



## **TARIFF ORDER**

**Review of ARR of FY 2013-14  
and  
Determination of Aggregate Revenue Requirement  
&  
Retail Tariff for FY 2014-15,  
Petition no.124/2014  
For  
Electricity Department, UT of Andaman & Nicobar  
Islands**

**JOINT ELECTRICITY REGULATORY COMMISSION  
For the State of Goa and Union Territories**

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**11<sup>th</sup> April 2014**

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### List of Annexures

<b>S.No.</b>	<b>Annexure</b>
1.	Admission Letter dated 16 <sup>th</sup> January 2014 issued by the Commission
2.	Public notices published by the petitioner for inviting suggestions/comments on the petition (petition no. 124/2014)
3.	Public notices published by the Commission for intimation of public hearing
4.	List of objectors

## List of Abbreviations

<b>Abbreviation</b>		<b>Full Form</b>
A&G	:	Administration & General Expenses
Act	:	The Electricity Act, 2003
ARR	:	Aggregate Revenue Requirement
CAGR	:	Compound Annualized Growth rate
Capex	:	Capital Expenditure
CEA	:	Central Electricity Authority
CERC	:	Central Electricity Regulatory Commission
COD	:	Commercial Operation Date
Commission/JERC	:	Joint Electricity Regulatory Commission for the state of Goa and Union territories
CKt. Km	:	Circuit Kilometer
DISCOM/A&N	:	Electricity Department, UT of Andaman & Nicobar Islands
D/C	:	Double Circuit
DS	:	Domestic Supply
EA 2003	:	The Electricity Act, 2003
FC	:	Fixed Charges
FY	:	Financial Year
GFA	:	Gross Fixed Assets
HP	:	Horse Power
HPP	:	Hired Power Plant
HSD	:	High Speed Diesel Engines
HT	:	High Tension
JERC	:	Joint Electricity Regulatory Commission for the state of Goa and Union territories
kVA	:	Kilo Volt Ampere
kWh	:	Kilo Watt Hour
LPS	:	Late Payment Surcharge
LT	:	Low Tension
MU	:	Million Unit
MW	:	Mega Watt
MYT	:	Multi Year Tariff
NDS	:	Non Domestic Supply

<b>Abbreviation</b>		<b>Full Form</b>
NTPC	:	National Thermal Power Corporation
O/H	:	Over head
O&M	:	Operation & Maintenance
PLF	:	Plant Load Factor
RoE	:	Return on Equity
RPO	:	Renewable Purchase Obligation
R&M	:	Repair & Maintenance
SCL	:	Sanctioned Connected Load
S/C	:	Single Circuit
SBI PLR	:	SBI Prime Lending Rate
SPCL	:	Suryachakara Power Corporation Limited
T&D	:	Transmission & Distribution
UoM	:	Unit of Measurement
VAR	:	Volt Ampere Reactive
VC	:	Variable Charges



Before the

**Joint Electricity Regulatory Commission  
for the State of Goa and Union Territories  
Gurgaon**

**CORAM<sup>1</sup>**

Sh. S.K. Chaturvedi, Chairperson

**Petition No. 124/2014**

In the matter of

Aggregate Revenue Requirement (ARR) & Retail Tariff for the Financial Year 2014-15, of  
the Electricity Department, Union Territory of Andaman & Nicobar Islands

And in the matter of

Electricity Department, Union Territory of Andaman & Nicobar  
Islands.....Petitioner

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<sup>1</sup> As per section 93 of the Electricity Act, 2003; No act or proceedings of the Appropriate Commission shall be questioned or shall be invalidated merely on the ground of existence of any vacancy or defect in the constitution of the Appropriate Commission. Therefore, due to vacancy of the position of Hon'ble Member in the Joint Electricity Regulatory Commission for the state of Goa and the UTs, the Hon'ble Chairperson constitutes Coram.

## **ORDER**

**Date: 11<sup>th</sup> April 2014**

### **1. INTRODUCTION**

#### **1.1 JERC Formation**

In exercise of the powers conferred by Section 83 of the Electricity Act, 2003 the Central Government constituted a two member (including Chairperson) Joint Electricity Regulatory Commission for all Union Territories except Delhi to be known as “Joint Electricity Regulatory Commission for Union Territories” with headquarters at Delhi as notified vide notification no. 23/52/2003 – R&R dated May 2’ 2005. Later on with the joining of the state of Goa, the Commission came to be known as “Joint Electricity Regulatory Commission for the State of Goa and Union Territories” as notified on May 30’ 2008. The Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Andaman & Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry) started functioning with effect from September 2008. Office of the Commission is presently located in the district town of Gurgaon, Haryana.

#### **1.2 Electricity Department, UT of Andaman & Nicobar Islands**

The Electricity Department, UT of Andaman & Nicobar Islands herein called ED-A&N, is responsible for power supply in the Union Territory.

As submitted by the petitioner,

**Quote** *“The Department of Electricity of Andaman & Nicobar Administration (“EDA&N”) is responsible for power supply in the union territory. Power requirement of EDA&N is met by own generation station as well as power purchase.*

*Andaman & Nicobar Islands is cluster of islands scattered in the Bay of Bengal. These islands are truncated from rest of India by more than 1000 kms. The total area of the territory is 8249 sq. kms having population of 379944 as per 2011 Census provisional records & average growth rate is 6.68%. The tempo of economic development has tremendously accelerated along with all-round expansion in the areas/sectors viz. (i) Shipping Services, (ii) Civil Supplies, (iii) Education, (iv) Fisheries, (v) Tourism & Information Technology, (vi) Health, (vii) Industries, (viii) Rural Development, (ix) Social Welfare, (x) Transport, (xi) Increase in District Headquarters (xii) Central Government Department, (xiii) Public Undertaking & other offices, (xiv) Services & Utilities, (xv) Defense Establishment (xvi) Commercial Organisations/Business Centers etc. Thus, these islands have reached at the take-off stage of total economical transformation. All these economic and infrastructure developments requires power as a vital input & to play a key role for achieving overall transformations.*

*Prior to independence a small steam driven reciprocating DG Generator of 100 KW Capacity was installed by the British at Ross Island in 1926. Direct current DG Set of 100 KW Capacity was installed at Port Blair during 1929. After independence two steam turbine generating sets of 550*

*KW each were established during 1951 in the power house at Chatham Island. The boilers were operated on wood fuel and saw dust, which were the waste product of Chatham Saw Mill and later switched over to Mangrove wood as fuel. This was the start of alternating current power supply at Port Blair.*

*Due to the geographical & topographical peculiarities of these islands including separation by sea over great distances there is no single power grid for the entire electrified island and instead a power house caters independently to the power requirements of area/islands.*

*The Electricity Department is operating and maintain power generation, transmission & distribution system network in these islands for providing electric power supply to general public and implements various schemes under Plan & Non Plan for augmentation of DG Generating Capacity and establishment of new power houses and T&D Systems. This department is also functioning as a Nodal Agency for implementing renewable energy program of the Ministry of New & Renewable Energy in these islands. Presently, the department is headed by a Superintending Engineer, associated with seven EEs & around Thirty six AEs for carrying out the task of power generation, transmission & distribution to the general public including schemes under non-conventional energy sources” unquote*

### **1.3 Filing of Petition**

Electricity Department, UT of Andaman & Nicobar Islands has filed its petition for determination of Aggregate Revenue Requirement (ARR) & Retail Tariff for distribution and retail sale of electricity for FY 2014-15 under section 61, 62 & 64 of the Electricity Act, 2003, ED-A&N has submitted its ARR and Tariff petition for FY 2014-15 on 16<sup>th</sup> January 2014.

The Electricity Department, UT of Andaman & Nicobar Islands has prayed to the Hon'ble Commission to permit the petitioner to:-

#### **Quote**

”

- a) *Accept the Annual Revenue Requirement and Tariff petition for the FY 2014-15 for EDA&N formulated in accordance with the guidelines outlined as per the regulation of Joint Electricity Regulatory Commission relating to Distribution Licensee and the principles contained in Tariff Regulations ;*
- b) *Approve recovery of ARR of FY 2014-15;*
- c) *Approve the category-wise tariff including fixed/ demand charges submitted by EDA&N to meet revenue requirement for FY 2014-15;*

- d) *Approve the tariff philosophy suggestions requested by EDA&N;*
- e) *Condone any inadvertent delay/ omissions/ errors/ rounding off differences/shortcomings and EDA&N may please be permitted to add/ change/ modify/ alter the petition;*
- f) *Permit EDA&N to file additional data/ information as may be necessary;*
- g) *Pass such further and other orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case."*

#### **Unquote**

#### **1.4 Admission of Petition**

After initial scrutiny and analysis of the petition, the Commission as per its letter dated 16<sup>th</sup> January 2014 admitted the petition for approval of Aggregate Revenue Requirement (ARR) and Tariff for FY 2014-15. The Petitioner was directed to publish the summary of the petition for proposed ARR and Tariff for FY 2014-15 in leading newspapers of the union territory and upload the petition on the website of the Petitioner. The copy of the admission order is enclosed as **Annexure 1** to this order.

Electricity Department, UT of Andaman & Nicobar Islands had published a public notice on 12<sup>th</sup> February 2014 on the website of the department, on 12<sup>th</sup> February 2014 in the "The Daily Telegrams" newspaper and on 13<sup>th</sup> February 2014 in the "The Echo of India" newspaper respectively of UT of Andaman & Nicobar Islands indicating therein the proposed ARR and Tariff for the FY 2014-15 inviting suggestions/objections from the public. The copy of the newspaper clipping wherein public notice was published by the petitioner for the information to the stakeholders are enclosed as **Annexure 2** to this order.

#### **1.5 Interaction with the petitioner**

This Order has referred at numerous places to various actions taken by the "Commission". It is pertinent to mention for the sake of clarity, that the term "Commission" unless otherwise specified in most of the cases refers to the Staff of the Commission for carrying out the technical due diligence & validation of data of the petitions filed by the utilities, obtaining and analyzing information and clarifications received from the utilities and submitting relevant issues for consideration of the 'Commission'.

The Commission's Staff held discussions with the Petitioner/Petitioner's representative, obtained information/clarifications wherever required and carried out technical validation with regard to the information provided.

Commission's staff interacted regularly with the Petitioner to seek clarifications and justification on various issues essential for the analysis of the tariff petition. The Commission's staff and the Petitioner also indicated key issues related to the petition, which included Power purchase cost, estimated sales and revenue submitted to the Commission, etc.

On 17<sup>th</sup> February 2014, the representatives of the Department along with the representatives of the Commission conducted the technical validation session at the Commission's office. The Commission vide letter dated 27<sup>th</sup> January 2014 sought clarifications/additional data on the issues/discrepancies highlighted during the technical validation session. This included clarification on the compliance of directives, non-submission of audited accounts, non submission of true-up for FY 2012-13, non submission of Review of FY 2013-14, mismatch of certain components including revenue figures, power generation, power purchase from SPCL, HPP etc, capitalization, monthly consumption of HSD & Lubricants depreciation claimed for FY 2013-14 and validation of fuel receipts and consumed for FY 2013-14.

The Petitioner submitted its replies, in response to the queries raised by the Commission's office, which were necessary for computation of the ARR and the resultant tariff of the Petitioner thereof through letter and through email dated 23<sup>rd</sup> January 2014, 13<sup>th</sup> February 2014, 15<sup>th</sup> February 2014, 19<sup>th</sup> February 2014, 25<sup>th</sup> March 2014.

Most of the queries raised by the Commission have been clarified by the Petitioner with the last email dated 25<sup>th</sup> March 2014. The Commission has to rely on the information made available by the petitioner through emails and letters without waiting for affidavits which comes later on because data has been revised by the petitioner in subsequent submissions.

*Table 1.5.1: Formal Interactions with the Petitioner*

S.No.	Date	Action by	Subject
1.	16.01.2014	ED A&N	Submission of the petition
2.	16.01.2014	Commission	Admission of the petition
3.	18.01.2014	Commission	Public Notices by Commission in the "Echo of India (Port Blair)" and "Bartman (Kolkata)"
4.	27.01.2014	Commission	Letter to petitioner for Data Gaps
5.	13.02.2014	ED A&N	Part Submission of first set of deficiencies in the petition
6.	24.02.2014	Commission	Reminder for sending the balance replies to the first set of deficiencies pointed out on 27.01.2014
7.	19.02.2014	ED A&N	Submissions of the reply of the additional information against first set of deficiencies.
8.			
9.	04.03.2014	ED A&N	Part Submission of information by petitioner during public hearing
10.	09.03.2014	Commission	Reminder for submission of pending information

S.No.	Date	Action by	Subject
11.	24.03.2014	Commission	Reminder for submission of pending information
12.	25.03.2014	ED A&N	Submission of information by petitioner
13.	30.03.2014	ED A&N	Submission of letter from Secretary Power confirming revenue gap to be covered through tariff hike.

### 1.6 Public hearing process

Commission directed the petitioner to publish the summary of the ARR and Tariff proposal in the abridged form and manner as approved in accordance with section 64 of the Electricity Act 2003 to ensure public participation.

A public notice was published by the Petitioner for inviting objections/ suggestions from its stakeholders on the tariff petition in the leading newspaper as detailed below:-

*Table 1.6.1 : Details of public notice published by the Petitioner*

S.No.	Date	Language	Name of Website/Newspaper
1.	12.02.2014	English	<a href="http://electricity.and.nic.in">http://electricity.and.nic.in</a>
2.	12.02.2014	English	The Daily Telegrams
3.	13.02.2014	English	The Echo of India

The petitioner also uploaded the petition on Electricity Department, A&N website (<http://electricity.and.nic.in>) for inviting objections and suggestions on their petition.

Interested parties / stakeholders were requested to file their objections / suggestions on the petition. The details of public notice are attached as **Annexure 2** to this order.

### 1.7 Notice for public hearing

Commission published public notices in the leading newspapers giving due intimation to stakeholders, consumers, objectors and the public at large about the public hearing to be conducted by the Commission as per the mentioned schedule below:

*Table 1.7.1 : Schedule of Public hearing at Port Blair*

S.No.	Date	Venue of Hearing	Time & Category of Consumers	Subject
1.	04 <sup>th</sup> March 2014 Tuesday	Marine Community Hall of DSS, Mohanpura	<b>From 10:00 AM onwards</b> For all categories of consumers	<b>ARR &amp; Tariff for FY 2014-15:</b> (Petition no. 124/2014)

S.No.	Date	Venue of Hearing	Time & Category of Consumers	Subject
		Port Blair		

Table 1.7.2 : Details of public notice published by Commission

S.No.	Date	Language	Name of Newspaper
1.	18.01.2014	English	Echo of India (Port Blair)
2.	18.01.2014	Bangla	Bartman (Kolkata)

Table 1.7.3 : Details of Repeat public notice published by Commission

S.No.	Date	Language	Name of Newspaper
1.	02.03.2014	English	Echo of India (Port Blair)
2.	02.03.2014	Bangla	Bartman (Kolkata)

The copies of public notice published by the Commission for intimation of public hearing are attached as **Annexure 3** to this order.

Commission received one written and two oral objections/ suggestions on the petition during the public hearing. The Commission handed over the set of these to the Petitioner for communicating their reply to the objections raised by the objector.

During the public hearing, each person who raised objections / gave suggestions or made comments was provided an opportunity to present his/ her views on the petition filed by the Petitioner. All those present in the hearing, irrespective of whether they had given a written objection or not, were given an opportunity to express their views. Stakeholders who raised their concerns on the spot were replied to, by the officers of the utility orally on the spot. The list of all objectors or those who gave suggestions or comments is attached at **Annexure 4** to this order.

The list includes the objectors:

1. Those who gave their written objections/ suggestions/ comments & expressed desire to present orally also during the public hearing
2. Stakeholders who did not give their written objection / suggestions/ comments or prior intimation, but participated in the hearing on the spot

All these objections/suggestions/ Comments were responded to by the Licensee during the hearing. Later Licensee submitted their written reply for all written objections/suggestions of the stakeholders.

The issues and concerns expressed by stakeholders have been examined by the Commission. The major issues indicated during the public hearing, the comments/replies of the utility and the views of the Commission thereon, have been summarized in **Chapter 4** of this order.

### **1.8 Adherence to Model Code of Conduct**

In view of General Elections 2014, the Model Code of Conduct has been imposed since 05<sup>th</sup> March 2014. In this context, the Principal Secretary, Secretariat of the Election Commission of India, vide its letter no. 437/6/1//2014/-CC&BE/235 Dated 29<sup>th</sup> March 2014 clarified to the CERC as follows:

**Quote:**

“The Commission has no objection to the continuance of the process required for the decision on the power tariff. However, tariff award shall be made only on the completion of poll in the relevant State, i.e. after the poll date/dates in that State’

**Unquote**

The FOR (Forum of Regulators) communicated the above mentioned clarifications as received from Election Commission to all SERCs vide its letter no. 15/2(39)/2013 – FOR/CERC/36750 dated April 4’ 2014. The poll date in Andaman & Nicobar, which was on 10th April, 2014, is over.

Hence, in view of the consent and instructions received from the Election Commission of India as above, the Commission has finalized the tariff order and issued the current Tariff Order



## **2. BRIEF SUMMARY OF ARR & TARIFF PETITION FOR FY 2014-15**

### **2.1 Introduction**

In exercise of powers conferred on Joint Electricity Regulatory Commission for the Goa and Union Territories under Section 61 read with Section 181 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, the Joint State Electricity Regulatory Commission for the State of Goa and Union Territories notified the (Terms and Conditions for Determination of Tariff) Regulations, 2009. These regulations came into force from the date of their publication in the official Gazette i.e. February 9' 2010. These Regulations are applicable to the State of Goa and the Union Territories of Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep and Puducherry.

As indicated in para no. 1.3 and 1.4 of Chapter no. 1, Electricity Department, UT of Andaman & Nicobar Islands filed its petition for determination of Aggregate Revenue Requirement and Tariff for FY 2014-15 to the Commission on 16<sup>th</sup> January 2014 under 61, 62 & 64 of the Electricity Act 2003 and relevant provisions mentioned in JERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2009. The petitioner has not requested for true-up for FY 2012-13 and review of FY 2013-14.

After initial scrutiny & analysis of the information submitted with ARR and Tariff Petition filed by ED-A&N; the petition was admitted subject to removal of infirmities to the extent possible. The Commission has taken the aforesaid petition on record as 'petition no. 124/2014' on 16<sup>th</sup> January 2014.

### **2.2 About Electricity Department of Andaman & Nicobar**

The Department of Electricity of Andaman & Nicobar Administration (ED A&N) is responsible for power supply in the union territory. Power requirement of ED A&N is met by own generation station and power purchase from SPCL. The total area of the territory is 8249 sq. kms having population of 379944 as per 2011 Census provisional records & average growth rate is 6.68%. These islands have reached at the takeoff stage of total economic transformation. All these economic and infrastructure developments requires power as a vital input & to play a key role for achieving overall transformation. Out of 824,900 hectares of geographical area, 795,000 hectares is reported for land use of which 90.9% is forest area (including 59.15% of area is covered under protected forest) and 1.51% Cultivable Waste Land.

Due to the geographical & topographical peculiarities of these islands including separation by sea over great distances, there is no single power grid for the entire electrified island and instead a

power house at each location caters independently to the power requirements of area/islands. There are 53 diesel power houses at different locations in these islands having DG sets Capacity ranging from 6 KW to 5000 KW (including 20 MW from IPP operated by M/s SPCL) and one hydro power station having 5.25 MW Capacity at Kalpong North Andaman. The aggregate installed capacity is 104.348 MW as on date of filing of petition and firm capacity of 73.771 MW.

### **2.3 Petition Summary for Aggregate Revenue Requirement for FY 2014-15**

The petition covers the basis, assumptions and projections of individual elements constituting the determination of ARR and proposal for retail tariff for FY 2014-15. Commission had issued the first Tariff Order for Electricity Department of UT of Andaman & Nicobar Islands (ED-A&N) on 04<sup>th</sup> June 2012 for FY 2012-13. The Commission in its first Tariff Order dated 04<sup>th</sup> June 2012 had approved the ARR for FY 2012-13 based on the actual cost of FY 2010-11 and estimated expenses of FY 2011-12, as submitted by the petitioner. Further, Commission had approved revision in retail tariff to meet the revenue deficit for FY 2012-13.

The Petitioner has submitted the ARR & tariff petition for FY 2014-15 based on the actual performance during FY 2010-11, FY 2011-12, FY 2012-13, FY 2013-14 (half yearly actuals-H1) as bases with supporting rationales. Based on the estimates and projections for FY 2014-15, the aggregate revenue requirement for ED A&N for FY 2014-15 has been proposed at Rs. 622.18 Crores after considering the submissions of the petitioner as mentioned in the table below. The brief summary of petitioner's proposal as submitted in the petition for FY 2014-15 is presented below:

Table 2.3.1 : Brief Summary of ARR for FY 2014-15, Review of FY 2012-13 submitted by the petitioner  
(Rs. in Crores)

Table 4.22: ANNUAL REVENUE REQUIREMENT FOR THE YEAR 2014-15					
(Rs. in crores)					
Sr. No.	Item of expense	Proposed by the Licensee	Revised by the Licensee	Approved by the Commission	Actuals as per accounts
1	2	3	4	5	6
1	Cost of fuel	205.28	-	-	-
2	Cost of power purchase	278.69	-	-	-
3	Employee costs	60.46	-	-	-
4	O&M expenses	39.51	-	-	-
5	Administration and general expenses	2.66	-	-	-
6	Depreciation	8.00	-	-	-
7	Interest charges ( including interest on working capital)	25.62	-	-	-
8	Return on NFA /Equity	4.42	-	-	-
9	Provision for Bad Debit	0.00	-	-	-
10	Total revenue requirement	624.65	-	-	-
11	Less: non tariff income	2.46	-	-	-
12	Net revenue requirement (10-11)	622.18	-	-	-
13	Revenue from tariff	108.72	-	-	-
14	Gap (12-13)	513.47	-	-	-
15	Gap for -----	0	-	-	-
16	Total gap (14+15)	513.47	-	-	-
17	Revenue surplus carried over	0	-	-	-
18	Additional revenue from proposed tariff	0.00	-	-	-
19	Regulatory asset	0	-	-	-
20	Energy sales (MU)	228.62	-	-	-

#### 2.4 Summary of the Tariff Proposal for FY 2014-15

It is further submitted by the petitioner that

**Quote**

*“EDA&N has projected ARR for FY 2014-15 at Rs. 622.18 crores and the revenue at existing tariff from projected sales compute to Rs. 108.72 crores. Thus, the resultant gap works out to Rs. 513.47 crores. EDA&N does not propose to increase the tariff for the FY 2014-15 as these would result in huge burden on the consumers.*

*It is submitted that in A&N Islands, 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. EDA&N 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 2014-15.*

*Further EDA&N is exploring options of alternative and cheaper sources of power so as to reduce the cost of supply. Since power generated by Central Generating Stations (CGSs) is not available to EDA&N, it has to depend totally on local power generation. Till such time, the cost of generation of power is brought at levels comparable to other utilities in the country, recovery of the same through tariff is not feasible.*

*It is prayed to the Hon'ble Commission that considering the above submissions, the proposal of EDA&N for keeping the tariff & other charges/conditions unchanged for the FY 2014-15 may kindly be approved."*

**Unquote**

*Table 2.4.1 : Brief Summary of Tariff Proposal for FY 2014-15 submitted by the petitioner*

<b>S. No.</b>	<b>Category</b>	<b>Rate (Rs./unit)</b>
1	Domestic	
	Upto 100 units	2.00
	101 units -200 units	3.70
	201 units & above	5.10
2	Commercial ( General Purpose)	
	upto 200 units	5.40
	201 units to 500 units	6.50
	501 units & above	7.25
3	Industry	
	Upto 500 units	4.45
	501 units & above	5.00
4	Bulk	9.20
5	Public Lighting	4.50
6	Irrigation Pumps & Agriculture	1.25

## 2.5 Prayer to the Hon'ble Commission

The petitioner respectfully prays that Hon'ble Commission may:

### Quote

“

- a) *Accept the ARR and Tariff Petition for the FY 2014-15 for ED A&N formulated in accordance with the guidelines outlined as per the regulation of JERC relating to Distribution Licensee and the principles contained in Tariff Regulations;*
- b) *Approve the Recovery of the ARR of FY 2014-15;*
- c) *Approve the category wise tariff including fixed/ demand charges submitted by ED A&N to meet revenue requirement for FY 2014-15;*
- d) *Approve the tariff philosophy suggested by ED A&N;*
- e) *Condone any inadvertent delay/ omissions/ errors/ rounding off differences/shortcomings and EDA&N may please be permitted to add/ change/ modify/ alter the petition;*
- f) *Permit EDA&N to file additional data/ information as may be necessary;*
- g) *Pass such further and other orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case.”*

### Unquote

### **3. APPROACH OF THE ORDER FOR DETERMINATION OF ARR & TARIFF FOR FY 2014-15**

#### **3.1 Introduction**

As indicated in earlier chapter of this order, Electricity Department of UT of Andaman & Nicobar Islands had filed its petition for determination of Aggregate Revenue Requirement and Tariff for FY 2014-15 to the Commission on 16<sup>th</sup> January 2014 in accordance with section 61, 62 & 64 of the Electricity Act, 2003 and relevant provisions mentioned in JERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2009.

#### **3.2 Approach for True-up for FY 2012-13**

Commission in its last tariff order dated 31<sup>st</sup> March 2013 had directed the petitioner to submit the true-up for FY 2012-13 along with the ARR of FY 2014-15. Since, ED-A&N is currently operating as a department within the Govt. of India, the system of account keeping is on cash receipt and expense basis i.e. proforma accounts. The petitioner has submitted that the Annual Accounts for the FY 2012-13 has not been audited and the petition for True-up shall be submitted after completion of audit.

ED-A&N being an integrated utility in its present form as defined in Regulation 2(9) of the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 as the ED-A&N is not restructured and corporatized till date. Further, as per JERC (Terms and Conditions for determination of Tariff) Regulations, 2009:

#### **8. Review and Truing Up**

*(1) The Commission shall undertake a review along with the next Tariff Order of the expenses and revenues approved by the Commission in the Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/pre-actuals 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. Such an exercise shall be called 'Review'.*

*(2) (i) After audited accounts of a year are made available, the Commission shall undertake similar exercise as 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'.*

***Emphasis added***

*(ii) The Truing Up for any year will ordinarily not be considered after more than one year of 'Review'.*

*(3) The revenue gap of the ensuing year shall be adjusted as a result of review and truing up exercises.*

*(4) While approving such expenses/revenues to be adjusted in the future years as arising out of the Review and / or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. Carrying costs shall be limited to the interest rate approved for working capital borrowings.*

*(5) For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is necessary due to conditions beyond its control.*

The detailed analysis is provided in **Chapter 5 (True-Up for FY 2012-13)** of this Order.

### **3.3 Approach for Review for FY 2013-14**

The Commission has considered the submission of the petitioner dated February 18' 2012 (received on February 23' 2012, attaching Min. of Home Affairs letter dated Aug 05,1959 highlighting the strategic importance of the territory, wherein it is absolutely essential that the basic utility services such as transport, electricity etc. are provided in these areas notwithstanding the fact that the services may not be economically viable. The facts are illustrated as per office memo of Ministry of Home Affairs, Govt. of India dated August 05<sup>th</sup>, 1959 addressed to the Planning Commission, New Delhi. The copy of the same is made available by the petitioner with its additional submission dated February 18'2012. The copy is attached as **Annexure 5** to this Order.

While the petitioner has not specifically requested for Review of FY 2013-14, the Commission, on the basis of the data submitted by petitioner, has reviewed ARR for FY 2013-14 on Suo Moto (based on the half yearly actuals), which was determined earlier by the Commission in its ARR order dated 31<sup>st</sup> March 2013. The Review of ARR for FY 2013-14 is to be carried out as per the provisions of regulation 8 of JERC Tariff Regulations, 2009, which is as under:

#### **Quote**

*"The Commission shall undertake a review along with the next Tariff Order of the expenses and revenues approved by the Commission in the Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/pre-actuals 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. Such an exercise shall be called 'Review'.*

*After audited accounts of a year are made available, the Commission shall undertake similar exercise as 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'.*

*The Truing Up for any year will ordinarily not be considered after more than one year of 'Review'.*

*The revenue gap of the ensuing year shall be adjusted as a result of review and truing up exercises.*

*While approving such expenses/revenues to be adjusted in the future years as arising out of the Review and / or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. Carrying costs shall be limited to the interest rate approved for working capital borrowings.*

*For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is necessary due to conditions beyond its control.*

*In case additional supply is required to be made to any particular category, the licensee may, any time during the year make an application to the Commission for its approval. The application will demonstrate the need for such change of consumer mix and additional supply of power and also indicate the manner in which the licensee proposes to meet the cost for such change of consumer mix and additional supply of power.*

*The Commission may consider granting approval to such proposals provided the cost of additional supply is ordinarily met by the beneficiary category"*

***Unquote***

In view of the above, the Commission has reviewed the variations between approvals and actuals of sale of electricity, income and expenditure for FY 2013-14; and also the revised estimates based on half yearly actuals, estimated the energy sale, income and expenditure for FY 2013-14 as submitted by the petitioner and permitted necessary adjustments in cases where variations are for reasonable and justifiable reasons.

