

**Aggregate Revenue Requirement &
Tariff Petition for FY 2013-14**

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

Submitted to:

**Joint Electricity Regulatory Commission
Gurgaon**

By

DEPARTMENT OF ELECTRICITY, LAKSHADWEEP

February 2013

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 2012-13 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 2013-14 (Financial Year 2013-14).

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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

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 | 2800 |
| 2. | Kavaratti | 3200 |
| 3. | Amini | 1900 |
| 4. | Andrott | 3250 |
| 5. | Kalpeni | 1250 |
| 6. | Agatti | 2350 |
| 7. | Kadmat | 2400 |
| 8. | Kiltan | 1000 |
| 9. | Chetlat | 500 |
| 10. | Bitra | 120 |
| 11. | Bangaram | 120 |
| 12. | Total | 18890 |

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 | 50 |
| 11. | Bangaram | 50 |
| 12. | Total | 2150 |

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 100 kWp of equivalent capacity.

The trail run for the Minicoy, Kavaratti, Andrott, Agatti and Kadmat solar plant has already been initiated.

At present, the department maintains 77.19 kms HT lines and 236.74 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 | 10.33 | 31.07 | 0.30 |

| Sl. No. | Name of Island | HT lines (km) | LT lines (km) | HT/LT ratio |
|---------|----------------|---------------|---------------|-------------|
| 2. | Kavaratti | 16.46 | 28.82 | 0.60 |
| 3. | Amini | 7.00 | 28.00 | 0.30 |
| 4. | Andrott | 12.56 | 45.29 | 0.30 |
| 5. | Kalpeni | 6.00 | 19.00 | 0.30 |
| 6. | Agatti | 10.55 | 29.46 | 0.40 |
| 7. | Kadmat | 9.72 | 31.68 | 0.30 |
| 8. | Kiltan | 3.54 | 12.30 | 0.30 |
| 9. | Chetlat | 1.22 | 8.14 | 0.20 |
| 10. | Bitra | 0.00 | 1.76 | 0.00 |
| 11. | Bangaram | 0.00 | 1.23 | 0.00 |
| 12. | Total | 77.19 | 236.74 | 0.33 |

At present, the LED has HT/LT ratio of 0.33, which the department is planning to increase in future to reduce the T&D losses.

The LED has a maximum demand of around 8.33 MW. LED's demand is primarily composed of domestic and commercial consumers. The maximum demand observed in each island during the last five years is tabulated below:

Table 4: Island wise connected load

(kW)

| Sl. No. | Name of Island | FY 2007-08 | FY 2008-09 | FY 2009-10 | FY 2010-11 | FY 2011-12 |
|---------|----------------|------------|------------|------------|------------|------------|
| 1. | Minicoy | 955 | 1037 | 1107 | 1175 | 1200 |
| 2. | Kavaratti | 1320 | 1452 | 1548 | 1649 | 1750 |
| 3. | Amini | 665 | 710 | 748 | 788 | 850 |
| 4. | Andrott | 925 | 994 | 1082 | 1144 | 1100 |
| 5. | Kalpeni | 498 | 538 | 563 | 591 | 650 |
| 6. | Agatti | 650 | 695 | 740 | 788 | 850 |
| 7. | Kadmat | 598 | 632 | 670 | 710 | 950 |
| 8. | Kiltan | 329 | 360 | 375 | 390 | 500 |
| 9. | Chetlat | 255 | 265 | 280 | 295 | 400 |
| 10. | Bitra | 42 | 44 | 50 | 54 | 60 |
| 11. | Bangaram | 45 | 45 | 70 | 72 | 20 |
| 12. | Total | 6282 | 6772 | 7233 | 7656 | 8330 |

1.2 Performance during FY 2011-12

The performance of LED during the FY 2011-12 in terms of various parameters is shown in the table given below:

Table 5: Performance of LED during FY 2011-12

| Sl. No. | Particulars | |
|---------|------------------------------|--------|
| 1 | No. of Employees | 415 |
| 2 | Installed Capacity(MW) | |
| a | DG Sets(MW) | 18.89 |
| b | SPV Plants(MW) | 2.15 |
| 3 | Generation(MUs) | 42.2 |
| 4 | Units Sold(MUs) | 32.99 |
| 5 | Aggregate Peak Demand(MW) | 8.33 |
| 6 | T&D Losses% | 21.82 |
| 7 | HSD Oil Consumed(KL) | 13,371 |
| 8 | Lub Oil Consumed(L) | 37316 |
| 9 | Revenue Realised (Rs. Crore) | 7.91 |
| 10 | Average Realisation | 2.4 |
| 11 | Per Capita Consumption | 550 |
| 12 | Total Consumers | 19316 |

1.3 Contents of this Petition

This Petition covers the actuals for FY 11-12, revised estimates for FY 12-13 and the basis, assumptions and projections of individual elements constituting the determination of ARR for FY 13-14. 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 31st 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. Further, Commission has approved revision in retail tariff for the various consumer categories of LED for FY 12-13.

Chapter 2: Overall Approach for Present Filing

2.1 Annual Revenue Requirement and Tariff Petition for FY 2013-14

ED-Lakshadweep is filing the petition for the determination of Annual Revenue Requirement Petition for the year FY 2013-14 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 2013-14.

2.2 Approach for Filing

The present filing for the Annual Revenue Requirement for the FY 2013-14 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 2013-14 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 2013-14 has been covered in this section.

For the purpose of projecting the financial & technical parameters for FY 2013-14, ED-Lakshadweep has considered its actual performance during FY 2010-11, FY 2011-12 and FY 2012-13 (H1) as base and has projected the figures for FY 2013-14 with supporting rationales.

Chapter 3: Aggregate Revenue Requirement for FY 2013-14

LED is submitting its ARR and Tariff petition for the determination of tariff for FY 13-14 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 13-14.

The following sections explain in detail the basis and forecasts of the following elements for FY 13-14:

- 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 2013-14 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 31st October 2012. The number of consumers in various categories as on January 2013 is summarized in table below:

Table 6: No of consumers as on January 2013

| Sl. No | Consumer Category | No. of consumers |
|--------|-----------------------|------------------|
| 1 | Domestic | 16,302 |
| 2 | Commercial | 2,987 |
| 3 | HT Consumer | 20 |
| 4 | Industrial | 303 |
| 5 | Public Lighting | 73 |
| 6 | Temporary Connections | 107 |
| 7 | Total Consumers | 19,792 |

2. Table 7 summarizes category wise actual energy sales from FY 07-08 to FY 11-12 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 8.28% p.a., mainly contributed by increase in the sales to the domestic categories.

