-15 (Financial Year 2014-15).

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**Notes:**

**In this Petition:**

**All currency figures used in this Petition, unless specifically stated otherwise, are in Rs Crore and Million Units.**

**This petition contains the Main Text of the Petition, Formats and Annexure (Volume II)**

## Chapter I: Introduction

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### 1.1 LED Profile

The Union Territory (UT) of Lakshadweep is an archipelago consisting of 12 atolls, three reefs and five submerged banks. It is a uni-district Union Territory with an area of 32 Sq. Kms and is comprised of ten inhabited islands, 17 uninhabited islands attached islets, four newly formed islets and 5 submerged reefs. The inhabited islands are Kavaratti, Agatti, Amini, Kadmat, Kiltan, Chetlat, Bitra, Andrott, Kalpeni, Bangaram and Minicoy.

The Electricity Department of Lakshadweep (LED) is engaged in generation, transmission and distribution of electricity to the various consumer categories in the UT of Lakshadweep. As the UT is an archipelago consisting of 11 inhabited islands and located far from the mainland of India, Lakshadweep is entirely dependent on its own generation for supply of power. The power in the UT of Lakshadweep is generated mainly from its Diesel Generating (DG) sets. The island wise installed capacity of the UT of Lakshadweep is presented in the table below:

**Table 1: Island wise installed capacity of Lakshadweep (DG sets)**

Sl. No.	Name of Island	Installed capacity (kW)
1.	Minicoy	4400
2.	Kavaratti	3200
3.	Amini	2650
4.	Andrott	3250
5.	Kalpeni	1250
6.	Agatti	2350
7.	Kadmat	2150
8.	Kiltan	1000
9.	Chetlat	900
10.	Bitra	430
11.	Bangaram(Uninhabited)	180
<b>12.</b>	<b>Total</b>	<b>21760</b>

In addition to DG sets mentioned above, the LED has grid interactive Solar Photovoltaic (SPV) power plants in each of the island. To improve its power mix and reduce its dependency on the diesel based generation, the department of electricity, Lakshadweep is planning to add further solar capacity. The following table presents the island wise installed capacity of SPV plants.

**Table 2: Island wise installed capacity of SPV Plants**

Sl. No.	Name of Island	Installed capacity (old) (kWp)
1.	Minicoy	210
2.	Kavaratti	760
3.	Amini	100
4.	Andrott	320
5.	Kalpeni	100
6.	Agatti	100
7.	Kadmat	260
8.	Kiltan	100
9.	Chetlat	100
10.	Bitra	100
11.	Bangaram	50
<b>12.</b>	<b>Total</b>	<b>2200</b>

The contract for Operation and Maintenance (O&M) of the new plants has been given to Bharat Heavy Electricals Limited (BHEL). As per the terms and conditions of the O&M contract with BHEL, 100,000 units/year will be generated from new plants of 100 kWp of equivalent capacity and 96,000 unit/year from old plants.

At present, the department maintains 95.88 kms HT lines and 268.72 LT lines across the 11 islands. Details of the island wise LT and HT lines in the UT of Lakshadweep are presented in the table below.

**Table 3: Island wise HT and LT lines**

Sl. No.	Name of Island	HT lines (km)	LT lines (km)	HT/LT ratio
1.	Minicoy	11.36	33.60	0.34
2.	Kavaratti	25.5	41.90	0.61
3.	Amini	7.00	31.93	0.22
4.	Andrott	12.56	45.29	0.28

Sl. No.	Name of Island	HT lines (km)	LT lines (km)	HT/LT ratio
5.	Kalpeni	7.50	28.02	0.27
6.	Agatti	14.03	29.73	0.47
7.	Kadmat	11.69	34.65	0.34
8.	Kiltan	3.54	12.30	0.29
9.	Chetlat	2.70	8.31	0.32
10.	Bitra	0	1.76	0.00
11.	Bangaram	0	1.23	0.00
<b>12.</b>	<b>Total</b>	<b>95.88</b>	<b>268.72</b>	<b>0.36</b>

At present, the LED has HT/LT ratio of 0.36, which the department is planning to increase in future to reduce the T&D losses.

The LED has a maximum demand of around 8.95 MW. LED's demand is primarily composed of domestic and commercial consumers.

## 1.2 Performance during FY 2012-13

The performance of LED during the FY 2012-13 in terms of various parameters is shown in the table given below:

**Table 4: Performance of LED during FY 2012-13**

Sl. No.	Particulars	
1	No. of Employees	385
2	Installed Capacity(MW)	
a	DG Sets(MW)	21.76
b	SPV Plants(MW)	2.20
3	Generation(MUs)	44.65
4	Units Sold(MUs)	38.00
5	Aggregate Peak Demand(MW)	8.95
6	T&D Losses%	15.93%
7	HSD Oil Consumed(KL)	13,378
8	Lub Oil Consumed(L)	39,610
9	Revenue Billed (Rs.)	9.88



Sl. No.	Particulars	
	Crore)	
10	Average Realisation	2.60
11	Per Capita Consumption	590
12	Total Consumers	19792

### 1.3 Contents of this Petition

This Petition covers the actuals for FY 12-13, revised estimates for FY 13-14 and the basis, assumptions and projections of individual elements constituting the determination of ARR for FY 14-15. The Joint Electricity Regulatory Commission for the state of Goa and union territories (JERC) had issued the first Tariff Order for Electricity Department-Lakshadweep (LED) on 31<sup>st</sup> October, 2012 for FY 2012-13. The Commission in its Tariff Order for FY 12-13 has approved the ARR for FY 12-13 based on the actual cost for FY 10-11 and estimated expenses for FY 11-12. The Commission issued the second Tariff Order for Electricity Department-Lakshadweep (LED) on 22<sup>nd</sup> May, 2013 for FY 2013-14. The Commission in its Tariff Order for FY 13-14 has approved the ARR for FY 13-14 based on the actual cost for FY 11-12 and estimated expenses for FY 12-13.

## **Chapter 2: Overall Approach for Present Filing**

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### **2.1 Annual Revenue Requirement and Tariff Petition for FY 2014-15**

ED-Lakshadweep is filing the petition for the determination of Annual Revenue Requirement Petition for the year FY 2014-15 based on the past performance and expected changes in each element of cost and revenue for the ensuing year. ED-Lakshadweep has studied the previous trends and taken cognizance of other internal and external developments to estimate the likely performance for FY 2014-15.

### **2.2 Approach for Filing**

The present filing for the Annual Revenue Requirement for the FY 2014-15 is based on the principles enumerated by the Joint Electricity Regulatory Commission's (JERC) in the Terms and Conditions for determining of Tariff, Regulations 2009 notified in February 2010. The subsequent sections provide projection for various expenses, the proposed investment plan for the year and the expected revenue projections with existing tariff for FY 2013-14 based on the tariff notifications in force in the area of supply of ED-Lakshadweep.

Projections of various cost components required for determination of Aggregate Revenue Requirement for FY 2014-15 along with the rationale for estimation of such cost and the philosophy adopted by ED- Lakshadweep for projecting sales, number of consumers and power purchase cost for FY 2014-15 has been covered in this section.

For the purpose of projecting the financial & technical parameters for FY 2014-15, ED-Lakshadweep has considered its actual performance during FY 2011-12, FY 2012-13 and FY 2013-14 (H1) as base and has projected the figures for FY 2014-15 with supporting rationales.

## **Chapter 3: Aggregate Revenue Requirement for FY 2014-15**

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LED is submitting its ARR and Tariff petition for the determination of tariff for FY 14-15 broadly on the basis of the principles outlined in Tariff Regulations notified by JERC. LED has considered the past trends and taken cognizance of other internal and external developments to estimate the likely performance for FY 14-15.

The following sections explain in detail the basis and forecasts of the following elements for FY 14-15:

- a. Category wise Energy Sales & Revenues at existing tariffs
- b. T&D Losses and Energy Requirement
- c. Determination of Aggregate Revenue Requirement by forecasting the following costs, other income & returns:
  - i. Fuel Purchase Cost
  - ii. Employee Cost
  - iii. Repairs & Maintenance Cost
  - iv. Administration & General Expenses
  - v. Capital Investment Plan
  - vi. Interest Cost
  - vii. Interest on Working Capital
  - viii. Depreciation
  - ix. Provision for bad & doubtful debts
  - x. Return on Equity
  - xi. Non-Tariff Income
- d. Determination of Gap between Revenue & Costs and the arrangements to cover the revenue gap
- e. Tariff revision proposal for FY 2014-15 to meet the Revenue Gap.

### **3.1 Energy Sales**

1. Department of Electricity has a consumer mix constituting of domestic, commercial, Industrial, HT Consumer and Public Lighting. The HT Consumer category has been added after the Hon'ble Commission approved the creation

of the same vide its Tariff Order dated 31<sup>st</sup> October 2012. The number of consumers in various categories as on January 2014 is summarized in table below:

**Table 5: No of consumers as on January 2014**

Sl. No	Consumer Category	No. of consumers
1	Domestic	16984
2	Commercial	3157
3	HT Consumer	18
4	Industrial	317
5	Public Lighting	74
6	Temporary Connections	0
7	<b>Total Consumers</b>	<b>20,550</b>

2. Table 6 summarizes category wise actual energy sales from FY 08-09 to FY 12-13 for all the consumer segments. As can be seen, LED's overall energy sales are significantly dependent on the domestic consumers to the extent of around 70%. Energy sold to various consumer categories over the past 5 years has grown at approximately 12.91% p.a., mainly contributed by increase in the sales to the domestic categories.

**Table 6: Category wise sales from FY 2008-09 to FY 2012-13**

Sl. No	Consumer category	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
		Actual	Actual	Actual	Actual	Actual
1	Domestic	15.85	17.78	20.35	23.75	27.23
2	Commercial	5.96	6.16	6.98	7.28	9.26
3	HT Consumer	0.00	0.00	0.00	0.00	0.00
4	Industrial	0.27	0.33	0.41	0.42	0.39
5	Public (Street Light)	1.29	1.28	1.34	1.52	1.07
6	Temporary connections	0.02	0.02	0.01	0.02	0.05
7	<b>Total Sales (MUs)</b>	<b>23.38</b>	<b>25.56</b>	<b>29.09</b>	<b>32.99</b>	<b>38.00</b>

3. The LED is of the view that the factors affecting the actual consumption of electricity are numerous and often beyond the control of the utility including factors such as Government Policy, economic climate, weather conditions and force majeure events like natural disasters, etc. LED, therefore for projecting the category-wise consumption for FY 2014-15 has considered the past growth trends in each of the consumer category including growth trend in number of consumers and connected load.