The detailed analysis & treatment of each component based on the revised estimates is provided in **Chapter 6 (Review of ARR for FY 2013-14)** of this Order.



### 3.4 Approach for Determination of ARR & Retail Tariff for FY 2014-15

In this regard various provisions of the JERC's Tariff Regulations 2009 pertaining to business of the integrated utility are relevant and Commission is guided by the principles contained in Section 61 of the Act among other things to examine the Sales forecast, Power purchase quantum, Self-generation and other income & expenditure.

The Commission, while determining the tariff is guided by the principles contained in Section 61 of the Act, namely

- a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
- b) The generation, transmission, distribution and supply of electricity are conducted on commercial principles;
- c) The factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;
- d) Safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
- e) The principles rewarding efficiency in performance;
- f) That the tariff progressively reflects the cost of supply of electricity and also, reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;
- g) The promotion of co-generation and generation of electricity from renewable sources of energy;
- h) The National Electricity Policy and tariff policy;
- i) In addition to above the Commission is bound by the Renewable Energy purchase obligations, as specified in JERC (Procurement of Renewable Energy) Regulations, 2010.
- j) Relevant directions given by the Hon'ble APTEL in the judgment in O.P. no. 1 of 2011.

The Commission also had considered the memo of Ministry of Home Affairs, Govt. of India dated August 05'1959 addressed to the Planning Commission, while disposing the ARR and Tariff Petition (65/2012) for FY 2012-13. which enumerates the strategic importance of the territory, and it is absolutely essential that the basic utility services such as transport, electricity etc. are provided in these areas. The copy is attached as **Annexure 5** to this Order. The facts of aforesaid

memo have also been considered while disposing the ARR and Tariff Petition (124/2014) for FY 2014-15 submitted by the petitioner.

The Commission has considered the actual audited figures of income & expenditure submitted by the Petitioner for FY 2010-11, actuals for FY 2011-12, actuals of FY 2012-13 and half yearly actuals for FY 2013-14 to form the basis for projection of income and expenditure for FY 2014-15. Further, the Commission has relied on the actual data of FY 2011-12, FY 2012-13 and FY 2013-14 (half year) provided by the petitioner during technical validation session on 17<sup>th</sup> February 2014 and in subsequent submissions & clarifications thereafter. The detailed analysis & treatment of each component is provided in **Chapter 7 (Aggregate Revenue Requirement for FY 2014-15)** of this Order.

## 4. SUMMARY OF OBJECTIONS RAISED/ SUGGESTIONS MADE, PETITIONER'S RESPONSE AND COMMISSION'S VIEWS

### 4.1 Public response to the Petition

On admitting the ARR & Tariff Petition for the FY 2014-15, the Commission directed the Petitioner to make copies of the petition available to the general Public, post the petition on the Website & also publish the same in newspapers in abridged form in the given format duly inviting Comments/suggestions/Objections from public as per provision of the JERC (Conduct of Business) Regulations 2009.

### 4.2 Public Hearing

A public hearing was held at Port Blair as per the below mentioned schedule:

*Table 4.2.1 : Schedule of Public hearing at Port Blair*

S.No.	Date	Venue of Hearing	Time & Category of Consumers	Subject
1.	04 <sup>th</sup> March 2014 Tuesday	Marine Community Hall of DSS, Mohanpura Port Blair	<b>From 10:00 AM onwards</b> For all categories of consumers	<b>ARR &amp; Tariff for FY 2014-15:</b> (Petition no. 124/2014)

During the public hearing, those who submitted the objections/suggestions/ comments in writing on the spot (no objection/suggestions/ comments were received before the public hearing), also presented their Objections/Suggestions/ comments in person before the Commission. Other participants from general public, who had not submitted written objections/suggestions/ comments, were also given an equal opportunity to offer their views/suggestions in respect to the ARR & tariff proposal for FY 2014-15 of the ED A&N.

Each stakeholder was provided an opportunity to present his views on the petition filed by the Petitioner. All those present in the hearing, irrespective of whether they had given a written objection or not, were given equal opportunity to express their views. The list of all objectors is attached at **Annexure 4** to this order.

The list includes the objectors or who gave suggestions or comments

1. Those who gave their written objections/suggestions/ comments & expressed desire to present orally also during the public hearing;

2. Stakeholders who did not give their written objection/suggestions/ comments or prior intimation, but participated in the hearing on the spot;
3. Stakeholders who did not give their written objection/suggestions/ comments or prior intimation, but participated in the hearing on the spot and also gave written submissions.

#### **4.3 Objections/Suggestions/ Comments of stakeholders and response of Electricity Department, UT of Andaman & Nicobar Islands there to and Commission's views on petition no. 124/2014, previous year review**

##### **Stakeholders Objections/Comments:**

The main issue raised by the Abdul Rehman, Editor, Dweep Prahri newspaper as stakeholder in brief are as under:

1. No efforts for recovery of outstanding amount of more than Rs 30 Crores by various govt. departments and private consumers.
2. Loss of Rs 25 lakhs as the work regarding installation and supply not been carried out for 10 kW wind solar hybrid plant as per the agreement signed by the department and UD Energy Systems Pvt.Ltd.
3. No physical verification of stores carried out for the year 2011 to 2013.
4. S.E. is holding the Current Duty Charge and does not possess requisite qualifications according to the recruitment rules.

##### **Petitioner's submission:**

No Submission received from the petitioner.

##### **Commission's views:**

Commission appreciates the concern of stakeholders. While the Commission is of the view that the arrears/bad debts should be restricted to the minimum possible and sincere efforts should be made to recover these arrears by the department, the burden of such arrears is not passed on to the consumers. However, the Commission directs the petitioner to submit by 30<sup>th</sup> September, 2014, the consumer-wise, age-wise status of dues having Rs.50,000/- and above with an action plan for time bound realization of the such dues.

The Commission also directs the petitioner to update the Commission regarding status of installation and supply of the 10 kW solar hybrid plant within 1 month of the issuance of this tariff order.

However, the Commission would like to emphasize that the posting of an employee to a certain position is an administrative decision, which is in the preview of UT Administration. However, as the S.E. Electrical has been authorized to file the ARR petition for FY 2014-15 on behalf of ED-

A&N, the Commission has to accept the petition as per the provisions of Electricity Act 2003 and relevant regulations.

The Commission would also like to highlight that the other issues that were raised during the public hearing were general in nature and not pertaining directly to ARR and Tariff. These were passed on to the CGRF member, also present during the public hearing, for further resolution.

One stakeholder specifically raised concern that the street lights are operational during day also. The Commission took a strong note of that and directed the utility that since the power is generated at a very high cost, it should not be wasted like that at any cost.

Based on the inputs received from the ED that street lights are operated by the local municipal corporation, the Commission directed the ED to take up the matter with Municipal Corporation through Power Secretary.

## 5. TRUING UP FOR FY 2012-13

### 5.1 Petitioner Submission

The petitioner has not requested for provisional/final True-up for FY 2012-13. The petitioner has submitted that the Annual Accounts for the FY 2012-13 has not been audited and the petition for True-up shall be submitted after completion of audit.

### 5.2 Commission Analysis

Commission in its last tariff order dated 31<sup>st</sup> March 2013 had directed the petitioner to submit the true-up for FY 2012-13 along with the ARR of FY 2014-15. Since, ED-A&N is currently operating as a department within the Govt. of India, the system of account keeping is on cash receipt and expense basis i.e. proforma accounts. The petitioner has submitted that the Annual Accounts for the FY 2012-13 has not been audited and the petition for True-up shall be submitted after completion of audit.

ED-A&N being an integrated utility in its present form as defined in Regulation 2(9) of the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 as the ED-A&N is not restructured and corporatized till date. Further, as per JERC (Terms and Conditions for determination of Tariff) Regulations, 2009:

## 8. Review and Truing Up

*(1) The Commission shall undertake a review along with the next Tariff Order of the expenses and revenues approved by the Commission in the Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/pre-actuals 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. Such an exercise shall be called 'Review'.*

*(2) (i) After audited accounts of a year are made available, the Commission shall undertake similar exercise as 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'.*

### **Emphasis added**

*(ii) The Truing Up for any year will ordinarily not be considered after more than one year of 'Review'.*

*(3) The revenue gap of the ensuing year shall be adjusted as a result of review and truing up exercises.*

*(4) While approving such expenses/revenues to be adjusted in the future years as arising out of the Review and / or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. Carrying costs shall be limited to the interest rate approved for working capital borrowings.*

*(5) For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is necessary due to conditions beyond its control.*

**Since, the audited accounts based on commercial accounting principles are still awaited, Commission is of view it would be inappropriate to consider provisional true up of FY 2012-13.**

## 6. REVIEW OF ARR FOR FY 2013-14

### 6.1 Background

The Commission had approved the Aggregate Revenue Requirement for FY 2013-14 vide its ARR and tariff order dated June 04'2012 as per the provisions of the JERC tariff regulations 2009. The petitioner had submitted the revised estimates of sale of electricity, income and expenditure of FY 2013-14 for the review of ARR of FY 2013-14 which included the actuals of first half of FY 2013-14 and estimates of the balance year as per the Regulation 8 of JERC Tariff Regulations 2009, in ARR and tariff petition for FY 2013-14 on 29<sup>th</sup> November' 2012.

The Commission had considered the following for ARR of FY 2013-14 as per the JERC Tariff Regulations, prior to the submission of Petition for Performance Review:

- i. Actual Performance in FY 2010-11 (as per the audited accounts<sup>2</sup>);
- ii. Actual Performance in FY 2011-12 (as per the audited accounts<sup>3</sup>);
- iii. Reviewed estimates of FY 2012-13 including the category wise sales, revenue and expenditure

Commission for this Review of FY 2013-14 has considered the following:

- a. Actual Performance in FY 2012-13;
- b. Actual Power Purchase Quantum and Cost for FY 2013-14 from April 2013 to September 2013;
- c. Details of sales & Revenue, Consumers and Connected Load for FY 2013-14 from April 2013 to September 2013.
- d. Revised estimates of FY 2013-14 of O&M expenses, Capital Expenditure based on the expenses approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013;
- e. Non-Tariff Income
- f. Depreciation, Interest and Finance Charges, Interest on Working Capital, Interest on Security Deposit, and Return on Net Fixed Assets has been computed as per the JERC tariff regulations 2009 and considering expenses approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013.

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<sup>2</sup>Audited Accounts of FY 2010-11 provided by the Petitioner.

<sup>3</sup>Audited Accounts of FY 2011-12 provided by the Petitioner.



## 6.2 Review of ARR for FY 2013-14

The review of aggregate revenue requirement requires assessment of quantum of energy sales, energy loss as well as various cost elements like power purchase cost, O&M expenses, interest cost and depreciation etc. This has been done based on actual data for 6 months for power purchase cost, and sales, and revised estimates of FY 2013-14 based on six months actuals for O&M expenses, interest and depreciation submitted by the petitioner. As regards to various components of ARR, the Commission's analysis thereon and decision in respect of items given below is indicated in the following paras:

- Review of Energy Requirement
  - i.Sales Projections
  - ii.Loss Trajectory
  - iii.Energy Balance
  - iv.Power Purchase Sources
- Review of the Aggregate Revenue Requirement
  - i.Power Purchase Costs & Transmission Charges;
  - ii.Operation and Maintenance Expenses;
    - Employee Expenses
    - Administration & General expenses
    - Repairs & Maintenance Expenses
  - iii.Capital Expenditure and Asset Capitalisation
  - iv.Gross Fixed Assets;
  - v.Depreciation;
  - vi.Interest on Long Term Loans;
  - vii.Interest on Working Capital & Security Deposits;
  - viii.Return on Capital Base/ Net Fixed Assets;
  - ix.Provision for Bad and Doubtful Debts

x. Other expenses.

xi. Non-Tariff Income

### 6.3 Consumers, Connected load and Energy Sales

#### **Petitioner's Submission**

##### **Energy Sales**

The petitioner has stated that

##### **Quote**

*"The consumer base of EDA&N consists of Domestic, Commercial and Industry, consumers. Sales mix is primarily dominated by Domestic consumers, followed by Commercial consumers. The total consumption of Domestic consumers is approximate 49 percent and Commercial consumers contribute to around 27 percent of total sales. Thus, the sales forecast would completely depend on the sales expected in the Domestic & Commercial Category.*

*The sales forecast is based on the trends observed in the sales pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth etc. that would affect consumption across various categories of consumers. The CAGR (%) for period of five years (FY 2012-13 over FY 2008-09) for different categories has been adopted for estimating the energy sales for the FY 2013-14. Energy sales towards temporary connections has been added to commercial category as it is observed that temporary connection are predominantly availed for commercial purposes. Consumption in temporary connection category in 2012-13 was 0.80 MUs. The same has been projected for the year FY 2013-14 according to the trend of last year as CAGR for the category reflected abnormal growth trend. In addition to this, the growth trend in number of consumers and connected load have been taken as guiding factors in arriving at the requirement of demand and energy."*

##### **Unquote**

The petitioner has considered the past trend for projecting the Energy Sales (MUs) and No. of Consumers, as mentioned in the following table:

Table 6.3.1 : Details of Energy Sales during Past years and estimations for FY 2013-14 (Sales in Million Units)

Category	Sales in MU's					
	FY 2008-09 Actuals	FY 2009-10 Actuals	FY 2010-11 Actuals	FY 2011-12 Actuals	FY 2012-13 Actuals	FY 2013-14 Estimated
Domestic	75.49	83.96	90.2	93.98	101.36	107.51
Commercial	42.61	49.12	52.17	54.02	55.22	58.30
Industry	7.67	8.72	8.64	10.89	11.17	12.04
Bulk	25.4	25.99	26.02	29.57	28.98	29.75
Public Lighting	8.62	8.36	9.15	9.26	8.72	8.74
Irrigation, Pumps & Agriculture	0.69	0.74	0.83	0.90	0.91	0.96
<b>Total</b>	<b>160.48</b>	<b>176.9</b>	<b>187.01</b>	<b>198.62</b>	<b>206.35</b>	<b>217.30</b>

The petitioner has considered the average growth rate (%) for projecting the Energy Sales (MUs) for FY 2013-14 as mentioned in the following table:

Table 6.3.2 : Growth rate considered for FY 2013-14 (in %age)

S. No.	Category	Assumed Growth rate for FY 2013-14
1	Domestic	6.07%
2	Commercial	5.43%
3	Industry	7.80%
4	Bulk	2.67%
5	Public Lighting	0.24%
6	Irrigation Pumps & Agriculture	5.74%

Source : Table 4.1 of the Petition submitted by ED A&N

As part of submission of additional data, the petitioner has furnished the month wise category wise actual energy sales for FY 2012-13 and FY 2013-14 (upto September).

### **Number of Consumers**

The petitioner has stated that

#### **Quote**

" The forecast of number of consumers is based on the trends observed in the connections pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth, etc. that would affect consumption across various categories of consumers. The CAGR (%) for period of five years (FY 2012-13 over FY 2008-09) for different categories has been adopted for estimating the number of consumers for the FY 2013-14. However, normalization has been undertaken for certain categories where an abnormal rise or

*reduction has been observed. Temporary Connections has been added to commercial category as it is observed that temporary connections are predominantly availed for commercial purposes.”*

**UnQuote**

*Table 6.3.3 : Details of Number of Consumers during Past years (in Numbers)*

S. No.	Category	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14
		Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Petitioner's estimates for review
1	Domestic	65282	67990	76479	81741	91843	93757	99981
2	Commercial	14677	15160	15626	16131	16767	17291	17666
3	Industry	450	451	461	457	493	501	512
4	Bulk	40	46	44	48	55	56	58
5	Public Lighting	346	375	434	505	552	649	724
6	Irrigation Pumps & Agriculture	161	211	177	186	237	218	219
	Total	80956	84233	93221	99068	110002	112472	116160

Source : Table 4.2 of the Petition submitted by ED A&N

**Commission's analysis**

As per the sub-regulation (2) (ii) of regulation 13 of JERC tariff regulations 2009,

**Quote**

*“(ii) Estimated figures for the current financial year should be based on actual figures for the first six months and the estimated figures for the second six-months of the year. The estimated figures for the second half year of the current financial year should be based on the actual audited figures for the second half of the previous year with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.”*

**Unquote**

Commission estimated the second half of the current financial year based on the actual figures of for the first half of FY 2011-12, FY 2012-13 and FY 2013-14, which results in overall escalation of 2.90% which is reflective of and a measurable change expected to occur in the energy sales.

The approved Sales, Connected load and number of consumers for the FY 2013-14 have been shown in the table below:

Table 6.3.4 : Category wise Sales approved by the Commission for FY 2013-14 (in million units)

S.No.	Category/Consumption Slab	FY 2013-14					
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	H1 (Submitted by Petitioner)	H2 (Approved by the Commission)	Total Sales Approved by the Commission
A	Domestic	104.46	106.77	107.51	53.55	56.07	109.62
B	Commercial	61.32	65.06	58.30	28.92	27.93	56.85
C	Industry	12.30	13.69	12.04	5.60	7.11	12.72
D	Bulk	33.02	30.12	29.75	14.94	14.99	29.94
E	Public Lighting	10.15	0.65	8.74	4.59	4.61	9.20
F	Irrigation Pumps & Agriculture	0.98	0.38	0.96	0.43	0.46	0.89
<b>Total</b>		<b>222.23</b>	<b>216.68</b>	<b>217.30</b>	<b>108.04</b>	<b>111.17</b>	<b>219.21</b>

Table 6.3.5 : Category wise number of consumers approved by the Commission for FY 2013-14 (in numbers)

S.No.	Category/Consumption Slab	FY 2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
A	Domestic	105281	99808	99981	94823
B	Commercial	17627	17691	17666	17367
C	Industry	511	570	512	503
D	Bulk	63	60	58	78
E	Public Lighting	665	644	724	609
F	Irrigation Pumps & Agriculture	276	237	219	218
<b>Grand Total</b>		<b>124423</b>	<b>119010</b>	<b>119160</b>	<b>113598</b>

Table 6.3.6 : Category wise connected load approved by the Commission for FY 2013-14 (in KW)

S.No.	Category/Consumption Slab	FY 2012-13	FY 2013-14
		Actuals	Approved by the Commission
A	Domestic	92540.80	97672.19
B	Commercial	51772.74	57444.47
C	Industry	10576.66	10800.98
D	Bulk	9311.65	10081.02
E	Public Lighting	2957.32	3559.52
F	Irrigation Pumps & Agriculture	718.16	804.61
<b>Grand Total (in kW)</b>		<b>167877.33</b>	<b>180362.78</b>
<b>Grand Total (in MW)</b>		<b>167.88</b>	<b>180.36</b>

## 6.4 Transmission & Distribution Loss

### Petitioner's Submission

The petitioner has submitted that

### **Quote**

*“EDA&N has achieved a significant reduction in distribution losses during recent years. EDA&N submits that the system improvement works executed every year under the plan schemes have also contributed to the reduction of distribution losses. However, it may also be noted that reduction of distribution losses may not be possible beyond a certain level due to topographical conditions and technical limitations. The distribution losses in the EDA&N distribution network have been in the range of approximately 18% to 20% in the past. For the purpose of FY 2014-15 ARR, the losses have been retained at 18% for the FY 2013-14.”*

### **Unquote**

### **Commission’s Analysis**

The Commission in its ARR and Tariff Order for FY 2013-14 had approved the targeted T&D loss level of 18.03%. The petitioner has furnished the actual T&D loss for FY 2012-13 on the basis of the actual figures of sales and energy availability of FY 2012-13, the Commission has estimated from the available data the actual loss level for FY 2012-13 at 19.18%.

As per the regulation 15 of JERC Tariff regulations, 2009

#### *“15. AT& C Losses*

- 1. The licensee shall give information of total AT&C losses in Previous Year and Current Year and the basis on which such losses have been worked out.*
- 2. The licensee shall also propose a loss reduction programme for the Ensuing Year as well as for the next three years giving details of the measures proposed to be taken for achieving the same.*
- 3. Based on the information furnished and field studies carried out and the loss reduction program proposed by the licensee, the Commission shall fix separate targets for reduction of Transmission and Distribution losses and for commercial efficiency for the period specified by the Commission:*

*Provided further that in the event of unbundling of the integrated utility, the Commission may fix separate transmission and distribution loss targets and commercial efficiency targets, as the case may be, for each successor licensee taking into account its area of operation, its consumer mix, state of the network, level of metering, metering initiatives planned, etc.*

- 4. The licensee shall conduct regular energy audit to substantiate its estimation of T&D losses. The licensee shall also furnish six monthly energy audit reports to the Commission.*

*The energy audit report for the first six months of the year shall be provided by November end of the same year. Similarly energy audit report for the last six months of the year shall be provided by May end of the next year.*

5. *In the absence of energy audit, the Commission may not accept the claim of the licensee and may proceed to fix the loss levels on the basis of any other information available and its own judgment.*

It is noted by the Commission that the petitioner has not provided the energy audit report nor any basis for increase of T&D loss level to 19.18% from 18.03% (approved for FY 2012-13 in tariff order dated 31<sup>st</sup> March 2014).

The petitioner has submitted that various schemes being undertaken by the ED A&N like extension of T&D lines, erection of new distribution transformers, replacement of old defective meters, distribution transformer metering, replacement of old conductor, and providing HT meters in feeders etc. will lead to progressive reduction in losses.

The sharing of gain on account of over-achievement/under-achievement of target specified by the Commission will be dealt in the true-up of FY 2013-14 on the basis of final figures of available power, energy sales for FY 2013-14 as per the audited accounts.

Accordingly, for the purpose of this order the Commission, while taking into account the coastal environment and topography of these islands, **retains the T&D loss level of 18.03% (approved in the order dated 31<sup>st</sup> March 2013) as reasonable and approves the same for the purpose of Review of ARR of FY 2013-14.**

## 6.5 Energy Balance

### **Petitioner's Submission**

The petitioner submits the energy requirement for sale within the islands is 265 Million Units for FY 2013-14, after considering the T&D losses of 18.00%.

As submitted by the petitioner,

### **Quote**

*"The energy requirement of EDA&N is mainly met from own generation and power purchase from IPP (M/s Surya Chakra Corporation Limited), HPPs & NTPC (SPV). There is no availability of power from Central Generating Stations or from other sources/ open market/ power exchanges etc. Own generation accounts for around 43% & 47 % of the total power requirement for FY 2011-12 &*

2012-13 respectively and power purchase accounts for around 57% & 53 of the total power requirement for 2011-12 & 2012-13 respectively and is estimated that approximately 40% & 60% of the total energy requirement for FY 2013-14 shall be met by own generation and power purchase respectively. **“Unquote**

### **Commission’s Analysis**

Based on the approved energy sales of 216.68 million units and T&D losses of 18.03% for FY 2013-14 in its tariff order dated 31<sup>st</sup> March 2014, and the energy requirement for sale within the islands was approved for 264.35 million units for FY 2013-14.

Based on the actual performance of DG sets of IPP during first half of FY 2013-14 and the submissions made by the petitioner to increase the energy availability from their own DG sets during that period, Commission has taken a pragmatic view and considered the enhanced generation during second half of FY 2013-14 from the own DG sets of department, so that the consumers shall not suffer due to the shortage of power particularly in South Andaman.

The detailed analysis of Power Purchase from M/s SPCL and own generation has been indicated in para 6.6. As stated by the petitioner, the energy requirement is mainly met from own generation and power purchase from M/s SPCL, HPPs and NTPC’s SPV and it can also be observed that the energy requirement of 29 islands vary during the year and is mainly met from the generating sets installed at that islands.

The Commission has already pointed out in the previous tariff orders that, given the heat rate and efficiency of the power houses maintained by the petitioner; the generation efficiency and the Plant load factor of each DG set seem to be very low. The Petitioner needs to look into this aspect carefully to reduce high generation cost of its own DG Sets.

It is in the light of this, the Commission had also desired information in the following directive gave by the Commission in the tariff order for FY 2012-13 dated 04<sup>th</sup> June 2012

#### **Quote**

*“There are 135 no. of diesel generating sets excluding 4 DG sets of M/s SPCL located in 29 islands of Andaman & Nicobar catering to their electricity needs; the capacity of diesel generating sets of ED A&N varies from 12 KW to 2500 KW. 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 also be proper accounting of generating unit wise fuel receipts & issues. The ED A&N 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 along with the variation could be worked out. Accordingly the petitioner is directed to furnish such details along with the next filing. “ unquote

From the data of generation, derated capacity, consumption of HSD & Lubricating oil for FY 2012-13, FY 2013-14 (H1) furnished by the petitioner (as part of additional information). It could be observed that some of the own DG sets may be in the Standby mode of operation and some may be inefficient. Now the Commission feels that such DG sets are to be identified. It is however to be noted that the Petitioner had submitted the incomplete information required as part of ARR and Tariff petition for FY 2013-14. As such the fuel consumption and heat rate in the previous tariff order was provisionally considered subject to true-up based on the actual data to be submitted by the petitioner. It is further to be noted that the incomplete data was accepted in the petition for FY 2012-13 being the first petition of the ED-A&N, the data snags in respect of heat rate, PLF etc. will be covered under respective True up of the respective petitions.

The table below captures the figures as submitted by the petitioner and that approved for review of ARR of FY 2013-14.