Table 7: Category wise sales from FY 2008-09 to FY 2011-12

| Sl. No | Consumer category | FY 07-08 Actual | FY 08-09 Actual | FY 09-10 Actual | FY 10-11 Actual | FY 11-12 Actual |
|--------|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1 | Domestic | 16.25 | 15.85 | 17.78 | 20.35 | 23.75 |
| 2 | Commercial | 6.14 | 5.96 | 6.16 | 6.98 | 7.28 |
| 3 | HT Consumer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Industrial | 0.30 | 0.27 | 0.33 | 0.41 | 0.42 |
| 5 | Public (Street Light) | 1.27 | 1.29 | 1.28 | 1.34 | 1.52 |
| 6 | Temporary connections | 0.04 | 0.02 | 0.02 | 0.01 | 0.02 |
| 7 | Total Sales (MUs) | 24.00 | 23.38 | 25.56 | 29.09 | 32.99 |

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 2013-14 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 LED periphery in FY 2011-12 was 32.99 MUs and total energy billed was Rs 7.91 Crore.
5. The energy sales for FY 2012-13 and FY 2013-14 have been determined based on the actual energy sales during the first six months of FY 2012-13 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 8: Category wise CAGR in Energy Sales in the past years

| Sales | CAGR (Four years) | CAGR (Three years) | CAGR considered for FY 2013-14 |
|-----------------------|-------------------|--------------------|--------------------------------|
| Domestic | 9.94% | 14.44% | 11.00% |
| Commercial | 4.35% | 6.87% | 4.35% |
| Industrial | 9.15% | 16.52% | 9.15% |
| Public (Street Light) | 4.55% | 5.62% | 5.62% |
| Temporary connections | -15.16% | 9.13% | 0.00% |
| Total Sales | 8.28% | 12.16% | 10.81% |

6. The LED has considered the adjusted CAGR of 11.00% for projecting the sales of domestic categories for FY 2013-14. Further the CAGR of four years has been considered for projecting the sales to commercial and industrial category for FY 2013-14. A CAGR of three years has been considered for projecting the sales of public lightening for FY 2013-14.
7. Table 9 summarizes category wise energy sales projection for FY 2012-13 and FY 2013-14 for the LED. As can be observed, the overall energy sales in UT of Lakshadweep are significantly dependent upon domestic and commercial consumption.

Table 9: Projected Category wise Energy Sales for FY 2013-14

| Sales (MUs) | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-------------|------------|------------------|------------|
| | Actual | Revised estimate | Projected |

| Sales (MUs) | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-----------------------|--------------|------------------|--------------|
| | Actual | Revised estimate | Projected |
| Domestic | 23.75 | 26.19 | 29.07 |
| Commercial | 7.28 | 8.39 | 8.46 |
| HT Consumer | 0.00 | 0.34 | 0.71 |
| Industrial | 0.42 | 0.32 | 0.30 |
| Public (Street Light) | 1.52 | 1.27 | 1.35 |
| Temporary connections | 0.02 | 0.05 | 0.05 |
| Total Sales | 32.99 | 36.56 | 39.93 |

3.2 T&D Loss Reduction

1. T&D losses at the LED periphery is comparatively high due to high level of transformation losses at Kadmat, Kiltan and Chetlat islands, where the outputs from the power generating plants are step down at 3.3 kV level. To reduce this high level of transformation losses, the LED has undertaken several CAPEX schemes to increase the transformers capacity in these three islands.
2. 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.
3. The actual T&D losses level of the LED during FY 11-12 was 21.82%. The estimated T&D losses for FY 2012-13 are around 21.40%. LED proposes to reduce the T&D losses to 21.00% for FY 2013-14 as summarized in Table 10 below:

Table 10: T&D Losses

| T&D Losses | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|----------------|------------|------------------|------------|
| | Actual | Revised estimate | Projected |
| T&D Losses (%) | 21.82% | 21.40% | 21.00% |

4. Considering the proposed capital expenditure in transmission and distribution network during FY 2013-14, the LED has proposed to reduce the losses by approximately 0.40% in FY 2013-14.
5. The LED submits to the Commission to approve the T&D losses submitted herein.

3.3 Power generation

1. The LED sources power entirely from its own power generating stations. It is submitted that out of the total capacity of 18890 kW, the department utilized around half of its total installed capacity. The remaining installed capacity is utilized as back-up.
2. Since, all the generating stations of the LED are located near the sea, the salinity of the sea water severely 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.
3. The source-wise gross generation, auxiliary consumption and net generation of power in UT of Lakshadweep from FY 2007-08 and FY 2011-12 is provided in the table below.

Table 11: 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 |

3.3.1 Power Generation for FY 2013-14

1. Out of the total installed capacity of 18890 kW, around 3550 kW of the existing installed capacity becomes old and proposed to be phased out by the LED. Further around 1070 kW of additional capacity will be added across the islands so that by the end of the 12th Plan the total capacity of LED would be 16,460 kW.
2. The existing status of DG sets (i.e. new and old plants) is shown in the table below:

Table 12: Existing installed capacity for FY 2013-14

| Sl. No. | Name of Island | Existing installed capacity(kW) | | | |
|---------|----------------|---------------------------------|------|-----|-------|
| | | New | | Old | Total |
| 1. | Minicoy | 2X1000 | 2000 | 800 | 2800 |
| 2. | Kavaratti | 2X1000 | 2000 | 0 | 3200 |
| | | 2X600 | 1200 | | |
| 3. | Amini | 2x750 | 1500 | 400 | 1900 |
| 4. | Andrott | 3X750 | 2250 | | 3250 |
| | | 1X1000 | 1000 | | |
| 5. | Kalpeni | 2X250 | 500 | 750 | 1250 |
| 6. | Agatti | 3X400 | 1200 | 400 | 2350 |
| | | 1X750 | 750 | | |
| 7. | Kadmat | 1X400 | 1650 | 750 | 2400 |
| | | 5X250 | | | |
| 8. | Kiltan | 2X400 | 800 | 200 | 1000 |
| 9. | Chetlat | 2X250 | 500 | | 500 |

| Sl. No. | Name of Island | Existing installed capacity(kW) | | | |
|---------|----------------|---------------------------------|-------|------|-------|
| | | New | | Old | Total |
| 10. | Bitra | 1X400 | 40 | 80 | 120 |
| 11. | Bangaram | 0 | 0 | 120 | 120 |
| 12. | Total | | 15390 | 3500 | 18890 |