4. Actual energy sales in the UT of Lakshadweep in FY 2012-13 were 38.00 MUs and total energy billed was Rs 9.88 Crore.
5. The energy sales for FY 2013-14 and FY 2014-15 have been determined based on the actual energy sales during the first six months of FY 2013-14 and the CAGR for past three to four-year actual energy sales in various consumer categories. Since the energy sales in each category depends upon a number of factors like growth in economy, climate, Government policies, etc, normalization in sales has been undertaken in order to remove any wide fluctuations.

**Table 7: Category wise CAGR in Energy Sales in the past years**

Sales	CAGR (Four years)	CAGR (Three years)
Domestic	14.49%	15.27%
Commercial	11.62%	14.53%
Industrial	10.24%	6.08%
Public (Street Light)	-4.60%	-5.80%
Temporary connections	35.69%	45.87%
<b>Total Sales</b>	<b>12.91%</b>	<b>14.13%</b>

6. The LED has considered the adjusted CAGR of 10.00% for projecting the sales of domestic categories for FY 2014-15. Further the CAGR of four years has been considered for projecting the sales to commercial and a CAGR of three for projecting the sales to industrial category for FY 2014-15.
7. The LED has installed off grid solar panels on the street lights all across the islands to promote the use of renewable energy and reduce the dependence on diesel fuel. Due to this the sales to the street light category has gone down from 1.52 MUs in FY 2011-12 to 1.07 in FY 2012-13. The LED proposes to increase the use of off grid solar panels further in this category and therefore the sales to the street light category has been kept at the same level for FY 2014-15 as that estimated for FY 2013-14.
8. At present the consumers in the HT category are being billed as a part of the commercial category. The LED is updating its billing software and will start billing the HT consumers separately as per the tariff determined by the Commission in the Tariff Order dated 31<sup>st</sup> October, 2012 for the HT category. There are 18 consumers in the HT category with a combined load of 2386 kVA.

Once the LED starts to bill the HT consumers separately, it will also collect the arrears accrued since 1<sup>st</sup> October, 2012 from the consumers of the HT category.

9. Table 8 summarizes category wise energy sales projection for FY 2013-14 and FY 2014-15 for the LED. As can be observed, the overall energy sales in UT of Lakshadweep are significantly dependent upon domestic and commercial consumption.

**Table 8: Projected Category wise Energy Sales for FY 2014-15**

Sales (MUs)	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	Revised estimate	Projected
Domestic	27.23	30.37	33.40
Commercial	9.26	9.27	10.34
Industrial	0.39	0.38	0.41
Public (Street Light)	1.07	0.82	0.82
Temporary connections	0.05	0.05	0.05
<b>Total Sales</b>	<b>38.00</b>	<b>40.89</b>	<b>45.03</b>

10. The LED submits to the Commission to approve the sales submitted herein.

### **3.2 T&D Loss Reduction**

11. The LED has achieved a significant reduction in transmission & distribution losses in the recent years. The LED would like to submit that the system improvement works executed every year under the plan schemes has resulted in the reduction of T&D losses. However, it may also be noted that reduction of distribution losses may not be possible beyond a certain level due to geographical conditions of the UT of Lakshadweep and technical limitations in the distribution system.
12. The actual T&D losses level of the LED during FY 12-13 was 15.93%. The estimated T&D losses for FY 2013-14 are around 15.00%. LED proposes to reduce the T&D losses to 14.00% for FY 2014-15 as summarized in Table 9 below:

**Table 9: T&D Losses**

T&D Losses	FY 2012-13 Actual	FY 2013-14 Revised estimate	FY 2014-15 Projected
T&D Losses (%)	15.93%	15.00%	14.00%

13. Considering the proposed capital expenditure in transmission and distribution network during FY 2014-15, the LED has proposed to reduce the losses by approximately 1.00% in FY 2014-15.
14. The LED submits to the Commission to approve the T&D losses submitted herein.

### 3.3 Power generation

- The LED sources power entirely from its own power generating stations. It is submitted that out of the total capacity of 21760 kW, the department utilized around half of its total installed capacity. The remaining installed capacity is utilized as back-up.
- Since, all the generating stations of the LED are located near the sea, the salinity of the sea water severally affect the performance of the power generating stations. Due to salinity of water, break-down in the power generating units occurred more frequently and back-up plants are used for supply of power in the islands. Further, the UT of Lakshadweep has strategic importance in terms of maintaining internal security in this region. Military bases of the Indian Navy and Indian Coast Guard are being maintained in most of the Islands in the UT of Lakshadweep. The LED has to supply power on continuous basis/without any interruption to keep the critical equipments and facilities running at these military bases. Due to these aforementioned reasons, the LED has to maintain additional/back-up capacity for generation of power.
- The source-wise gross generation, auxiliary consumption and net generation of power in UT of Lakshadweep from FY 2007-08 and FY 2012-13 is provided in the table below.

**Table 10: Gross generation, auxiliary consumption and net generation**

Year	Gross generation (MU)	Auxiliary consumption (MU)	Auxiliary consumption (%)	Net generation (MU)

Year	Gross generation (MU)	Auxiliary consumption (MU)	Auxiliary consumption (%)	Net generation (MU)
FY 2007-08 (Actual)	28.82	0.40	1.39%	28.42
FY 2008-09 (Actual)	31.14	0.42	1.36%	30.72
FY 2009-10 (Actual)	35.14	0.44	1.27%	34.70
FY 2010-11 (Actual)	40.33	0.56	1.39%	39.77
FY 2011-12 (Actual)	42.70	0.95	2.21%	41.75
FY 2012-13 (Actual)	44.65	0.86	1.92%	43.80

### 3.3.1 Power Generation for FY 2014-15

1. Out of the total installed capacity of 21760 kW, around 1400 kW of the existing installed capacity becomes old and proposed to be phased out by the LED. Further around 1900 kW of additional capacity is proposed to be added across the islands.
2. The existing status of DG sets (i.e. new and old plants) is shown in the table below:

**Table 11: Existing installed capacity for FY 2014-15**

Sl. No.	Name of Island	Existing installed capacity			Total
		New	Old		
1.	Minicoy	2X1000	2000	800	4400
		1x 1600	1600		
2.	Kavaratti	2X1000	2000		3200
		2X600	1200		
3.	Amini	3x750	2250	400	2650
4.	Andrott	3X750	2250		3250
		1X1000	1000		
5.	Kalpeni	2X250	500	750	1250
6.	Agatti	3X400	1200	400	2350
		1X750	750		
7.	Kadmat	1X400	1900	250	2150
		3X250			



Sl. No.	Name of Island	Existing installed capacity			
		New		Old	Total
		1X750			
8.	Kiltan	2X400	800	200	1000
9.	Chetlat	2X250	500	0	900
		1X400	400		
10.	Bitra	1X100	100	330	430
11.	Bangaram	1x60	60	120	180
<b>12.</b>	<b>Total</b>		<b>18510</b>	<b>3250</b>	<b>21760</b>

3. For projection of the generation quantum for FY 2014-15, the LED has considered 350 days of operation for all the DG sets. The remaining 15 days would be required for repair and maintenance for the DG sets.
4. Further, it is considered that 50% of the new DG sets would be utilized as back-up to provide continuous power supply to the important military installations located in the islands and to meet the other consumer demand during break down of the DG sets.
5. The exiting level of auxiliary consumption i.e. 1.92% has been considered for projecting the quantum of auxiliary consumption for FY 2014-15.
6. In FY 2012-13 the existing solar plants in Minicoy, Kavaratti, Andrott, Agatti, Kadmat and Kiltan generated 1.407 MUs of power. In FY 2013-14 it is estimated that the solar plants in Minicoy, Kavaratti, Andrott, Kalpeni, Agatti, Kadmat and Kiltan will generate 1.585 MUs of power.
7. For FY 2014-15, solar generation has been considered from the solar plants in Minicoy, Kavaratti, Andrott, Kalpeni, Agatti, Kadmat and Kiltan. The solar plants in Amini, Chetlat, Bitra and Bangaram will not be operational in FY 2014-15. A total of 1.585 MUs of power generation has been considered for FY 2014-15.
8. The table given below shows the actual island wise gross power generation quantum, auxiliary consumption and new power generation quantum of the LED for FY 12-13.

**Table 12: Power generation quantum for FY 2012-13**

(MU)

Island	Gross generation	Auxiliary Consumption	Net generation
<b>DG sets</b>			
Minicoy	7.36	0.07	7.29
Kavaratti	10.26	0.12	10.14
Amini	4.45	0.05	4.39
Andrott	6.27	0.22	6.05
Kalpeni	3.20	0.04	3.16
Agatti	4.95	0.10	4.85
Kadmat	3.93	0.19	3.74
Kiltan	2.39	0.02	2.37
Chetlat	1.59	0.03	1.56
Bitra	0.204	0.003	0.201
Bangaram	0.053	0.007	0.046
<b>Subtotal 1</b>	<b>44.65</b>	<b>0.86</b>	<b>43.80</b>
<b>Solar generation</b>			
210 kWp Minicoy SPV			0.178
760 kWp Kavaratti SPV			0.716
100 kWp Amini SPV			0.000
320 kWp Andrott SPV			0.245
100 kWp Kalpeni SPV			0.000
100 kWp Agatti SPV			0.105
260 kWp Kadmat SPV			0.159
100 kWp Kiltan SPV			0.004
100 kWp Chetlath SPV			0.000
100 kWp Bitra SPV			0.000
50 kWp Bangaram SPV			0.000
<b>Subtotal 2</b>			<b>1.407</b>
<b>Total Net Generation</b>			<b>45.20</b>

9. The table given below shows the revised estimates of the island wise gross power generation quantum, auxiliary consumption and new power generation quantum of the LED for FY 13-14.