Table 6.5.1 : Energy Balance

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
<b>A)</b>	<b>ENERGY REQUIREMENT (in Mus)</b>				
1	Energy sales within the State/UT (in Mus)	222.23	216.68	217.30	219.21
<b>2</b>	<b>Total sales within the State/UT</b>	<b>222.23</b>	<b>216.68</b>	<b>217.30</b>	<b>219.21</b>
<b>3</b>	<b>Transmission and Distribution losses</b>				
i)	%	18.03%	18.03%	18.00%	18.03%
ii)	MU	48.89	47.67	47.70	48.23
<b>4</b>	<b>Energy required at Generator End for Sale to Retail Consumers</b>	<b>271.11</b>	<b>264.35</b>	<b>265.00</b>	<b>267.44</b>
<b>B)</b>	<b>ENERGY REQUIRED AT GENERATOR END</b>	<b>271.11</b>	<b>264.35</b>	<b>265.00</b>	<b>267.44</b>
<b>1</b>	<b>Gross Availability (in MUs)</b>	<b>271.11</b>	<b>264.35</b>	<b>265.00</b>	<b>267.40</b>
a	NTPC Solar		6.94	5.83	5.03
b	Hydel	13.13	13.21	14.73	11.24
c	IPP	158.36	133.75	99.41	92.49
d	HPP ( Hired Power Plant)			58.84	76.37
e	Own Generation	99.62	110.44	98.32	82.27
<b>3</b>	<b>Gross Purchase including PX (in MUs)</b>	<b>271.11</b>	<b>264.35</b>	<b>265.00</b>	<b>267.40</b>

Source: Table 4.3 of the Petition submitted by ED A&N

## 6.6 Power Purchase Quantum and Cost

### Petitioner's Submission

#### Source of Power

The petitioner submits that ED A&N has 53 own generating stations and meets around 40%-45% of its total energy requirement from own generation. Balance requirement of power is met from purchase from IPP (SPCL), HPPs & NTPC (SPV). The details of power generating stations are given below submitted as part of additional submission:

Table 6.6.1 : Details of power generating stations for FY 2013-14

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)
			DG Size (KW)	No.s	MW		
<b>Power Purchase</b>							
1	IPP – SPCL	South Andaman	5000	4	20.00	20.000	15.000
2	HPP-I	South Andaman	1000	5	5.00	5.000	0.600
3	HPP-II	South Andaman	1250	8	10.00	10.000	10.000
4	HPP-III	North Andaman	1000	1	1.00	1.000	1.000
5	G/Ch. SPV	South Andaman	5000	1	5.00	5.000	5.000
<b>Own Generation</b>							
6	Chatham	South Andaman	2500	6	15.000	15.000	9.600
7	Phoneix Bay	South Andaman	1000	2	2.000	8.000	6.600
			1200	5	6.000		
8	Raj Niwas	South Andaman	256	2	0.512	1.024	1.024
9	Medical	South Andaman	256	1	0.256		
10	Secretariat	South Andaman	256	1	0.256		
11	RutLand	Rutland	12	1	0.012	0.024	0.024
12	45 Acre	Rutland	12	1	0.012		
13	Neil Island	Neil Island	128	3	0.384	0.634	0.371
			100	2	0.200		
			50	1	0.050		
14	Havelock	Havelock	256	5	1.280	1.730	1.101
			50	1	0.050		
			400	1	0.400		
15	Hutbay	Little Andaman	250	1	0.250	5.650	2.595
			800	3	2.400		
			1000	3	3.000		
16	Dugong Creek	Little Andaman	16	2	0.032	0.047	0.025
			15	1	0.015		
17	Strait Island	Strait Island	15	1	0.015	0.015	0.028
18	Baratang	Middle Andaman	256	1	0.256	0.512	0.512
			256	1	0.256		

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)
			DG Size (KW)	No.s	MW		
19	Rangat Bay	Middle Andaman	800	4	3.200	10.036	6.710
			1000	5	5.000		
			248	7	1.736		
			100	1	0.100		
20	Bangaon	Middle Andaman	16	1	0.016	0.016	
21	Hanspuri	Middle Andaman	12	1	0.012	0.027	
			15	1	0.015		
22	Long Island	Middle Andaman	128	4	0.512	0.892	0.270
			65	2	0.130		
			50	5	0.250		
23	Gandhi Nagar	North Andaman	60	1	0.060	0.060	0.230
24	Ganesh Nagar		65	1	0.065	0.065	
25	Shanti Nagar		65	1	0.065	0.065	
26	Smith Island		40	1	0.040	0.040	
27	Sita Nagar		256	3	0.768	2.368	1.520
			800	2	1.600		
28	KHEP**		1750	3	5.250	5.250	4.800
29	Kinyuka NPH	Car Nicobar	1000	4	4.000	5.636	2.700
30	Head Quarters		100	1	0.100		
			256	5	1.280		
			128	2	0.256		
31	Kamorta	Kamorta	256	4	1.024	1.236	0.770
32	Bunderkhari		12	1	0.012		
33	Derring		8	1	0.008		
			12	1	0.012		
34	Alukheak		6	1	0.006		
35	Changua		12	1	0.012		
			6	1	0.006		
36	Manak		24	1	0.024		
			12	1	0.012		
			8	1	0.008		
37	Pillpillow		24	1	0.024		
			32	1	0.032		
38	Kakana		24	1	0.024		
			32	1	0.032		
39	Champion	Nancowry	65	3	0.195	0.323	0.080
			50	2	0.100		

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)
			DG Size (KW)	No.s	MW		
40	Hitoi		12	1	0.012		
			8	2	0.016		
41	Katchal NTPC	Katchal	250	3	0.750	1.230	0.690
42	Katchal NPH		256	1	0.256		
			100	1	0.100		
			50	2	0.100		
43	Upper Katchal		12	2	0.024		
44	Teressa	Teressa	50	3	0.150	0.756	0.468
			256	2	0.512		
45	Chukmachi	Teressa	32	1	0.032		
			12	1	0.012		
46	Minyuk	Teressa	50	1	0.050		
47	Chowra	Chowra	50	2	0.100	0.164	0.118
			32	2	0.064		
48	Campbell Bay	Great Nicobar	800	3	2.400	2.848	1.935
			256	1	0.256		
			50	1	0.050		
			24	1	0.024		
49	Afra Bay		32	1	0.032		
50	Pilolow		12	1	0.012		
51	Pilobha		12	1	0.012		
52	Pilowpanja		12	1	0.012		
53	Macachuwa		50	1	0.050		
<b>Total</b>			<b>32289.00</b>	<b>176</b>	<b>104.65</b>	<b>104.65</b>	<b>73.77</b>
<b>Own Generation</b>			<b>13250</b>	<b>19</b>	<b>41.00</b>	<b>41.00</b>	<b>31.60</b>

#### **Assumptions for Power Generation/Projections of Power Purchase**

The merit order dispatch principles are typically adopted when determining the power purchases from various generating stations. However, in the present case there are limited sources of purchase of power and 100% of the generation is available to EDA&N. Accordingly, EDA&N has considered utilization /purchase of the entire power available from all the possible sources during FY 2014-15 to meet the demand to the extent possible.

Power Purchase cost is a function of the energy requirement and price of available power from the different sources for meeting the energy requirement. The energy requirement of EDA&N for FY 2014-15 is proposed to be met from own generation & power purchase from sources as detailed above.

EDA&N has projected the quantum of power generation from own generating stations based on the units generated for the FY2011-12 & 2012-13. The details of the computation of power generation and purchases are provided in Format-4 of the formats submitted along with the filing.

Table 6.6.2 : Summary of Power Purchase expenses of ED-A&N for FY 2013-14

Sr. No	Source	Capacity (MW)	Firm allocation to Licensee		Gen. (MU)	Availability / PLF (in %)	Energy recd. by Licensee (MU)	FC (Rs. crores)	VC (Rs. crore)	Others (Rs. crore)	Total (Rs. crore)
			%	MW							
1	2	4	5		6	7	12	14	15	16	17
1	<b>Power Purchase</b>										
i.	<b>SPCL</b>	20.00	100.00	20.00	104.40	59.59	104.40	15.50	110.12	-0.39	125.24
ii.	<b>HPP- I</b>	5.00	100.00	5.00	11.85	27.05	11.85	1.62	15.06	0.00	16.69
iii.	<b>HPP-II</b>	10.00	100.00	10.00	23.75	27.11	23.75	3.32	26.38	0.00	29.70
iv.	<b>G/Charama (SPV) NTPC</b>	5.00	100.00	5.00	0.01	0.03	0.01	0.00	0.01	0.00	0.01
				<b>40.00</b>	<b>140.01</b>		<b>140.01</b>	<b>20.44</b>	<b>151.57</b>	<b>-0.39</b>	<b>171.63</b>

#### **Estimation of Power Purchase and Cost**

The generation forecast is based on the plant availability and energy demand for the period. Accordingly, generation for FY 2013-14 is estimated.

Table 6.6.3 : Estimated Power Generation for FY 2013-14 (in million units) by petitioner

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14
Units Generated	88.34	79.28	94.28	99.24	109.41	123.29	109.92
Auxiliary consumption	3.04	3.43	3.57	4.14	4.05	4.42	3.72
Sent out	85.3	75.84	90.72	95.09	105.36	118.87	106.20

#### **Cost of Fuel & Lubricants**

The petitioner has submitted that Out of total own generation of 123.29 MUs in FY 2012-13, 111.26 MUs were generated from Diesel power houses and only 12.03 MUs were generated from Hydro Power Station. Hence cost of fuel (HSD and lubricants) is a major component of the cost of generation. Details of cost of fuel are provided below:

Table 6.6.4 : Estimated Cost of Fuel for FY 2013-14 by petitioner (in Rs. Crores)

Type of Fuel	FY 2012-13	FY 2013-14
HSD	142.42	167.55
Lubricants	3.01	2.37
<b>Total</b>	<b>145.43</b>	<b>169.92</b>

### Commission's Analysis

As brought in the section on energy balance, the quantum of power purchase and from own generation, approved by the Commission in its Tariff order dated 31<sup>st</sup> March 2013 was 140.69 million units and 123.66 million units at an approved power purchase cost of Rs. 204.09 Crores and cost of fuel of Rs. 180.66 Crores respectively.

The Commission as part of prudence check verified the station wise power purchase bills submitted by the petitioner for FY 2013-14 for first six months of power procured from DG sets set up by M/s SPCL. Commission has considered the actual HSD and lubricating oil consumption of FY 2012-13 and FY 2013-14 (H1), actual generation, auxiliary consumption, density of fuel, calorific value of fuel, which is used for estimating the heat rate and consumption of lubricating oil per liter.

The Commission, in the light of diversity in the data for power generation and consumption of fuel & lubricants submitted by the petitioner in previous petitions, had directed the petitioner to evolve an accounting system to account every liter of fuel issued and consumed for generating electricity in an efficient manner.

The summary of power generated and delivered by M/s SPCL for first six months of FY 2013-14 as verified from the bills is mentioned below:

*Table 6.6.5 : Summary of invoices of IPP (verified for FY 2013-14 (H1))*

S. No.	Particulars	April	May	June	July	August	September
1	At Generation Point	9678400	5756000	7858200	8174400	8422500	8076700
2	At Delivery Point	9327000	5505400	7589680	7899400	8144880	7795280
3	Auxillary Consumption	351400	250600	268520	275000	277620	281420
4	Auxillary Consumption (%)	3.63	4.35	3.42	3.36	3.30	3.48
	<b>PLF &amp; Availability</b>						
1	Installed Capacity	14400000	14880000	14400000	14880000	14880000	14400000
2	Operating PLF for month	67.21%	38.68%	54.57%	54.94%	56.60%	56.09%
5	Average Capacity (in MW)	19.50	19.87	19.56	17.64	18.66	19.84
6	% age availability	97.52%	99.33%	97.78%	88.20%	93.28%	99.22%

*Table 6.6.6 : Summary of calculation of HSD consumption by IPP for FY 2013-14 (H1)*

S. No.	Particulars	April	May	June	July	August	September
1	Billing Units (KWh)	9678400	5756000	7858200	8174400	8422500	8076700
2	Total K. Cal @2010 K.Cal/KWh	19453584000	11569560000	15794982000	16430544000	16929225000	16234167000
1	Wt. Avg. Calorific Value of 1 Kg. HSD	10265.25	10263	10270.37	10256.68	10263.7	10268.26

S. No.	Particulars	April	May	June	July	August	September
2	HSD Consumption (in Kgs) (2/3)	1895091	1127308	1537918	1601936	1649427	1581005
2	Density of HSD (ambient)	0.8221256	0.8220244	0.8205722	0.8262559	0.8231952	0.821502
3	HSD Consumption (in Litres) (4/5)	2305111.419	1371379.979	1874201.349	1938789.071	2003688.927	1924529.3
4	Wt. Avg. Cost of HSD/KL (Rs.)	38345.17	50118.28	51910.36	55437.36	57551.87	61392.75
5	Cost of HSD consumed (in Rs.)	88389889.23	68731205.79	97290466.72	107481347.7	115316044.7	118152146.2

Table 6.6.7 : Summary of calculation of lub. oil consumption by IPP for FY 2013-14 (H1)

	Lube Oil Payment Calculation	April	May	June	July	August	September
1	Billing Units (KWh)	9678400	5756000	7858200	8174400	8422500	8076700
2	Total Consumption in Kgs @1.1 gm	10646.24	6331.6	8644.02	8991.84	9264.75	8884.37
3	Density of Lube Oil	0.8894231	0.8894231	0.8894231	0.8894231	0.8894231	0.8894231
4	Lube Oil Consumption (in Liters)	11969.83	7118.77	9718.68	10109.74	10416.58	9988.91
5	Cost of Lube Oil/Liter (Rs.)	169.51	173.62	173.24	173.12	173.04	173.02
6	Cost of Lube Oil consumed (in Rs)	2029005.253	1235961.144	1683664.417	1750198.911	1802485.611	1728281.734

The summary of verified quantum of power purchase units for first six months of FY 2013-14 from IPP, HPPs, NTPC Solar and own generation is presented below.

Table 6.6.8 : Summary of power purchase units for first six months of FY 2013-14 (H1)

S. No.	Source	Location	Capacity (In MW)		Generati on at its full load (in KWh)-H1	Actual Generati on (in MUs) - H1	Availabili ty/ PLF (in %)-H1	Auxillary Consump tion (%)	Net Energy available/ sent out (MU)-H1
			Installe d	Derated					
<b>Thermal Power Generation</b>									
1	IPP - SPCL	South Andaman	20.000	15.000	65700000	47.97	73.01%	3.59%	46.2
2	G/Charama SPV	South Andaman	5.000	5.000	21900000	2.52	11.49%	0.00%	2.5
<b>Power Purchase (Hired Power Plants)</b>									
3	HPP-I	South Andaman	5.000	5.000	21900000	2.29	10.43%	3.59%	2.2
4	HPP-II	South Andaman	10.000	10.000	43800000	35.03	79.99%	3.59%	33.8
5	HPP-III Mayabunder	North Andaman	1.000	1.000	4380000	2.29	52.25%	3.59%	2.2
<b>Own Generation</b>									
6	Chatham	South Andaman	15.000	9.600	42048000	11.47	27.28%	4.74%	10.9
7	Phoneix Bay	South Andaman	8.000	6.600	28908000	6.23	21.54%	2.58%	6.1
8	Raj Niwas	South Andaman	0.512	0.512	2242560	0.05	2.12%	0.00%	0.0
9	Medical & Secretariat	South Andaman	0.512	0.512	2242560	0.00	0.14%	0.00%	0.0
10	Neil Island	South Andaman	0.634	0.371	1624980	0.63	38.73%	2.14%	0.6
11	Havelock	South Andaman	1.73	1.101	4822380	2.45	50.86%	0.22%	2.4

S. No.	Source	Location	Capacity (In MW)		Generati on at its full load (in KWh)-H1	Actual Generati on (in MUs) - H1	Availabili ty/ PLF (in %)-H1	Auxillary Consump tion (%)	Net Energy available/ sent out (MU)-H1
			Installe d	Derated					
12	RutLand	South Andaman	0.024	0.024	105120	0.02	15.43%	2.96%	0.0
13	Baratang	Middle Andaman	0.512	0.512	2242560	0.19	8.64%	0.75%	0.2
14	Rangat Bay & Banagaon	Middle Andaman	10.052	6.683	29271540	10.26	35.06%	5.01%	9.7
15	Long Island	Middle Andaman	0.892	0.27	1182600	0.27	23.05%	8.58%	0.2
16	Strait Island	South Andaman	0.015	0.015	65700	0.05	74.52%	0.03%	0.0
17	Hanspuri	Middle Andaman	0.027	0.027	118260	0.01	9.31%	12.45%	0.0
18	Jagannath Dera	North Andaman	0	0	0	0.00	0.00%	6.95%	0.0
19	Paschim Sagar	North Andaman	0	0	0	0.00	0.00%	3.54%	0.0
20	Smith Island	North Andaman	0.23	0.23	1007400	0.00	0.00%	4.27%	0.0
21	Sita Nagar	North Andaman	2.368	1.52	6657600	1.25	18.83%	1.26%	1.2
22	KHEP**	North Andaman	5.25	4.8	21024000	5.86	27.85%	1.47%	5.8
23	Hutbay	South Andaman	5.65	2.595	11366100	4.78	42.08%	4.28%	4.6
24	Dugong Creek	South Andaman	0.047	0.025	109500	0.02	15.59%	1.77%	0.0
25	NPH Car Nicobar	Nicobar	5.636	2.7	11826000	4.38	37.07%	5.09%	4.2
26	Kamorta +Community Power Houses)	Nicobar	1.124	0.658	2882040	1.15	40.00%	0.43%	1.1
27	Pillpillow	Nicobar	0.056	0.056	245280	0.00	0.00%	1.65%	0.0
28	Kakana	Nicobar	0.056	0.056	245280	0.00	0.00%	2.38%	0.0
29	Champion	Nicobar	0.323	0.08	350400	0.15	42.31%	2.13%	0.1
30	Katchal	Nicobar	1.23	0.69	3022200	0.61	20.09%	1.94%	0.6
31	Teressa	Nicobar	0.756	0.468	2049840	0.39	18.89%	1.68%	0.4
32	Choera	Nicobar	0.164	0.118	516840	0.11	20.79%	4.20%	0.1
33	Campbell Bay	Nicobar	2.848	1.935	8475300	2.49	29.33%	2.61%	2.4

\*\* Hydro Power Plant at kalpong, North Andaman

### Gross Heat Rate

The Commission while estimating energy availability has noticed that the Gross Heat Rate of the stations owned by ED A&N is at very high level in FY 2013-14 (H1). The Commission is of view that such a high station heat rate clearly indicates the wastage/non-utilization of HSD issued to these stations for generation of electricity. The Commission would like to emphasize that it is not appropriate to consider such wastage/non utilization of HSD towards computation of Average Cost of Supply.

While the IPP – Suryachakra Power Corporation Limited is being operated / billed at Station Heat Rate of 2010 kcal/kWh, the Station Heat Rate of stations owned by ED A&N should be at par with



it. As no information of rated Station Heat Rate of individual stations has been provided by ED A&N, the Commission has decided to limit the Station Heat Rate of all the stations owned by ED A&N at 2200 kCal/kWh.

While approving the gross heat rate @ 2200 kCal/kWh, the Commission has placed reliance on the notification no. 7/2(4)/2000-CERC dated 29<sup>th</sup> February 2000 wherein the CERC, while determining Operational Norms for Thermal Generation Tariff, had invited stakeholders view for supplementary document received from Central Electricity Authority. CEA has mentioned in the document that

*“The Gross Heat Rate of the Diesel Generating Unit at standard reference conditions as per the latest version of ISO - 3046 shall be (a) the following values or (b) guaranteed heat rate corresponding to MCR, whichever is less:*

<i>Type of D.G. Engine</i>	<i>Gross Heat Rate in kCal/kWh</i>
<i>i. Medium speed 4 - stroke</i>	<i>2000</i>
<i>ii. Low speed 2 - stroke</i>	<i>1900 “</i>

**It is evident from above that the as per ISO certification, the gross heat rate should be maximum 2000 kCal/kWh. However, factoring the topography of the A&N islands, remote location of some of these stations, along with the age of the stations, clubbed with the fact that IPP operating in similar conditions has Gross Heat rate of 2010 kcal/kWh, the Commission is of view that 2200 kCal/kWh is reasonable and accordingly approves the upper limit of Gross Heat Rate for Own generating stations at this level.**

However, the Commission has considered the actual gross heat rate for the Hired Power Plants at the actual FY 2013-14 (H1) levels and will review the same at the stage of True-Up of FY 2013-14.

**The Commission also directs the petitioner to submit a roadmap for achieving the gross heat rate at the currently approved level, for stations that have higher gross heat rate, by 30<sup>th</sup> September 2014, along with rated gross heat rate and derating factors, if any.**

The station wise actual and approved station heat rate for FY 2013-14 is tabulated below.

*Table 6.6.9 : Summary of actual and approved Gross Heat Rate for FY 2013-14*

S. No.	Source	Location	Gross Heat Rate	
			FY 14 (H1) - Actual	FY 14 (H1) - Approved
<b>Thermal Power Generation</b>				
<b>Power Purchase (IPP &amp; Solar)</b>				
1	IPP – SPCL	South Andaman	2010	2010

S. No.	Source	Location	Gross Heat Rate	
			FY 14 (H1) - Actual	FY 14 (H1) - Approved
2	G/Charama SPV	South Andaman	0	0
<b>Power Purchase (Hired Power Plants)</b>				
3	HPP-I	South Andaman	2870	2870
4	HPP-II	South Andaman	1781	1781
5	HPP-III Mayabunder	North Andaman	1781	1781
<b>Own Generation</b>				
6	Chatham	South Andaman	2440	2200
7	Phoneix Bay	South Andaman	2300	2200
8	Raj Niwas	South Andaman	3914	2200
9	Medical & Secretariat	South Andaman	4144	2200
10	Neil Island	South Andaman	3335	2200
11	Havelock	South Andaman	2785	2200
12	RutLand	South Andaman	3353	2200
13	Baratang	Middle Andaman	2399	2200
14	Rangat Bay & Banagaon	Middle Andaman	2446	2200
15	Long Island	Middle Andaman	3024	2200
16	Strait Island	South Andaman	1465	1465
17	Hanspuri	Middle Andaman	2666	2200
18	Jagannath Dera	North Andaman	0	0
19	Paschim Sagar	North Andaman	0	0
20	Smith Island	North Andaman	0	0
21	Sita Nagar	North Andaman	2856	2200
22	KHEP**	North Andaman	0	0
23	Hutbay	South Andaman	2377	2200
24	Dugong Creek	South Andaman	5555	2200
25	NPH Car Nicobar	Nicobar	2387	2200
26	Kamorta +Community Power Houses)	Nicobar	2575	2200
27	Pillpillow	Nicobar	0	0
28	Kakana	Nicobar	0	0
29	Champion	Nicobar	3161	2200
30	Katchal	Nicobar	2589	2200
31	Teressa	Nicobar	2879	2200
32	Choera	Nicobar	3012	2200
33	Campbell Bay	Nicobar	2538	2200

The Commission has accordingly recomputed the HSD Consumption with approved Gross Heat Rate and Lube Oil cost which is summarized below

Table 6.6.10 : Summary of fuel cost and power purchase cost of FY 2013-14 (H1)

S. No.	Source	Location	HSD Consumption (in litres)		Lube Oil Consumption (in liters)-H1	HSD Cost (Rs. Crores)-H1	Lube Oil Cost (Rs. Crores)-H1	Revised Billed Amount-Fixed Charges (Rs. Crores)-H1	Rebate (Rs. Crores)-H1	Total Billed Amount (Rs. Crores)-H1	Rs./K Wh-H1
			H1 (Actual)	H1 (Approved)							
<b>Thermal Power Generation</b>											
<b>Power Purchase (IPP &amp; Solar)</b>											
1	IPP - SPCL	South Andaman	11417700	11417700	59323	59.54	1.02	10.43	0.26	70.73	15.29
2	G/Charama SPV	South Andaman	0	0	0	0.00	0.00			1.98	7.87
<b>Power Purchase (Hired Power Plants)</b>											
3	HPP-I	South Andaman	776812	776812	2236	4.08	0.00	2.76		6.84	31.05
4	HPP-II	South Andaman	7391369	7391369	34276	38.77	0.00	4.68		43.45	12.86
5	HPP-III Mayabunder	North Andaman	580	482784	2239	2.53	0.00	0.59		3.12	14.16
<b>Own Generation</b>											
6	Chatham	South Andaman	3313885	2988459	11222	15.68	0.19			15.87	14.53
7	Phoneix Bay	South Andaman	1695973	1622341	6092	8.51	0.11			8.62	14.20
8	Raj Niwas	South Andaman	22060	12401	47	0.07	0.00			0.07	13.84
9	Medical & Secretariat	South Andaman	1487	789	3	0.00	0.00			0.00	13.84
10	Neil Island	South Andaman	248575	163996	616	0.86	0.01			0.87	14.14
11	Havelock	South Andaman	809045	639092	2400	3.35	0.04			3.39	13.87
12	RutLand	South Andaman	6440	4226	16	0.02	0.00			0.02	14.26
13	Baratang	Middle Andaman	55080	50507	190	0.26	0.00			0.27	13.94
14	Rangat Bay & Banagaon	Middle Andaman	2972987	2673708	10040	14.03	0.17			14.20	14.57
15	Long Island	Middle Andaman	97620	71031	267	0.37	0.00			0.38	15.14
16	Strait Island	South Andaman	8492	8492	48	0.04	0.00			0.05	9.27
17	Hanspuri	Middle Andaman	3475	2868	11	0.02	0.00			0.02	15.80
18	Jagannath Dera	North Andaman	0	0	0	0.00	0.00			0.00	0.00
19	Paschim Sagar	North Andaman	0	0	0	0.00	0.00			0.00	0.00
20	Smith Island	North Andaman	0	0	0	0.00	0.00			0.00	0.00
21	Sita Nagar	North Andaman	424040	326635	1227	1.71	0.02			1.73	14.01
22	KHEP**	North Andaman	1730	1730	5729	0.01	0.10			0.11	0.19

S. No.	Source	Location	HSD Consumption (in litres)		Lube Oil Consumption (in liters)-H1	HSD Cost (Rs. Crores)-H1	Lube Oil Cost (Rs. Crores)-H1	Revised Billed Amount-Fixed Charges (Rs. Crores)-H1	Rebate (Rs. Crores)-H1	Total Billed Amount (Rs. Crores)-H1	Rs./K Wh-H1
			H1 (Actual)	H1 (Approved)							
23	Hutbay	South Andaman	1346452	1246023	4679	6.54	0.08			6.62	14.46
24	Dugong Creek	South Andaman	11232	4448	17	0.02	0.00			0.02	14.09
25	NPH Car Nicobar	Nicobar	1239290	1142123	4289	5.99	0.07			6.07	14.58
26	Kamorta +Community Power Houses)	Nicobar	351490	300353	1128	1.58	0.02			1.60	13.90
27	Pillpillow	Nicobar	0	0	0	0.00	0.00			0.00	0.00
28	Kakana	Nicobar	0	0	0	0.00	0.00			0.00	0.00
29	Champion	Nicobar	55495	38624	145	0.20	0.00			0.21	14.14
30	Katchal	Nicobar	186210	158217	594	0.83	0.01			0.84	14.11
31	Teressa	Nicobar	132047	100894	379	0.53	0.01			0.54	14.07
32	Choera	Nicobar	38322	27992	105	0.15	0.00			0.15	14.44
33	Campbell Bay	Nicobar	746970	647566	2432	3.40	0.04			3.44	14.21

### **Quantum and Cost of Power Generation and Purchase of Power**

#### **Diesel Generating Station – IPP- M/s SPCL and HPPs**

While estimating the energy availability and cost second half for FY 2013-14, prudence check has been carried out on the basis of six invoices issued by M/s SPCL (from April to September 2013) to ED A&N in order to verify HSD consumption and payment made thereof by the Electricity Department, The abstract of IPP invoices for FY 2013-14 including unit generation, auxiliary consumption HSD and Lubricating oil consumption are mentioned in the tables above. The following has been considered for estimating the energy availability and cost for second half of FY 2013-14 from M/s SPCL:

- Actual gross generation from Diesel generating unit of M/s SPCL verified from the power purchase bills submitted by the petitioner for full year of FY 2012-13 and for FY 2013-14 (H1) has been considered in order to estimate the energy availability for second half of FY 2013-14.
- Average auxiliary consumption of 3.46% as verified from the power purchase bills submitted by the petitioner for first half of FY 2013-14 has been considered for second half of FY 2013-14.
- HSD and Lubricating oil consumption has been calculated considering the following as per the power purchase bills of FY 2013-14 (H1):

- For consumption & cost of HSD
  - Gross heat rate of 2010 Kcal/Kwh;
  - Average Calorific value and Density of HSD of FY 2013-14 (H1);
  - Actual Cost of HSD as on September 2013.
- For consumption & cost of Lubricating Oil
  - Normative usage has been considered (1.1 gm per unit);
  - Average Density of Lub. Oil of FY 2013-14 (H1);
  - Actual Cost of Lub. Oil as on September 2013.
- Actual fixed cost as per the power purchase bills of FY 2013-14 (H1) has been considered for projecting the cost of FY 12-13 (H2).
- Rebate has not been considered as calculated for previous year for maintaining the high PLF, considering that the same may not be applicable for second half of FY 2013-14.
- For the HPPs, the Commission has considered the fixed cost as approved in the respective PPAs.

#### **NTPC's Solar plant**

While estimating the energy availability and cost for FY 2013-14 (H2), the following has been considered for estimating the energy availability and cost for FY 2013-14 (H2) from NTPC's Solar Plant:

- The Plant availability has been considered at the levels of FY 2013-14 (H1).
- Average auxiliary consumption of FY 2013-14 (H1) has been considered for FY 2014-15.
- Per unit rate of Rs 7.87 as proposed by the petitioner has been provisionally considered which will be reviewed at the time of true-up.

#### **Department's Own Generation**

Commission has considered the average auxiliary consumption for past 2 years, approved gross heat rates as specified above, average calorific value of fuel, density of fuel & lubricating oil of first half of FY 2013-14 (H1), average PLFs for past years, cost of HSD & lubricating oil in the month of September 2013 and consumption of lubricating oil per liter, derated capacity of first half of FY

2013-14 (H1) for estimating the energy availability and cost for second half of FY 2013-14 (H2). Commission has considered the growth in the plant load factor to cater to the demand estimated for second half of FY 2013-14.