3. For projection of the generation quantum for FY 2013-14, 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. 2.21% has been considered for projecting the quantum of auxiliary consumption for FY 2013-14.
6. In FY 2011-12 the existing solar plants in Kavaratti, Amini, Andrott, Agatti and Chetlat generated 0.443 MUs of power. In FY 2012-13 it is estimated that the solar plants in Minicoy, Kavaratti, Andrott, Agatti and Kadmat will generate 1.25 MUs of power.
7. For FY 2013-14, solar generation has been considered from the solar plants in Minicoy, Kavaratti, Andrott, Kalpeni, Agatti, Kadmat, Kiltan, Bitra and Bangaram. The solar plants in Amini and Chetlat will not be operational in FY 2013-14. A total of 1.57 MUs of power generation has been considered for FY 2013-14.
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 11-12.

Table 13: Power generation quantum for FY 2011-12

| Island | Gross generation | Auxiliary Consumption | (MU) |
|---------|------------------|-----------------------|----------------|
| | | | Net generation |
| DG sets | | | |

| Island | Gross generation | Auxiliary Consumption | Net generation |
|-----------------------|------------------|-----------------------|----------------|
| Minicoy | 7.27 | 0.04 | 7.23 |
| Kavaratti | 9.99 | 0.17 | 9.82 |
| Amini | 4.06 | 0.05 | 4.01 |
| Andrott | 6.01 | 0.06 | 5.95 |
| Kalpeni | 3.23 | 0.23 | 3.00 |
| Agatti | 4.98 | 0.08 | 4.90 |
| Kadmat | 3.48 | 0.23 | 3.25 |
| Kiltan | 2.18 | 0.03 | 2.15 |
| Chetlat | 1.21 | 0.04 | 1.17 |
| Bitra | 0.21 | 0.01 | 0.20 |
| Bangaram | 0.08 | 0.02 | 0.06 |
| Subtotal 1 | 42.70 | 0.95 | 41.75 |
| Solar generation | | | |
| 210 kWp Minicoy SPV | | | 0.000 |
| 760 kWp Kavaratti SPV | | | 0.359 |
| 100 kWp Amini SPV | | | 0.004 |
| 320 kWp Andrott SPV | | | 0.035 |
| 100 kWp Kalpeni SPV | | | 0.000 |
| 100 kWp Agatti SPV | | | 0.041 |
| 260 kWp Kadmat SPV | | | 0.000 |
| 100 kWp Kiltan SPV | | | 0.000 |
| 100 kWp Chetlath SPV | | | 0.004 |
| 50 kWp Bitra SPV | | | 0.000 |
| 50 kWp Bangaram SPV | | | 0.000 |
| Subtotal 2 | | | 0.443 |
| Total Net Generation | | | 42.20 |

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 12-13.

Table 14: Power generation quantum for FY 2012-13

| Island | Gross generation | Auxiliary Consumption | Net generation |
|---------|------------------|-----------------------|----------------|
| DG sets | | | |

(MU)

| Island | Gross generation | Auxiliary Consumption | Net generation |
|-----------------------|------------------|-----------------------|----------------|
| Minicoy | 7.57 | 0.04 | 7.53 |
| Kavaratti | 10.56 | 0.18 | 10.38 |
| Amini | 4.49 | 0.05 | 4.44 |
| Andrott | 7.10 | 0.07 | 7.03 |
| Kalpeni | 3.48 | 0.24 | 3.24 |
| Agatti | 5.27 | 0.08 | 5.19 |
| Kadmat | 3.66 | 0.23 | 3.43 |
| Kiltan | 2.35 | 0.02 | 2.33 |
| Chetlat | 1.36 | 0.05 | 1.31 |
| Bitra | 0.28 | 0.01 | 0.27 |
| Bangaram | 0.19 | 0.05 | 0.14 |
| Subtotal 1 | 46.33 | 1.05 | 45.28 |
| Solar generation | | | |
| 210 kWp Minicoy SPV | | | 0.123 |
| 760 kWp Kavaratti SPV | | | 0.688 |
| 100 kWp Amini SPV | | | 0.000 |
| 320 kWp Andrott SPV | | | 0.210 |
| 100 kWp Kalpeni SPV | | | 0.000 |
| 100 kWp Agatti SPV | | | 0.090 |
| 260 kWp Kadmat SPV | | | 0.139 |
| 100 kWp Kiltan SPV | | | 0.000 |
| 100 kWp Chetlath SPV | | | 0.000 |
| 50 kWp Bitra SPV | | | 0.000 |
| 50 kWp Bangaram SPV | | | 0.000 |
| Subtotal 2 | | | 1.250 |
| Total Net Generation | | | 46.51 |

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 13-14.

Table 15: Power generation quantum for FY 2013-14

| Island | Gross generation | Auxiliary Consumption | Net generation |
|---------|------------------|-----------------------|----------------|
| DG sets | | | |

(MU)

| Island | Gross generation | Auxiliary Consumption | Net generation |
|-----------------------|------------------|-----------------------|----------------|
| Minicoy | 8.18 | 0.05 | 8.13 |
| Kavaratti | 11.13 | 0.19 | 10.95 |
| Amini | 5.02 | 0.06 | 4.96 |
| Andrott | 7.65 | 0.08 | 7.57 |
| Kalpeni | 3.98 | 0.28 | 3.70 |
| Agatti | 5.86 | 0.09 | 5.77 |
| Kadmat | 3.85 | 0.25 | 3.60 |
| Kiltan | 2.55 | 0.03 | 2.52 |
| Chetlat | 1.36 | 0.05 | 1.31 |
| Bitra | 0.33 | 0.01 | 0.32 |
| Bangaram | 0.27 | 0.08 | 0.19 |
| Subtotal 1 | 50.16 | 1.15 | 49.00 |
| Solar generation | | | |
| 210 kWp Minicoy SPV | | | 0.123 |
| 760 kWp Kavaratti SPV | | | 0.688 |
| 100 kWp Amini SPV | | | 0.000 |
| 320 kWp Andrott SPV | | | 0.210 |
| 100 kWp Kalpeni SPV | | | 0.045 |
| 100 kWp Agatti SPV | | | 0.090 |
| 260 kWp Kadmat SPV | | | 0.139 |
| 100 kWp Kiltan SPV | | | 0.090 |
| 100 kWp Chetlath SPV | | | 0.000 |
| 50 kWp Bitra SPV | | | 0.090 |
| 50 kWp Bangaram SPV | | | 0.090 |
| Subtotal 2 | | | 1.566 |
| Total Net Generation | | | 50.55 |