**Table 13: Power generation quantum for FY 2013-14**

(MU)			
<b>Island</b>	<b>Gross generation</b>	<b>Auxiliary Consumption</b>	<b>Net generation</b>
<b>DG sets</b>			
Minicoy	7.63	0.07	7.56
Kavaratti	10.34	0.12	10.22
Amini	4.96	0.05	4.91
Andrott	6.39	0.22	6.17
Kalpeni	3.46	0.05	3.41
Agatti	5.56	0.12	5.44
Kadmat	4.31	0.20	4.11
Kiltan	2.43	0.02	2.41
Chetlat	1.96	0.04	1.92
Bitra	0.334	0.006	0.328
Bangaram	0.063	0.008	0.056
<b>Subtotal 1</b>	<b>47.44</b>	<b>0.92</b>	<b>46.53</b>
<b>Solar generation</b>			
210 kWp Minicoy SPV			0.178
760 kWp Kavaratti SPV			0.716
100 kWp Amini SPV			0.000
320 kWp Andrott SPV			0.245
100 kWp Kalpeni SPV			0.178
100 kWp Agatti SPV			0.105
260 kWp Kadmat SPV			0.159
100 kWp Kiltan SPV			0.004
100 kWp Chetlath SPV			0.000
100 kWp Bitra SPV			0.000
50 kWp Bangaram SPV			0.000
<b>Subtotal 2</b>			<b>1.585</b>
<b>Total Net Generation</b>			<b>48.11</b>

10. The table given below shows the projected island wise gross power generation quantum, auxiliary consumption and new power generation quantum of the LED for FY 14-15.

**Table 14: Power generation quantum for FY 2014-15**

(MU)			
<b>Island</b>	<b>Gross generation</b>	<b>Auxiliary Consumption</b>	<b>Net generation</b>
<b>DG sets</b>			
Minicoy	8.45	0.08	8.37
Kavaratti	10.90	0.13	10.77
Amini	5.52	0.06	5.45
Andrott	7.46	0.26	7.20
Kalpeni	3.80	0.05	3.75
Agatti	6.06	0.13	5.94
Kadmat	4.53	0.22	4.31
Kiltan	2.63	0.03	2.60
Chetlat	1.96	0.04	1.92
Bitra	0.392	0.006	0.386
Bangaram	0.079	0.010	0.069
<b>Subtotal 1</b>	<b>51.78</b>	<b>1.00</b>	<b>50.77</b>
<b>Solar generation</b>			
210 kWp Minicoy SPV			0.178
760 kWp Kavaratti SPV			0.716
100 kWp Amini SPV			0.000
320 kWp Andrott SPV			0.245
100 kWp Kalpeni SPV			0.178
100 kWp Agatti SPV			0.105
260 kWp Kadmat SPV			0.159
100 kWp Kiltan SPV			0.004
100 kWp Chetlath SPV			0.000
100 kWp Bitra SPV			0.000
50 kWp Bangaram SPV			0.000
<b>Subtotal 2</b>			<b>1.585</b>
<b>Total Net Generation</b>			<b>52.36</b>

11. The Petitioner requests the Hon'ble Commission to approve the generation quantum given in the tables above.

### 3.3.2 Energy Requirement & Availability

1. Overall energy sales to various categories are estimated to grow at approximately by 10.00% during FY 2014-15. Thus, the overall energy

requirement is projected to be 52.36 MU in FY 2014-15, an increase of around 9.00 %. The following table shows the overall energy requirement and energy availability the Petitioner.

**Table 15: Energy Requirement of the System**

Energy Balance	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	RE	Projected
Sales	38.00	40.89	45.03
Add: T&D Losses	7.20	7.22	7.33
<b>T&amp;D Losses (%)</b>	<b>15.93%</b>	<b>15.00%</b>	<b>14.00%</b>
Energy Required at Periphery	45.20	48.11	52.36
Energy Available	45.20	48.11	52.36
Surplus/ (Deficit) Power	0.00	0.00	0.00

### 3.3.3 Fuel Purchase Cost

1. The LED procures its fuel (HSD oil) from the Indian Oil Corporation's (IOC) Beypore depot (Kerala). The fuel procured from the Beypore depot is then transported to various islands by ships.
2. During FY 2012-13, the LED has paid an average of Rs. 42.89 per liter of HSD to IOC. In addition to this cost, the Petitioner has to pay additional charges towards transportation of fuel from the Beypore depot to the islands such as filing and sealing charges of the barrels, transportation charges for Beypore depot to the port, freight charge, port duties and crane charges at port, local transportation charges at the island etc. The average fuel cost, inclusive of all charges incurred by the LED for FY 2012-13, is presented in the table below.

**Table 16: Average Fuel Purchase Cost for FY 2012-13**

Sl. No.	Particulars	Amount (in Rs.)
1	Cost of HSD oil/per barrel including local transportation, Service Tax @ 4% and SSC @1%	8577.33
2	Cost of filing and sealing of the barrels	9.00
3	Transportation charge/per barrel from KSCC yard to wharf including loading to the ships	59.00
4	Freight charge/barrel	160.00
5	Port duties and crane charges/barrel	17.71
6	Average cost of empty barrel	530.49

Sl. No.	Particulars	Amount (in Rs.)
7	Transportation charge/per barrel from wharf to KSCC yard at Beypore	24.80
8	Restacking of empty barrel	5.00
9	Cost of cap seal (big and small)	5.40
10	Leak testing charge/barrel	13.00
11	Welding and reconditioning charge/barrel	3.00
12	Scrapping, cleaning, painting and marking charge/barrel	65.00
13	Cost of Bunk washer (big and small)/barrel	2.58
<b>14</b>	<b>Total cost/barrel</b>	<b>9472.31</b>
15	Average cost of Oil (14/200)	47.36
16	Add: Local transportation cost at the islands @2% of HSD price	1.17
<b>17</b>	<b>Average cost of HSD (15+16)</b>	<b>48.53</b>

\* 1 barrel - 200 litres

3. During FY 2013-14, the LED has paid an average of Rs. 55.06 per liter of HSD to IOC from April 2013 to December 2013. The same has been considered for the period January 2014 to March 2014 to compute the cost of HSD oil for the FY 2013-14. The average fuel cost, inclusive of all charges incurred by the LED for FY 2013-14 is presented in the table below.

**Table 17: Average Fuel Purchase Cost for FY 2013-14**

Sl. No.	Particulars	Amount (in Rs.)
1	Cost of HSD oil/per barrel including local transportation, Service Tax @ 4% and SSC @1%	11011.94
2	Cost of filing and sealing of the barrels	9.00
3	Transportation charge/per barrel from KSCC yard to wharf including loading to the ships	59.00
4	Freight charge/barrel	160.00
5	Port duties and crane charges/barrel	17.71
6	Average cost of empty barrel	530.49
7	Transportation charge/per barrel from wharf to KSCC yard at Beypore	24.80
8	Restaking of empty barrel	5.00
9	Cost of cap seal (big and small)	5.40
10	Leak testing charge/barrel	13.00
11	Welding and reconditioning charge/barrel	3.00
12	Scrapping, cleaning, painting and marking charge/barrel	65.00
13	Cost of Bunk washer (big and small)/barrel	2.58
<b>14</b>	<b>Total cost/barrel</b>	<b>11906.92</b>
15	Average cost of Oil (14/200)	59.53

Sl. No.	Particulars	Amount (in Rs.)
16	Add: Local transportation cost at the islands @2% of HSD price	1.17
<b>17</b>	<b>Average cost of HSD (15+16)</b>	<b>60.70</b>

4. For FY 2014-15, the fuel purchase cost as estimated for FY 2013-14 has been considered for the full year to project the cost of HSD. Other costs such as bottling and transportation costs have been assumed to be increased by 5%. The escalation is to absorb the normal inflationary increases in the cost of purchase.

**Table 18: Average Fuel Purchase Cost for FY 2014-15**

Sl. No.	Particulars	Amount (in Rs.)
1	Cost of HSD oil/ per barrel including local transportation, Service Tax @ 4% and SSC @1%	11011.94
2	Cost of filing and sealing of the barrels	9.45
3	Transportation charge/ per barrel from KSCC yard to wharf including loading to the ships	61.95
4	Freight charge/ barrel	168.00
5	Port duties and crane charges/ barrel	18.60
6	Average cost of empty barrel	557.01
7	Transportation charge/ per barrel from wharf to KSCC yard at Beypore	26.04
8	Restaking of empty barrel	5.25
9	Cost of cap seal (big and small)	5.67
10	Leak testing charge/ barrel	13.65
11	Welding and reconditioning charge/ barrel	3.15
12	Scrapping, cleaning, painting and marking charge/ barrel	68.25
13	Cost of Bunk washer (big and small)/ barrel	2.71
<b>14</b>	<b>Total cost/ barrel</b>	<b>11951.67</b>
15	Average cost of Oil (14/200)	59.76
16	Add: Local transportation cost at the islands @2% of HSD price	1.23
<b>17</b>	<b>Average cost of HSD (15+16)</b>	<b>60.99</b>

5. In FY 2012-13, the petitioner has incurred Rs. 66.25 Crore for procurement of 13.65 thousand KL of HSD. The LED would like to submit that it is necessary for the department to maintain 2 months stock of HSD in order to continue its generation on the event of delay in supply of oil from IOC.
6. In addition to the HSD fuel, LED utilized 39,610 liters of Lube oil at a cost of Rs. 0.90 Crore for the generation of power during FY 2012-13. The price of Lube oil is considered as Rs. 226.00 per liter inclusive of the transportation cost.

7. The actual fuel purchase cost (HSD & Lube oil) for FY 2012-13 and fuel expenses projected for FY 2013-14 and FY 2014-15 is summarized in the table below.

**Table 19: Fuel Purchase Cost for FY 2012-13, FY 2013-14 & FY 2014-15**

Particulars	Quantity of HSD procured (KL)	Cost (Rs. Cr)	Quantity of Lube oil procured (L)	Cost (Rs. Cr)	Total Cost (HSD + Lube oil) (Rs. Cr)
FY 2012-13 (Actual)	13,651	66.25	39,610	0.90	67.15
FY 2013-14 (RE)	14,516	88.12	41,869	0.95	89.07
FY 2014-15(Projected)	15,851	96.67	45,737	1.03	97.70

\* Inclusive of other charges

**Note**

The quantity and cost of Oil shown in the above table for FY 2012-13, FY 2013-14 and FY 2014-15 are exclusive of the quantity and cost of the HSD maintained in the stock by the LED.