Accordingly, the Commission approves the following power purchase/generation from below mentioned stations based on the merit order dispatch principles for remaining six months of FY 2013-14:

Table 6.6.11 : Summary of power purchase units (estimated) for second six months of FY 2013-14 (H2)

S. No.	Source	Generation at its full load (in KWh)-H2	Actual Generation (in MUs) - H1	Availability/ PLF (in %)-H2	Estimated Generation (In MUs) H2	Auxiliary Consumption (%)	Net Energy available/sent out (MU)-H2
<b>Thermal Power Generation</b>							
<b>Power Purchase (IPP &amp; Solar)</b>							
1	IPP – SPCL	65700000	47.97	73.01%	47.97	3.59%	46.2
2	G/Charama SPV	21900000	2.52	11.49%	2.52	0.00%	2.5
<b>Power Purchase (Hired Power Plants)</b>							
3	HPP-I	21900000	2.29	10.43%	2.29	3.59%	2.2
4	HPP-II	43800000	35.03	79.99%	35.03	3.59%	33.8
5	HPP-III Mayabunder	4380000	2.29	52.25%	2.29	3.59%	2.2
<b>Own Generation</b>							
6	Chatham	42048000	11.47	25.28%	10.63	4.74%	10.1
7	Phoneix Bay	28908000	6.23	26.58%	7.68	2.58%	7.5
8	Raj Niwas	2242560	0.05	1.82%	0.04	0.00%	0.0
9	Medical & Secretariat	2242560	0.00	0.37%	0.01	0.00%	0.0
10	Neil Island	1624980	0.63	18.55%	0.30	2.14%	0.3
11	Havelock	4822380	2.45	32.73%	1.58	0.22%	1.6
12	RutLand	105120	0.02	22.47%	0.02	2.96%	0.0
13	Baratang	2242560	0.19	8.78%	0.20	0.75%	0.2
14	Rangat Bay & Banagaon	29271540	10.26	35.06%	10.26	5.01%	9.7
15	Long Island	1182600	0.27	6.42%	0.08	8.58%	0.1
16	Strait Island	65700	0.05	30.96%	0.02	0.03%	0.0
17	Hanspuri	118260	0.01	8.24%	0.01	12.45%	0.0
18	Jagannath Dera	0	0.00	0.00%	0.00	6.95%	0.0
19	Paschim Sagar	0	0.00	0.00%	0.00	3.54%	0.0
20	Smith Island	1007400	0.00	0.00%	0.00	4.27%	0.0
21	Sita Nagar	6657600	1.25	7.14%	0.48	1.26%	0.5
22	KHEP**	21024000	5.86	26.40%	5.55	1.47%	5.5
23	Hutbay	11366100	4.78	17.19%	1.95	4.28%	1.9
24	Dugong Creek	109500	0.02	7.51%	0.01	1.77%	0.0
25	NPH Car Nicobar	11826000	4.38	20.09%	2.38	5.09%	2.3
26	Kamorta +Community Power Houses)	2882040	1.15	21.70%	0.63	0.43%	0.6
27	Pillpillow	245280	0.00	0.00%	0.00	1.65%	0.0
28	Kakana	245280	0.00	0.00%	0.00	2.38%	0.0

S. No.	Source	Generation at its full load (in KWh)-H2	Actual Generation (in MUs) - H1	Availability/ PLF (in %)-H2	Estimated Generation (In MUs) H2	Auxiliary Consumption (%)	Net Energy available/ sent out (MU)-H2
29	Champion	350400	0.15	9.98%	0.03	2.13%	0.0
30	Katchal	3022200	0.61	14.50%	0.44	1.94%	0.4
31	Teressa	2049840	0.39	10.84%	0.22	1.68%	0.2
32	Choera	516840	0.11	15.39%	0.08	4.20%	0.1
33	Campbell Bay	8475300	2.49	18.69%	1.58	2.61%	1.5
<b>Total Power Purchase</b>		<b>157680000</b>	<b>90.090</b>		<b>90.090</b>		<b>86.945</b>
<b>Total Own Generation</b>		<b>184652040</b>	<b>52.814</b>		<b>44.173</b>		<b>42.584</b>

Table 6.6.12 : Summary of power purchase and fuel cost for second six months of FY 2013-14 (H2)

S. No.	Source	HSD Consumption (in litres) H2 (Approved)	Lube Oil Consumption (in litres)-H2	HSD Cost (Rs. Crores)-H2	Lube Oil Cost (Rs. Crores)-H2	Revised Billed Amount-Fixed Charges (Rs. Crores)-H2	Total Billed Amount (Rs. Crores)-H2	Rs./KW h-H2
<b>Thermal Power Generation</b>								
<b>Power Purchase (IPP &amp; Solar)</b>								
1	IPP – SPCL	11418167	59323	70.10	1.03	10.43	81.55	17.64
2	G/Charama SPV	0	0	0.00	0.00		1.98	7.87
3	HPP-I	776812	2236	4.77	0.00	2.76	7.53	34.20
4	HPP-II	7391369	34276	45.38	0.00	4.68	50.05	14.82
5	HPP-III Mayabunder	482784	2239	2.96	0.00	0.59	3.56	16.12
<b>Own Generation</b>								
6	Chatham	2769349	10399	17.00	0.18		17.18	16.97
7	Phoneix Bay	2001608	7516	12.29	0.13		12.42	16.59
	Raj Niwas	10634	40	0.07	0.00		0.07	16.17
9	Medical & Secretariat	2133	8	0.01	0.00		0.01	16.17
10	Neil Island	78517	295	0.48	0.01		0.49	16.52
11	Havelock	411177	1544	2.52	0.03		2.55	16.20
12	RutLand	6154	23	0.04	0.00		0.04	16.66
13	Baratang	51272	193	0.31	0.00		0.32	16.29
14	Rangat Bay & Banagaon	2673708	10040	16.41	0.17		16.59	17.02
15	Long Island	19766	74	0.12	0.00		0.12	17.68
16	Strait Island	3528	20	0.02	0.00		0.02	10.82
17	Hanspuri	2537	10	0.02	0.00		0.02	18.46
18	Jagannath Dera	0	0	0.00	0.00		0.00	0.00
19	Paschim Sagar	0	0	0.00	0.00		0.00	0.00
20	Smith Island	0	0	0.00	0.00		0.00	0.00
21	Sita Nagar	123852	465	0.76	0.01		0.77	16.37
22	KHEP**	1730	5429	0.01	0.09		0.10	0.19
23	Hutbay	508919	1911	3.12	0.03		3.16	16.89
24	Dugong Creek	2143	8	0.01	0.00		0.01	16.46
25	NPH Car Nicobar	618867	2324	3.80	0.04		3.84	17.03
26	Kamorta +Community Power Houses)	162947	612	1.00	0.01		1.01	16.24
27	Pillpillow	0	0	0.00	0.00		0.00	0.00
28	Kakana	0	0	0.00	0.00		0.00	0.00
29	Champion	9107	34	0.06	0.00		0.06	16.52

S. No.	Source	HSD Consumption (in litres) H2 (Approved)	Lube Oil Consumption (in liters)-H2	HSD Cost (Rs. Crores)- H2	Lube Oil Cost (Rs. Crores)- H2	Revised Billed Amount-Fixed Charges (Rs. Crores)-H2	Total Billed Amount (Rs. Crores)- H2	Rs./KW h-H2
30	Katchal	114138	429	0.70	0.01		0.71	16.48
31	Teressa	57894	217	0.36	0.00		0.36	16.44
32	Choera	20724	78	0.13	0.00		0.13	16.87
33	Campbell Bay	412606	1549	2.53	0.03		2.56	16.60
	<b>Total Power Purchase</b>	<b>20069132</b>	<b>98073</b>	<b>70.099</b>	<b>1.026</b>	<b>18.461</b>	<b>91.57</b>	
	<b>Total Own Generation</b>	<b>10063312</b>	<b>43217</b>	<b>114.892</b>	<b>0.748</b>	<b>0.000</b>	<b>115.64</b>	

### Renewable Purchase Obligations

As per JERC (Procurement of Renewable Energy) Regulations 2010 clause 1 sub clause (1)

“

*Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year.*

“

The petitioner has to purchase 3% of total consumption of all the consumers in its area as power purchase from renewable sources for FY 2013-14 including 0.40% for Solar and 2.60% for Non-Solar.

The projected availability of renewable power from NTPC’s Solar and KHEP and consequential RPO Compliance for FY 2013-14 is tabulated below:

Table 6.6.13 : Summary of RPO Compliance for FY 2013-14

S.N.	Description	FY 2013-14
1	Sales Within State	219.21
2	RPO Obligation (in %)	
	- Solar	0.40%
	-Non Solar	2.60%
3	RPO Obligation (in MU)	
	- Solar	0.88
	-Non Solar	5.70
4	RPO Compliance (Actual Purchase)	
	- Solar	5.03
	-Non Solar	11.24
5	RPO Compliance (REC Certificate Purchase)	
	- Solar	0.00
	-Non Solar	0.00
6	Total RPO Compliance	
	- Solar	5.03
	-Non Solar	11.24
7	Shortfall in RPO Compliance	
	- Solar	0.00
	-Non Solar	0.00



It is evident from above that the availability of solar and non-solar power from NTPC solar and KHEP is sufficient not only to meet the RPO Compliance for FY 2013-14 but for clearing the backlog of RPO Compliance from FY 2010-11.

**Summary of total approved Power Purchase Cost for Review of ARR of FY 2013-14**

While estimating the total power purchase cost, station wise energy availability and power purchase cost & fuel cost as indicated in earlier paras has been considered. **Commission considers the total Power purchase cost of Rs. 172.31 Crores and the fuel cost of own generating stations of Rs. 226.08 Crores for procuring 173.89 million units of energy and generating 93.51 million units of electricity as reasonable and approves the same for Review of ARR for FY 2013-14.** The summary of total power purchase quantum and cost including own generation is mentioned below:

*Table 6.6.14 : Revised Estimates Power Purchase Cost including Fuel cost of own generation for FY 2013-14*

S. No.	Source	Location	Estimated Generation (IN Mus) FY 2013-14	Auxillary Consumption (%)	Net Energy available/sent out (MU)-14	HSD Cost (Rs. Crores)-14	Lube Oil Cost (Rs. Crores)-14	Revised Billed Amount-Fixed Charges (Rs. Crores)-14	Total Billed Amount (Rs. Crores)-14	Rs./K Wh-14
<b>Power Purchase (IPP &amp; Solar)</b>										
1	IPP - SPCL	South Andaman	95.93	3.59%	92.5	129.64	2.05	20.85	152.28	16.46
2	G/Charama SPV	South Andaman	5.03	0.00%	5.0	0.00	0.00	0.00	3.96	7.87
<b>Power Purchase (Hired Power Plants)</b>										
3	HPP-I	South Andaman	4.57	3.59%	4.4	8.84	0.00	5.53	14.37	32.62
4	HPP-II	South Andaman	70.07	3.59%	67.6	84.15	0.00	9.35	93.51	13.84
5	HPP-III Mayabunder	North Andaman	4.58	3.59%	4.4	5.50	0.00	1.18	6.68	15.14
<b>Own Generation</b>										
6	Chatham	South Andaman	22.10	4.74%	21.1	32.68	0.37		33.05	15.70
7	Phoneix Bay	South Andaman	13.91	2.58%	13.5	20.80	0.24		21.03	15.52
8	Raj Niwas	South Andaman	0.09	0.00%	0.1	0.13	0.00		0.13	14.91
9	Medical & Secretariat	South Andaman	0.01	0.00%	0.0	0.02	0.00		0.02	15.54
10	Neil Island	South Andaman	0.93	2.14%	0.9	1.34	0.02		1.36	14.91
11	Havelock	South Andaman	4.03	0.22%	4.0	5.88	0.07		5.95	14.78
12	RutLand	South Andaman	0.04	2.96%	0.0	0.06	0.00		0.06	15.68
13	Baratang	Middle	0.39	0.75%	0.4	0.58	0.01		0.59	15.12

S. No.	Source	Location	Estimated Generation (IN Mus) FY 2013-14	Auxillary Consumption (%)	Net Energy available/sent out (MU)-14	HSD Cost (Rs. Crores)-14	Lube Oil Cost (Rs. Crores)-14	Revised Billed Amount-Fixed Charges (Rs. Crores)-14	Total Billed Amount (Rs. Crores)-14	Rs./K Wh-14
		Andaman								
14	Rangat Bay & Banagaon	Middle Andaman	20.52	5.01%	19.5	30.44	0.35		30.79	15.79
15	Long Island	Middle Andaman	0.35	8.58%	0.3	0.49	0.01		0.50	15.69
16	Strait Island	South Andaman	0.07	0.03%	0.1	0.07	0.00		0.07	9.73
17	Hanspuri	Middle Andaman	0.02	12.45%	0.0	0.03	0.00		0.03	17.05
18	Jagannath Dera	North Andaman	0.00	6.95%	0.0	0.00	0.00		0.00	0.00
19	Paschim Sagar	North Andaman	0.00	3.54%	0.0	0.00	0.00		0.00	0.00
20	Smith Island	North Andaman	0.00	4.27%	0.0	0.00	0.00		0.00	0.00
21	Sita Nagar	North Andaman	1.73	1.26%	1.7	2.47	0.03		2.50	14.66
22	KHEP**	North Andaman	11.40	1.47%	11.2	0.02	0.19		0.21	0.19
23	Hutbay	South Andaman	6.74	4.28%	6.4	9.66	0.11		9.77	15.16
24	Dugong Creek	South Andaman	0.03	1.77%	0.0	0.04	0.00		0.04	14.86
25	NPH Car Nicobar	Nicobar	6.76	5.09%	6.4	9.79	0.11		9.91	15.44
26	Kamorta +Community Power Houses)	Nicobar	1.78	0.43%	1.8	2.58	0.03		2.61	14.72
27	Pillpillow	Nicobar	0.00	1.65%	0.0	0.00	0.00		0.00	0.00
28	Kakana	Nicobar	0.00	2.38%	0.0	0.00	0.00		0.00	0.00
29	Champion	Nicobar	0.18	2.13%	0.2	0.26	0.00		0.26	14.59
30	Katchal	Nicobar	1.05	1.94%	1.0	1.53	0.02		1.55	15.11
31	Teressa	Nicobar	0.61	1.68%	0.6	0.88	0.01		0.90	14.94
32	Choera	Nicobar	0.19	4.20%	0.2	0.27	0.00		0.28	15.48
33	Campbell Bay	Nicobar	4.07	2.61%	4.0	5.93	0.07		6.00	15.14
	<b>Total Power Purchase</b>		<b>180.179</b>		<b>173.890</b>	<b>129.635</b>	<b>2.050</b>	<b>36.923</b>	<b>172.31</b>	
	<b>Total Own Generation</b>		<b>96.987</b>		<b>93.508</b>	<b>224.445</b>	<b>1.640</b>	<b>0.000</b>	<b>226.08</b>	

\*\* Hydro Power Plant

It is seen that in the case of A&N, the generation is mostly diesel based, making per unit cost of generation very high compared to other utilities. **If the units generated by hydro-electric plant are excluded from the total generation, the average fuel cost of DG sets of own generation works out at**

**Rs. 15.48 per unit for FY 2013-14.** In view of the higher cost of diesel generation, 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 A&N.

Keeping the above fact 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.

## 6.7 Operation and Maintenance Expenses

### Petitioner's Submission

The petitioner has submitted that the 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 transmission and distribution assets; and
- **Administrative and General Expenses**, which include all expenditure incurred in operating a business such as telephone charges, regulatory and consultancy fees such as energy auditing and chartered accountant fees, conveyance and travel expenses, water charges etc.

The petitioner has submitted the operation and maintenance cost of previous years for consideration by the Hon'ble Commission as mentioned below:

*Table 6.7.1 : O&M expenses of previous years*

Year	O&M Expenses (Rs. Crores)
2005-06	53.60
2006-07	57.10
2007-08	60.70
2008-09	63.90
2009-10	68.70
2010-11	71.60
2011-12	78.26
2012-13	86.86

Source: Table 4.12 of the Petition submitted by ED A&N

### 6.7.1 Employee Expenses

#### **Petitioner's submission**

The petitioner has submitted the Employees Expenses of Rs 55.62 Crores for FY 2013-14 in the formats.

#### **Commission's Analysis**

As per the regulation 27 of JERC tariff regulations 2009

#### **Quote**

#### ***"27. Operation and Maintenance Expenses***

- 1) *'Operation & Maintenance expenses' or 'O&M expenses' shall mean repair and maintenance (R&M) expenses, employee expenses and administrative & general (A&G) expenses including insurance.*

*While determining the O&M expenses for generation functions within the State, the Commission shall be guided, as far as feasible, by the principles and methodologies of CERC on the manner, as amended from time to time.*

- 2) *While determining the O&M expenses for transmission functions within the State, the Commission shall be guided, as far as feasible by the principles and methodologies specified by CERC on the matter, as amended from time to time:*

*Provided further that the Commission may, if it considers it just, practical and proper considering the size of the total transmission system of, and the quantum of electricity handled by, an integrated utility, treat its transmission system as an integral part of its distribution system itself.*

- 3) *O&M expenses for distribution functions shall be determined by the Commission as follows:*
  - *O&M expenses as approved by the Commission for the first time for a year shall be considered as base O&M expenses for determination of O&M expenses for subsequent years;*
  - *Base O&M expenses as above shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year;*
  - *In case of unbundling of the Electricity Department and formation of separate distribution companies, the Commission will make suitable assessment of base O&M expenses of individual distribution companies separately and allow O&M expenses*

for subsequent years for individual companies on the basis of such estimation and above principle.

- 4) O&M expenses of assets taken on lease/hire-purchase and those created out of the consumers' contribution shall be considered in case the generating company or the licensee has the responsibility for its operation and maintenance and bear O&M expenses.
- 5) O&M expenses for gross fixed assets added during the year shall be considered from the date of commissioning on pro-rata basis.
- 6) O&M expenses for integrated utility shall be determined by the Commission on the norms and principles indicated above. "

#### **Unquote**

In absence of availability of audited accounts prepared on the Commercial Principles, the Commission has considered the employee cost for FY 2012-13 as approved in order dated 31<sup>st</sup> March 2013 and escalated the same by estimated WPI 5.68%<sup>4</sup> for arriving at the employee cost for FY 2013-14.

Table 6.7.1.1 : Employee Expenses approved for FY 2013-14

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
<b>A</b>	<b>Salaries&amp; Allowances</b>				
1	Basic Pay	55.01	55.18	69.71	53.53
2	Grade/Dearness Pay				
3	Dearness allowance	13.79	13.84		13.42
4	House rent allowance	4.56	4.57	5.25	4.43
5	Field Duty Allowance				
6	Washing Allowance				
7	Salary to CGRF Staff				
8	Transport Allowance				
9	Travelling Allowance				
10	Conveyance Allowance				
11	Retirement Benefits				
12	Fixed Medical				
13	Medical Reimbursement	1.29	1.31	1.13	1.27
14	General Incentive/Bonus	0.90	0.90	0.98	0.87
15	Special Allowance / Other Allowance	16.03	16.08	33.66	15.60
16	Cash Handling Allowance				

<sup>4</sup> The WPI has been estimated for FY 2013-14 considering the actual information available upto Jan 2014.

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
17	Electricity Allowance				
18	Handicap Allowance				
19	Leave Travel Concession				
20	Leave Salary and Pension Contribution				
21	Others (overtime payment)	0.94	0.94	0.77	0.91
	<b>Sub-Total – A</b>	<b>92.52</b>	<b>92.81</b>	<b>111.50</b>	<b>90.04</b>
<b>B</b>	<b>Terminal Benefits</b>				
22	Leave encashment	0.29	0.30	0.10	0.29
23	Gratuity				
24	Commutation of Pension				
25	Workmen Compensation				
26	Ex – gratia				
	<b>Sub-Total - B</b>	<b>0.29</b>	<b>0.30</b>	<b>0.10</b>	<b>0.29</b>
<b>C</b>	<b>Other Salary payments</b>				
27	Arrears on account of Vth Pay Commission				
28	Contractual basis				
	<b>Sub-Total- C</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	<b>Total (A+B+C)</b>	<b>92.82</b>	<b>93.11</b>	<b>111.60</b>	<b>90.33</b>
29	Less: Amount capitalized	39.20	39.20	55.98	38.09
30	Net amount	<b>53.62</b>	<b>53.91</b>	<b>55.62</b>	<b>52.24</b>
31	Add : prior period expenses				
<b>32</b>	<b>Total Employee Expenses</b>	<b>53.62</b>	<b>53.91</b>	<b>55.62</b>	<b>52.24</b>

**Commission considers the employee cost of Rs. 52.24 Crores as reasonable and approves the same for Review of ARR for FY 2013-14.**

## 6.7.2 Administration and General Expenses

### Petitioner's submission

The petitioner has submitted the A&G Expenses of Rs 2.44 Crores for FY 2013-14 in the formats.

### Commission's Analysis

In absence of availability of audited accounts prepared on the Commercial Principles, the Commission has considered the Administrative and General Expenses for FY 2012-13

approved in order dated 31<sup>st</sup> March 2014 and escalated the same by estimated WPI 5.68%<sup>5</sup> for arriving at the A&G Expenses for FY 2013-14.

Table 6.7.2.1 : A&G Expenses approved for FY 2013-14

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Rent, rates & taxes				0.00
2	Domestic Travel Allowances	0.13	0.13	1.38	0.13
3	Office Expenses	0.12	0.12	0.02	0.12
4	Insurance				0.00
5	Membership & Regulatory Fees				0.00
6	Consultancy Fees and other professional fees				0.00
7	Electricity & Water Charges				0.00
8	Advertisement & Publicity				0.00
9	Special Service/Collection and Meter reading				0.00
10	Expenses of CGRF (Office)				0.00
11	Other Expenses	1.52	1.52	0.19	1.47
12	Other material related expenses	0.84	0.84	0.85	0.82
<b>13</b>	<b>Total</b>	<b>2.61</b>	<b>2.61</b>	<b>2.44</b>	<b>2.53</b>
14	Add/Deduct share of others (to be specified)				0.00
<b>15</b>	<b>Total expenses</b>	<b>2.61</b>	<b>2.61</b>	<b>2.44</b>	<b>2.53</b>
16	Less: Capitalized				0.00
<b>17</b>	<b>Net expenses</b>	<b>2.61</b>	<b>2.61</b>	<b>2.44</b>	<b>2.53</b>
18	Add: Prior period				0.00
<b>19</b>	<b>Total A&amp;G Expenses</b>	<b>2.61</b>	<b>2.61</b>	<b>2.44</b>	<b>2.53</b>

Commission considers the Administration and General Expenses of Rs. 2.53 Crores as reasonable and approves the same for Review of ARR for FY 2013-14.

### 6.7.3 Repair and Maintenance Expenses

#### Petitioner's submission

The petitioner has submitted the R&M Expenses of Rs 36.35 Crores for FY 2013-14 in the formats.

#### Commission's Analysis

In absence of availability of audited accounts prepared on the Commercial Principles, the Commission has considered the R&M Expenses for FY 2012-13 as approved in order dated 31<sup>st</sup> March 2013 and escalated the same by estimated WPI 5.68%<sup>6</sup> for arriving at the R&M Expenses for FY 2013-14.

<sup>5</sup> The WPI has been estimated for FY 2013-14 considering the actual information available upto Jan 2014.

<sup>6</sup> The WPI has been estimated for FY 2013-14 considering the actual information available upto Jan 2014.

Table 6.7.3.1 : A&amp;G Expenses approved for FY 2013-14

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 25.03.13	Petitioner's submission for review	Approved by the Commission
1	Plant & machinery *	35.96	36.08	36.35	35.00
	-Plant & Apparatus				0.00
	-EHV substations				0.00
	- 33kV substation				0.00
	- 11kV substation				0.00
	- Switchgear and cable connections				0.00
	- Others				0.00
	<b>Total</b>	<b>35.96</b>	<b>36.08</b>	<b>36.35</b>	<b>35.00</b>
2	Buildings (Electricity Residential & Non-Residential)				0.00
3	Hydraulic works & civil works				0.00
4	Line cable & network				0.00
	-EHV Lines				0.00
	- 33kV lines				0.00
	- 11kV lines				0.00
	- LT lines				0.00
	- Meters and metering equipment				0.00
	- Others	1.27	1.28		1.24
	<b>Total</b>	<b>1.27</b>	<b>1.28</b>	<b>0.00</b>	<b>1.24</b>
5	Vehicles				0.00
6	Furniture & fixtures				0.00
7	Office equipments				0.00
8	Minor R&M Works				0.00
9	<b>Total</b>	<b>37.23</b>	<b>37.36</b>	<b>36.35</b>	<b>36.24</b>
10	Add/Deduct share of others (To be specified)				0.00
11	<b>Total expenses</b>	<b>37.23</b>	<b>37.36</b>	<b>36.35</b>	<b>36.24</b>
12	Less : Capitalized				0.00
13	<b>Net expenses</b>	<b>37.23</b>	<b>37.36</b>	<b>36.35</b>	<b>36.24</b>
14	Add: prior period				0.00
15	<b>Total R&amp;M expenses</b>	<b>37.23</b>	<b>37.36</b>	<b>36.35</b>	<b>36.24</b>

Therefore, the Commission considers the Repair and Maintenance expenses of Rs. 36.24 Crores as reasonable and approves the same for Review of ARR for FY 2013-14.

#### 6.7.4 Summary of O & M Expenses

The overall summary of O&M expenditure estimated by the petitioner vis-à-vis approved by the Commission in its previous tariff order for FY 2013-14 and revised estimates submitted by the Petitioner for review for FY 2013-14 is given below:



Table 6.7.4.1 : Summary of O &amp; M expenses (in Rs. Crores)

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Employee Expenses	53.62	53.91	55.62	52.24
2	A&G Expenses	2.61	2.61	2.44	2.53
3	R&M Expenses	37.23	37.36	36.35	36.24
4	<b>Sub-Total</b>	<b>93.46</b>	<b>93.88</b>	<b>94.41</b>	<b>91.01</b>
5	Less: Expenses Capitalised				
6	<b>Total O&amp;M Expenses</b>	<b>93.46</b>	<b>93.88</b>	<b>94.41</b>	<b>91.01</b>

## 6.8 Capital Expenditure and Capitalization

### Petitioner's Submission

The petitioner has submitted the CAPEX of Rs 60.72 Crores and capitalization of 60.41 Crores in FY 2013-14 in the formats.

### Commission's analysis

Commission observes that the capital expenditure and the capitalization submitted by the petitioner for FY 2013-14 is required to meet the increasing demand.

As per the regulation 21 of JERC for the State of Goa and UTs (Terms and conditions for determination of Tariff), Regulation 2009 specifies that the licensee shall propose in their filings, a detailed capital investment plan, showing ongoing projects separately, that will spill into the ensuing year and new projects (along with their justification), that will commence in the ensuing year. The petitioner had not submitted the capital investment plan as per the regulations and did not give the present status of the capital expenditure incurred/capitalised.

Commission has taken a note of the inconsistencies in the submissions of the petitioner. As observed there are inconsistencies in the submissions of the petitioner which shows the absence of actual figures at the licensee's end. It seems the licensee is not monitoring the actual capital expenditure and capitalization achieved in previous years. The licensee therefore is not able to envisage the same for remaining part of the current year and ensuing year. However, for the purpose of this ARR computation, Commission provisionally considers **the capitalization of Rs. 60.41 Crores proposed by the petitioner for FY 2013-14**. Further, Petitioner is directed to submit the detailed statement of the capital expenditure incurred quarterly and asset capitalization during the year for review and true up. The figures of capitalization of the assets includes the value of those assets, which after the required certificate from the Electrical Inspector have been commissioned on ground, put to use and commenced the commercial operation during the concerned year.