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 9% during FY 2013-14. Thus, the overall energy requirement is projected to be 50.55 MU in FY 2013-14, an increase of around 8.50 %. The following table shows the overall energy requirement and energy availability the Petitioner.

Table 16: Energy Requirement of the System

(MU)

| Energy Balance | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|------------------------------|------------|------------|------------|
| | Actual | RE | Projected |
| Sales | 32.99 | 36.56 | 39.93 |
| Add: T&D Losses | 9.21 | 9.95 | 10.61 |
| T&D Losses (%) | 21.82% | 21.40% | 21.00% |
| Energy Required at Periphery | 42.20 | 46.51 | 50.55 |
| Energy Available | 42.20 | 46.51 | 50.55 |
| 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 2011-12, and from April 2012 to October 2012, the LED has paid Rs. 34.18 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 2011-12, and from April 2012 to October 2012 is presented in the table below.

Table 17: Average Fuel Purchase Cost for FY 2011-12

| Sl. No. | Particulars | Amount (in Rs.) |
|---------|---|-----------------|
| 1 | Cost of HSD oil/per barrel including local transportation, Service Tax @ 4% and SSC @1% | 7392.00 |
| 2 | Cost of filing and sealing of the barrels | 6.10 |
| 3 | Transportation charge/per barrel from KSCC yard to wharf including loading to the ships | 44.90 |
| 4 | Freight charge/barrel | 160.00 |
| 5 | Port duties and crane charges/barrel | 17.71 |
| 6 | Average cost of empty barrel | 499.33 |
| 7 | Transportation charge/per barrel from wharf to KSCC yard at Beypore | 18.95 |
| 8 | Restaking of empty barrel | 3.50 |

| Sl. No. | Particulars | Amount (in Rs.) |
|---------|---|--------------------|
| 9 | Cost of cap seal (big and small) | 4.15 |
| 10 | Leak testing charge/barrel | 4.00 |
| 11 | Welding and reconditioning charge/barrel | 1.50 |
| 12 | Scrapping, cleaning, painting and marking charge/ barrel | 31.00 |
| 13 | Cost of Bunk washer (big and small)/barrel | 2.50 |
| 14 | Total cost/barrel | 8185.64 |
| 15 | Average cost of Oil (14/200) | 40.93 |
| 16 | Add: Local transportation cost at the islands @2% of HSD price | 0.68 |
| 17 | Average cost of HSD (15+16) | 41.61 |

* 1 barrel – 200 litres

3. In November 2012 the price of HSD was revised by IOC. The revised average fuel cost, inclusive of all charges incurred by the LED during November 2012 and December 2012 is presented in the table below.

Table 18: Average Fuel Purchase Cost during November 2012 and December 2012

| Sl. No. | Particulars | Amount (in Rs.) |
|---------|--|--------------------|
| 1 | Cost of HSD oil/per barrel including local transportation, Service Tax @ 4% and SSC @1% | 8455.38 |
| 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 | 499.33 |
| 7 | Transportation charge/per barrel from wharf to KSCC yard at Beypore | 24.80 |
| 8 | Restaking of empty barrel | 3.50 |
| 9 | Cost of cap seal (big and small) | 4.15 |
| 10 | Leak testing charge/barrel | 4.00 |
| 11 | Welding and reconditioning charge/barrel | 1.50 |
| 12 | Scrapping, cleaning, painting and marking charge/ barrel | 31.00 |
| 13 | Cost of Bunk washer (big and small)/barrel | 2.50 |
| 14 | Total cost/barrel | 9271.87 |
| 15 | Average cost of Oil (14/200) | 46.36 |
| 16 | Add: Local transportation cost at the islands @2% of HSD price | 0.85 |
| 17 | Average cost of HSD (15+16) | 47.21 |

4. Further, in January 2013 the price of HSD was again revised by IOC. The revised average fuel cost, inclusive of all charges being incurred by the LED from January 2013 is presented in the table below.

Table 19: Average Fuel Purchase Cost with effect from January 2013

| Sl. No. | Particulars | Amount (in Rs.) |
|---------|---|-----------------|
| 1 | Cost of HSD oil/per barrel including local transportation, Service Tax @ 4% and SSC @1% | 10453.91 |
| 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 | 499.33 |
| 7 | Transportation charge/per barrel from wharf to KSCC yard at Beypore | 24.80 |
| 8 | Restaking of empty barrel | 3.50 |
| 9 | Cost of cap seal (big and small) | 4.15 |
| 10 | Leak testing charge/barrel | 4.00 |
| 11 | Welding and reconditioning charge/barrel | 1.50 |
| 12 | Scrapping, cleaning, painting and marking charge/barrel | 31.00 |
| 13 | Cost of Bunk washer (big and small)/barrel | 2.50 |
| 14 | Total cost/barrel | 11270.40 |
| 15 | Average cost of Oil (14/200) | 56.35 |
| 16 | Add: Local transportation cost at the islands @2% of HSD price | 1.05 |
| 17 | Average cost of HSD (15+16) | 57.40 |

5. In FY 2011-12, the petitioner has incurred Rs. 55.63 Crore for procurement of 13.37 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. Cost of fuel for FY 2012-13 is estimated on the average of the fuel purchase cost as given in table 17, table 18, and table 19 above. Further, for FY 2013-14, the fuel purchase cost as revised on January 2013 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.
7. In addition to the HSD fuel, LED utilized 37,316 liters of Lube oil at a cost of Rs. 0.90 Crore for the generation of power during FY 2011-12. The price of Lube oil is considered as Rs. 240.00 per liter inclusive of the transportation cost.