8. Per unit generation cost for FY 2012-13, FY 2013-14 and FY 2014-15 is presented in the table below.

**Table 20: Per unit generation cost**

Particulars	Unit	FY 2012-13	FY 2013-14	FY 2014-15
		Actual	RE	Projected
Gross generation	MU	44.65	47.44	51.78
Net Generation	MU	43.80	46.53	50.77
Fuel cost/Gross unit	Rs./kWh	15.04	18.77	18.87
Fuel cost/Net unit	Rs./kWh	15.33	19.14	17.24

### 3.4 Operation & Maintenance Costs

1. Operation and Maintenance expenses comprise of the following heads:
- **Employees Expenses** which includes the salaries, dearness allowances, dearness pay, other allowances and retirement benefits paid to the staff;
  - **Repair and Maintenance (R&M) Expenses**, which include all expenditure incurred on the maintenance and upkeep of generation, transmission and distribution assets; and



- **Administrative and General Expenses**, which include all expenditure incurred in operating a business such as telephone charges, office expenses, regulatory expenses, consultancy fees, conveyance and travel expenses etc.
2. In the past, the Petitioner has not maintain segregation between the three cost elements for the purpose of accounting and had booked all cost including salaries, medical expenses, office expenses, domestic traveling expenses, and other charges towards repairs and supply of materials under the operation and maintenance expense head. However, efforts have been made by LED to segregate the O&M expenses under different accounting heads.
  3. The total O&M expense for FY 2012-13 was Rs. 14.07 Crore. The methodology adopted by LED for projecting the values of each component of the O&M expense for FY 2013-14 and FY 2014-15 has been explained in the following section.

### **3.4.1 Employee Expense**

1. The Employee expense estimated by the Petitioner comprise of all costs related to employees like basic salary, dearness allowances, medical cost, leave travel allowances, honorarium, etc.
2. The employee cost for FY 2012-13 was Rs. 10.58 Crore. Based on the various expense head related to employee booked during six months of FY 13-14, LED has estimated the total employee cost for full year of FY 13-14 as Rs. 11.53 Crore. Salary expenses for FY 14-15 is estimated based on the variation in the rate of WPI Index per annum published by the Office of Economic Adviser, Government of India.
3. For projecting the employee cost for FY 2014-15, the Petitioner has considered a 8.94% escalation over the estimated employee cost for FY 2013-14. The detail breakup of employee cost for FY 2012-13, FY 2013-14 and FY 2014-15 is summarized in table below:

**Table 21: Employee Expense (Rs. Crore)**

Particulars	FY2012-13 (Actual)	FY2013-14 (RE)	FY2014-15 (Projected)
Basic Pay	4.54	4.95	5.39
Dearness Allowance	3.12	3.40	3.70
House Rent allowance	0.36	0.39	0.43
Medical reimbursement charges	0.14	0.15	0.16
Other allowance	2.42	2.63	2.87
<b>Grand total</b>	<b>10.58</b>	<b>11.53</b>	<b>12.56</b>

4. LED would like to pray to the Hon'ble Commission that salaries/employee cost increase should be considered as uncontrollable factor specially factors like DA/Basic hike through Government etc. Therefore, LED requests the Hon'ble Commission to approve the employee costs as projected in the foregoing table by the Petitioner.

### 3.4.2 Repairs & Maintenance Expense

- Repairs and maintenance expense comprise of expenses incurred by the Petitioner with regard to maintenance and upkeep of the generation, transmission and distribution system. Adequate R&M activities help in reduction of transmission and distribution losses and reduce the occurrence of breakdowns of the DG sets.
- The R&M expense for FY 2012-13 for LED was Rs. 2.57 Crore. The R&M expense for FY 2013-14 and FY 2014-15 is computed at 2.5%<sup>1</sup> of the gross fixed assets of the respective years, which are calculated at Rs. 3.10 Crore and Rs. 3.58 Crore.
- The R&M cost for FY 2012-13, FY 2013-14 and FY 2014-15 is summarized in table below:

**Table 22: Repairs & Maintenance Expense (Rs. Crore)**

Particular	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	RE	Projected

<sup>1</sup> As per the CERC norms

Particular	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	RE	Projected
R&M Expense	2.57	3.10	3.58

4. LED requests the Commission to approve the R&M expense without any disallowances as the same is necessary for proper maintenance and strengthening the generation, transmission and distribution system and improve the quality of supply in the region to ensure consumer satisfaction.

### 3.4.3 Administration & General Expense

- Administrative and General (A&G) expense comprise of various sub-heads including the following:
  - Telephone, postage & telegrams charges;
  - Travel and conveyance expenses;
  - Office expenses; and
  - Consultancy and regulatory fees
- The actual A&G expense for FY 2012-13 was Rs. 0.91 Crore.
- LED has projected the A&G expense for FY 2013-14 and FY 2014-15 at Rs. 0.99 Crore and Rs. 1.08 Crore respectively.

The LED requests the Hon'ble Commission to approve the net A&G expenses projected for FY 2014-15.

### 3.4.4 Total Operation and Maintenance Expense

Based on the employee, R&M and A&G expense projected above, the total O&M expenditure for FY 2012-13, FY 2013-14 and FY 2014-15 is summarized in table below. The Hon'ble Commission is requested to approve the total O&M expense as projected by the LED.

**Table 23: Total O&M Expense (Rs. Crore)**

O&M Expenditure	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	RE	Projected
Employee Cost	10.58	11.53	12.56

O&M Expenditure	FY 2012-13	FY 2013-14	FY 2014-15
	Actual	RE	Projected
R&M Cost	2.57	3.10	3.58
A&G Expenditure	0.91	0.99	1.08
<b>Total O&amp;M Expenditure</b>	<b>14.07</b>	<b>15.62</b>	<b>17.22</b>

### 3.5 Capital Expenditure Plan

1. The present transmission and distribution infrastructure of LED does not have adequate standby source arrangement for restoring the power supply in case of major breakdowns. Further, considering the increase in demand from the consumers, LED would be required to undertake significant capital expenditure for system augmentation and strengthening. System augmentation would not only help LED in handling increased load but would also ensure better quality of supply and network reliability to the consumers. The capital expenditure would help in further reduction of T&D losses.
2. Every year the LED drafts an Annual Plan for the capital investment for new schemes and continuing schemes which it plans to incur in the ensuing year. For FY 2014-15, the LED has proposed a draft Annual Plan for various schemes to be carried out during the year. The details of annual plan for FY 2014-15 is summarized below:

**Table 24: Capital Expenditure Plan for FY 2014-15**

S.No.	Proposed Schemes	Amount (Rs. Crs.)
1	Augmentation of DG Set	3.00
2	Special maintenance of DG set	3.22
3	Setting up /Installation of Transformers/RMU	0.95
4	Construction of HT/LT line	0.7
5	Service connections	0.33
6	Street Lights	0.29
7	Distribution box	0.59
8	Energy meter	0.69
9	Underground cable for consumer	0.29
10	Energy conservation	0.06

S.No.	Proposed Schemes	Amount (Rs. Crs.)
11	E-governance	0.4
12	Special Tools and Plants	0.6
13	Ad.set up	0.34
14	Skill up gradation ( Paid apprentices and training to staff)	0.4
15	Oil storage facilities	0.5
18	Construction of new PH at Agatti /Kalpeni and Amini. Extension of PH Andrott, Kadmat.	2.93
19	Land Compensation	4.20
<b>21</b>	<b>Total</b>	<b>19.49</b>

3. The capitalization of new schemes has been considered at 40% of the planned capital expenditure in the same year while the balance 60% has been capitalized in subsequent year. A summary of the capital expenditure and capitalization for FY 2012-13, FY 2013-14 and FY 2014-15 is summarized in the table below:

**Table 25: Capital Expenditure & Capitalization for FY 2012-13, FY 2013-14 & FY 2014-15**

Capital Expenditure & Capitalization (Rs. Crore)	FY 2012-13 Actual	FY 2013-14 RE	FY 2014-15 Projected
Capital Expenditure	13.00	14.15	19.49
Asset Capitalization	10.73	21.08	19.06
Capital Work in Progress	25.69	18.77	19.20

The Hon'ble Commission is requested to approve the capitalization as projected by the LED.

### 3.6 Gross Fixed Assets

1. The Opening Gross Fixed Assets (GFA) of LED for FY 2012-13 was Rs. 92.21 Crore. LED has further added Rs. 10.73 Crore during FY 2012-13.
2. The closing Work-in-Progress by the end of FY 2012-13 was Rs. 25.69 Crore.

3. For FY 2013-14, LED has estimated to incur Rs. 14.15 Crore capital expenditure and Rs. 21.08 Crore estimated to be capitalized.
4. For FY 2014-15, LED has proposed incur Rs. 19.49 Crore capital expenditure and Rs. 19.06 Crore is estimated to be capitalized.
5. A summary of the Opening and Closing GFA and capitalization has been summarized in the table below:

**Table 26: Opening and Closing GFA (in Rs. Crore)**

Particulars	Opening GFA	Additions during the Year	Closing GFA
FY 2012-13 (Actual)	92.21	10.73	102.94
FY 2013-14 (RE)	102.94	21.08	124.01
FY 2014-15 (Projected)	124.01	19.06	143.07

The Hon'ble Commission is requested to approve the gross fixed asset as projected by the LED.

### 3.7 Depreciation

1. Depreciation is charged on the basis of straight-line method, on the Gross Fixed Assets in use at the beginning of the year and addition in assets during the financial year. The depreciation is based on the original cost of the Gross Fixed Assets.
2. Based on the CERC norms, LED has applied the following depreciation rates as specified by CERC in the Tariff Regulations for FY 2009-14.

**Table 27: Depreciation rate specified by CERC**

Asset Category	Depreciation Rate %
Plant & Machinery	5.28%
Buildings	3.34%
Vehicles	9.50%
Furniture & Fixtures	6.33%
Computers & Others	15.00%
Land	0.00%

3. Depreciation for the current year and FY 2014-15 is determined by applying aforesaid category-wise assets depreciation rates on the opening balance of Gross Fixed assets and average of the addition during the year projected for FY 13-14 & FY 2014-15. The table below summarizes the asset-wise depreciation considered by LED:

**Table 28: Depreciation (in Rs. Crore)**

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Rs. Crore	Actual	RE	Projected
Opening GFA	92.21	102.94	124.01
Additions	10.73	21.08	19.06
<b>Closing GFA</b>	<b>102.94</b>	<b>124.01</b>	<b>143.07</b>
Average GFA	97.57	113.47	133.54
Depreciation Amount	<b>4.59</b>	<b>5.40</b>	<b>6.46</b>
<i>Average Depreciation Rate</i>	4.45%	4.36%	4.52%

The Hon'ble Commission is requested to approve the total depreciation as projected by the LED.