**This expenditure is being permitted as a special case to ensure the creation of infrastructure for adherence to Standard of Performance and Supply Code Regulations.**

## 6.9 GFA and Depreciation

### Petitioner's Submission

The petitioner has submitted that opening value of gross fixed assets (GFA) for 2012-13 has been taken from the audited accounts for the FY 2011-12 and the same has been increased by addition of assets during the FY 2012-13 & estimated addition during FY 2013-14. The GFA movement is given in the table below:

*Table 6.9.1 : Gross Fixed Asset Movement submitted by the petitioner*

Financial Year	Opening Balance (Rs. Crores)	Addition during year (Rs. Crores)	Closing Balance (Rs. Crores)
2011-12	59.76	3.02	62.78
2013-14	62.78	36.85	99.63
2013-14	99.63	60.41	160.04

### Commission's analysis

The petitioner has submitted that the value of gross fixed asset for FY 2012-13 has been taken from audited accounts of FY 2011-12 and the same has been increased by addition of assets during the FY 2012-13 & estimated addition during FY 2013-14. Further, the petitioner in its submission to compliance to directive no. 3 has submitted the following

#### Quote

*"The proposal for hiring of Consultant on Selection basis for preparation of Fixed Assets Register was turned down by the A&N Administration with the remarks to go for open tender.*

*The tender for hiring of consultants for preparation of Fixed Assets Register has been floated. The Fixed Assets Register will be prepared within six months after finalization of tender for hiring of consultant for the purpose.*

*In view of the same the Electricity Department, A&N Administration prays before the commission to allow more time for submission of Fixed Assets Register."*

#### Unquote

Commission observes in the tariff order dated June 04'2012 that the expenditure registers were used to record the planned expenditure incurred by the utility. As was observed by the Commission (during finalization of tariff order for FY 2012-13), the fixed asset registers were last updated in 2001 before Tsunami and thereafter, an expenditure register is maintained, which

records the total planned expenditure during the year and other related particulars. Commission is of the view that fixed asset register records with the asset wise details and various types of information can be extracted from the same including the aging schedule of the asset, present value and capital works in progress etc.

In the instant case, the Petitioner had not used fixed asset register; instead, as stated in the petition had used value of gross fixed assets as appearing in the audited accounts to arrive at the historical value of fixed assets. The entire assets considered by the petitioner may not have been used for rendering the services for which the tariff is being claimed /fixed. As such the statement of assets in the audited accounts could not provide the crucial information to ascertain whether assets are effectively/actually put to use for the year for which tariff is being claimed or fixed. Commission, therefore, had directed the petitioner to update the fixed asset register to arrive at the actual historical value of assets and file the same along with the next ARR and tariff petition or indicate the list of value of Assets being used for rendering the services in the ARR of 2014-15 or alternatively indicate as to what %age of Gross block be considered on ad hoc basis & the basis thereof which can be considered in the true up which is due after the review for the ARR for FY 2012-13.

As the petitioner has failed to submit the fixed asset register and the petitioner has not submitted the audited accounts for FY 2012-13, the Commission has considered the addition of capitalization of Rs 60.41 Crores in the closing GFA for FY 2012-13 as approved in the tariff order dated 31<sup>st</sup> March 2013.

Regulation 26 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 specifies that depreciation for the assets shall be calculated annually at the rates specified by CERC from time to time. The effective rate of depreciation for assets linked to Plant & Machinery & Vehicles is 5.28%, Buildings is 3.34% and Furniture is 6.33% vide Appendix-III (Depreciation schedule of CERC (Terms and Conditions of Tariff) Regulations, 2009. The depreciation for the FY 2013-14 has been worked out at Rs. 4.11 Crores.

**As indicated in earlier para, Rs. 60.41 Crores has been considered as capitalization for FY 2013-14. In view of above, Commission considers the depreciation of Rs. 4.11 Crores as reasonable considering Rs. 65.24 Crores as the opening value of assets at the beginning of the year as approved in the tariff order dated 31<sup>st</sup> March 2013 is given below:**

Table 6.9.2 : Depreciation approved by the Commission for FY 2013-14 (in Rs. Crores)

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Opening Value of Assets at the beginning of the year	124.82	65.24	99.33	65.24
2	Additions during the year	35.52	35.52	60.41	60.41
3	Gross Fixed Assets at the end of year	160.34	100.76	159.74	125.65
4	<b>Average Assets</b>	<b>142.58</b>	<b>83.00</b>	<b>129.54</b>	<b>95.45</b>
5	Average Rate of Depreciation	3.86%	3.99%	4.76%	4.30%
6	<b>Depreciation for the year</b>	<b>5.50</b>	<b>3.31</b>	<b>6.16</b>	<b>4.11</b>

Table 6.9.3 : Calculation of the Depreciation for FY 2013-14 (in Rs. Crores)

Sr. No.	Particulars	Value of assets at the beginning of FY 2013-14	Addition during FY 2013-14	Closing balance at the end of FY2013-14	Rate of Depreciation	Depreciation for FY 2013-14
1	2	3	4	5	6	7
1	Plant & Machinery	42.14	55.78	97.92	5.28%	3.70
2	Buildings	10.00	4.63	14.63	3.34%	0.41
3	Vehicles	0.00	0.00	0.00	9.50%	0.00
4	Furniture and Fixtures	0.00	0.00	0.00	6.33%	0.00
5	Computers and Others	0.00	0.00	0.00	6.33%	0.00
6	Land	13.10	0.00	13.10	0.00%	0.00
7	<b>Total</b>	<b>65.24</b>	<b>60.41</b>	<b>125.65</b>		<b>4.11</b>

**Commission therefore considers the depreciation of Rs. 4.11 Crores as reasonable and approves the same for Review of ARR of FY 2013-14.**

## 6.10 Interest and Finance Charges

### 6.10.1 Interest on Loan

#### Petitioner's Submission

The EDA&N being a Government Department, the entire capital employed till date has been funded through equity infusion by the Central Government through budgetary support without any external borrowings. The interest on debt/loan has been calculated considering debt to be 70% of GFA. The details of interest calculation are detailed in the table below.

Table 6.10.1.4 : Calculation of the Interest on 70% GFA for FY 2013-14 (in Rs. Crores)

Sr. No	Particulars	FY 2012-13	FY 2013-14
1	2	3	4
1	Opening Normative Loan/WIP	43.95	69.74
2	Add: Normative Loan during the year/GFA during the year	25.79	42.29
3	Less: Normative Repayment allowed during previous years	0.00	4.39
3	Less: Normative Repayment for the year	4.39	6.97
4	Closing Normative Loan/ GFA	<b>65.35</b>	<b>105.05</b>
5	Average Normative Loan	54.65	87.40
6	Rate of Interest (@ SBI SBAR rate)	14.75%	14.45%
7	Interest on Normative Loan	8.06	12.63

### Commission's analysis

As per the JERC tariff regulations 2009:

#### **"25. Interest and Finance Charges on Loan**

(1) For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the rate of interest and schedule of repayment as per the terms and conditions of relevant agreements.

(2) Interest and finance charges on loan capital for new investments shall be computed on the loans, duly taking into account the rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall, however, be restricted to the prevailing Prime Lending Rate of the State Bank of India.

(3) The interest rate on the amount of equity above 30% treated as loan shall be the weighted average rate of interest on loan capital of the generating company / licensee :

Provided that interest and finance charges of renegotiated loan agreements shall not be considered, if they result in higher charges:

Provided further that interest and finance charges on works in progress shall be excluded and shall be considered as part of the capital cost.

(4) Interest charges on security deposits, if any, made by the consumers with a generating company/licensee, shall be equivalent to the bank rate or at the rate , if any, specified by the Commission whichever is higher.

(5) In case any moratorium period is availed of, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(6) The Commission shall allow obligatory taxes on interest, commitment charges, finance charges and any exchange rate difference arising from foreign currency borrowings, as finance cost.

(7) Any saving in costs on account of subsequent restructuring of debt shall be passed on to the consumers.”

**As indicated in para 6.9; In the instant case, the licensee has not provided the crucial information to ascertain that assets that are effectively/actually deployed for the year for which tariff is being claimed or fixed; Hence the servicing of assets in the form of interest on loan and return on assets is indeterminate at this stage on the opening GFA, hence not been considered on the submitted value of assets. The same shall be considered at true-up stage if full details along with audit report, are made available.**

As indicated in para 6.8, 6.9, the Commission has now considered an opening normative loan of Rs. 43.80 Crores for FY 2013-14 (being the closing loan approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2014) and added normative loan for FY 2013-14 of Rs. 42.29 Crores being 70% of capitalization considered for FY 2013-14 to calculate the interest on normative loan amount. Commission has considered the SBI PLR rate which is now substituted as SBI advance rate, at 14.45%<sup>7</sup> (average rate of interest) for FY 2013-14. The Commission approves the total interest charges for the year at Rs. 4.67 crores as given below:

Table 6.10.1.1 : Normative Interest Charges approved by the Commission for FY 2013-14 (in Rs. Crores)

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Opening Normative Loan	483.85	43.80	69.74	43.80
2	Add: Normative Loan during the year	151.58	24.86	42.29	42.29
3	Less: Normative Repayment		3.31	6.97	4.38
4	Closing Normative Loan	635.43	65.36	105.06	81.71
<b>5</b>	<b>Average Normative Loan</b>		<b>54.58</b>	<b>87.40</b>	<b>62.76</b>
6	Rate of Interest (@SBAR rate)	14.75%	14.45%	14.45%	14.45%
<b>7</b>	<b>Interest on Normative Loan including bank charges</b>	<b>6.73</b>	<b>7.89</b>	<b>12.63</b>	<b>9.07</b>

**Accordingly, the Commission has considered the Normative Interest on loans as Rs. 9.07 Crores as reasonable and approves the same for review of FY 2013-14.**

<sup>7</sup> SBI advance rate notified on 14.02.2011; Thereafter four revisions in the SBI advance rate was notified in FY 2011-12 and are as under: 25.04.2011-13.25%; 12.05.2011-14% ; 11.07.2011-14.25%; 13.08.2011 – 14.75%; 27.09.2012-14.50% and 04.02.2013-14.45%

## 6.10.2 Interest on Working Capital

### Petitioner's Submission

The petitioner has submitted that Interest on Working Capital for FY 2013-14 is computed on normative basis. As per the JERC Tariff Regulations, for the purpose of computation of normative working capital and Interest on working capital, the components of working capital are as follows:

- Two month's fuel cost
- One month's power purchase cost
- One month's employee costs
- One month's administration & general expenses
- One month's R&M Cost

The rate of interest on working capital has been considered as per SBI Prime lending rate as on 1<sup>st</sup> April of the respective year, which is 14.45% as on 1st April 2013. The interest on normative working capital for FY 2013-14 works out to Rs. 8.30 Crores.

### Commission's analysis

As per the regulation 29 of JERC tariff regulations  
“

#### **29. WORKING CAPITAL AND INTEREST RATE ON WORKING CAPITAL**

- 1) *For generation and transmission business, the working capital shall be as per CERC norms.*
- 2) *Subject to prudence check, the working capital for distribution business shall be the sum of one month requirement for meeting:*
  - a. *Power purchase cost.*
  - b. *Employees cost.*
  - c. *Administration & general expenses and*
  - d. *Repair & Maintenance expenses.*
- 3) *Subject to prudence check, the working capital for integrated utility shall be the sum of one month requirement for meeting :*
  - a. *Power purchase cost*

- b. *Employees cost*
  - c. *Administration & general expenses*
  - d. *Repair & Maintenance expenses.*
  - e. *Sum of two month requirement for meeting Fuel cost.*
- 4) *The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on the 1st April of the relevant financial year. The interest on working capital shall be payable on normative basis notwithstanding that the generating company / licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures.”*

In accordance with Section 47(4) of the Electricity Act 2003, the distribution licensee is required to pay interest on security deposit collected from the consumers. If this security deposit is invested in the form of interest earning fixed deposits or other similar instruments. The interest earned from such investment could be utilized to pay the interest to the consumers under section 47(4) of the Electricity Act 2003. However, it is noted that the petitioner has not invested any of the security deposit held and the said amount is available to the petitioner. Accordingly, the Commission has allowed the interest payable to the consumer as expense in this order. Commission has considered the security deposit (on account of misc. deposits) available with the Petitioner as a source to meet working capital requirements and has deducted this amount from the working capital requirement considered for interest for review of FY 2013-14 (also dealt in para 5.10.3 of this order).

Further, Commission clarifies that SBI PLR rate has now been substituted as SBI Advance Rate at 14.45%<sup>8</sup> (average rate of interest) for FY 2013-14. Commission has computed the requirement of working capital based on the provisions of the regulations. Working capital has been reduced by the amount of Consumer Security Deposit/Misc. deposit available with the petitioner considering its usage for meeting part of working capital requirements.

The Commission would like to highlight that it has provisionally considered the amount of security deposit as approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013 and will review the same at the time of true-up.

<sup>8</sup> SBI advance rate notified on 14.02.2011; Thereafter four revisions in the SBI advance rate was notified in FY 2011-12 and are as under: 25.04.2011-13.25%; 12.05.2011-14% ; 11.07.2011-14.25%; 13.08.2011 – 14.75%.; 27.09.2012-14.50% and 04.02.2013-14.45%



Table 6.10.2.1 : Interest on Working Capital approved by the Commission for FY 2013-14 (in Rs. Crores)

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Fuel Cost for 2 months	19.10	30.11	28.32	37.68
2	Power Purchase Cost for one month	15.66	17.01	21.26	14.36
3	Employee Cost for one month	4.47	4.49	4.63	4.35
4	A&G Expenses for one month	0.22	0.22	0.20	0.21
5	R&M Expenses for one month	3.10	3.11	3.03	3.02
6	<b>Total Working Capital for one month</b>	<b>42.55</b>	<b>54.94</b>	<b>57.44</b>	<b>59.62</b>
7	<b>Total Working after deduction of Security Deposit from Working Capital Requirement</b>	<b>41.21</b>	<b>53.60</b>	<b>57.44</b>	<b>58.28</b>
8	SBAR Rate	14.75%	14.45%	14.45%	14.45%
9	<b>Interest on Working Capital</b>	<b>6.08</b>	<b>7.75</b>	<b>8.30</b>	<b>8.42</b>

The Commission considers Rs. 8.42 Crores as Interest on Working Capital as reasonable and approves the same for Review of ARR for FY 2013-14.

### 6.10.3 Interest on Security Deposit

#### Petitioner's Submission

The petitioner submits that the

#### Quote

*"The Electricity Department collects deposits from consumers and contractors (as Earnest Money Deposit or security). While security deposit from consumers is taken at the time of providing the connection and has to be repaid to the consumers at the time of surrender of the connection; security deposit from contractors is adjusted subsequent to satisfactory completion of the contracted work. These deposits are in the form of Fixed Deposits Receipts (FDR)/ Bank Guarantee and in case of FDR the interest is directly paid to the consumer. Hence no interest on security deposits has been projected in the petition."*

#### Unquote

#### Commission's analysis

As can be observed, the petitioner has indirectly indicated that petitioner has the security deposit of the consumers and the petitioner has not paid any interest on the security deposit from the consumers except fixed deposits where interest is directly paid to the consumers as stated by the petitioner.

As per Section 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.*

In terms of the section 47 (4) of the Electricity Act, 2003 'the distribution licensee is required to pay interest on security deposit collected from consumers equivalent to bank rate or more as may be specified by the Commission.'

The petitioner in audited accounts for FY 2010-11 had submitted that the misc. deposit is available with the petitioner during FY 2011-12 and FY 2012-13; Further, the petitioner had submitted that the consumers are required to make a deposit equivalent to the security amount in bank in their name with a lien in favour of Electricity Department. The bank is authorized to release the fixed deposit only after the receipt of 'no objections/instruction' from the department. In the event of surrender of connection by the consumer and clearance of all dues; the department issues a NOC to the bank for releasing the fixed deposit. The interest accrued on the deposit is credited to the consumer's account.

The Commission in its ARR and tariff order dated June 04'2012 had directed the petitioner should follow the relevant provision in the regulation and provisions of Sub regulation no. 6.10 of JERC (Electricity Supply Code) Regulations, 2010. Wherever existing mode of consumer security deposit i.e. bank guarantee, fixed deposit etc. is different from those provided in the Regulation, the same be replaced by those as specified therein, as per section 47(1) Electricity Act 2003 and pay interest as per section 47(4) Electricity Act, 2003.

On account of provisions mentioned in the Act and regulation, Commission directs the Petitioner to pay the interest on security deposit collected from the consumers with effect from April 1<sup>st</sup> 2012.

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 2013-14 (at the Bank Rate i.e. 8.50% per annum applicable as on 1<sup>st</sup> April 2013) with effect from 1<sup>st</sup> April 2014 to the consumers on their security deposit irrespective of petitioner's constraints and this needs to be explicitly indicated on the consumers bill, a sum of Rs. (calculated amount) as 'Interest on security deposit' at the rate of 8.50% per annum for the FY 2013-14 in the consumer bill of April 2014. **Any non-compliance in this regard shall be viewed seriously by the Commission.**

The Commission would like to highlight that it has provisionally considered the amount of security deposit as approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013 and will review the same at the time of true-up.

**In view of the above, the Commission allowed Rs. 0.11 Crores as the interest on security deposits as expenditure in ARR in Review for FY 2013-14.**

## 6.11 Return on Capital Base/Equity

### Petitioner's Submission

The petitioner has estimated Rs. 2.80 Crores as the reasonable return on net fixed assets for FY 2013-14 as per the JERC regulations in the formats.

### Commission's analysis

ED A&N being an integrated utility in its present form as defined in Regulation 2(9) of the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 and ED A&N is not restructured and corporatized till date. As of now, it is an integrated utility and it is entitled to return on capital base under the provisions of Schedule VI of the repealed Electricity (Supply) Act, 1948 vide provision under Regulation 23 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009. The basic requirement for consideration of either return on capital base or return on equity is the basic information of assets in the form of the assets & depreciation registers besides other data. ED A&N has not been maintaining the adequate information.

**As indicated in earlier para 6.8, 6.9, and 6.10; the Commission has considered Rs. 65.24 Crores as the gross block at the beginning of FY 2013-14 as indicated in para 6.9 of this order and accumulated depreciation of Rs. 3.38 Crores. Commission has therefore considered the reasonable return of 1.86 Crores at the rate of 3% on net fixed asset of Rs. 61.86 Crores at the beginning of FY 2013-14.**

Table 6.11.1 : Return on Equity approved by the Commission for FY 2013-14 (in Rs. Crores)

Sr. No	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Gross block at beginning of the Year/Opening GFA or equity	124.82	65.24	99.63	65.24
2	Less accumulated depreciation/Addition in Equity	15.01	3.38	6.45	3.38
3	Net block at beginning of the year /Closing Equity	109.81	61.86	93.18	61.86
4	Less accumulated consumer contribution				

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
5	Net fixed assets at beginning of the year /Average Equity Amount	109.81	61.86	93.18	61.86
6	Reasonable return @3% of NFA /Return on Equity @16%	3.29	1.86	2.80	1.86

In view of the above, Commission considers the Return on Net Fixed Assets of Rs. 1.86 Crores as reasonable and approves the same for Review of ARR of FY 2013-14.

## 6.12 Non-Tariff Income

### Petitioner's Submission

The petitioner has estimated Rs. 2.35 Crores for FY 2013-14 based on the actuals of FY 2012-13 as the non-tariff income in the form of meter rent, late payment charges & misc. charges from various categories of consumers.

### Commission's analysis

In absence of availability of audited accounts prepared on the Commercial Principles, the Commission has considered the NTI for FY 2012-13 approved in order date 31<sup>st</sup> March 2013 and escalated the same by 5% for arriving at the NTI for FY 2013-14. The detailed calculations have been presented in the table below.

Table 6.12.1 : Non Tariff Income approved by the Commission for FY 2013-14 (in Rs. Crores)

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	House Rent Recovery				
2	Interest Income				
3	Fees for RTI application				
4	Tender Fees/EMD				
5	Meter/Service Rent/Testing	0.46	0.46	0.71	0.46
6	Late payment surcharge				
7	Misc. Receipts/Income	1.64	1.64	1.64	1.64
8	Penalties				
9	Capacitor Charges				
10	Demand Notice/Name Changing				
11	Supervision /Reconnection Charges				
12	Security Deposit				
13	Others				
14	S/C charges				
15	<b>Total income</b>	<b>2.10</b>	<b>2.10</b>	<b>2.35</b>	<b>2.10</b>
16	Add: prior period income				

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
<b>Total Non-Tariff Income</b>		<b>2.10</b>	<b>2.10</b>	<b>2.35</b>	<b>2.10</b>

The Commission has considered Rs. 2.10 Crores as reasonable and approves the same for Review of ARR for FY 2013-14.

### 6.13 Revenue at existing tariff for FY 2013-14

#### Petitioner's Submission

The petitioner has estimated Rs. 103.12 Crores as the revenue for FY 2013-14.

#### Commission's analysis

Commission has estimated the revenue based on six months actual energy sales submitted by the Petitioner for FY 2013-14 and revenue for the remaining six months on the estimated energy sales estimated by the Commission. Commission has estimated the revenue on the basis of revised estimates of energy sales for FY 2013-14. The petitioner has not submitted the slab wise sales and revenue in accordance with the existing Tariff schedule, the Commission therefore directs the petitioner to maintain slab wise details of sales and revenue and should submit the same in the next ARR and tariff petition. In absence of slab wise details of sales and revenue, Commission has therefore considered the average billing rate estimated by the petitioner of existing tariff for domestic, industrial and commercial category for calculation of revenue for FY 2013-14 at existing tariff.

Table 6.13.1 : Revenue at existing tariff for FY 2013-14 approved by the Commission (in Rs. Crores)

S.No.	Category/Consumption Slab	FY 2013-14					
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	H1 (Submitted by Petitioner)	H2 (Approved by the Commission)	Total Revenue Approved by the Commission
A	Domestic	29.15	29.67	30.00	14.88	15.58	30.46
B	Commercial	38.53	44.25	36.63	19.67	18.99	38.66
C	Industry	5.89	6.55	5.77	2.68	3.40	6.08
D	Bulk	30.38	27.71	27.37	13.75	13.79	27.54
E	Public Lighting	4.57	0.29	3.93	2.06	2.08	4.14
F	Irrigation Pumps & Agriculture	0.12	0.05	0.12	0.05	0.06	0.11
<b>Total</b>		<b>108.64</b>	<b>108.52</b>	<b>103.82</b>	<b>53.10</b>	<b>53.90</b>	<b>107.00</b>

Commission has estimated Rs. 107 Crores based on the actual sales for first six months and projections for second half of the FY 2013-14 as reasonable and approves the same for Review of ARR for FY 2013-14.

#### 6.14 Review of Aggregate Revenue Requirement for FY 2013-14

##### Commission's analysis

The Commission has considered and approved the review of ARR for FY 2013-14 based on the items of expenditure indicated in the preceding Chapters and the actuals submitted by the petitioner of Power purchase costs, revenue and sales and the same has been summarized in the table below:

*Table 6.14.1 : Aggregate Revenue Requirement for FY 2013-14 approved for review for FY 2013-14 (Rs. in Crores)*

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
1	Cost of fuel	114.60	180.66	169.92	226.08
2	Cost of power purchase for full year	187.89	204.09	255.08	172.31
3	Employee costs	53.62	53.91	55.62	52.24
4	Administration and General Expenses	2.61	2.61	2.44	2.53
5	Repair and Maintenance Expenses	37.23	37.36	36.35	36.24
6	Depreciation	5.50	3.31	6.16	4.11
7	Interest and Finance charges	6.73	7.89	12.63	9.07
8	Interest on Security Deposit & Interest on Working Capital	6.08	7.86	8.30	8.54
9	Return on NFA /Equity	3.29	1.86	2.80	1.86
10	Provision for Bad Debt				
11	Payment of contingency liability				
12	Incentive on achievement of norm of T&D loss				
<b>13</b>	<b>Total Revenue Requirement</b>	<b>417.55</b>	<b>499.54</b>	<b>549.30</b>	<b>512.98</b>
14	Less: Non Tariff Income	2.10	2.10	2.35	2.10
15	Less: Revenue from Surplus Power Sale/UI				
16	Less: Revenue from Short term sale				
<b>17</b>	<b>Net Revenue Requirement (13-14-15-16)</b>	<b>415.46</b>	<b>497.45</b>	<b>546.96</b>	<b>510.88</b>

The estimated (surplus)/gap have been mentioned in the following table for FY 2013-14:

*Table 6.14.2 : Approved Revenue Gap for FY 2013-14 (Rs. in Crores)*

Sr. No.	Particulars	2013-14			
		(Petitioner's submission)	Approved in T.O. 31.03.13	Petitioner's submission for review	Approved by the Commission
<b>17</b>	<b>Net Revenue Requirement (13-14-15-16)</b>	<b>415.46</b>	<b>497.45</b>	<b>546.96</b>	<b>510.88</b>
18	Revenue from Retail Sales at Existing Tariff	108.64	108.52	103.82	107.00
<b>19</b>	<b>Net Gap / (Surplus) (17-18)</b>	<b>306.82</b>	<b>388.92</b>	<b>443.13</b>	<b>403.88</b>
20	Recovery on account of PPC variations				
<b>21</b>	<b>Gap after adjusting PPC variations</b>	<b>306.82</b>	<b>388.92</b>	<b>443.13</b>	<b>403.88</b>
22	Gap/(Surplus) for the previous year				
23	Carrying Cost				
24	Past Arrears/Refunds to Consumers				
<b>25</b>	<b>Total Gap/ (Surplus) (21+22+23+24)</b>	<b>306.82</b>	<b>388.92</b>	<b>443.13</b>	<b>403.88</b>
26	Additional revenue from proposed tariff				
<b>27</b>	<b>Revenue Gap/ (Surplus), if any, after proposed tariffs (25-26)</b>	<b>306.82</b>	<b>388.92</b>	<b>443.13</b>	<b>403.88</b>
28	Budgetary Support from Government		388.92		403.88
<b>29</b>	<b>Net Final Revenue Gap/ (Surplus) (27-28)</b>	<b>306.82</b>	<b>0.00</b>	<b>443.13</b>	<b>0.00</b>

As can be seen from the table mentioned above, there is a revenue gap of Rs. 403.88 Crores at the end of FY 2013-14 as estimated by the Commission against the gap of Rs. 443.13 Crores furnished by the petitioner in the petition and formats. Commission considers the estimated revenue gap of Rs. 403.88 Crores as reasonable and approves the same for review of FY 2013-14.

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 A&N. Therefore keeping this fact in view the assessed gap of FY 2013-14 will be borne by the Andaman & Nicobar Administration through the Non-Plan funding in Annual Plan by the Govt. of India to the Electricity Department of the Andaman & Nicobar Islands.

## **7. AGGREGATE REVENUE REQUIREMENT OF FY 2014-15**

### **7.1 Background**

The ARR & Tariff Petition filed by the Electricity Department, UT of Andaman & Nicobar Islands for FY 2014-15 as per the relevant provisions mentioned in the tariff regulations 2009. The petitioner has submitted its Aggregate Revenue Requirement and Tariff application as per the Regulation no. 12 & 13 of JERC Tariff regulations 2009 to estimate the revenue requirement for FY 2014-15 on the basis of actual figures of FY 2012-13, reviewed estimates for the FY 2013-14 and forecasted figures for FY 2014-15.