8. The actual fuel purchase cost (HSD & Lube oil) for FY 2011-12 and fuel expenses projected for FY 2012-13 and FY 2013-14 is summarized in the table below.

Table 20: Fuel Purchase Cost for FY 2011-12, FY 2012-13 and FY 2013-14

| 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 2011-12 (Actual) | 13,371 | 55.63 | 37,316 | 0.90 | 56.53 |
| FY 2012-13 (RE) | 14,516 | 66.87 | 40,944 | 0.98 | 67.85 |
| FY 2013-14 (Projected) | 15,704 | 90.54 | 44179 | 1.06 | 91.60 |

* Inclusive of other charges

Note

The quantity and cost of Oil shown in the above table for FY 2011-12, FY 2012-13 and FY 2013-14 are exclusive of the quantity and cost of the HSD maintained in the stock by the LED.

9. Per unit generation cost for FY 2011-12, FY 2012-13 and FY 2013-14 is presented in the table below.

Table 21: Per unit generation cost

| Particulars | Unit | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|----------------------|---------|------------|------------|------------|
| | | Actual | RE | Projected |
| Gross generation | MU | 42.70 | 46.33 | 50.16 |
| Net Generation | MU | 41.75 | 45.28 | 49.00 |
| Fuel cost/Gross unit | Rs./kWh | 13.24 | 14.65 | 18.26 |
| Fuel cost/Net unit | Rs./kWh | 13.54 | 14.98 | 18.69 |

3.4 Operation & Maintenance Costs

- 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 2011-12 was Rs. 14.10 Crore. The methodology adopted by LED for projecting the values of each component of the O&M expense for FY 2012-13 and FY 2013-14 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 2011-12 was Rs. 10.07 Crore. Based on the various expense head related to employee booked during six months of FY 12-13, LED has estimated the total employee cost for full year of FY 12-13 as Rs. 10.97 Crore. Salary expenses for FY 13-14 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 2013-14, the Petitioner has considered a 8.94% escalation over the estimated employee cost for FY 2012-13. The detail breakup of employee cost for FY 2011-12, FY 2012-13 and FY 2013-14 is summarized in table below:

Table 22: Employee Expense (Rs. Crore)

| Particulars | FY2011-12 (Actual) | FY2012-13 (RE) | FY2013-14 (Projected) |
|-------------|-----------------------|-------------------|--------------------------|
|-------------|-----------------------|-------------------|--------------------------|

| Particulars | FY2011-12 (Actual) | FY2012-13 (RE) | FY2013-14 (Projected) |
|-------------------------------|-----------------------|-------------------|--------------------------|
| Basic Pay | 3.27 | 4.04 | 4.31 |
| Dearness Allowance | 1.72 | 2.12 | 2.27 |
| Medical reimbursement charges | 0.12 | 0.15 | 0.16 |
| Transportation allowance | 0.28 | 0.35 | 0.38 |
| Other allowance | 1.46 | 1.80 | 1.92 |
| Bonus | 0.07 | 0.09 | 0.10 |
| Grand total | 6.92 | 8.55 | 9.12 |

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 2011-12 for LED was Rs. 2.89 Crore. The R&M expense for FY 2012-13 and FY 2013-14 is computed at 2.5%¹ of the gross fixed assets of the respective years, which are calculated at Rs. 3.22 Crore and Rs. 3.57 Crore.
- The R&M cost for FY 2011-12, FY 2012-13 and FY 2013-14 is summarized in table below:

Table 23: Repairs & Maintenance Expense (Rs. Crore)

| Particular | FY2011-12 | FY2012-13 | FY2013-14 |
|------------|-----------|-----------|-----------|
|------------|-----------|-----------|-----------|

¹ As per the CERC norms

| | Actual | RE | Projected |
|-------------|--------|------|-----------|
| R&M Expense | 2.89 | 3.22 | 3.57 |

- 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 2011-12 was Rs. 1.14 Crore.
- LED has projected the A&G expense for FY 2012-13 and FY 2013-14 at Rs. 1.24 Crore and Rs. 1.35 Crore respectively. The escalation of A&G expenses is on account of inflation and regulatory and consultancy fees payable during FY 2012-13.

The LED requests the Hon'ble Commission to approve the net A&G expenses projected for FY 2012-13.

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 2010-11, FY 2011-12 and FY 2012-13 is summarized in table below. The Hon'ble Commission is requested to approve the total O&M expense as projected by the LED.

Table 24: Total O&M Expense (Rs. Crore)

| O&M Expenditure | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-----------------|------------|------------|------------|
|-----------------|------------|------------|------------|

| | Actual | RE | Projected |
|----------------------------------|--------------|--------------|--------------|
| Employee Cost | 10.07 | 10.97 | 11.95 |
| R&M Cost | 2.89 | 3.22 | 3.57 |
| A&G Expenditure | 1.14 | 1.24 | 1.35 |
| Total O&M Expenditure | 14.10 | 15.43 | 16.87 |

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 2013-14, 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 2013-14 is summarized below:

Table 25: Capital Expenditure Plan for FY 2013-14

| Sl. No. | Proposed Scheme | Amount Rs. Crore |
|---------|--|------------------|
| 1. | Augmentation of DG Capacity | 3.00 |
| 2. | Transformers | |
| | Step down transformers 160/250 for Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 1.00 |
| | Fencing of transformers for Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 0.15 |
| 3. | Construction of HT lines | |
| | Construction of 5.5 km of HT lines at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 0.27 |
| 4. | Construction of LT lines | |

| Sl. No. | Proposed Scheme | Amount Rs. Crore |
|---------|--|------------------|
| | Construction of 8.5 km of LT lines at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 0.26 |
| 5. | Service connections | |
| | Service connections for domestic and commercial consumers at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan, Chetlat and Bitra islands | 0.33 |
| | Service connections for industrial consumers at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan, Chetlat and Bitra islands | 0.025 |
| 6. | Street lights | |
| | Installation of 670 new street lights at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan, Chetlat and Bitra islands | 0.76 |
| 7. | Distribution box | |
| | Installation of 765 pole mounted DB boxes at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 1.03 |
| 8. | Underground cabling | |
| | Underground cabling for 1370 consumers at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan, Chetlat and Bitra islands | 0.42 |
| 9. | Installation of 1335 no. of prepaid energy meters across all the islands | 0.56 |
| | | |
| 10. | Energy conservation | |
| | Implementation of energy conservation measures at all the islands | 0.20 |
| 11. | E-governance | |
| | Implementation of e-governance at all the islands | 0.48 |
| 12. | Special tools and plants | |
| | 1 no of Bouser/oil truck | 0.45 |
| | Mobile Crane | 0.36 |
| | Installation of flow meters | 0.39 |
| | Administrative set up | 0.08 |
| 13. | Skill up-gradation programme | 0.18 |
| 14. | Oil storage facilities | 0.20 |