### 3.8 Interest & Financial Costs

#### 3.8.1 Interest on Long-term / Capital Loans

1. The entire capital expenditure of LED since its inception has been funded by the Central Government through Budgetary supports each year up to FY 2011-12. Therefore, the department does not have any loan liabilities.
2. However, LED is now migrating from a Government owned utility to a commercial utility under the Electricity Act, 2003, as it has come under the jurisdiction of the Joint Electricity Regulatory Commission. It has been assumed that LED would work as a separate commercial utility and therefore would be utilizing the debt facilities from FY 2012-13 onwards.
3. Assets capitalized during FY 2012-13, FY 2013-14 and FY 2014-15 have been considered based on normative debt-equity ratio of 70:30 as per the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009.

4. Interest rate of 14.75% has been considered for computation of interest cost for long-term loans which is similar to the prevailing SBI Prime Lending Rate. Details of the loan amounts and interest cost computed for FY 2012-13 and FY 2013-14 is summarized in Table below:

**Table 29: Total Interest on Long-term Loans**

Interest on Long-term Loans	FY 2012-13	FY 2013-14	FY 2014-15
Rs Crore	Actual	RE	Projected
Opening Loan	15.67	21.61	34.21
Addition in Loan (70% of Asset Capitalization)	7.51	14.75	13.34
Repayment of Loan (10% of Opening Balance)	1.57	2.16	3.42
<b>Closing Loan Amount</b>	<b>21.61</b>	<b>34.21</b>	<b>44.13</b>
Average Loan	18.64	27.91	39.17
Interest Rate on Loan	14.75%	14.75%	14.75%
<b>Total Interest Cost on Long-term Loans</b>	<b>2.75</b>	<b>4.12</b>	<b>5.78</b>

5. Therefore, LED requests the Hon'ble Commission to approve the interest cost on long-term loans as projected above.

### 3.8.2 Interest on Working Capital Borrowings

1. LED has computed the Interest on Working Capital for FY 2012-13, FY 2013-14 and FY 2014-15 is based on normative basis as per the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009. Since LED is an integrated utility, the working capital requirement for FY 2012-13, FY 2013-14 and FY 2014-15 has been computed considering the following parameters:
  - a. One month Employees cost
  - b. One month Administration & general expenses
  - c. One month Repair & Maintenance expenses.
  - d. Sum of two month requirement for meeting Fuel cost.
2. A rate of interest of 14.75% has been considered for FY 2012-13, FY 2013-14 and FY 2014-15 on the working capital requirement, being the SBI Prime Lending Rate as on 1<sup>st</sup> April of the year. This is in line with the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 which states that



*“The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India.”*

3. The normative interest on working capital for FY 2012-13, FY 2013-14 and FY 2014-15 considering the above methodology is summarized in Table 30 below:

**Table 30: Interest on Working Capital**

<b>Interest on Working Capital</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>
<b>Rs Crore</b>	<b>Actual</b>	<b>RE</b>	<b>Projected</b>
One Month Employee Cost	0.88	0.96	1.05
One Month R&M Cost	0.21	0.26	0.30
One Month A&G Cost	0.08	0.08	0.09
Two Month Fuel Cost	11.19	14.84	16.28
<b>Total Working Capital requirement</b>	<b>12.36</b>	<b>16.15</b>	<b>17.72</b>
Rate of Interest on Working Capital	14.75%	14.75%	14.75%
<b>Total Interest on Working Capital</b>	<b>1.82</b>	<b>2.38</b>	<b>2.61</b>

4. Therefore, LED requests the Hon’ble Commission to approve the interest cost on working capital as projected above.

### **3.9 Return on Capital Base**

1. LED is an integrated utility in its present form as defined in Regulation 2(9) of the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 and it is entitlement to return on capital base under the provisions of Schedule VI of the repealed Electricity (Supply) Act, 1948 vide Regulation 23 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009.
2. The LED has considered return on capital base as per the Regulation 23 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 and has considered Rs. 2.63 Crores, Rs. 2.93 Crores and Rs. 3.53 Crores as a 3% return on net block of assets/capitalization at the beginning of the FY 2012-13, FY 2013-14 and FY 2014-15 of 87.62 Crores, Rs 97.53 Crores and Rs. 117.55 Crores respectively.
3. Return on capital employed for EDDD computed for FY 13-14 and FY 14-15 has been detailed in Table 31 below:

**Table 31: Return on Capital Base**

Return on Capital Base	FY 2012-13	FY 2013-14	FY 2014-15
Rs Crore	Actuals	RE	Projected
Return on Capital Base	2.63	2.93	3.53

### 3.10 Provision for Bad & Doubtful Debts

- LED has considered provision for Bad and Doubtful Debts at 1% of the receivables for FY 2013-14 and FY 2014-15.
- LED requests the Hon'ble Commission to approve the provision for bad & doubtful debts as summarized in the Table below:

**Table 32: Provision for Bad & Doubtful debts**

Provision for Bad & Doubtful Debts	FY 2013-14	FY 2014-15
Rs Crore	RE	Projected
Receivables	11.97	13.19
Provision for Bad & Doubtful Debts as 1% of Receivables	1%	1%
<b>Provision for Bad &amp; Doubtful Debts</b>	<b>0.12</b>	<b>0.13</b>

### 3.11 Non-Tariff & Other Income

- Non-tariff income includes meter rent/service line rentals, delay payment surcharge from the consumers.
- The actual non-tariff income for FY 2012-13 was Rs. 0.21 Crore.
- For FY 2013-14 and FY 2014-15 an increase at 5% p.a. has been considered over the non-tariff income of the previous year. Details of the non-tariff income is provided in table below:

**Table 33: Non-tariff Income**

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Rs Crore	Actual	RE	Projected
Non-tariff Income	0.21	0.32	0.33

### 3.12 Aggregate Revenue Requirement

1. Table 34 summarizes the LED's Aggregate Revenue Requirement for FY 2012-13, FY 2013-14 and FY 2014-15.
2. Aggregate Revenue Requirement for FY 2014-15 is estimated by the LED at Rs 133.10 Crore.

**Table 34: Aggregate Revenue Requirement**

<b>Annual Revenue Requirement</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>
<b>Rs. Crore</b>	<b>Actual</b>	<b>RE</b>	<b>Projected</b>
Fuel Purchase Cost	67.15	89.07	97.70
O&M Expense	14.07	15.62	17.22
Depreciation	4.59	5.40	6.46
Interest Cost on Long-term Capital Loans	2.75	4.12	5.78
Interest on Working Capital Loans	1.82	2.38	2.61
Return on Equity	2.63	2.93	3.53
Provision for Bad Debt	-	0.12	0.13
Less: Non-Tariff Income	0.21	0.32	0.33
<b>Annual Revenue Requirement</b>	<b>92.79</b>	<b>119.32</b>	<b>133.10</b>

### 3.13 Revenue at Existing Tariff

1. The LED has computed the revenue for FY 2013-14 & FY 2014-15 based on the tariff rate approved by the Hon'ble Commission in its Order dated 31<sup>st</sup> October, 2012.
2. Revenue from sale of power for FY 2013-14 & FY 2014-15 is determined based on the energy sales estimated in Table 8 and category wise tariff prevalent in the UT of Lakshadweep.

3. Revenue from sale of power at existing tariff is estimated to be at Rs. 11.97 Crore for FY 2013-14 and Rs. 13.21 Crore for FY 2014-15 as shown in Table 35.
4. The table below summarizes the revenue from sale of power at existing tariff for FY 2012-13, FY 2013-14 and FY 2014-15:

**Table 35: Revenue from Sale of Power at Existing Tariff**

<b>Revenue @ Existing Tariff</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>
<b>(Rs Crore)</b>	<b>Actual</b>	<b>RE</b>	<b>Projected</b>
Domestic	4.90	6.38	7.01
Commercial	4.46	5.06	5.65
Industrial	0.16	0.16	0.17
Public (Street Light)	0.33	0.33	0.33
Temporary connections	0.03	0.04	0.04
<b>Total revenue from existing tariff</b>	<b>9.88</b>	<b>11.97</b>	<b>13.21</b>

### 3.14 Coverage of Revenue Gap

1. It is evident from Table 34 and Table 35 that there is a wide gap between the expenditure and revenue of the LED. The LED by a large extent is dependent on the budgetary support of the Government of India.
2. Table 36 summarizes the Revenue Gap at existing tariff at Rs. 107.34 Crore for FY 2013-14 and Rs. 119.89 Crore for FY 2014-15. The estimated gap has been computed by deducting the ARR from Revenue at Existing Tariff.
3. LED has projected ARR for FY 2014-15 at Rs. 133.10 Crores and the revenue at existing tariff from projected sales computes to Rs 13.21 Crores. Thus the resultant gap works out to Rs. 119.89 Crores. LED does not propose to increase the tariff for the FY 2014-15 as this may result in huge burden on the consumers.
4. It is submitted that in LED, majority of generation is diesel based, making per unit cost of generation very high compared to other utilities in the country. Recovery of such high cost of generation through tariff increase is not practicable as this would make power unaffordable to the general consumers. LED being a Government Department funded by budgetary support from

Central Government proposes to absorb the increase in cost of supply and keep the tariff unchanged for the FY 2014-15.

5. It is prayed to the Hon'ble Commission that considering the above submissions the proposal of LED for keeping the tariff unchanged for the FY 2014-15 may kindly be approved.
6. The total Revenue Gap of Rs. 107.34 Crore for FY 2013-14 and Rs. 119.89 Crore for FY 2014-15 is shown in Table 36.

**Table 36: Revenue Gap**

<b>Annual Revenue Requirement</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>
<b>Rs Crore</b>	<b>Actual</b>	<b>RE</b>	<b>Projected</b>
<b>Total ARR</b>	<b>92.79</b>	<b>119.32</b>	<b>133.10</b>
Revenue @ Existing Tariff	9.88	11.97	13.21
<b>Total Revenue</b>	<b>9.88</b>	<b>11.97</b>	<b>13.21</b>
<b>Revenue (Gap)/Surplus</b>	<b>(82.91)</b>	<b>(107.34)</b>	<b>(119.89)</b>

### 3.15 Average Cost of Supply

1. Table 37 summarizes Average Cost of supply and total average realization at the existing tariff.

**Table 37: Average Cost of Supply & Revenue Realization**

Average Realization & Cost of Supply	FY 2012-13	FY 2013-14	FY 2014-15
(Rs/Unit)	Existing Tariff	Existing Tariff	Existing Tariff
Average Cost of Supply of the LED	24.42	29.18	29.56
Average Realization	2.60	2.93	2.93
Revenue Gap at Existing Tariff	<b>-21.82</b>	<b>-26.25</b>	<b>-26.63</b>

2. The LED submits that the average cost of supply of the department is much higher in comparison to other utilities in India. The reasons for such high average cost of supply are high generation cost due to usage of HSD and high O&M cost of the generation, transmission and distribution assets. Since, the department operates in the islands, which are located far from the mainland, it is not possible for the department to opt for cheaper sources of power. Further, the department has to maintain its O&M resources within the islands due to constraints in transportation of materials and equipments between the islands. As a result of that the average O&M expenses of the department is comparatively higher than other utilities in India.