The Petitioner in its petition has submitted its Aggregate Revenue Requirement for FY 2014-15 and has considered the actual performance in FY 2010-11, FY 2011-12, FY 2012-13, estimated performance for FY 2013-14 based on the actual performance for the period 01.04.2013 to 30.09.2013 and principles outlined in tariff regulations of JERC. In this chapter, the Commission has analyzed the petition of ED-A&N based on the provisions mentioned in the regulations, figures approved FY 2012-13 in the order dated 31<sup>st</sup> March 2013, revised estimates of FY 2013-14 submitted by the petitioner. The Commission has taken into consideration the following:

1. Actual Performance in FY 2012-13;
2. Financial figures approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013.
3. Reviewed estimates of FY 2013-14 including the category wise sales, revenue and expenditure

### **7.2 Analysis of Aggregate Revenue Requirement of FY 2014-15**

The determination of Aggregate Revenue Requirement requires assessment of quantum of energy sales, T&D loss as well as various cost elements like power purchase cost, O&M expenses, interest cost and depreciation etc. Revised estimates/actuals submitted by the petitioner as regards to various components of ARR of previous year, the Commission's analysis thereon and decision in respect of items given below as indicated in the following paras:

- Assessment of Energy Requirement
  - i. Sales Projections
  - ii. T&D Loss Trajectory
  - iii. Energy Balance



- iv. Power Purchase Sources
- Assessment of the Aggregate Revenue Requirement
  - i. Power Purchase Costs & Transmission Charges;
  - ii. Operation and Maintenance Expenses;
    - Employee Expenses
    - Administration & General expenses
    - Repairs & Maintenance Expenses
  - iii. Capital Expenditure and Asset Capitalization
  - iv. Gross Fixed Assets;
  - v. Depreciation;
  - vi. Interest on Long Term Loans;
  - vii. Interest on Working Capital & Security Deposits;
  - viii. Return on Capital Base/ Net Fixed Assets;
  - ix. Provision for Bad and Doubtful Debts
  - x. Other expenses.
  - xi. Non-Tariff Income

As per the regulation no. 13 of JERC Tariff regulations 2009,

**Quote”**

1) *The Aggregate Revenue Requirement of the generating company or the licensee shall comprise of the following:*

- i. Fuel Cost for own generation, if applicable.*
- ii. Cost of Power Purchase, if any*
- iii. Operation and Maintenance Expenses,*
- iv. Depreciation, including Advance Against Depreciation,*
- v. Interest and Cost of Finance,*

- vi. *Return on Equity,*
  - vii. *Income Tax*
  - viii. *Provision for Bad & Doubtful Debts*
  - ix. *Other Expenses.*
- 2) *The data should be provided for three years*
- i. *Audited figures for the previous year; Information for the previous year shall be based on the audited accounts; in the absence thereof, the audited accounts for the immediately preceding year shall be filed along with the un-audited accounts for the previous year.*
  - ii. *Estimated figures for the current financial year should be based on actual figures for the first six months and the estimated figures for the second six-months of the year. The estimated figures for the second half year of the current financial year should be based on the actual audited figures for the second half of the previous year with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.*
  - iii. *Forecasted figures for the ensuing year should be based on the current year figures with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.”*
- “
- 4) *The Aggregate Revenue Requirement of the generating company or the licensee shall be worked out by adjusting the following in the revenue requirement computed under Clause (1) above:*
- i. *Necessary adjustments under Regulation 9 ‘Review and Truing Up’.*
  - ii. *Income from surcharge and additional surcharge from Open Access Consumers, if any ;*
  - iii. *Transmission and/or Wheeling Charges recovered from the Open Access Customers, if any ;*
  - iv. *Authorized portion of Income/revenue from Other Business engaged in by the licensee for optimum utilization of assets, if any, in accordance. “ **Unquote***

### **7.3 Consumers, Connected load and Energy Sales**

## Petitioner's Submission

### Energy Sales

The petitioner has stated that

*“The consumer base of EDA&N consists of Domestic, Commercial and Industry, consumers. Sales mix is primarily dominated by Domestic consumers, followed by Commercial consumers. The total consumption of Domestic consumers is approximate 49 percent and Commercial consumers contribute to around 27 percent of total sales. Thus, the sales forecast would completely depend on the sales expected in the Domestic & Commercial Category.*

*The sales forecast is based on the trends observed in the sales pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth etc. that would affect consumption across various categories of consumers. The CAGR (%) for period of five years (FY 2012-13 over FY 2008-09) for different categories has been adopted for estimating the energy sales for the FY 2013-14 & for projecting the energy sales for FY 2014-15. Energy sales towards temporary connections has been added to commercial category as it is observed that temporary connection are predominantly availed for commercial purposes. Consumption in temporary connection category in 2012-13 was 0.80 MUs. The same has been projected for the year FY 2013-14 & FY 2014-15 according to the trend of last year as CAGR for the category reflected abnormal growth trend. In addition to this, the growth trend in number of consumers and connected load have been taken as guiding factors in arriving at the requirement of demand and energy.”*

The petitioner has considered the past trend for projecting the Energy Sales (MUs) and No. of Consumers based, as mentioned in the following table:

Table 7.3.1 : Details of Energy Sales during Past years and estimations for FY 2014-15 (Sales in Million Units)

S. No.	Category	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
		Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Revised Estimate	Estimate
1	Domestic	72.16	75.49	83.96	90.20	93.98	101.36	107.51	114.03
2	Commercial	39.15	42.61	49.12	52.17	54.02	55.22	58.30	61.29
3	Industry	8.03	7.67	8.72	8.64	10.89	11.17	12.04	12.98
4	Bulk	22.44	25.40	25.99	26.02	29.57	28.98	29.75	30.54
5	Public Lighting	7.35	8.62	8.36	9.15	9.26	8.72	8.74	8.76
6	Irrigation Pumps & Agriculture	0.72	0.69	0.74	0.83	0.90	0.91	0.96	1.02
	<b>Total</b>	<b>149.85</b>	<b>160.48</b>	<b>176.89</b>	<b>187.01</b>	<b>198.62</b>	<b>206.35</b>	<b>217.30</b>	<b>228.62</b>

Source : Table 4.1 of the Petition submitted by ED A&N

The petitioner has considered the average growth rate (%) for projecting the Energy Sales (MUs) for FY 2014-15 as mentioned in the following table:

Table 7.3.2 : Growth rate considered for FY 2012-13 (in %age)

S. No.	Category	Assumed Growth rate for FY 2012-13
1	Domestic	6.07%
2	Commercial	5.43%
3	Industry	7.80%
4	Bulk	2.67%
5	Public Lighting	0.24%
6	Irrigation Pumps & Agriculture	5.74%

Source : Table 4.1 of the Petition submitted by ED A&N

As part of additional information submission, the petitioner has submitted the month wise actual category wise energy sales of FY 2012-13 and FY 2013-14 (upto September).

### **Number of Consumers**

The petitioner has stated that forecast of number of consumers is based on the trends observed in the connections pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth, etc. that would affect consumption across various categories of consumers. The CAGR (%) for period of five years (FY 2012-13 over FY 2008-09) for different categories has been adopted for estimating the number of consumers for the FY 2013-14 & for projection for the FY 2014-15. However, normalization has been undertaken for certain categories where an abnormal rise or reduction has been observed. Temporary Connections has been added to commercial category as it is observed that temporary connections are predominantly availed for commercial purposes. The number of consumers estimated for the FY 2014-15 are tabulated below.

Table 7.3.3 : Details of Number of Consumers during Past years (in Numbers)

S. No.	Category	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
		Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Revised Estimate	Estimate
1	Domestic	65282	67990	76479	81741	91843	93757	99981	106617
2	Commercial	14677	15160	15626	16131	16767	17291	17666	18049
3	Industry	450	451	461	457	493	501	512	523
4	Bulk	40	46	44	48	55	56	58	61
5	Public Lighting	346	375	434	505	552	649	724	808
6	Irrigation Pumps & Agriculture	161	211	177	186	292	218	219	221
	<b>Total</b>	<b>80956</b>	<b>84233</b>	<b>93221</b>	<b>99068</b>	<b>110002</b>	<b>112472</b>	<b>119160</b>	<b>126278</b>

Source : Table 4.2 of the Petition submitted by ED A&N

**Commission's analysis**

As per the sub-regulation (2) (ii) of regulation 13 of JERC tariff regulations 2009,

**Quote**

*“(ii) Estimated figures for the current financial year should be based on actual figures for the first six months and the estimated figures for the second six-months of the year. The estimated figures for the second half year of the current financial year should be based on the actual audited figures for the second half of the previous year with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.”*

**Unquote**

Commission has considered the actual figures for the first half of FY 2011-12 and FY 2012-13 and has accordingly estimated the second half of the current financial year based on the actual figures of second half of FY 2013-14.

The minimum of modified CAGR (%) of four years for different consumer categories and the growth rate, accordingly adopted by the Commission on the revised estimates of FY 2013-14 (as approved by the Commission) to assess the Energy Sales and number of consumers for FY 2014-15. Year on Year increase from FY 2011-12 to FY 2012-13 has been used to assess the connected load for FY 2014-15. Further, as indicated in the para 6.3 of this order regarding variation noted in the petitioner submission on account of energy sales especially to ‘public lighting’ and ‘Irrigation Pumps & agriculture’. The approved Sales, Connected load and number of consumers for the FY 2014-15 have been shown in the table below:

*Table 7.3.4 : Modified CAGR(%) considered by the Commission for estimation of Sales, Consumer Base and Connected load for FY 2014-15*

S.No.	Category/Consumption Slab	CAGR % for FY 2014-15		
		Sales	Connected Load	No. of Consumers
A	Domestic	7%	6%	2%
B	Commercial	4%	11%	3%
C	Industry	10%	2%	2%
D	Bulk	4%	8%	2%
E	Public Lighting	2%	20%	18%
F	Irrigation Pumps & Agriculture	5%	12%	0%

Table 7.3.5 : Category wise Sales approved by the Commission for FY 2014-15 (in million units)

S.No.	Category/Consumption Slab	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
A	Domestic	114.03	117.18
B	Commercial	61.29	58.96
C	Industry	12.98	13.97
D	Bulk	30.54	31.01
E	Public Lighting	8.76	9.42
F	Irrigation Pumps & Agriculture	1.02	0.94
<b>Total</b>		<b>228.62</b>	<b>231.49</b>

Table 7.3.6 : Category wise number of consumers approved by the Commission for FY 2014-15 (in numbers)

S.No.	Category/Consumption Slab	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
A	Domestic	106617	96799
B	Commercial	18049	17910
C	Industry	523	511
D	Bulk	61	79
E	Public Lighting	808	716
F	Irrigation Pumps & Agriculture	221	218
<b>Grand Total</b>		<b>126278</b>	<b>116233</b>

Table 7.3.7 : Category wise connected load approved by the Commission for FY 2014-15 (in KW)

S.No.	Category/Consumption Slab	FY 2014-15
		Approved by the Commission
A	Domestic	103088.11
B	Commercial	63737.55
C	Industry	11030.06
D	Bulk	10913.95
E	Public Lighting	4284.35
F	Irrigation Pumps & Agriculture	901.46
<b>Grand Total (in kW)</b>		<b>193955.48</b>
<b>Grand Total (in MW)</b>		<b>193.96</b>

## 7.4 Transmission & Distribution Loss

### Petitioner's Submission

#### Quote

EDA&N has achieved a significant reduction in distribution losses during recent years. EDA&N submits that the system improvement works executed every year under the plan schemes have also contributed to the reduction of distribution losses. However, it may also be noted that reduction of distribution losses may not be possible beyond a certain level due to topographical conditions and technical limitations. The distribution losses in the EDA&N distribution network have been in the range of approximately 18% to 20% in the past. For the purpose of FY 2014-15 ARR, the losses have been retained at 18% & 17% for the FY 2013-14 and FY 2014-15 respectively.

#### Unquote

#### Commission's Analysis

The petitioner, in view of system improvement works under execution, has projected an aggressive T&D targets for FY 2013-14 and FY 2014-15. As indicated in para 6.4 of this order, the Commission is of the view that substantial CAPEX is being infused in the system improvement works by the ED A&N like extension of T&D lines, erection of new distribution transformers, replacement of old defective meters, distribution transformer metering, replacement of old conductor, and providing HT meters in feeders etc will lead to progressive reduction in losses.

The Commission is of view that the loss levels targeted by the petitioner are not un-achievable in view of the topography of these islands and system improvement schemes being undertaken; and thus accepts the loss level trajectory proposed by the petitioner i.e. 17% as the loss level for FY 2014-15.

Accordingly, for the purpose of this order the Commission considering the coastal atmosphere and topography of these islands, **considers the loss level of 17.00% as reasonable and approves the same for FY 2014-15.**

## 7.5 Energy Balance

### Petitioner's Submission

The petitioner submits the energy requirement for the sale within the islands is 275.45 Million Units, after considering the T&D losses of 17% for FY 2014-15.

As submitted by the petitioner,

**Quote**

*“The energy requirement of EDA&N is mainly met from own generation and power purchase from IPP (M/s Surya Chakra Corporation Limited), HPPs & NTPC (SPV). There is no availability of power from Central Generating Stations or from other sources/ open market/ power exchanges etc. Own generation accounts for around 43% & 47 % of the total power requirement for FY 2011-12 & 2012-13 respectively and power purchase accounts for around 57% & 53 of the total power requirement for 2011-12 & 2012-13 respectively and is estimated that approximately 40% & 60% of the total energy requirement for FY 2013-14 shall be met by own generation and power purchase respectively. The present scenario is likely to continue and is projected that approximately 42% & 58% of the total energy requirement for FY 2014-15 shall be met by own generation and power purchase respectively. “* **Unquote**

**Commission’s Analysis**

The Commission has approved the T&D losses, energy sales in the foregoing paragraphs and as indicated in para 6.5 of this order. The Energy requirement and projected purchase for the FY 2014-15 is shown in the table below:

Table 7.5.1 : Energy Balance approved for FY 2014-15

Sr. No.	Particulars	FY 2014-15	
		Approved by the Commission	Approved by the Commission
<b>A)</b>	<b>ENERGY REQUIREMENT (in Mus)</b>		
1	Energy sales within the State/UT (in Mus)	228.62	231.49
<b>2</b>	<b>Total sales within the State/UT</b>	<b>228.62</b>	<b>231.49</b>
<b>3</b>	<b>Transmission and Distribution losses</b>		
i)	%	17.00%	17.00%
ii)	MU	46.83	47.41
<b>4</b>	<b>Energy required at Generator End for Sale to Retail Consumers</b>	<b>275.45</b>	<b>278.90</b>
<b>B)</b>	<b>ENERGY REQUIRED AT GENERATOR END</b>	<b>275.45</b>	<b>278.90</b>
<b>1</b>	<b>Gross Availability (in MUs)</b>	<b>273.34</b>	<b>278.95</b>
a	NTPC Solar	0.01	5.03
b	Hydel	12.03	11.54
c	IPP	104.40	92.49
d	HPP	45.65	79.59
e	Own Generation	111.25	90.31
<b>3</b>	<b>Gross Purchase including PX (in MUs)</b>	<b>273.34</b>	<b>278.95</b>

Source: Table 4.3 of the Petition submitted by ED A&N



## 7.6 Power Purchase Quantum and Cost

### Petitioner's Submission

#### Source of Power

EDA&N has 53 own generating stations and meets around 40%-45% of its total energy requirement from own generation. Balance requirement of power is met from purchase from IPP (SPCL), HPPs & NTPC (SPV). The details of power generating stations are given below submitted as part of additional submission:

Table 7.6.1 : Details of power generating stations operational for FY 2011-12

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)
			DG Size (KW)	No.s	MW		
<b>Power Purchase</b>							
1	IPP – SPCL	South Andaman	5000	4	20.00	20.000	15.000
2	HPP-I	South Andaman	1000	5	5.00	5.000	0.600
3	HPP-II	South Andaman	1250	8	10.00	10.000	10.000
4	HPP-III	North Andaman	1000	1	1.00	1.000	1.000
5	G/Ch. SPV	South Andaman	5000	1	5.00	5.000	5.000
<b>Own Generation</b>							
6	Chatham	South Andaman	2500	6	15.000	15.000	9.600
7	Phoneix Bay	South Andaman	1000	2	2.000	8.000	6.600
			1200	5	6.000		
8	Raj Niwas	South Andaman	256	2	0.512	1.024	1.024
9	Medical	South Andaman	256	1	0.256		
10	Secretariat	South Andaman	256	1	0.256		
11	RutLand	Rutland	12	1	0.012	0.024	0.024
12	45 Acre	Rutland	12	1	0.012		
13	Neil Island	Neil Island	128	3	0.384	0.634	0.371
			100	2	0.200		
			50	1	0.050		
14	Havelock	Havelock	256	5	1.280	1.730	1.101
			50	1	0.050		
			400	1	0.400		
15	Hutbay	Little Andaman	250	1	0.250	5.650	2.595
			800	3	2.400		
			1000	3	3.000		
16	Dugong Creek	Little Andaman	16	2	0.032	0.047	0.025
			15	1	0.015		
17	Strait Island	Strait Island	15	1	0.015	0.015	0.028
18	Baratang	Middle Andaman	256	1	0.256	0.512	0.512
			256	1	0.256		
19	Rangat Bay	Middle Andaman	800	4	3.200	10.036	6.710
			1000	5	5.000		
			248	7	1.736		
			100	1	0.100		

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)	
			DG Size (KW)	No.s	MW			
20	Bangaon	Middle Andaman	16	1	0.016	0.016		
21	Hanspuri	Middle Andaman	12	1	0.012	0.027		
			15	1	0.015			
22	Long Island	Middle Andaman	128	4	0.512	0.892	0.270	
			65	2	0.130			
			50	5	0.250			
23	Gandhi Nagar	North Andaman	60	1	0.060	0.060	0.230	
24	Ganesh Nagar		65	1	0.065	0.065		
25	Shanti Nagar		65	1	0.065	0.065		
26	Smith Island		40	1	0.040	0.040		
27	Sita Nagar		North Andaman	256	3	0.768	2.368	1.520
				800	2	1.600		
28	KHEP**		North Andaman	1750	3	5.250	5.250	4.800
29	Kinyuka NPH	Car Nicobar	1000	4	4.000	5.636	2.700	
			100	1	0.100			
			256	5	1.280			
30	Head Quarters	Car Nicobar	128	2	0.256	5.636	2.700	
			256	5	1.280			
31	Kamorta	Kamorta	256	4	1.024	1.236	0.770	
32	Bunderkhari		12	1	0.012			
33	Derring		Kamorta	8	1			0.008
				12	1			0.012
34	Alukheak		6	1	0.006			
35	Changua		Kamorta	12	1			0.012
				6	1			0.006
36	Manak		Kamorta	24	1			0.024
				12	1			0.012
				8	1			0.008
37	Pillpillow		Kamorta	24	1			0.024
				32	1			0.032
38	Kakana		Kamorta	24	1			0.024
				32	1			0.032
39	Champion	Nancowry	65	3	0.195	0.323	0.080	
			50	2	0.100			
			12	1	0.012			
40	Hitoi	Nancowry	8	2	0.016	0.323	0.080	
			12	1	0.012			
41	Katchal NTPC	Katchal	250	3	0.750	1.230	0.690	
42	Katchal NPH		256	1	0.256			
			100	1	0.100			
			50	2	0.100			
43	Upper Katchal	12	2	0.024	1.230	0.690		
44	Teressa	Teressa	50	3			0.150	
			256	2			0.512	
45	Chukmachi	Teressa	32	1			0.032	0.756
			12	1	0.012			
46	Minyuk	Teressa	50	1	0.050	0.756	0.468	
47	Chowra	Chowra	50	2	0.100			0.164

S. No.	Source	Location	Installed Capacity (in MW)			Power House wise Installed Capacity (in MW)	Derated Capacity (in MW)		
			DG Size (KW)	No.s	MW				
			32	2	0.064				
48	Campbell Bay	Great Nicobar	800	3	2.400	2.848	1.935		
			256	1	0.256				
			50	1	0.050				
			24	1	0.024				
			49	Afra Bay	32			1	0.032
			50	Pilolow	12			1	0.012
			51	Pilobha	12			1	0.012
52	Pilowpanja	12	1	0.012					
53	Macachuwa	50	1	0.050					
<b>Total</b>			<b>32289.00</b>	<b>176</b>	<b>104.65</b>	<b>104.65</b>	<b>73.77</b>		
<b>Own Generation</b>			<b>13250</b>	<b>19</b>	<b>41.00</b>	<b>41.00</b>	<b>31.60</b>		

#### **Assumptions for Power Generation/Projections of Power Purchase**

The merit order dispatch principles are typically adopted when determining the power purchases from various generating stations. However, in the present case there are limited sources of purchase of power and 100% of the generation is available to EDA&N. Accordingly, EDA&N has considered utilization /purchase of the entire power available from all the possible sources during FY 2014-15 to meet the demand to the extent possible.

Power Purchase cost is a function of the energy requirement and price of available power from the different sources for meeting the energy requirement. The energy requirement of EDA&N for FY 2014-15 is proposed to be met from own generation & power purchase from sources as detailed above.

EDA&N has projected the quantum of power generation from own generating stations based on the units generated for the FY2011-12 & 2012-13. The details of the computation of power generation and purchases are provided in Format-4 of the formats submitted along with the filing.

*Table 7.6.2 : Summary of Power Purchase expenses submitted by the petitioner for FY 2014-15*

Source	Purchase (MU)	Pool losses	Energy recd. by Licensee (MU)	FC (Rs. crores)	VC (Rs. crore)	Others (Rs. crore)	Total (Rs. crore)	Avg. cost (Rs./unit)
IPP (SPCL)	94.13	0	94.13	17.09	153.52	0.00	170.61	18.13
HPP- I	2.06	0	2.06	0.28	3.39	0.00	3.67	17.79
HPP-II	46.73	0	46.73	4.26	76.74	0.00	81.00	17.33
(SPV) NTPC	5.83	0	5.83	0.00	4.59	0.00	4.59	7.87
Others	10.05		10.05	1.69	17.13	0.00	18.82	18.72
<b>Total</b>	<b>158.80</b>	<b>0.00</b>	<b>158.80</b>	<b>23.32</b>	<b>255.37</b>	<b>0.00</b>	<b>278.69</b>	<b>17.55</b>

**Estimation of Power Purchase and Cost**

The generation forecast is based on the plant availability and energy demand for the period. Accordingly, generation for FY 2014-15 is estimated.

Table 7.6.3 : Estimated Power Generation for FY 2012-13 (in million units)

	Units Generated & Sent Out (MUs)						
	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Units Generated	79.28	94.28	99.24	109.41	123.29	109.92	120.73
Auxiliary Consumption	3.43	3.57	4.14	4.05	4.42	3.72	4.08
Sent Out	75.84	90.72	95.09	105.36	118.87	106.20	116.65

**Cost of Fuel**

Quote

*“Out of total own generation of 123.29 MUs in FY 2012-13, 111.26 MUs were generated from Diesel power houses and only 12.03 MUs were generated from Hydro Power Station. Hence cost of fuel (HSD and lubricants) is a major component of the cost of generation:”* Unquote

Table 7.6.4 : Estimated Cost of Fuel for FY 2014-15 (in Rs. Crores)

Type of Fuel	Cost of Fuel		
	FY 2012-13 (Actual)	FY 2013-14 (Estimated)	FY 2014-15 (Projected)
HSD	142.42	167.55	202.42
Lubricant	3.01	2.37	2.86
Total	145.43	169.92	205.28

**Commission’s Analysis****Quantum and Cost of Power Generation and Purchase of Power****Diesel Generating Station – IPP- M/s SPCL**

While estimating the energy availability and cost for FY 2014-15, the following has been considered for estimating the energy availability and cost for FY 2014-15 from M/s SPCL:

- The Plant availability has been considered at the level of FY 2013-14 (H1).

- Auxiliary Consumption of 3.59% verified from the power purchase bills submitted by the petitioner for FY 2013-14 has been considered for FY 2014-15.
- HSD and Lubricating oil consumption has been calculated considering the following as per the power purchase bills of FY 2013-14:
  - For consumption & cost of HSD
    - Gross heat rate of 2010 Kcal/Kwh;
    - Average Calorific value and Density of HSD of FY 2014-14 (refer table 6.6.5);
    - Actual Cost of HSD of Rs. 61392/- per Kilo liter as on September 2013.
  - For consumption & cost of Lubricating Oil
    - Normative usage has been considered (1.1 gm per unit);
    - Average Density of Lub. Oil of FY 2013-14;
    - Actual Cost of Lub. Oil as on September 2013.
- No escalation has been considered in the fixed cost as approved in FY 2013-14 and same will be considered at the stage if true-up.
- Rebate has not been considered as calculated for previous year for maintaining the high PLF.

#### **Diesel Generating Station – Hired Power Plants (HPPs)**

While estimating the energy availability and cost for FY 2014-15, the following has been considered for estimating the energy availability and cost for FY 2014-15 from HPPs:

- The Plant availability has been considered at the levels of FY 2013-14 (H1) except for HPP-1 wherein it is observed that the PLF in FY 2013-14 (H1) is at considerably lower lever than average PLFs in previous years. So average PLFs in previous years has been considered for FY 2014-15 for HPP-1.
- Average auxiliary consumption of previous years has been considered for FY 2014-15.
- HSD and Lubricating oil consumption has been calculated considering the following:
  - For consumption & cost of HSD (to be provided by ED A&N)
    - Gross heat rate as approved for FY 2013-14;
    - Average Calorific value and Density of HSD of FY 2013-14 (refer table 6.6.5);

- Actual Cost of HSD of Rs. 61392/- per Kilo liter as on September 2013.
- For consumption & cost of Lubricating Oil
  - Normative usage has been considered (1.1 gm per unit);
  - Average Density of Lub. Oil of FY 2013-14;
  - Actual Cost of Lub. Oil as on September 2013.
- Fixed Costs have been considered as per approved PPAs.

#### **NTPC's Solar plant**

While estimating the energy availability and cost for FY 2014-15, the following has been considered for estimating the energy availability and cost for FY 2014-15 from NTPC Solar Plant:

- The Plant availability has been considered at the levels of FY 2013-14 (H1).
- Average auxiliary consumption of FY 2013-14 (H1) has been considered for FY 2014-15.
- Per unit rate of Rs 7.87 as proposed by the petitioner has been provisionally considered which will be reviewed at the time of true-up.

#### **Department's Own Generation**

Inconsistencies has been observed in the submitted information in the petition in the absence of actual data in respect of PLF, heat rate, consumption of HSD, lubricating oil of the DG Sets owned by the ED- A&N.

Commission for the purpose of ARR for FY 2014-15, has considered the auxiliary consumption, heat rate and PLF as approved for FY 2013-14 (H1), average calorific value of fuel, density of fuel & lubricating oil of first half of FY 2013-14 (H1), cost of HSD as on September 2013 & lubricating oil in the month of September 2013 of existing DG sets and consumption of lubricating oil per liter, derated capacity of first half of FY 2013-14 (H1) for estimating the energy availability and cost for FY 2014-15.