| Sl. No. | Proposed Scheme | Amount Rs. Crore |
|---------|---|------------------|
| 15. | Major Civil works at Minicoy, Kavaratti, Amini, Androth, Kalpeni, Agatti, Kadmath, Kiltan and Chetlat islands | 3.91 |
| 16. | Total Capital Expenditure | 14.15 |

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 2011-12, FY 2012-13 and FY 2013-14 is summarized in the table below:

Table 26: Capital Expenditure & Capitalization for FY 2011-12, FY 2012-13 and FY 2013-14

| Capital Expenditure & Capitalization (Rs. Crore) | FY 2011-12 Actual | FY 2012-13 Revised Estimate | FY 2013-14 Projected |
|---|----------------------|--------------------------------|-------------------------|
| Capital Expenditure | 25.50 | 13.00 | 14.15 |
| Asset Capitalization | 22.39 | 19.26 | 15.96 |
| Capital Work in Progress | 23.43 | 17.17 | 15.36 |

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 2011-12 was Rs. 90.14 Crore. LED has further added Rs. 22.39 Crore during FY 2011-12.
2. The closing Work-in-Progress by the end of FY 2011-12 was Rs. 23.42 Crore.
3. For FY 2012-13, LED has estimated to incur Rs. 13.00 Crore capital expenditure and Rs. 19.25 Crore estimated to be capitalized.
4. For FY 2013-14, LED has proposed incur Rs. 14.15 Crore capital expenditure and Rs. 15.96 Crore is estimated to be capitalized.
5. A summary of the Opening and Closing GFA and capitalization has been summarized in table below:

Table 27: Opening and Closing GFA (in Rs. Crore)

| Particulars | Opening GFA | Additions during the Year | Closing GFA |
|------------------------|-------------|---------------------------|-------------|
| FY 2011-12 (Actual) | 69.82 | 22.39 | 92.21 |
| FY 2012-13 (RE) | 92.21 | 19.25 | 111.46 |
| FY 2013-14 (Projected) | 111.46 | 15.96 | 127.42 |

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 28: 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 2013-14 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 2012-13 and FY 2013-14. The table below summarizes the asset-wise depreciation considered by LED:

Table 29: Depreciation (in Rs. Crore)

| Particulars | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-------------|------------|------------|------------|
|-------------|------------|------------|------------|

| Rs. Crore | Actual | RE | Projected |
|---------------------------|--------|--------|-----------|
| Opening GFA | 69.82 | 92.21 | 111.46 |
| Additions | 22.39 | 19.25 | 15.96 |
| Closing GFA | 92.21 | 111.46 | 127.42 |
| Average GFA | 81.01 | 101.83 | 119.44 |
| Depreciation Amount | 3.77 | 4.80 | 5.68 |
| Average Depreciation Rate | 4.08% | 4.31% | 4.46% |

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 and FY 2013-14 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 30: Total Interest on Long-term Loans

| Interest on Long-term Loans | FY 2012-13 | FY 2013-14 |
|--|-------------|-------------|
| Rs Crore | RE | Projected |
| Opening Loan | 17.85 | 29.54 |
| Addition in Loan (70% of Asset Capitalization) | 13.48 | 11.17 |
| Repayment of Loan (10% of Opening Balance) | 1.79 | 2.95 |
| Closing Loan Amount | 29.54 | 37.76 |
| Average Loan | 23.70 | 33.65 |
| Interest Rate on Loan | 14.75% | 14.75% |
| Total Interest Cost on Long-term Loans | 3.50 | 4.96 |

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 2011-12, FY 2012-13 and FY 2013-14 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 2011-12, FY 2012-13 and FY 2013-14 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 2011-12, FY 2012-13 and FY 2013-14 on the working capital requirement, being the SBI Prime Lending Rate as on 1st 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 2011-12, FY 2012-13 and FY 2013-14 considering the above methodology is summarized in Table 31 below:

Table 31: Interest on Working Capital

| Interest on Working Capital | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-------------------------------------|------------|------------|------------|
| Rs Crore | Actual | RE | Projected |
| One Month Employee Cost | 0.84 | 0.91 | 1.00 |
| One Month R&M Cost | 0.19 | 0.23 | 0.27 |
| One Month A&G Cost | 0.10 | 0.10 | 0.11 |
| Two Month Fuel Cost | 9.27 | 11.41 | 15.84 |
| Total Working Capital requirement | 10.40 | 12.66 | 17.22 |
| Rate of Interest on Working Capital | 14.75% | 14.75% | 14.75% |
| Total Interest on Working Capital | 1.53 | 1.87 | 2.54 |

3.9 Return on Equity

5. As per the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009, LED is entitled for a Return on Equity (RoE). However, the Rate of return has not been specified in the Regulations issued by JERC.
6. As per the CERC revised Tariff Regulations FY 2009-14, Generation and Transmission utilities are entitled for a pre-tax Return on Equity of 15.50% with an additional return of 0.50% for projects completing before a specified timeline. LED would like to submit that Distribution Business is perceived to be a higher risk business as compared with Generation and Transmission Business.
7. However, considering that the other State Electricity Regulatory Commissions in India are allowing a RoE of 16% for distribution business, LED has claimed RoE of 16% for FY 2012-13 and FY 2013-14 in its Petition.
8. Return on equity has been computed based on 30% normative equity for capitalization during FY 2012-13 and FY 2013-14 in line with the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009.
9. Return on equity for LED has been computed at Rs 0.46 Crore for FY 2012-13 and Rs. 1.31 Crore for FY 2013-14 as detailed in the table given below:

Table 32: Return on Equity

| Return on Equity | FY 2012-13 | FY 2013-14 |
|--|------------|------------|
| Rs Crore | RE | Projected |
| Opening Equity | 0.00 | 5.78 |
| Addition in Equity (30% of Asset Capitalization) | 5.78 | 4.79 |
| Closing Equity Amount | 5.78 | 10.56 |
| Average Equity Amount | 2.89 | 8.17 |
| Rate of Return on Equity | 16.00% | 16.00% |
| Return on Equity | 0.46 | 1.31 |

3.10 Provision for Bad & Doubtful Debts

- LED has considered provision for Bad and Doubtful Debts at 1% of the receivables for FY 2012-13 and FY 2013-14.
- LED requests the Hon'ble Commission to approve the provision for bad & doubtful debts as summarized in the Table below:

Table 33: Provision for Bad & Doubtful debts

| Provision for Bad & Doubtful Debts | FY 2012-13 | FY 2013-14 |
|---|------------|------------|
| Rs Crore | RE | Projected |
| Receivables | 11.26 | 12.15 |
| Provision for Bad & Doubtful Debts as 1% of Receivables | 1% | 1% |
| Provision for Bad & Doubtful Debts | 0.11 | 0.12 |

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 2011-12 was Rs. 0.18 Crore.

3. For FY 2012-13 and FY 2013-14 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 34: Non-tariff Income

| Particulars | FY 2011-12 | FY 2012-13 | FY 2013-14 |
|-------------------|------------|------------|------------|
| Rs Crore | Actual | RE | Projected |
| Non-tariff Income | 0.18 | 0.19 | 0.20 |

3.12 Aggregate Revenue Requirement

1. Table 35 summarizes the LED's Aggregate Revenue Requirement for FY 2011-12, FY 2012-13 and FY 2013-14.
2. Aggregate Revenue Requirement for FY 2013-14 is estimated by the LED at Rs 122.43 Crore.

Table 35: Aggregate Revenue Requirement

| Annual Revenue Requirement | FY2011-12 | FY2012-13 | FY2013-14 |
|--|--------------|--------------|---------------|
| Rs. Crore | Actual | RE | Projected |
| Fuel Purchase Cost | 56.53 | 67.85 | 91.60 |
| O&M Expense | 13.52 | 15.00 | 16.49 |
| Depreciation | 3.77 | 4.80 | 5.68 |
| Interest Cost on Long-term Capital Loans | - | 3.50 | 4.96 |
| Interest on Working Capital Loans | 1.56 | 1.85 | 2.45 |
| Return on Equity | - | 0.46 | 1.31 |
| Provision for Bad Debt | - | 0.11 | 0.12 |
| Less: Non-Tariff Income | 0.18 | 0.19 | 0.20 |
| Annual Revenue Requirement | 75.19 | 93.39 | 122.43 |

3.13 Revenue at Existing Tariff

1. The LED has computed the revenue for FY 2012-13 & FY 2013-14 based on the tariff rate approved by the Hon'ble Commission in its Order dated 31st October, 2012.
2. Revenue from sale of power for FY 2012-13 & FY 2013-14 is determined based on the energy sales estimated in Table 9 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. 11.26 Crore for FY 2012-13 and Rs. 12.30 Crore for FY 2013-14 as shown in Table 36.

4. The table below summarizes the revenue from sale of power at existing tariff for FY 2011-12, FY 2012-13 and FY 2013-14:

Table 36: Revenue from Sale of Power at Existing Tariff (Rs. Crore)

| Revenue @ Existing Tariff (Rs Crore) | FY 2011-12 Actual | FY 2012-13 RE | FY 2013-14 Projected |
|---|----------------------|------------------|-------------------------|
| Domestic | 3.75 | 5.91 | 6.56 |
| Commercial | 3.60 | 4.41 | 4.45 |
| HT Consumer | 0.00 | 0.28 | 0.58 |
| Industrial | 0.18 | 0.15 | 0.14 |
| Public (Street Light) | 0.37 | 0.43 | 0.46 |
| Temporary connections | 0.01 | 0.08 | 0.08 |
| Total revenue from existing tariff | 7.91 | 11.26 | 12.30 |

3.14 Coverage of Revenue Gap

1. It is evident from Table 35 and Table 36 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 37 summarizes the Revenue Gap at existing tariff at Rs. 82.13 Crore for FY 2012-13 and Rs. 110.13 Crore for FY 2013-14. The estimated gap has been computed by deducting the ARR from Revenue at Existing Tariff.
3. LED has projected ARR for FY 2013-14 at Rs. 122.43 Crores and the revenue at existing tariff from projected sales compute to Rs 12.30 Crores. Thus the resultant gap works out to Rs. 110.13 Crores. LED does not propose to increase the tariff for the FY 2013-14 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 it proposes to absorb the increase in cost of supply and keep the tariff unchanged for the FY 2013-14.

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 2013-14 may kindly be approved.
6. The total Revenue Gap of Rs. 82.13 Crore for FY 2012-13 and Rs. 110.13 Crore for FY 2013-14 is shown in Table no 37.

Table 37: Revenue Gap

| Annual Revenue Requirement | FY 2012-13 | FY 2013-14 |
|----------------------------|------------|------------|
| Rs Crore | RE | Projected |
| Total ARR | 93.39 | 122.43 |
| Revenue @ Existing Tariff | 11.26 | 12.30 |
| Total Revenue | 11.26 | 12.30 |
| Revenue (Gap)/Surplus | (82.13) | (110.13) |

3.15 Average Cost of Supply

1. Table 38 summarizes Average Cost of supply and total average realization at the existing tariff.

Table 38: Average Cost of Supply & Revenue Realization

| Average Realization & Cost of Supply | FY 2012-13 | FY 2013-14 |
|--------------------------------------|-----------------|-----------------|
| (Rs/Unit) | Existing Tariff | Existing Tariff |
| Average Cost of Supply of the LED | 25.53 | 30.64 |
| Average Realization | 3.08 | 3.08 |
| Revenue Gap at Existing Tariff | -22.45 | -27.56 |

2. The LED submits that the average cost 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 departments 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

The Hon'ble Commission vide Tariff Order dated 31st 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.