## Chapter 4: Compliance on Directives

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The Hon'ble Commission vide Tariff Order dated 31<sup>st</sup> October, 2012 had issued a set of directives to be followed by LED to comply with the JERC (Terms and Conditions of Determination of Tariff) Regulations, 2009.

In line with the directives, LED has been taken several steps to comply with the directives. The purpose of this section is to appraise the Hon'ble Commission on progress made by LED on this matter since the issuance of the aforesaid tariff order.

### 1. Directive 1: Filing of Review and True-up Petition for FY 2012-13:

As per the regulation no. 8 of JERC tariff regulations 2009, the petitioner is directed to submit the Review of FY 2012-13 along with the ARR and Tariff Petition for FY 2013-14 in line with JERC regulations as modified from time to time. The Commission shall consider variations between approvals and revised estimates/pre-actual of sale of electricity, income and expenditure for the relevant year and permit necessary adjustments/ changes in case such variations are for adequate and justifiable reasons for FY 2012-13 during Review.

After audited accounts of FY 2012-13 are made available; the Commission shall undertake similar exercise as mentioned above with reference to the final actual figures as per the audited accounts. This exercise with reference to audited accounts shall be called 'Truing Up', for which true-up petition should be submitted along with the audited accounts for consideration of the Commission.

#### **Compliance:**

In the present petition the LED is filing the review for FY 2012-13 and the ARR and Tariff Petition for FY 2013-14. Further, the LED would file the True up for FY 2012-13 along with the Tariff Petition for FY 2014-15 once the annual accounts for FY 2012-13 are finalized.

#### **Commission's Comments**

The Commission further directs the petitioner to submit audited figures for FY 2011-12 for the purpose of fixing base year data along with the true-up petition for the FY 2012-13 in its next submission.

#### **Compliance:**

The LED would like to submit to the Hon'ble Commission that it has engaged a Chartered accountant firm to prepare the financial accounts for the FY 2010-11, FY 2011-12 and FY 2012-13. As soon as the financial accounts are prepared, the LED would submit audited figures for FY 2011-12 for the purpose of fixing base year data along with the true-up petition for the FY 2012-13.

## **2. Directive 2: Annual Statement of Accounts:**

The Commission has observed that the department of Lakshadweep is not maintaining separate accounts on commercially accepted principles for the electricity business. The Petitioner is directed to segregate the accounts pertaining to electricity business as per the Electricity Act 2003 and get them duly audited as required under JERC (Terms and Conditions for Determination of Tariff) Regulations 2009.

### **Compliance:**

The LED would like to submit to the Hon'ble Commission that it will engage a Chartered Accountant firm to prepare the Annual Statement of Accounts for FY 2012-13 and will submit the same to the Hon'ble Commission along with the next ARR and Tariff Petition.

### **Commission's Comments**

Commission directs petitioner to submit the audited accounts for FY 2011-12 and FY 2012-13 in the next submission.

### **Compliance:**

The LED would like to submit to the Hon'ble Commission that it floated the tender twice for engaging a Chartered accountant firm to prepare the financial accounts. The first time there was a single bidder and therefore it had to float the tender again. Presently, the LED has shortlisted a firm to prepare the financial accounts for the FY 2010-11, FY 2011-12 and FY 2012-13 and will submit the same to the Hon'ble Commission once they are finalized.

## **3. Directive 3: Preparation of Asset and Depreciation Register:**

The Electricity Department, Lakshadweep is directed to arrange for the preparation of asset and depreciation registers function wise, and asset classification wise. Till such time the above registers are prepared and got audited, the Commission cannot consider the gross fixed assets and accumulated depreciation over the years to arrive



at the capital base and allow the return thereon as per JERC (Terms and Conditions of Determination of Tariff) Regulations, 2009.

The Petitioner is directed to submit quarterly progress report and the completion date of the preparation of the asset and depreciation registers, function wise and asset classification wise after getting them audited.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it will engage a Chartered Accountant firm to prepare the asset and depreciation registers function wise, and asset classification wise and will submit the same to the Hon'ble Commission along with the next ARR and Tariff Petition.

**Commission's Comments**

Commission directs petitioner to submit the audited asset register for FY 2011-12 and FY 2012-13 in the next submission.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it floated the tender twice for engaging a Chartered accountant firm to prepare the financial accounts along with the audited asset register. The first time there was a single bidder and therefore it had to float the tender again. Presently, the LED has shortlisted a firm to prepare the financial accounts and asset register for the FY 2010-11, FY 2011-12 and FY 2012-13 and will submit the same to the Hon'ble Commission once they are finalized.

**4. Directive 4: Optimization of Fuel Cost:**

The UT of Lakshadweep is an archipelago consisting of 11 inhabited islands and located far from the mainland of India; it is entirely dependent on its own generation for supply of power. The power in the UT of Lakshadweep is generated mainly from its Diesel Generating (DG) sets besides some production from solar plants.

The diesel is generally received in bulk in big tankers, thereafter it is transported to various islands in drums. Obviously, there are losses in transportation, storage and handling of which no assessment is available. It is understood that presently there is no system through which actual fuel consumption per generating station can be ascertained for generation of one unit of energy. In fact, there should be proper accounting of generating station wise fuel receipts & issues. The ED LED is directed to evolve a system of accounting of fuel received at port, dispatched island wise, actual quantity received on the islands and actual quantity consumed island wise for

generating electricity; so that actual fuel consumption per unit generation could be worked out. Accordingly, the petitioner is directed to furnish such details along with the next filing.

**Compliance:**

The actual island wise fuel consumption for FY 2011-12 is being submitted as Annexure I along with this petition.

**Commission's Comments**

In the data submitted by the petitioner, some of the data was incomplete. Commission directs the petitioner to submit the complete actual status before 1st July 2013.

**Compliance:**

The actual island wise fuel consumption for FY 2012-13 is being submitted as **Annexure I** along with this petition.

**5. Directive 5: Renewable Purchase Obligation:**

The Petitioner is directed to encourage and incentivize generation from renewable sources to meet its overall and individual RPO targets. The petitioner has to purchase 3% of total consumption of all the consumers in its area as power purchase from renewable sources for FY 2012-13 including 0.40% from Solar and 2.60% from Non-Solar as per the JERC (Procurement of Renewable Energy) Regulations 2010.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that all of the eleven islands have SPV plants and out of that nine will be functional in FY 2013-14. The total solar power generation projected for FY 2013-14 1.57 MU which is 3.03% of the total generation projected for FY 2013-14. Further the LED is also exploring the possibility of generating power from biomass and has already engaged a consultant for preparation of the DPR for the same.

**Commission's Comments**

Commission directs the petitioner to provide the status of the DPR prepared for biomass generation activity and the time lines for such project implementation. Also, for the time being what other options is the utility considering for fulfilling the non-solar RPO obligation.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that the department has got approval from the Ministry of New & Renewable Energy (MNRE) for setting up biomass plants in the Public Private Partnership (PPP) mode in three islands. The three islands are:

Minicoy-2 MW plant

Kavaratti-2 MW plant, and

Kadmat-1 MW plant.

The MNRE has approved to give grant of Rs. 2 crore per plant. The department is in the process of floating the tender for the same.

**6. Directive 6: Segregation of O&M expenses under different accounting heads:**

The Commission directs the Petitioner to maintain segregation of the O&M expenses under different accounting heads and maintain the information as desired as per the regulatory formats and submit the same alongwith the next ARR/tariff filing.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it has started the process to maintain segregation of the O&M expenses under different accounting heads and will be submitting the same in the desired regulatory formats along with the next ARR and Tariff Petition.

**Commission's Comments**

Commission directs the petitioner to submit the actual expenses for FY 2011-12 and FY 2012-13 by 1st July 2013.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it has engaged a Chartered accountant firm to prepare the financial accounts for the FY 2010-11, FY 2011-12 and FY 2012-13. As soon as the financial accounts are prepared, the LED would submit the actual expenses for FY 2011-12 and FY 2012-13 to the Hon'ble Commission.

**7. Directive 7: Bill Payment:**

The Petitioner is directed to explore options for multiple payment points/gateways for online collection and status of existing system of bill payment should be submitted within three months.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it has already taken action to set up multiple payment points/gateways through Common Service Centres across all the islands. Further the software is being modified to start the online collection system in Lakshadweep.

**Commission's Comments**

Commission directs the petitioner to submit the details of online collection of the bills from the time of implementation in the next petition.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it has set up common service centre in Kavaratti to facilitate the payment of bills by the consumers and it is in the process to extend this facility to other islands. Further, the LED is also updating its billing software to facilitate the online payment gateway and the same will start operating shortly.

**8. Directive 8: Collection of Arrears:**

The Petitioner is directed to analyze the outstanding dues, bad debts etc. & construct a data base of such consumers including particulars like amount, aging schedule and category. The Petitioner should identify those consumers having an outstanding of Rs. 50 thousand and above, for more than six months from the due date.

**Compliance:**

The LED would like to submit that a system to analyze the outstanding dues, bad debts etc. is already in place and further LED would also like to appraise the Hon'ble Commission that none of the consumers is having an outstanding of Rs. 50 thousand and above, for more than six months from the due date.

**Commission's Comments**

Petitioner is directed to submit the age wise details of arrears in the region before 1st July 2013.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that none of the consumers is having an outstanding of Rs. 50 thousand and above, for more than six months from the due date.

**9. Directive 9: Capital expenditure:**

The Petitioner is directed to submit the detailed statement of capital expenditure incurred and capitalized for every quarter, within 15 days of the subsequent quarter.

**Compliance:**

The LED will start submitting the quarterly statement of capital expenditure incurred and capitalization for every quarter to the Hon'ble Commission shortly.

**Commission's Comments**

Petitioner is required to submit the status of capital expenditure on quarterly basis before 1<sup>st</sup> July 2013.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it is about to engage a Chartered Accountant firm for the preparation of the asset register for the FY 2010-11, FY 2011-12 and FY 2012-13. As soon as the asset register is finalized, the LED will start submitting the capital expenditure and capitalization on quarterly basis to the Hon'ble Commission.