Accordingly, the Commission approves the following availability from below mentioned stations based on the merit order dispatch principles for FY 2014-15:

Table 7.6.5 : Summary of power purchase units for FY 2014-15

S. No.	Source	Location	Capacity (In MW)		Generation at its full load (in KWh)- 2014-15	Availability/ PLF (in %)-	Estimated Generation (IN Mus) FY 2014-15	Auxillary Consumption (%)	Auxillary Consumption (in units)	Net Energy available /sent out (MU)
			Installed	Derated						
<b>Power Purchase (IPP &amp; Solar)</b>										
1	IPP - SPCL	South Andaman	20.000	15.000	131400000	73.01%	95.93	3.59%	3.44	92.5
2	G/Charama SPV	South Andaman	5.000	5.000	43800000	11.49%	5.03	0.00%	0.00	5.0
<b>Power Purchase (Hired Power Plants)</b>										
3	HPP-I	South Andaman	5.000	5.000	43800000	18.05%	7.91	3.59%	0.28	7.6
4	HPP-II	South Andaman	10.000	10.000	87600000	79.99%	70.07	3.59%	2.52	67.6
5	HPP-III Mayabunder	North Andaman	1.000	1.000	8760000	52.25%	4.58	3.59%	0.16	4.4
<b>Own Generation</b>										
6	Chatham	South Andaman	15.000	9.600	84096000	27.28%	22.94	4.74%	1.09	21.9
7	Phoneix Bay	South Andaman	8.000	6.600	57816000	21.54%	12.45	2.58%	0.32	12.1
8	Raj Niwas	South Andaman	0.512	0.512	4485120	2.12%	0.10	0.00%	0.00	0.1
9	Medical & Secretariat	South Andaman	0.512	0.512	4485120	0.14%	0.01	0.00%	0.00	0.0
10	Neil Island	South Andaman	0.634	0.371	3249960	38.73%	1.26	2.14%	0.03	1.2
11	Havelock	South Andaman	1.73	1.101	9644760	50.86%	4.91	0.22%	0.01	4.9
12	RutLand	South Andaman	0.024	0.024	210240	15.43%	0.03	2.96%	0.00	0.0
13	Baratang	Middle Andaman	0.512	0.512	4485120	8.64%	0.39	0.75%	0.00	0.4
14	Rangat Bay & Banagaon	Middle Andaman	10.052	6.683	58543080	35.06%	20.52	5.01%	1.03	19.5
15	Long Island	Middle Andaman	0.892	0.27	2365200	23.05%	0.55	8.58%	0.05	0.5
16	Strait Island	South Andaman	0.015	0.015	131400	74.52%	0.10	0.03%	0.00	0.1
17	Hanspuri	Middle Andaman	0.027	0.027	236520	9.31%	0.02	12.45%	0.00	0.0
18	Jagannath Dera	North Andaman	0	0	0	0.00%	0.00	6.95%	0.00	0.0
19	Paschim Sagar	North Andaman	0	0	0	0.00%	0.00	3.54%	0.00	0.0
20	Smith Island	North Andaman	0.23	0.23	2014800	0.00%	0.00	4.27%	0.00	0.0
21	Sita Nagar	North Andaman	2.368	1.52	13315200	18.83%	2.51	1.26%	0.03	2.5
22	KHEP**	North Andaman	5.25	4.8	42048000	27.85%	11.71	1.47%	0.17	11.5

S. No.	Source	Location	Capacity (In MW)		Generation at its full load (in KWh)- 2014-15	Availability/ PLF (in %)-	Estimated Generation (IN Mus) FY 2014-15	Auxiliary Consumption (%)	Auxiliary Consumption (in units)	Net Energy available /sent out (MU)
			Installed	Derated						
23	Hutbay	South Andaman	5.65	2.595	22732200	42.08%	9.56	4.28%	0.41	9.2
24	Dugong Creek	South Andaman	0.047	0.025	219000	15.59%	0.03	1.77%	0.00	0.0
25	NPH Car Nicobar	Nicobar	5.636	2.7	23652000	37.07%	8.77	5.09%	0.45	8.3
26	Kamorta +Community Power Houses)	Nicobar	1.124	0.658	5764080	40.00%	2.31	0.43%	0.01	2.3
27	Pillpillow	Nicobar	0.056	0.056	490560	0.00%	0.00	1.65%	0.00	0.0
28	Kakana	Nicobar	0.056	0.056	490560	0.00%	0.00	2.38%	0.00	0.0
29	Champion	Nicobar	0.323	0.08	700800	42.31%	0.30	2.13%	0.01	0.3
30	Katchal	Nicobar	1.23	0.69	6044400	20.09%	1.21	1.94%	0.02	1.2
31	Teressa	Nicobar	0.756	0.468	4099680	18.89%	0.77	1.68%	0.01	0.8
32	Choera	Nicobar	0.164	0.118	1033680	20.79%	0.21	4.20%	0.01	0.2
33	Campbell Bay	Nicobar	2.848	1.935	16950600	29.33%	4.97	2.61%	0.13	4.8
<b>Total Power Purchase</b>			<b>41.000</b>	<b>36.000</b>			<b>183.515</b>			<b>177.105</b>
<b>Total Own Generation</b>			<b>63.648</b>	<b>42.158</b>			<b>105.629</b>			<b>101.848</b>

Table 7.6.6 : Summary of power purchase and fuel cost for FY 2014-15

S. No.	Source	Station Heat Rate FY 15 Approved	HSD Consumption (in litres)	Lube Oil Consumption (in liters)	HSD Cost (Rs. Crores)	Lube Oil Cost (Rs. Crores)	Revised Billed Amount-Fixed Charges (Rs. Crores)	Total Billed Amount (Rs. Crores)	Rs./K Wh-15
<b>Power Purchase (IPP &amp; Solar)</b>									
1	IPP – SPCL	2010	22836335	93857	140.20	1.62	20.85	162.16	17.53
2	G/Charama SPV	0	0	0	0.00	0.00		3.96	7.87
3	HPP-I	2870	2687466	7735	16.50	0.00	5.53	22.03	28.90
4	HPP-II	1781	14782738	68553	90.76	0.00	9.35	100.11	14.82
5	HPP-III Mayabunder	1781	965567	4478	5.93	0.00	1.18	7.11	16.12
<b>Own Generation</b>									
6	Chatham	2200	5976919	22444	36.69	0.39		37.08	16.97
7	Phoneix Bay	2200	3244682	12184	19.92	0.21		20.13	16.59
8	Raj Niwas	2200	24802	93	0.15	0.00		0.15	16.17
9	Medical & Secretariat	2200	1579	6	0.01	0.00		0.01	16.17
10	Neil Island	2200	327992	1232	2.01	0.02		2.03	16.52
11	Havelock	2200	1278184	4800	7.85	0.08		7.93	16.20
12	RutLand	2200	8451	32	0.05	0.00		0.05	16.66



S. No.	Source	Station Heat Rate FY 15 Approved	HSD Consumption (in litres)	Lube Oil Consumption (in liters)	HSD Cost (Rs. Crores)	Lube Oil Cost (Rs. Crores)	Revised Billed Amount-Fixed Charges (Rs. Crores)	Total Billed Amount (Rs. Crores)	Rs./K Wh-15
13	Baratang	2200	101014	379	0.62	0.01		0.63	16.29
14	Rangat Bay & Banagaon	2200	5347417	20080	32.83	0.35		33.18	17.02
15	Long Island	2200	142062	533	0.87	0.01		0.88	17.68
16	Strait Island	1465	16984	96	0.10	0.00		0.11	10.82
17	Hanspuri	2200	5736	22	0.04	0.00		0.04	18.46
18	Jagannath Dera	0	0	0	0.00	0.00		0.00	0.00
19	Paschim Sagar	0	0	0	0.00	0.00		0.00	0.00
20	Smith Island	0	0	0	0.00	0.00		0.00	0.00
21	Sita Nagar	2200	653270	2453	4.01	0.04		4.05	16.37
22	KHEP**	0	0	11457	0.00	0.20		0.20	0.17
23	Hutbay	2200	2492045	9358	15.30	0.16		15.46	16.89
24	Dugong Creek	2200	8896	33	0.05	0.00		0.06	16.46
25	NPH Car Nicobar	2200	2284245	8577	14.02	0.15		14.17	17.03
26	Kamorta +Community Power Houses)	2200	600706	2256	3.69	0.04		3.73	16.24
27	Pillpillow	0	0	0	0.00	0.00		0.00	0.00
28	Kakana	0	0	0	0.00	0.00		0.00	0.00
29	Champion	2200	77247	290	0.47	0.01		0.48	16.52
30	Katchal	2200	316434	1188	1.94	0.02		1.96	16.48
31	Teressa	2200	201789	758	1.24	0.01		1.25	16.44
32	Choera	2200	55983	210	0.34	0.00		0.35	16.87
33	Campbell Bay	2200	1295133	4863	7.95	0.08		8.04	16.60
	<b>Total Power Purchase</b>		<b>22836334</b>	<b>174622</b>	<b>140.199</b>	<b>1.624</b>	<b>36.923</b>	<b>182.18</b>	<b>10.29</b>
	<b>Total Own Generation</b>		<b>42897342</b>	<b>103343</b>	<b>263.359</b>	<b>1.788</b>	<b>0.000</b>	<b>265.15</b>	<b>26.03</b>

### Renewable Purchase Obligations

As per JERC (Procurement of Renewable Energy) Regulations 2010 clause 1 sub clause (1)

“

*Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year.*

“

The petitioner has to purchase 3.3% of total consumption of all the consumers in its area as power purchase from renewable sources for FY 2014-15 including 0.60% for Solar and 2.70% for Non-Solar.

The projected availability of renewable power from NTPC Solar and KHEP and consequential RPO Compliance for FY 2014-15 is tabulated below:

*Table 7.6.7 : Summary of RPO Compliance for FY 2014-15*

S.N.	Description	FY 2013-14
1	Sales Within State	231.49
2	RPO Obligation (in %)	
	- Solar	0.60%
	-Non Solar	2.70%
3	RPO Obligation (in MU)	
	- Solar	1.39
	-Non Solar	6.25
4	RPO Compliance (Actual Purchase)	
	- Solar	5.03
	-Non Solar	11.54
5	RPO Compliance (REC Certificate Purchase)	
	- Solar	0.00
	-Non Solar	0.00
6	Total RPO Compliance	
	- Solar	5.03
	-Non Solar	11.54
7	Shortfall in RPO Compliance	
	- Solar	0.00
	-Non Solar	0.00

It is evident from above that the availability of solar and non-solar power from NTPC solar and KHEP is sufficient not only to meet the RPO Compliance for FY 2014-15 but for clearing the backlog of RPO Compliance from FY 2010-11.

However, keeping in view of lower cost of solar generation as compared to Diesel based generation, the Commission continues with its direction of previous order in regard to Solar Plants at Neil Island - 50 KWp , Havelock - 50 KWp, wherein it is stated that;

*In the light of 100 KWp solar projects installed on the Andaman & Nicobar Islands, the petitioner is directed to revive the operations of the said plants and may go in for Annual Maintenance Contract of these small solar power plants with the organization responsible for carrying out the maintenance activity of proposed 5 MW solar power plant; so that the AMC contractor shall not be hesitant to come from mainland for such a small contract and as such the consumers of A&N shall be able to get un-interrupted green power and the burden of the Administration of A&N due to high cost of diesel power is reduced. Besides it also helps A&N to meet RPOs.*

*Additionally, four to six engineers/technicians of ED A&N who shall be actually deployed for the job of maintenance of solar power plants; should be initially trained at new site of 5 MW Solar Power Plant for upkeep and maintenance of 2 x 50 kWp plants, so as to equip the officials of department with the available technologies and spares for such purpose. This may reduce the frequent dependency on the mainland for the purpose of maintenance.*

#### **Summary of total approved Power Purchase Cost for ARR of FY 2014-15**

While estimating the total power purchase cost, station wise energy availability and power purchase cost & fuel cost as indicated in earlier paras has been considered. **Commission considers the total Power purchase cost of Rs. 182.18 Crores and the fuel cost of own generating stations of Rs. 265.15 Crores for procuring 183.515 million units of energy (including solar energy) and generating 105.629 million units of electricity as reasonable and approves the same for FY 2014-15.**

It is seen that in the case of A&N, majority of the generation is diesel based, making per unit cost of generation very high compared to other utilities. **If the units generated by hydro-electric plant are excluded from the total generation, the average fuel cost of DG sets of own generation works out at Rs. 16.80 per unit for FY 2014-15.** In view of the higher cost of diesel generation, 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 A&N.

Keeping the above fact 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 and efforts to enforce energy efficiency be enhanced.

## **7.7 Operation and Maintenance Expenses**

### **Petitioner's Submission**

The petitioner has submitted that the 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 transmission and distribution assets; and
- **Administrative and General Expenses**, which include all expenditure incurred in operating a business such as telephone charges, regulatory and consultancy fees such as energy auditing and chartered accountant fees, conveyance and travel expenses, water charges etc.

The petitioner has submitted the operation and maintenance cost of previous years for consideration by the Hon'ble Commission as mentioned below:

Table 7.7.1 : O&M expenses of previous years

Year	O&M Expenses (Rs. Crores)
2005-06	53.60
2006-07	57.10
2007-08	60.70
2008-09	63.90
2009-10	68.70
2010-11	71.60
2011-12	78.26
2012-13	86.86
2013-14 (RE)	94.41

Source: Table 4.12 of the Petition submitted by ED A&N

### 7.7.1 Employee Expenses

#### Petitioner's submission

The expense head of employee cost consists of salary and allowance, bonus, Leave Travel Concession (LTC) & Honorarium etc. EDA&N has projected the employee cost as Rs.60.46 crores for FY 2014-15 taking into consideration increase in the basic salary and related other remunerations at the rate of 8.70% i.e. (WPI from 2011-12 to 2012-13) over cost for the year 2012-13. It is therefore kindly requested that Hon'ble Commission may approve the employee expenses of Rs.60.46 Crores for FY 2014-15.

#### Commission's Analysis

As per the regulation 27 of JERC tariff regulations 2009

"

#### **27. Operation and Maintenance Expenses**

1) 'Operation & Maintenance expenses' or 'O&M expenses' shall mean repair and maintenance (R&M) expenses, employee expenses and administrative & general (A&G) expenses including insurance.

*While determining the O&M expenses for generation functions within the State, the Commission shall be guided, as far as feasible, by the principles and methodologies of CERC on the manner, as amended from time to time.*

- 2) *While determining the O&M expenses for transmission functions within the State, the Commission shall be guided, as far as feasible by the principles and methodologies specified by CERC on the matter, as amended from time to time:*

*Provided further that the Commission may, if it considers it just, practical and proper considering the size of the total transmission system of, and the quantum of electricity handled by, an integrated utility, treat its transmission system as an integral part of its distribution system itself.*

- 3) *O&M expenses for distribution functions shall be determined by the Commission as follows:*

- *O&M expenses as approved by the Commission for the first time for a year shall be considered as base O&M expenses for determination of O&M expenses for subsequent years;*
- *Base O&M expenses as above shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year;*
- *In case of unbundling of the Electricity Department and formation of separate distribution companies, the Commission will make suitable assessment of base O&M expenses of individual distribution companies separately and allow O&M expenses for subsequent years for individual companies on the basis of such estimation and above principle.*

- 4) *O&M expenses of assets taken on lease/hire-purchase and those created out of the consumers' contribution shall be considered in case the generating company or the licensee has the responsibility for its operation and maintenance and bear O&M expenses.*

- 5) *O&M expenses for gross fixed assets added during the year shall be considered from the date of commissioning on pro-rata basis.*

- 6) *O&M expenses for integrated utility shall be determined by the Commission on the norms and principles indicated above. "*

As may be seen from para 6.7.1, Commission has considered Employee cost as Rs 52.24 Crores for Review of ARR for FY 2013-14 for reasons explained therein. Taking Rs 52.24 Crores as base for FY 2013-14 and applying WPI escalation of 5.68%, employee Cost for FY 2014-15 works out to Rs 54.03 Crores.

Table 7.7.1.1 : Employee expenses approved for FY 2014-15

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
<b>A</b>	<b>Salaries &amp; Allowances</b>		
1	Basic Pay		56.58
2	Grade/Dearness Pay	75.77	0.00
3	Dearness allowance		14.19
4	House rent allowance	5.70	4.68
5	Field Duty Allowance		0.00
6	Washing Allowance		0.00
7	Salary to CGRF Staff		0.00
8	Transport Allowance		0.00
9	Travelling Allowance		0.00
10	Conveyance Allowance		0.00
11	Retirement Benefits		0.00
12	Fixed Medical		0.00
13	Medical Reimbursement	1.23	1.34
14	General Incentive/Bonus	1.06	0.92
15	Special Allowance / Other Allowance	36.59	16.49
16	Cash Handling Allowance		0.00
17	Electricity Allowance		0.00
18	Handicap Allowance		0.00
19	Leave Travel Concession		0.00
20	Leave Salary and Pension Contribution		0.00
21	Others (overtime payment)	0.84	0.96
	<b>Sub-Total - A</b>	<b>121.20</b>	<b>95.16</b>
<b>B</b>	<b>Terminal Benefits</b>		
22	Leave encashment	0.11	0.30
23	Gratuity		0.00
24	Commutation of Pension		0.00
25	Workmen Compensation		0.00
26	Ex – gratia		0.00
	<b>Sub-Total - B</b>	<b>0.11</b>	<b>0.30</b>
<b>C</b>	<b>Other Salary payments</b>		
27	Arrears on account of Vth Pay Commission		0.00
28	Contractual basis		0.00
	<b>Sub-Total- C</b>	<b>0.00</b>	<b>0.00</b>
	<b>Total (A+B+C)</b>	<b>121.31</b>	<b>95.46</b>
29	Less: Amount capitalized	60.85	41.43
30	Net amount	<b>60.46</b>	<b>54.03</b>
31	Add : prior period expenses		
<b>32</b>	<b>Total Employee Expenses</b>	<b>60.46</b>	<b>54.03</b>

**Commission considers the employee cost of Rs. 54.03 Crores as reasonable and approves the same for FY 2014-15.**

### 7.7.2 Administration and General Expenses

#### **Petitioner’s submission**

The petitioner has submitted that A&G expenses comprise of the following broad sub-heads of expenditure, viz.

- Domestic Travelling Expenses
- Office Expenses
- Legal, Regulatory & Consultancy Fees
- Insurance etc.

The A&G expenses of EDA&N for FY 2012-13 are Rs. 2.25 crores. A&G expenses for the FY 2013-14 is estimated at Rs. 2.44 crores which are escalated by 8.70% i.e (WPI from 2011-12 to 2012-13) to arrive at the A&G expenses of 2.66 crores for the FY 2014-15.

The petitioner has requested to approve the A&G expenses of Rs. 2.61 Crores for FY 2014-15 with justification that the escalation is to absorb the normal inflationary increases in the costs. The Administration & General expense of previous years is presented below:

*Table 7.7.2.1 : A&G expenses of previous years*

<b>Year</b>	<b>A&amp;G Expenses (Rs. Crores)</b>
2004-05	1.40
2005-06	1.51
2006-07	1.60
2007-08	1.69
2008-09	1.71
2009-10	1.88
2010-11	2.02
2011-12	2.20
2012-13	2.25
2013-14	2.44

Source: Table 4.13 of the Petition submitted by ED A&N

### Commission's Analysis

As may be seen from para 6.7.2, Commission has considered the administration and general expenses as Rs. 2.44 Crores for FY 2013-14 for reasons explained therein. Taking Rs. 2.44 Crores as a base for FY 2014-15 and after applying the escalation of 5.68%, Administration & general expenses for FY 2014-15 works out to Rs. 2.68 Crores.

Table 7.7.2.2 : A&G expenses approved for FY 2014-15

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Rent, rates & taxes		0.00
2	Domestic Travel Allowances	1.51	0.13
3	Office Expenses	0.02	0.12
4	Insurance		0.00
5	Membership & Regulatory Fees		0.00
6	Consultancy Fees and other professional fees		0.00
7	Electricity & Water Charges		0.00
8	Advertisement & Publicity		0.00
9	Special Service/Collection and Meter reading		0.00
10	Expenses of CGRF (Office)		0.00
11	Other Expenses	0.21	1.56
12	Other material related expenses	0.92	0.86
<b>13</b>	<b>Total</b>	<b>2.66</b>	<b>2.68</b>
14	Add/Deduct share of others (to be specified)		0.00
<b>15</b>	<b>Total expenses</b>	<b>2.66</b>	<b>2.68</b>
16	Less: Capitalized		0.00
<b>17</b>	<b>Net expenses</b>	<b>2.66</b>	<b>2.68</b>
18	Add: Prior period		0.00
<b>19</b>	<b>Total A&amp;G Expenses</b>	<b>2.66</b>	<b>2.68</b>

Commission considers the Administration and General Expenses of Rs. 2.68 Crores as reasonable and approves the same for FY 2014-15.

### 7.7.3 Repair and Maintenance Expenses

#### Petitioner's submission

EDA&N has been undertaking various Repairs and Maintenance activities as a step towards improvement of systems, reduction in breakdowns, reduction in response time and increasing preventive maintenance. The R&M expenses for FY 2014-15 are escalated by 8.70% over estimated expenses for FY 2013-14 to capture the inflationary increases in the



costs. It is requested to Hon'ble Commission to approve R&M expenses of Rs. 39.51 crores for FY 2014-15.

### Commission's Analysis

As may be seen from para 6.7.3, Commission has considered the Repair & Maintenance Expenses as Rs. 36.55 Crores for FY 2012-13 for reasons explained therein. Taking Rs. 36.55 Crores as a base for FY 2014-15 and after applying the escalation of 5.68%, R&M expenses for FY 2014-15 works out to Rs. 38.30 Crores.

Table 7.7.3.1 : R&M expenses approved for FY 2014-15

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Plant & machinery *	39.51	36.99
	-Plant & Apparatus		0.00
	-EHV substations		0.00
	- 33kV substation		0.00
	- 11kV substation		0.00
	- Switchgear and cable connections		0.00
	- Others		0.00
	<b>Total</b>	<b>39.51</b>	<b>36.99</b>
2	Buildings (Electricity Residential & Non-Residential)		0.00
3	Hydraulic works & civil works		0.00
4	Line cable & network		0.00
	-EHV Lines		0.00
	- 33kV lines		0.00
	- 11kV lines		0.00
	- LT lines		0.00
	- Meters and metering equipment		0.00
	- Others		1.31
<b>Total</b>	<b>0.00</b>	<b>1.31</b>	
5	Vehicles		0.00
6	Furniture & fixtures		0.00
7	Office equipment		0.00
8	Minor R&M Works		0.00
9	<b>Total</b>	<b>39.51</b>	<b>38.30</b>
10	Add/Deduct share of others (To be specified)		0.00
11	<b>Total expenses</b>	<b>39.51</b>	<b>38.30</b>
12	Less : Capitalized		0.00
13	<b>Net expenses</b>	<b>39.51</b>	<b>38.30</b>
14	Add: prior period		0.00
15	<b>Total R&amp;M expenses</b>	<b>39.51</b>	<b>38.30</b>

Therefore the Commission considers the Repair and Maintenance expenses of Rs. 38.30 Crores as reasonable and approves the same for FY 2014-15.

#### 7.7.4 Summary of O & M Expenses

The overall summary of O&M expenditure approved by the Commission for FY 2014-15 vis-à-vis submission of the petitioner is given below:

Table 7.7.4.1 : Summary of O & M expenses

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Employee Expenses	60.46	54.03
2	A&G Expenses	2.66	2.68
3	R&M Expenses	39.51	38.30
4	<b>Sub-Total</b>	<b>102.63</b>	<b>95.01</b>
5	Less: Expenses Capitalised		
6	<b>Total O&amp;M Expenses</b>	<b>102.63</b>	<b>95.01</b>

## 7.8 Capital Expenditure and Capitalization

### Petitioner's Submission

The petitioner has submitted the CAPEX of Rs 148 Crores in FY 2014-15 and capitalization of Rs 13.95 Crores.

### Commission's analysis

Commission observes that the capital expenditure and the capitalization submitted by the petitioner for FY 2014-15 and the requirement of maintaining the reliable supply for the consumers of UT of Andaman & Nicobar Islands.

As per the regulation 21 of JERC for the State of Goa and UTs (Terms and conditions for determination of Tariff), Regulation 2009 specifies that the licensee shall propose in their filings, a detailed capital investment plan, showing ongoing projects separately, that will spill into the ensuing year and new projects (along with their justification), that will commence in the ensuing year. The petitioner had not submitted the capital investment plan as per the regulations and did not give the present status of the capital expenditure incurred/capitalised.

As indicated in para 6.8 of this order, Commission **provisionally approves the capitalization of Rs. 13.95 Crores proposed by the petitioner for FY 2014-15**. Further, Petitioner is directed to submit

the detailed statement of the capital expenditure incurred quarterly and asset capitalization during the year for review and true up. The figures of capitalization of the assets includes the value of those assets, which after the required certificate from the Electrical Inspector have been commissioned on ground and commenced the commercial operation during the concerned year.

**As in case of review of FY 2013-14, this expenditure is being permitted as a special case to ensure the creation of infrastructure for adherence to Standard of Performance and Supply Code Regulations.**

## 7.9 GFA and Depreciation

### Petitioner's Submission

The petitioner has submitted that the opening value of gross fixed assets (GFA) for 2012-13 has been taken from the audited accounts for the FY 2011-12 and the same has been increased by addition of assets during the FY 2012-13 & estimated addition during FY 2013-14. Thereafter, planned additions during 2014-15 have been considered and accordingly, GFA has been computed for FY 2014-15. The GFA movement is given in the table below:

*Table 7.9.1 : Gross Fixed Asset Movement submitted by the petitioner*

Financial Year	Opening Balance (Rs. Crores)	Addition during year (Rs. Crores)	Closing Balance (Rs. Crores)
FY 2011-12	59.76	3.02	62.78
FY2012-13	62.78	36.85	99.63
FY2013-14	99.63	60.41	160.04
FY2014-15	160.04	13.95	173.99

### Commission's analysis

The petitioner has submitted in the petition that the value of gross fixed asset for FY 2012-13 has been taken from audited accounts of FY 2011-12 and the same has been increased by addition of assets during the FY 2012-13 & estimated addition during FY 2013-14 and FY 2014-15. Further the petitioner in its submission to compliance to directive no. 3 has submitted the following

#### Quote

*"The proposal for hiring of Consultant on Selection basis for preparation of Fixed Assets Register was turned down by the A&N Administration with the remarks to go for open tender.*

*The tender for hiring of consultants for preparation of Fixed Assets Register has been floated. The Fixed Assets Register will be prepared within six months after finalization of tender for hiring of consultant for the purpose.*

*In view of the same the Electricity Department, A&N Administration prays before the commission to allow more time for submission of Fixed Assets Register."*

## Unquote

As indicated in para 6.8 and 6.9 of this order, Commission has therefore considered the GFA and capitalization approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013 as a base for estimating the depreciation for FY 2013-14 and FY 2014-15.

As per Regulation 26 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 specifies that depreciation for the assets shall be calculated annually at the rates specified by CERC from time to time. The effective rate of depreciation for assets linked to Plant & Machinery & Vehicles is 5.28%, Buildings is 3.34% and Furniture is 6.33% vide Appendix-III (Depreciation schedule of CERC (Terms and Conditions of Tariff) Regulations, 2009. The depreciation for the FY 2013-14 has been worked out at Rs. 4.11 Crores.

**In view of above, Commission considers the depreciation of Rs. 5.95 Crores as reasonable considering Rs. 125.65 Crores as the opening value of assets at the beginning of the year.**

The depreciation approved for FY 2014-15 is given below:

*Table 7.9.2 : Depreciation approved by the Commission for FY 2014-15 (in Rs. Crores)*

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Opening Value of Assets at the beginning of the year	159.74	125.65
2	Additions during the year	13.95	13.95
3	Gross Fixed Assets at the end of year	173.69	139.60
<b>4</b>	<b>Average Assets</b>	<b>166.72</b>	<b>132.63</b>
5	Average Rate of Depreciation	4.80%	4.49%
<b>6</b>	<b>Depreciation for the year</b>	<b>8.00</b>	<b>5.95</b>

*Table 7.9.3 : Calculation of the Depreciation for FY 2014-15 (in Rs. Crores)*

Sr. No.	Particulars	Value of assets at the beginning of FY 2014-15	Addition during FY 2014-15	Closing balance at the end of FY2014-15	Rate of Depreciation	Depreciation for FY 2014-15
1	2	3	4	5	6	7
1	Plant & Machinery	97.92	6.45	104.37	5.28%	5.34
2	Buildings	14.63	7.50	22.13	3.34%	0.61
3	Vehicles	0.00	0.00	0.00	9.50%	0.00
4	Furniture and Fixtures	0.00	0.00	0.00	6.33%	0.00
5	Computers and Others	0.00	0.00	0.00	6.33%	0.00
6	Land	13.10	0.00	13.10	0.00%	0.00
<b>7</b>	<b>Total</b>	<b>125.65</b>	<b>13.95</b>	<b>139.60</b>		<b>5.95</b>

**Commission therefore considers the depreciation of Rs. 5.95 Crores as reasonable and approves the same for FY 2014-15.**

## **7.10 Interest and Finance Charges**

### **7.10.1 Interest on Loan**

#### **Petitioner's Submission**

The petitioner has submitted that ED-A&N being a Government Department, the entire capital employed till date has been funded through equity infusion by the Central Government through budgetary support without any external borrowings. The interest on debt/loan has been calculated considering debt to be 70% of GFA.

#### **Commission's analysis**

As per the JERC tariff regulations 2009:

#### ***"25. Interest and Finance Charges on Loan***

*(1) For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the rate of interest and schedule of repayment as per the terms and conditions of relevant agreements.*

*(2) Interest and finance charges on loan capital for new investments shall be computed on the loans, duly taking into account the rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall, however, be restricted to the prevailing Prime Lending Rate of the State Bank of India.*

*(3) The interest rate on the amount of equity above 30% treated as loan shall be the weighted average rate of interest on loan capital of the generating company / licensee :*

*Provided that interest and finance charges of renegotiated loan agreements shall not be considered, if they result in higher charges:*

*Provided further that interest and finance charges on works in progress shall be excluded and shall be considered as part of the capital cost.*

*(4) Interest charges on security deposits, if any, made by the consumers with a generating company/licensee, shall be equivalent to the bank rate or at the rate , if any, specified by the Commission whichever is higher.*

*(5) In case any moratorium period is availed of, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.*

*(6) The Commission shall allow obligatory taxes on interest, commitment charges, finance charges and any exchange rate difference arising from foreign currency borrowings, as finance cost.*

*(7) Any saving in costs on account of subsequent restructuring of debt shall be passed on to the consumers.”*

The petitioner has claimed interest on the sum of ‘Capital Work in Progress’ and ‘Gross fixed assets’ at the end of the year and has not considered the debt equity ratio as per the regulations. The Petitioner has not borrowed any loans in the past upto 31<sup>st</sup> September 2011 and has also not borrowed any loan to meet the capital expenditure for FY 2014-15. Therefore in the absence of actual value of gross fixed assets and considering the petitioner’s submission that ‘the ED A&N being a Government Department, the entire capital employed till date has been funded through equity infusion by the Central Government through Budgetary support without any external borrowings.’ The interest charges projected by the ED A&N for FY 2014-15 are on computed on the sum of ‘Capital Work in Progress’ & ‘Assumed value of Gross Fixed Assets’ without any external borrowings.