2. Directive 2: Fuel and Power Purchase Cost Adjustment Formula (FPPCA):

FPPCA formula has been separately notified under the Regulation. It is seen that in the case of LED, majority of the generation is diesel based, making per unit cost of generation very high compared to other utilities. In view of this, the approved tariff is not covering the full cost of supply. Historically, there has been substantial gap

between the actual cost of supply and revenue realized. This gap so far has been borne by the administration of LED, with the help of the budgetary support of the Government of India.

Keeping the above in view, the Commission is of the view that any variation in power purchase cost (including variation in cost of their own generation) should, for the time being, be borne by the utility. Further, the utility is directed to propose a scheme for sharing of the increase in cost of own generation/ power purchase cost with the consumers for the Commission's consideration and approval.

Compliance:

The LED would like to submit to the Hon'ble Commission that any variation in the power purchase cost (including variation in cost of own generation) will be borne by the LED for FY 2013-14. It is therefore requested by LED that the Hon'ble Commission may approve the same.

3. Directive 3: 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.

4. Directive 4: 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.

5. Directive 5: 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.

6. Directive 6: 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.

7. Directive 7: 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.

8. Directive 8: 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.

9. Directive 9: 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.

10. Directive 10: 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.

11. Directive 11: 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 30th 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.

12. Directive 12: 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 30th 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.

13. Directive 13: 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.

14. Directive 14: 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.

15. Directive 15: Management Information System (MIS):

The Commission has observed that the petitioner is not maintaining the sales and revenue data as per the regulatory formats, specified in the JERC tariff regulations.

The slab wise and category wise data is directed to be maintained month-wise for proper analysis of sales and revenue.

The Petitioner is directed to take steps to build credible, accurate & verifiable data base and management information system (MIS) to meet the requirements of filing ARR & Tariff Petition as per the regulatory requirements of the Commission.

The ED LED shall conduct a study for computerization of data and shall give a proposal for the same along with an action plan (with target dates) to the Commission by 30th January 2013.

Compliance:

The LED would like to submit to the Hon'ble Commission that it is maintaining the category wise and slab wise data on a monthly basis and the category wise and slab wise data for the FY 2011-12 is being submitted along with this petition in the regulatory formats. Further, the LED is taking necessary steps to build credible, accurate & verifiable data base and management information system (MIS) to meet the requirements of filing ARR & Tariff Petition as per the regulatory requirements of the Commission.

16. Directive 16: 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.

17. Directive 17: 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.

18. Directive 18: 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 economize 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.

19. Directive 19: Generator-wise data:

The utility is required to submit 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. The same is required to evaluate the efficacy of each plant installed at the islands.

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.

20. Directive 20: Cost of Fuel:

The Commission directs the petitioner to explore possibilities of sourcing the fuel from a station other than Beypore, if that is logistically and physically possible keeping the overall cost of transportation lower than the present cost.

Compliance:

The LED would like to submit to the Hon'ble Commission that it is already exploring the possibilities of sourcing the fuel from a station other than Beypore so that the overall cost of transportation is lower than the present cost.

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.
- 4) 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.
- 5) 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 provision of the Act & Supply Code Regulation. Notice to this effect shall be printed on the bill of the consumer.
- 6) 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.
- 7) Supply to consumers connected at 11kV & 33kV will be charged as per the HT Consumer category rate.
- 8) 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.

- 9) In case of exceeding the sanctioned load by the low-tension consumers by adding additional load, the penalty charges shall be charged as per the relevant provisions of the JERC Supply Code Regulations 2010.
- 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) Schedule of other charges approved in this Tariff Order will remain in force until it is amended by the Commission.
- 13) The Commission has approved additional charge of Rs 500 per air conditioning unit per month to be levied from the consumers besides the normal tariff applicable from the relevant consumer category*.
- 14) 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 March 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. 8 of the General Terms and Conditions.

iv. Power Factor Charges

The power factor of the consumer if, less than 0.90; for every 0.01 of the power factor decrease, 0.5% of the total units consumed will be charged extra as surcharge at the rate of 500 ps/unit. Payment of the power factor charge won't exempt the consumer from his responsibility to maintain the power factor. In case of abnormal power factor decrease, the department will give the consumer 15 days' time to install appropriate capacitors and maintain the standard power factor. If the consumer is not able to rectify the problem within the notice time, the connection will be liable for disconnection. In case the monthly average power factor is less than 0.70 lagging, the installation is liable for disconnection after due notice.

All High Tension installations where the monthly average power factor is maintained above 0.95 lagging shall be eligible for an incentive in the form of rebate at the rate of 1% of the energy charge for every 0.01 improvement in power factor above 0.95 lagging in the energy charges billed in the month.

The Power factor value will be rounded to two decimal places. For example 0.944 shall be treated as 0.94 and 0.946 shall be treated as 0.95. In case, any dispute arises about the applicability of any tariff for any particular class or service or as to the interpretation of any clause of these tariffs, the decision of the Commission shall be final and binding.

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 consumers having connected load above 50 HP will be provided with L.T.M.D 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 |
| 4 | Govt. Residential accommodations | Rs 50 |

d. Extra Length Charge

| 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 |

| S.No. | Types of Metering Equipment | Fee per unit (in Rs.) |
|-------|---|-----------------------|
| 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.

h. Air –conditioner Surcharge: *

The Commission approves surcharge of Rs 500 per air conditioning unit per month to be levied on the consumers in addition to the normal tariff applicable as per the relevant consumer category.

* Note: Department could not collect this amount from consumers since there was strong agitation from consumers. The department stopped realizing it after the Hon'ble High Court of Kerala stayed collection of surcharge from the consumers. The CGRF in Lakshadweep had also directed the department to suspend realization of surcharge on air conditioners till the outcome of the cases pending before the Hon'ble High Court, Kerala.

i. Security Deposit

Security Deposit for providing new service connection / Govt. Residential accommodations will be as per the JERC (Supply code) Regulation.

j. Issuance of Disconnection Notice:

Due to the shortage of staff and high generation cost, Lakshadweep Electricity Department is finding it difficult to serve disconnection notice to its consumers. It is felt that use of ICT tools can be utilised effectively to serve disconnection notice and for disseminating other useful information to its consumers. It is, therefore, requested to the Hon'ble Commission to permit the use electronic media, by the form of SMS and Emails for serving Disconnection notice for defaulters and for any other types of disconnections.

Prayer

1. LED requests the Honorable Commission to:
 - Admit and approve the Aggregate Revenue Requirement of FY 2013-14 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:

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