**10. Directive 10: Metering of consumer installations / replacement of Non-Functional or defective Meters:**

Under Section 55 (1) of Electricity Act 2003, no licensee shall supply electricity after expiry of 2 years from the appointed date except through installation of correct meter in accordance with the regulation to be made in this behalf by the authority. Accordingly, metering is required to be done in line with CEA (installation and operation of meters) Regulations 2006 for all consumers. ED LED is directed to submit an action plan regarding installation/replacement of meters by 30<sup>th</sup> December 2012.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that there is 100% metering of all the consumers of electricity in Lakshadweep.

**Commission's Comments**

The Petitioner is directed to submit category wise details of metering before 1<sup>st</sup> July 2013.

**Compliance:**

The Led is compiling the category wise details of metering and will submit the same to the Hon'ble Commission shortly.

#### **11. Directive 11: Strengthening of the Consumer Grievance Redressal System:**

The Commission directs the petitioner to find a way to dispose all pending applications as per the provisions under section 43 of the Electricity Act, and relevant JERC Regulations, other than the cases pending due to lack of documentary evidence of legal heirs after the death of original owner of the premises.

The Commission also directs the petitioner to follow the Standard of Performance notified by the Commission strictly and the status report on all new/shifting connection applications pending by more than 45 days, with the reason for their pendency be submitted to the Commission by 30<sup>th</sup> December 2012.

The petitioner is directed to promote and give publicity to the functioning of the Consumer Grievance Redressal Forum (CGRF), so that consumers can approach CGRF for redressal of their grievances.

The Commission directs the petitioner to publicize the benefit to consumers, highlighting the steps and necessary documents required for redressal of complaints and to initiate action on the following:

- Complaints against fast meters/defective meters
- Application for shifting of electricity connection
- Application for new Connection
- Complaints regarding no-supply.
- Any other complaints

Commission further directs to prepare monthly/ quarterly schedule for visit to different islands by officers i.e. S.D.O., Executive Engineers and Superintendent Engineer of LED to bring in greater efficiency in the working of LED and also to hear and settle the public grievances and complaints of the consumers at the spot so that no consumer is forced to visit the main office of the LED.

#### **Compliance:**

The directive of the Hon'ble Commission in this regard is being complied. The officers of the LED visit different Islands to hear and settle the public grievances and complaints regularly.

**Commission's Comments**

Petitioner is required to submit the list of complaint received and action taken in the FY 2011-12 and FY 2012-13 before 1st July 2013.

**Compliance:**

The Led is compiling the list of complaint received and action taken in the FY 2011-12 and FY 2012-13 and will submit the same to the Hon'ble Commission shortly.

**12. Directive 12: Exploration of alternative sources of electrical energy:**

The Commission has observed that there is huge dependency on diesel for generating electricity, which not only increases the average cost of supply but also puts a huge burden on the financial health of the utility. The Commission has noticed that the Petitioner has taken some initiatives in this regard but firm execution is required so as to speed up the process of the construction and achievement of commercial operation date of renewable generation plants. It is inevitable for the distribution licensee to explore alternative sources of power, and at the same time consumer's contribution in this regard is required in terms of installation of roof top solar, wind or hybrid equipments etc. to reduce the load on the existing power stations of the utility.

The petitioner is directed to submit a quarterly progress report for the initiatives taken in this regard and submit the first report by 30th January 2013.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that it is exploring the possibility of generating power from biomass and has already engaged a consultant for preparation of the DPR and global tender for all possible renewable energy generation. The LED will submit the progress report of the same to the Hon'ble Commission shortly.

**Commission's Comments**

Serious efforts are required by the Petitioner in this regard and a status report on the other alternative means be submitted to Commission by 31st September 2013.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that the department has got approval from the Ministry of New & Renewable Energy (MNRE) for setting up

biomass plants in the Public Private Partnership (PPP) mode in three islands. The three islands are:

Minicoy-2 MW plant

Kavaratti-2 MW plant, and

Kadmat-1 MW plant.

The MNRE has approved to give grant of Rs. 2 crore per plant. The department is in the process of floating the tender for the same.

Further, the department has also taken steps to set up a LTTD Micro Hydel Power Plant in of capacity 1x15 kW at Kavaratti. The detailed project report of the same is enclosed with this petition as **Annexure II**.

### **13. Directive 13: Energy Audit:**

The Petitioner is directed to get an energy audit conducted to assess actual technical and commercial losses. The energy audit of the generating stations is required for an actual assessment of losses. Based on the studies, ED LED shall propose an action plan for the reduction of losses in subsequent years along with the investment required for reduction of such losses and augmentation of transmission and distribution system. Effective technical and administrative measures shall be taken to reduce the commercial losses. The action plan for energy audit and loss reduction measures shall be furnished to the Commission by 30th December 2012. The petitioner is directed to submit a quarterly progress report for the initiatives taken in this regard and submit the first report by 30th January 2013.

#### **Compliance:**

The LED is taking necessary steps to appoint an agency for the energy audit. Further there is also a proposal for installation of AMR meters across all the islands for the reduction of T&D losses. The action plan for the same will be submitted to the Hon'ble Commission shortly.

#### **Commission's Comments**

Petitioner is required to submit the action plan along with the details of agency appointed for the purpose of energy audit before 1st July 2013.

#### **Compliance:**

The LED would like to submit to the Hon'ble Commission that it has engaged the Kerala State Productivity Council to conduct the energy audit in all the islands of the



UT of Lakshadweep. The energy audit will also include the installations and as soon as the report is finalized it will be submitted to the Hon'ble Commission.

#### **14. Directive 14: Interest on Security Deposit:**

As per Clause 47(4) of the Electricity Act, 2003 and as specified in regulation 25 of JERC Tariff Regulations 2009, *the distribution licenses shall pay interest on security deposit collected from the consumers, equivalent to the bank rate or more as may be specified by the Commission.* On account of provisions mentioned in the Act and regulation, Commission directs the petitioner, that the petitioner must pay the interest on consumer security deposit for FY 2012-13 (at the Bank Rate) with effect from 1st April 2012 to the consumers on their security deposit irrespective of petitioner's constraints and should explicitly mention the same as the 'Interest on security deposit for FY 2012-13' on the bills of the consumers. **Any non-compliance in this regard shall be viewed seriously by the Commission.**

#### **Compliance:**

The LED would like to submit to the Hon'ble Commission that the present billing system of the department is not having the provision of giving the interest on security deposit to its consumers. The department is presently upgrading its billing software and also updating the security deposit records and as soon as these two processes are complete it will start paying interest on security deposit to its consumers and also appraise the Hon'ble Commission on the same.

#### **Commission's Comments**

Commission directs the petitioner to submit the details of such payments made by the next submission.

#### **Compliance:**

The LED would like to submit to the Hon'ble Commission that the process of upgrading the billing software and updating the security deposit records is complete and the department will start giving interest on security deposit to its existing consumers from 1<sup>st</sup>April, 2014. Further, for its new consumers, the department will deposit the security deposit in the co-operative bank, and the interest on the security deposit will be remitted to the account of the consumers directly from the bank.

**15. Directive 15: Cost of Power Generation:**

The Commission has observed that the ED LED is not maintaining separate accounts for their diesel generating sets and solar power plants. The Commission directs the petitioner to provide separate details of cost of generation and final arrived tariff from the following stations/sets:

- i. Cost of generation and Tariff from each Diesel Generating set
- ii. Cost of generation and Tariff from Solar Power Plant
- iii. Cost of generation and Tariff from other Renewable Power Plants
- iv. Power Purchase cost from other sources, if any

**Compliance:**

The generator-wise data of the generators installed each station, including unit generated, auxiliary power consumption, plant load factor and specific fuel consumption based on actual for FY 2011-12 is being submitted along with this petition as Annexure I.

**Commission's Comments**

The data provided by the petitioner has some inconsistencies which need to be corrected. Petitioner is required to submit the revised data before 1st July 2013.

**Compliance:**

The generator-wise data of the generators installed each station, including unit generated, auxiliary power consumption, plant load factor and specific fuel consumption based on actual for FY 2012-13 is being submitted along with this petition as **Annexure I**.

**16. Directive 16: Improvement in Specific Fuel Consumption:**

It is observed that the specific fuel consumption in case of LED is much higher at 0.32 litres per unit of electricity based on actual for FY 2011-12 whereas for similarly placed territory of Andaman & Nicobar Islands it is 0.239 litres to generate one unit of electricity based on approved cost for FY 2012-13. Also, the actual specific fuel consumption for the IPP at A&N is 0.24 litres/unit based on actual for FY 2011-12.

So, the utility needs to take serious steps to economise its use of the HSD fuel and bring its specific fuel consumption at par with other similarly placed utilities.

**Compliance:**

The LED would like to submit to the Hon'ble Commission that out of the existing installed capacity of 18890 kW, the old DG sets have a capacity of 3750 kW. By the end of the 12th five year plan the old DG sets will be phased out and the specific fuel consumption will come down so that the LED will be able to economize its use of HSD fuel.

**Commission's Comments**

The Commission directs the Petitioner to submit the action plan with Time lines by 30th Oct 2013.

**Compliance:**

The LED would like to submit that the action plan with time lines would be submitted to the Hon'ble Commission shortly. Further, the LED would also like to bring to the notice of the Hon'ble Commission that a team of officials of LED paid a visit to the Andaman & Nicobar islands, to study their system of operation and methodologies to improve overall efficiency of the department. Subsequently, a report has been prepared by the department detailing their observations of the working of the Electricity Department of Andaman & Nicobar Islands and suggestions on the practices to be adopted by the LED to bring improvement and more efficiency in their functioning. The report is being enclosed along with this petition as **Annexure III**.

## Tariff Schedule

### General Terms and Conditions:

- 1) The tariffs are exclusive of electricity duty, taxes and other charges levied by the Government or other competent authority from time to time which are payable by the consumers in addition to the charges levied as per the tariffs.
- 2) Unless otherwise agreed to, these tariffs for power supply are applicable for supply at one point only.
- 3) If energy supplied for a specific purpose under a particular tariff is used for a different purpose, not contemplated in the contract for supply and / or for which higher tariff is applicable, it will be deemed as unauthorized use of electricity and shall be dealt with for assessment under the provisions of section 126 of the Electricity Act, 2003 & Supply Code Regulation notified by JERC.

Provided that (a) if a portion of the domestic premises limited to only one room is used for running small household business having connection under domestic category, such connection shall be billed under domestic category provided that the total monthly consumption of the consumer (including consumption for above mentioned small household business) does not exceed 150 kWh

(b) If either more than one room or only one room having monthly consumption exceeding 150 kWh for consecutive three months is detected in the domestic premises being used for mixed purposes having domestic connection, such connection shall further be billed under commercial category until a separate connection of appropriate tariff is taken for that portion used for non-domestic purpose.

- 4) If connected load of a domestic category is found to be at variance from the sanctioned/contracted load as a result of replacement of appliances such as lamps, fans, fuses, switches, low voltage domestic appliances, fittings, etc it shall not fall under Section 126 and Section 135 of the EA 2003.
- 5) The department shall not permit installation of contracted load of 3 HP and above in LT unless they are provided with the capacitors of adequate rating to comply with power factor conditions as specified in the JERC Supply Code Regulations 2010. The consumer has to provide appropriate capacitors for these installations presently running on without capacitors.

- 6) If the consumer fails to pay the energy bill presented to him by the due date, the Department shall have the right to disconnect the supply after giving 15 days' notice as per the provision of the Act & Supply Code Regulation. Notice to this effect shall be printed on the bill of the consumer.
- 7) Fixed charges, wherever applicable, will be charged on pro-rata basis from the date of release of connection. Fixed charges, wherever applicable, will be double as and when bi-monthly billing is carried out; similarly slabs of energy consumption will also be considered accordingly in case of bi-monthly billing.
- 8) Supply to consumers connected at 11kV will be charged as per the HT Consumer category rate.
- 9) The billing in case of HT shall be on the maximum demand recorded during the month or 75% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the JERC Supply Code Regulation 2010. If such over-drawl is more than 20% of the contract demand then the connections shall be disconnected after due notice to the consumers.  
**Explanation:** Assuming the contract demand as 100 KVA, maximum demand at 120 KVA and total energy consumption as 12000 Kwh, then the consumption corresponding to the contract demand will be 10000 Kwh ( $12000 \times 100 / 120$ ) and consumption corresponding to the excess demand will be 2000 Kwh. This excess demand of 20 KVA and excess consumption of 2000 Kwh will be billed at twice the respective normal rate. Such connections drawing more than 120 kVA, shall be disconnected after due notice.
- 10) Unless specifically stated to the contrary, the figures of energy charges relates to paise per unit (kWh) charge for energy consumed during the month.
- 11) **Delayed payment surcharge** shall be applicable to all categories of consumers. Delayed payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paise shall be ignored and amount of 50 paise or more shall be rounded off to next rupee. In case of permanent disconnection,

delayed payment surcharge shall be charged only upto the month of permanent disconnection.

- 12) **Advance Payment Rebate:** If payment is made in advance well before commencement of consumption period for which bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding security deposit) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.
- 13) **Prompt Payment Rebate:** If payment is made at least 7 days in advance of the due date of payment a rebate for prompt payment @ 0.25 % of the bill amount shall be given. Those consumers having arrears shall not be entitled for such rebate.
- 14) Schedule of other charges would be as approved in this Tariff Order.
- 15) In case any dispute arises about the applicability of any tariff for any particular class of service or as to the interpretation of any clause of these tariffs, the decision of the Commission shall be final and binding.

The detailed tariff Schedule is outlined as below.

#### **DETAILED TARIFF SCHEDULE**

##### **A. Tariff BPL/Kutir Jyoti:**

Applicable to consumers of Below Poverty Line (BPL) category with monthly consumption of 30 units and below.

**Fixed Charge - Rs 25/-** per service connection per month or part thereof

Note: Production of relevant BPL certificate issued by the authority concerned in the Island is a must for considering into this category and their consumption does not exceed 30 kWh per month at any instant.

ED Lakshadweep shall install meters on all such consumers, latest by Dec. 31' 2013.

**B. Domestic Category**

Application to private houses, bungalows, hostels and hospitals run on noncommercial lines, charitable educational and religious institutions etc. for lights, fans, radios, domestic heating and other household appliances.

**I. Fixed Charges**

Rs. 10 / connection/ month or part thereof for single phase connection

Rs. 50/connection/ month or part thereof for three phase connection

**II. Energy Charges**

Usage(Units/Month)	Energy Charge (Ps./Unit)
0-50 units	100
51-200 units	125
201-200 units	250
201 and above	400

**C. Commercial**

This includes all categories which are not covered by other tariff categories i.e Domestic Category, BPL, Industrial LT, HT Consumers and Public Lighting.

Applicable for Shops, Offices, Restaurants, Bus Stations, Photo Studios, Laundries, Cinema Theatres, Industrial Lighting, clubs and other commercial installations.

**I. Fixed Charges**

Rs. 25/ connection/ month or part thereof for single phase connection

Rs. 100/connection/month or part thereof for three phase connection

**II. Energy Charges**

Usage(Units/Month)	Energy Charge (Ps./Unit)
0-100 units	425
101-200 units	500
201 and above	600

**D. Industrial Category**

Applicable to all Low Tension Industrial Connections including water works/pumps.

**I. Fixed Charges**

Rs 30/kVA/month or part thereof

**II. Energy Charges**

Usage(Units/Month)	Energy Charge (Ps./Unit)
For all units	450

**E. HT Consumers**

Applicable for the consumers connected with 11 KV.

**i. Fixed Charges (Demand Charges)**

For Billing Demand	Charges (Rs./kVA/month) or part thereof
Upto Contract Demand	Rs. 100/kVA/month or part thereof

**ii. Energy Charges**

Usage(Units/Month)	Tariff (Ps./Unit)
For all units	600

iii. **Penalty Charges:** Shall be in accordance with S.No. 9 of the General Terms and Conditions.

**iv. Power Factor Charges**

(a)The monthly average power factor of the supply shall be maintained by the consumer not less than 0.90 (lagging). If the monthly average power factor of a consumer falls below 90% (0.9 lagging), such consumer shall pay a surcharge in addition to his normal tariff @ 1% on billed demand and energy charges for each fall of 0.01 in power factor upto 0.7(lagging)



(b) In case the monthly average power factor of the consumer is more than 95% (0.95 lagging), a power factor incentive @ 0.5% on demand and energy charges shall be given for each increase of 0.01 in power factor above 0.95 (lagging)

(c) If the average power factor falls below 0.70 (lagging) consecutively for 3 months, the licensee reserves the right to disconnect the consumer's service connection without prejudice for the levy of the surcharge.

(d) The power factor shall be rounded off to two decimal places. For example, 0.944 shall be treated as 0.94 and 0.946 shall be treated as 0.95

#### v. Billing Demand

Billing demand in a billing cycle will be the higher of the following:

- (a) 75% of the Contract Demand
- (b) Actual Demand recorded by the meter

#### F. Public (Street Lighting)

Applicable for lighting on public roads, footpaths, streets and fares in parks & markets.

##### i. Energy Charges

Usage(Units/Month)	Tariff (Ps./Unit)
For all units	400

#### G. Temporary Supply

##### i. Energy Charges

Usage(Units/Month)	Tariff (Ps./Unit)
For all units	700

The supply shall be given for a period of not more than three months. For any extension a fresh connection has to be obtained on proper fresh application. The temporary connection can only be for a maximum period of six months.

**Schedule of Other Charges****a. Meter Rent Charges**

S.No.	Meter type	Tariff (in Rs.)/Month or part thereof
1	Single Phase	Rs 10 per month or part thereof
2	Three Phase	Rs 25 per month or part thereof
3	LT Meter with MD indicator	Rs 200 per month or part thereof
4	Tri- vector Meter (HT)	Rs 500 per month or part thereof

Note: The type of meters to be installed in consumer premises will be decided by the department. Generally the LT consumers having connected load above 50 HP will be provided with L.T.M.D.I meters.

Considering the constraints prevailing in Lakshadweep Islands, the energy meters will be provided by the department only.

**b. Reconnection Charges after temporary disconnection**

S.No.	Connection type	Charges (in Rs.)
1	Single Phase LT	Rs 50
2	Three Phase LT	Rs 100
3	HT	Rs 500

**c. Service Connection Charges**

S.No.	Connection type	Charges (in Rs.)
1	Single Phase LT	Rs 250
2	Three Phase LT	Rs 500
3	HT	Rs 1000

**d. Extra Length Charge**

S.No.	Connection type	Charges (in Rs.)
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S.No.	Connection type	Charges (in Rs.)
1	Single Phase	Rs 50/meter
2	Three Phase	Rs 100/meter

Extra length chargeable will be beyond permissible 30 meters free length from existing network for new connection for all categories.

**e. Testing Fee for various Metering Equipment**

S.No.	Types of Metering Equipment	Fee per unit (in Rs.)
1	Single Phase	100
2	Three Phase	300
3	Three Phase Tri-vector Meter (0.5 Class) Industrial LT Consumer	500
4	Three Phase Tri-vector Meter (0.5 Class) 11 KV HT Consumer	500
5	Combined CTPT Unit for 11 KV Consumer	500
6	Three Phase CT Block	300
7	CT Coil	100

**f. Fees (Non-refundable) for submission of Test Report of wiring completion**

S.No.	Types of Connection	Fee per test report (in Rs.)
1	Single Phase Lighting / Domestic	10
2	Three Phase Lighting /Domestic	25
3	Single Phase Lighting / Commercial	50
4	Three Phase Lighting / Commercial	100
5	Three Phase LT Industries	250
6	Single Phase /Streetlight / Public Lighting & others	50

**g. Other Charges:**

- a) Meter shifting charges (within the premises on consumer request) - Rs. 1000/-
- b) Shifting of poles on consumer request - Rs. 1500/-
- c) Diversion of HT/LT line on consumer request - Rs. 100/- per meter
- d) Penalty for tampering/damaging of supplier equipments - As per the relevant provisions of the JERC Supply Code Regulations 2010.

## **Prayer**

1. LED requests the Honorable Commission to:

- Admit and approve the Aggregate Revenue Requirement of FY 2014-15 as submitted herewith.
- Condone any inadvertent omissions/ errors/ shortcomings and permit the Petitioner to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date.
- Submit necessary additional information required by the Commission during the processing of this petition.
- And pass such other and further orders as are deemed fit and proper in the facts and circumstances of the case.

**BY THE APPLICANT THROUGH**

**PETITIONER**

**Electricity Department of Lakshadweep.**

**Kavaratti**

**Dated:**

## **FORMATS**