**As indicated in para 6.8, 6.9 of this order; In the instant case, the licensee has not provided the crucial information to ascertain that assets that are effectively/actually deployed for the year for which tariff is being claimed or fixed; Hence the servicing of assets in the form of interest on loan and return on assets is indeterminate at this stage on the opening GFA, hence not been considered on the submitted value of assets. The same shall be considered at true-up stage if full details are made available.**

As indicated in para 6.8, 6.9, 7.8 and 7.9 of this order, the Commission has now considered an opening normative loan of Rs. 81.71 Crores for FY 2014-15 and added normative loan for FY 2014-15 of Rs. 9.77 Crores being 70% of capitalization considered for FY 2014-15 to calculate the interest on normative loan amount. Commission has considered the SBI PLR rate which is now substituted as SBI advance rate, at 14.75% as on 1<sup>st</sup> April 2014 for FY 2014-15. The Commission approves the total interest charges for the year at Rs. 12.17 Crores as given below:

Table 7.10.1.1 : Normative Interest Charges approved by the Commission for FY 2014-15 (in Rs. Crores)

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Opening Normative Loan	112.03	81.71
2	Add: Normative Loan during the year	9.77	9.77
3	Less: Normative Repayment	11.20	8.17
4	Closing Normative Loan	110.60	83.30
<b>5</b>	<b>Average Normative Loan</b>	<b>111.32</b>	<b>82.51</b>
6	Rate of Interest (@SBAR rate)	14.45%	14.75%
<b>7</b>	<b>Interest on Normative Loan including bank charges</b>	<b>16.09</b>	<b>12.17</b>

Accordingly, the Commission has considered the Normative Interest on loans as Rs. 12.17 Crores as reasonable and approves the same for FY 2014-15.

### 7.10.2 Interest on Working Capital

#### Petitioner's Submission

The petitioner has submitted that The EDA&N has computed the Interest on Working Capital for FY 2014-15 on normative basis. As per the JERC Tariff Regulations, for the purpose of computation of normative working capital and Interest on working capital, the components of working capital are as follows:

- Two month's fuel cost
- One month's power purchase cost
- One month's employee costs
- One month's administration & general expenses
- One month's R&M Cost

The rate of interest on working capital has been considered as per SBI Prime lending rate as on 1st April of the respective year, which is 14.45% as on 1st April 2013.

The interest on normative working capital for FY 2014-15 works out to Rs. 9.54 Crores.

### **Commission's analysis**

As per the regulation 29 of JERC tariff regulations

“

#### **29. WORKING CAPITAL AND INTEREST RATE ON WORKING CAPITAL**

- 5) *For generation and transmission business, the working capital shall be as per CERC norms.*
- 6) *Subject to prudence check, the working capital for distribution business shall be the sum of one month requirement for meeting:*
  - a. *Power purchase cost.*
  - b. *Employees cost.*
  - c. *Administration & general expenses and*
  - d. *Repair & Maintenance expenses.*
- 7) *Subject to prudence check, the working capital for integrated utility shall be the sum of one month requirement for meeting :*
  - a. *Power purchase cost*
  - b. *Employees cost*
  - c. *Administration & general expenses*
  - d. *Repair & Maintenance expenses.*
  - e. *Sum of two month requirement for meeting Fuel cost.*
- 8) *The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on the 1st April of the relevant financial year. The interest on working capital shall be payable on normative basis notwithstanding that the generating company / licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures.”*

In accordance with Section 47(4) of the Electricity Act 2003, the distribution licensee is required to pay interest on security deposit collected from the consumers. If this security deposit is invested in the form of interest earning fixed deposits or other similar instruments. The interest earned from such investment could be utilized to pay the interest to the consumers under section 47(4) of the Electricity Act 2003. However, it is



noted that the petitioner has not invested any of the security deposit held and the said amount is available to the petitioner. Accordingly, the Commission has allowed the interest payable to the consumer as expense in this order. Commission has considered the security deposit (on account of misc. deposits) available with the Petitioner as a source to meet working capital requirements and has deducted this amount from the working capital requirement considered for interest for FY 2014-15.

The Commission would like to highlight that it has provisionally considered the amount of security deposit as approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013 and will review the same at the time of true-up.

Further, Commission clarifies that SBI PLR rate has now been substituted as SBI Advance Rate at 14.75% applicable as on 1<sup>st</sup> April 2014 for FY 2014-15. Commission has computed the requirement of working capital based on the provisions of the regulations. Working capital has been reduced by the amount of Consumer Security Deposit/Misc. deposit available with the petitioner considering its usage for meeting part of working capital requirements.

Table 7.10.2.1 : Interest on Working Capital approved by the Commission for FY 2014-15 (in Rs. Crores)

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Fuel Cost for 2 months	34.21	44.19
2	Power Purchase Cost for one month	23.22	15.18
3	Employee Cost for one month	5.04	4.50
4	A&G Expenses for one month	0.22	0.22
5	R&M Expenses for one month	3.29	3.19
6	<b>Total Working Capital for one month</b>	<b>65.99</b>	<b>67.29</b>
7	<b>Total Working after deduction of Security Deposit from Working Capital Requirement</b>	<b>65.99</b>	<b>65.95</b>
8	SBAR Rate	14.45%	14.75%
9	<b>Interest on Working Capital</b>	<b>9.54</b>	<b>9.73</b>

**Commission considers Rs. 9.73 Crores as Interest on Working Capital as reasonable and approves the same for FY 2014-15.**

### 7.10.3 Interest on Security Deposit

#### **Petitioner's Submission**

The petitioner has submitted that the Electricity Department collects deposits from consumers and contractors (as Earnest Money Deposit or security). While security deposit from consumers is taken at the time of providing the connection and has to be repaid to the consumers at the time of surrender of the connection; security deposit from contractors is adjusted subsequent to satisfactory completion of the contracted work. These deposits are in the form of Fixed Deposits Receipts (FDR)/ Bank Guarantee and in case of FDR the interest is directly paid to the consumer. Hence no interest on security deposits has been projected in the petition.

#### **Commission's analysis**

As can be observed, the petitioner has silently indicated that they have the security deposit of the consumers and the petitioner has not paid any interest on the security deposit from the consumers except fixed deposits where interest is directly paid to the consumers as stated by the petitioner.

As per Section 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.*

In terms of the section 47 (4) of the Electricity Act, 2003 'the distribution licensee is required to pay interest on security deposit collected from consumers equivalent to bank rate or more as may be specified by the Commission.'

The petitioner had submitted that the consumers are required to make a deposit equivalent to the security amount in bank in their name with a lien in favour of Electricity Department. The bank is authorized to release the fixed deposit only after the receipt of 'no objections/instruction' from the department. In the event of surrender of connection by the consumer and clearance of all dues; the department issues a NOC to the bank for releasing the fixed deposit. The interest accrued on the deposit is credited to the consumer's account.

As indicated in para 6.10.3 of this order and 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 2014-15 (at the Bank Rate i.e. 8.75% per annum applicable as on 1<sup>st</sup> April 2014) to the consumers on their security deposit irrespective of petitioner's constraints and this needs to be explicitly indicated on the consumers bill, a sum of Rs. (calculated amount) as 'Interest on security deposit' at the rate of 8.75% per annum for the FY

2014-15 in the consumer bill of April 2014. **Any non-compliance in this regard shall be viewed seriously by the Commission.**

The Commission would like to highlight that it has provisionally considered the amount of security deposit as approved for FY 2012-13 in the order dated 31<sup>st</sup> March 2013 and will review the same at the time of true-up.

**In view of the above, the Commission allowed Rs. 0.12 Crores as the interest on security deposits as expenditure for FY 2014-15.**

### 7.11 Return on Capital Base/Equity

#### Petitioner's Submission

The petitioner has submitted that EDA&N would like to submit that Distribution Business has always been perceived to be a business having a greater inherent risk than the Generation or Transmission Business due to various factors amongst which the direct interface with the retail consumers is the biggest risk. The same has been recognized by many Commissions across the country and they have proposed a higher rate of return on the equity invested in distribution business as compared to generation and transmission business. This has been demonstrated by the various Commissions by offering rate of return @16% for distribution business in their Tariff Regulations.

Debt: Equity norm of 70:30 and RoE of 16% for FY 2014-15 has been considered and accordingly, the return on equity is calculated as given below.

*Table 7.11.1 : Return on Equity*

Sr. No.	Particulars	FY 2014-15 Estimates (Rs. Crores)
1	Opening Equity Amount	48.01
2	Equity Addition during year (30% of Capitalisation)	4.19
3	Closing Equity Amount	52.20
4	Average Equity Amount	50.10
5	Rate of Return on Equity	0.16
6	Return on Equity	8.02

However, the petitioner has computed the return on equity/NFA as per the provisions of the regulations in formats submitted along with the petition and has considered same for the ARR of

FY 2014-15 submitted for approval. The computation by petitioner as submitted in formats is tabulated below:

*Table 7.11.2 : Return on Equity/NFA for FY 2014-15 (in Rs. Crores)- Petitioner's Submission*

Sr. No.	Particulars	Previous Year (Actuals)	Current Year (R.E)	Ensuing Year (Projection)
		2012-13	2013-14	2014-15
1	2	3	4	5
1	Gross block at beginning of the year	62.78	99.63	160.04
2	Less accumulated depreciation	2.76	6.45	12.60
3	Net block at beginning of the year	60.02	93.18	147.44
4	Less accumulated consumer contribution	0.00	0.00	0.00
5	Net fixed assets at beginning of the year	60.02	93.18	147.44
6	<b>Reasonable return @3% of NFA</b>	<b>1.80</b>	<b>2.80</b>	<b>4.42</b>

### Commission's analysis

ED A&N being an integrated utility in its present form as defined in Regulation 2(9) of the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 and ED A&N is not restructured and corporatized till date. As of now, it is an integrated utility and it is entitled to return on capital base under the provisions of Schedule VI of the repealed Electricity (Supply) Act, 1948 vide provision under Regulation 23 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009. The basic requirement for consideration of either return on capital base or return on equity is the basic information of assets in the form of the assets & depreciation registers besides other data. ED A&N has not been maintaining the adequate information.

**As indicated in earlier para 6.8, 6.9, 6.10, 7.8, 7.9 and 7.10; the Commission has considered Rs. 125.65 Crores as the gross block at the beginning of FY 2014-15 and accumulated depreciation of Rs. 7.49 Crores. Commission has therefore considered the reasonable return of 3.54 Crores at the rate of 3% on net fixed asset of Rs. 118.16 Crores at the beginning of FY 2014-15.**

*Table 7.11.3 : Return on Capital Base/NFA approved by the Commission for FY 2014-15 (in Rs. Crores)*

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Gross block at beginning of the Year/Opening GFA or equity	160.04	125.65
2	Less accumulated depreciation/Addition in Equity	12.60	7.49
3	Net block at beginning of the year /Closing Equity	147.44	118.16
4	Less accumulated consumer contribution		
5	<b>Net fixed assets at beginning of the year /Average Equity Amount</b>	<b>147.44</b>	<b>118.16</b>
6	<b>Reasonable return @3% of NFA /Return on Equity @16%</b>	<b>4.42</b>	<b>3.54</b>

In view of the above, Commission considers the Return on Net Fixed Assets of Rs. 3.54 Crores as reasonable and approves the same for FY 2014-15.

## 7.12 Non-Tariff Income

### Petitioner's Submission

The petitioner has estimated Rs. 2.46 Crores for FY 2014-15 based on the actuals of FY 2012-13 and revised estimates of FY 2013-14 as the non-tariff income in the form of meter rent, late payment charges & misc. charges from various categories of consumers.

### Commission's analysis

The Commission has escalated the NTI approved for FY 2013-14 by 5% to arrive at the Non Tariff Income for FY 2014-15 as tabulated below:

Table 7.12.1 : Non Tariff Income for FY 2014-15 approved by the Commission

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	House Rent Recovery		
2	Interest Income		
3	Fees for RTI application		
4	Tender Fees/EMD		
5	Meter/Service Rent/Testing	0.74	0.48
6	Late payment surcharge		
7	Misc. Receipts/Income	1.72	1.72
8	Penalties		
9	Capacitor Charges		
10	Demand Notice/Name Changing		
11	Supervision /Reconnection Charges		
12	Security Deposit		
13	Others		
14	S/C charges		
15	<b>Total income</b>	<b>2.46</b>	<b>2.20</b>
16	Add: prior period income		
	<b>Total Non-Tariff Income</b>	<b>2.46</b>	<b>2.20</b>

Therefore, the Commission considers Rs. 2.20 Crores as reasonable and approves the same for FY 2014-15.

## 7.13 Revenue at existing tariff for FY 2014-15

**Petitioner's Submission**

The petitioner has estimated Rs. 108.72 Crores as the revenue for FY 2014-15.

**Commission's analysis**

Commission has estimated the revenue on the basis of revised estimates of energy sales for FY 2014-15. The petitioner has not submitted the slab wise sales and revenue in accordance with the existing Tariff schedule, the Commission therefore directs the petitioner to maintain slab wise details of sales and revenue and should submit the same in the next ARR and tariff petition. In absence of slab wise details of sales and revenue, Commission has therefore considered the average billing rate estimated by the petitioner of existing tariff for domestic, industrial and commercial category for calculation of revenue for FY 2014-15 at existing tariff.

*Table 7.13.1 : Revenue at existing tariff for FY 2014-15 approved by the Commission*

S.No.	Category/Consumption Slab	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
A	Domestic	31.83	32.57
B	Commercial	38.51	40.10
C	Industry	6.21	6.68
D	Bulk	28.10	28.53
E	Public Lighting	3.94	4.24
F	Irrigation Pumps & Agriculture	0.13	0.12
<b>Total</b>		<b>108.72</b>	<b>112.24</b>

**Commission has estimated Rs. 112.24 Crores based on the estimated sales as reasonable and approves the same for FY 2014-15.**

**7.14 Aggregate Revenue Requirement for FY 2014-15****Commission's analysis**

The Commission has considered and approved the ARR for FY 2014-15 based on the items of expenditure indicated in the preceding Chapters and the actuals submitted by the petitioner of Power purchase costs, revenue and sales and the same has been summarized in the table below:

Table 7.14.1 : Aggregate Revenue Requirement approved for FY 2014-15  
(Rs. in Crores)

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
1	Cost of fuel	205.28	265.15
2	Cost of power purchase for full year	278.69	182.18
3	Employee costs	60.46	54.03
4	Administration and General Expenses	2.66	2.68
5	Repair and Maintenance Expenses	39.51	38.30
6	Depreciation	8.00	5.95
7	Interest and Finance charges	16.09	12.17
8	Interest on Security Deposit & Interest on Working Capital	9.54	9.84
9	Return on NFA /Equity	4.42	3.54
10	Provision for Bad Debt		
11	Payment of contingency liability		
12	Incentive on achievement of norm of T&D loss		
<b>13</b>	<b>Total Revenue Requirement</b>	<b>624.65</b>	<b>573.85</b>
14	Less: Non Tariff Income	2.46	2.20
15	Less: Revenue from Surplus Power Sale/UI		
16	Less: Revenue from Short term sale		
<b>17</b>	<b>Net Revenue Requirement (13-14-15-16)</b>	<b>622.18</b>	<b>571.65</b>

The estimated (surplus)/gap have been mentioned in the following table for FY 2014-15:

Table 7.14.2 : Approved Revenue Gap for FY 2014-15 (Rs. in Crores)

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
<b>17</b>	<b>Net Revenue Requirement (13-14-15-16)</b>	<b>622.18</b>	<b>571.65</b>
18	Revenue from Retail Sales at Existing Tariff	108.72	112.24
<b>19</b>	<b>Net Gap / (Surplus) (17-18)</b>	<b>513.47</b>	<b>459.41</b>
20	Recovery on account of PPC variations		
<b>21</b>	<b>Gap after adjusting PPC variations</b>	<b>513.47</b>	<b>459.41</b>
22	Gap/(Surplus) for the previous year		
23	Carrying Cost		
24	Past Arrears/Refunds to Consumers		
<b>25</b>	<b>Total Gap/ (Surplus) (21+22+23+24)</b>	<b>513.47</b>	<b>459.41</b>
26	Additional revenue from proposed tariff		
<b>27</b>	<b>Revenue Gap/ (Surplus), if any, after proposed tariffs (25-26)</b>	<b>513.47</b>	<b>459.41</b>

Sr. No.	Particulars	FY 2014-15	
		(Petitioner's submission)	Approved by the Commission
28	Budgetary Support from Government	513.47	459.41
29	<b>Net Final Revenue Gap/ (Surplus) (27-28)</b>	<b>0.00</b>	<b>0.00</b>

As can be seen from the table mentioned above, there is a revenue gap of Rs. 459.41 Crores at the end of FY 2014-15 as estimated by the Commission against the gap of Rs. 513.47 Crores furnished by the petitioner in the petition, formats and additional submissions. Commission considers the estimated revenue gap of Rs. 459.41 Crores as reasonable and approves the same for FY 2014-15.

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 A&N. Therefore keeping this fact in view the assessed gap of FY 2014-15 will be borne by the Administration of A&N through the Non-Plan funding in Annual Plan by the Govt. of India to the Electricity Department of the Andaman & Nicobar Islands as communicated by Assistant Secy (Power) vide letter dated 31<sup>st</sup> March 2014.



## 8. DIRECTIVES

### 8.1 Background

While examining the compliance note and supporting documents submitted by the Petitioner in the proposed ARR and Tariff Petition for FY 2014-15, it has been observed that the some of the directives issued in tariff order for FY 2012-13 dated 04<sup>th</sup> June 2012 and tariff order for FY 2013-14 dated 31<sup>st</sup> March 2013 and have not been fully complied with by ED-A&N.

It has been observed that the distribution licensee has not been maintaining the required information and has used assumptions for computation of several components of ARR. ED A&N requires substantial improvement in maintenance of data relating to operational and financial parameters. Andaman & Nicobar being the cluster of 572 islands and out of these only 38 are permanently inhabited and 100 % villages have been electrified through 176 no. of Diesel Generating sets with capacity from 6 KW to 2500 KW at 53 power houses located in these 29 islands including one hydro-electric power generating station respectively. Besides this, the Electricity Department has been purchasing Energy from M/s Surya Chakara Power Corporation Limited (SPCL), an Independent Power Producer since 22nd April 2003 having capacity of 20 MW with 4 units of 5 MW Diesel Generating Sets. Further, the Electricity Department has hired 3 Diesel Power Plants with cumulative capacity of 16 MW and also purchases solar energy from NTPC's Solar power plant of capacity 5 MW to meet their Energy requirement.

As such no separate accounts for various components of cost of each Diesel Generating Set (owned & maintained by the department), Hydro power, Solar power generation are being maintained and as stated above the petitioner has used assumptions for computation of several components of ARR. In spite of constraints, the petitioner had attempted to submit its first ARR and tariff petition for FY 2012-13 and second ARR and tariff petition for FY 2013-14. The Commission has therefore has taken a pragmatic view after looking at the operational constraints and hereby directed to comply with the following direction in order to evolve and develop an accounting mechanism in the larger interest of stakeholders.

**Compliance of Directives issued by the Commission in the tariff order on Petition no 65/2012 for FY 2012-13 dated June 04'2012.**

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

**Quote “**

*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-actuals 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 audited accounts for consideration by the Hon'ble Commission.*

**“ Unquote**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*“Account for the period April'12 to September'12 is under compilation. Review petition will be filed after preparation accounts for the period. Hon'ble Commission may kindly allow the same”*

**Unquote**

**Commission's Comments**

In view of the revised estimates submitted by the petitioner for FY 2012-13 along with half yearly actuals along with ARR and Tariff Petition for FY 2013-14, Commission has undertaken the review of FY 2012-13.

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 audited accounts for consideration by the Commission along with ARR & Tariff Petition for FY 2014-15.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's Submission**

**Quote** " It is submitted that the Annual accounts for the FY 2012-13 has not been audited. The petition for true-up shall be submitted after completion of audit.

It is further submitted that the accounts for the period April'13 to September'13 is under compilation. Submission for review shall be submitted subsequently." **Unquote**

**Commission's Comments**

The Petitioner is directed to expedite the preparation of annual accounts of FY 2012-13 and file true-up petition for FY 2012-13. The preparation of annual accounts for FY 2012-13 was expected to be completed by this year; the delay in submission of the same is not appreciated and Commission directs the utility to file true-up along with the audited accounts in the next ARR & tariff filing. **The Commission further directs the petitioner that the accounts must be prepared on Commercial Principles for Accounting.**

**Directive 2: Fuel and Power Purchase Cost Adjustment Formula (FPPCA): - Ref Petition 65/2012 –TO June 04,2012**

**Quote** "

*FPPCA formula is under finalization and will be separately notified. It is seen that in the case of A&N, 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 A&N.*

*Keeping the above fact 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 power purchase cost with the consumers for Commission's consideration and approval.*

**Unquote"**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*“The EDA&N is not proposing to share the increase in Power Purchase cost with the consumers during year 2012-13. This shall for the time being be borne by the EDA &N. It is submitted that the Hon’ble Commission may kindly approve the same.”*

**Unquote**

**Commission’s Comments**

Commission has noted the submission made by the petitioner that the Electricity Department, A&N shall borne the increase in Power purchase cost and in view of the strategic importance of the islands; Commission considers the submission of the petitioner till the time, the alternative and cheaper sources of power is available to the consumers of A&N.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner’s submission**

**Quote**

“ The Electricity Department, A&N Administration has not proposed to share the increase in Power Purchase Cost and the cost of fuel with the consumers during the year FY 2012-13 & FY 2013-14 and still proposes to bear the Fuel & Power Purchase Cost by the department for the FY 2014-15.

The Hon’ble Commission may kindly approve the same.”

**Unquote**

**Commission’s Comments**

The Commission has noted the submission of the petitioner and has dropped this directive for the time being.

**Directive 3: Preparation of Fixed Asset Register: - Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

*ED A&N has stated that the complete updated data of fixed assets is not available. Unless the function wise, asset wise data is updated, correct asset value and depreciation thereon cannot be ascertained.*

*The petitioner is directed to submit the updated fixed asset register in line with JERC regulations as modified from time to time, with next ARR & Tariff Petition.*

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*"Hiring of consultants for preparation of fixed assets register in line with JERC regulations is under process. Records are required to be collected & compiled from various power houses spread across A&N Islands. In view of the above EDA&N prays for more time to comply with the directive."* **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The timeline stipulated for the submission as per the direction should be adhered to and progress report should be made available by September 30'2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote**

*"The proposal for hiring of Consultant on Selection basis for preparation of Fixed Assets Register was turned down by the A&N Administration with the remarks to go for open tender. The tender for hiring of consultants for preparation of Fixed Assets Register has been floated. The Fixed Assets Register will be prepared within six months after finalization of tender for hiring of consultant for the purpose.*

*In view of the same the Electricity Department, A&N Administration prays before the commission to allow more time for submission of Fixed Assets Register."*

**Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The timeline as committed by the Petitioner in its submission should be adhered to and progress report should be submitted before the Commission by 30<sup>th</sup> September 2014, failing which the Commission will be constrained to initiate appropriate actions against the utility.

**Directive 4: Load Forecasting study: -- Ref Petition 65/2012 –TO June 04,2012**

**Quote "**

*The Petitioner is directed to conduct a detailed load forecasting study for short term (2-5 years), medium term (7-10 years) and long term (15-25 years) in order to understand the load*

requirements in their area at various periods and submits to Commission along with next tariff petition.

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner’s submission**

**Quote**

*“The Central Electricity Authority (CEA), New Delhi under MOP, Govt. of India had conducted 18th EPS (Electric Power Survey) and submitted report containing forecast detail of A&N Islands also.....”* **Unquote**

**Commission’s Comments**

Action taken is noted. The growth projections of the load, sales and consumers etc as per ED (A&N) are at variance with 18<sup>th</sup> EPS. This may be taken up with CEA for alignment. The Petitioner is directed to submit the status report and progress in this regard by September 30’ 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner’s submission**

**Quote**

*“The department is carrying out Load Forecasting study with respect to various categories of consumers across all inhabited islands viz-a-viz available sources of power. Subsequent to the compilation of above assessment report, the matter will be taken up with CEA as per the directive of the Hon’ble Commission to align the variance with the 18<sup>th</sup> EPS report. The Hon’ble Commission may kindly allow the same.”* **Unquote**

**Commission’s Comments**

The submission of the Petitioner is noted. The Commission observes that considerable amount of time has passed since the issuance of the above directive; however, very little progress has been made. The Commission does not appreciate the delay by the Petitioner in adherence to the above directive. The status report on the same should be submitted before the Commission by 30<sup>th</sup> September 2014 failing which the Commission will be constrained to take appropriate actions against the utility.

**Directive 5: Optimization of Fuel Cost-- Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

*There are 135 no. of diesel generating sets excluding 4 DG sets of M/s SPCL located in 29 islands of Andaman & Nicobar catering to their electricity needs; the capacity of diesel generating sets of*

*ED A&N varies from 12 KW to 2500 KW. 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 also be proper accounting of generating unit wise fuel receipts & issues. The ED A&N 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 along with the variation could be worked out. Accordingly the petitioner is directed to furnish such details along with the next filing.*

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner’s submission**

**Quote**

*“As per the Directive of the Hon’ble Commission the ED, A&N has already implemented a system of accounting of power house wise fuel consumption and actual fuel consumption per unit of generation is being submitted.”* **Unquote**

**Commission’s Comments**

Inconsistencies has been observed in the submitted information in the petition in the absence of actual data in respect of PLF, heat rate, consumption of HSD, lubricating oil of the DG Sets owned by the ED- A&N. Further with reference to page xxxiv (a) & (b), the petitioner has used the Station heat rate and lubricating oil consumption norm of the IPP to project the consumption of HSD and lubricating oil for FY 2012-13 and FY 2013-14 for its own DG sets, Commission desired the information with regard to actual consumption of HSD, Lubricating oil, actual generation, auxiliary consumption, calorific value of fuel and its density to determine the actual heat rate for FY 2011-12, FY 2012-13(H1) and as such the additional information as submitted by the petitioner is accordingly considered for estimating the cost of power purchase and fuel & lubricants. As can be observed from the actual data, the PLFs, worked out station heat rate of the DG sets owned by the ED-A&N compare poorly with DG sets of IPP.

Following submission of Petition 124/2014, the Petitioner has informed the Commission about the hiring of the DG Sets of 10 MW and 5 MW without prior approval of the same under section 86(1) or Section 62 of EA 2003, thus making the situation fate accompli, which may or may not turn out to be falling in merit order procurement of Power in respect of Power Purchase Cost. This will distort the assessment of quantities of Power Purchase under Self Generation or

Purchase from IPP or generated through hired sets. It is hereby concluded that the petitioner should follow a consistency in the submissions made to the Commission.

In view of the above, the petitioner is also directed to carry out an energy audit to ascertain the pilferage and technical loss and list them separately.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** "to carry out an audit to ascertain the pilferage and loss, Rural Electrification Corporation has been approached to submit a Detail Project Report (DPR). The report ascertaining the pilferage and Loss will be submitted soon after its receipt from REC." **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The compliance of the above directive should be ensured before the next ARR & tariff filing and status report should be submitted before the Commission by 30<sup>th</sup> September 2014.

**Directive 6: Bill Payment:- - Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

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

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*“Collection of energy bill through 10 Consumer Service Centre (CSCs) under National e-Governance Programme has already been started in Port Blair Municipal area for the benefit of domestic consumers since December' 2011. For remaining consumers the same is under process. Online process is not in place and will be implemented in the 2nd phase.”* **Unquote**

**Commission's Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30' 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**



**Quote** “the software for web-based collection of Energy bills is under test stage and will be implemented after completion / rectification of all shortcomings of the software. This software will enable the consumers of any area to pay their Electricity bills at any CSC counters or with the collection centers at various section offices.

The above Web-based software is compatible for use as On-line collection of energy bill; hence after successful use of this software for a year, on-line collection of energy bill will be started in the 2nd phase.” **Unquote**

#### **Commission’s Comments**

The efforts of the Petitioner in this regard are appreciated. The status on the 2<sup>nd</sup> phase of implementation should be submitted before the Commission by 30<sup>th</sup> September 2014. The online bill payment facility is likely to result into increased collection of revenue receipts by the utility; progress on the same should be submitted along with the status report on implementation.

#### **Directive 7 : Collection of Arrears: -- Ref Petition 65/2012 –TO June 04,2012**

#### **Quote “**

*The Petitioner is directed to analyze the outstanding dues, bad debts etc. & construct a data base of such consumers including the 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.*

#### **Unquote”**

#### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

##### **Petitioner’s submission**

#### **Quote**

*“Outstanding dues & unrecoverable dues are being analysed and identification of outstanding of Rs. 50,000/- and above and more than six months from the consumers will be done. Compliance will be submitted to the Hon’ble Commission after completion of the exercise.”* **Unquote**

#### **Commission’s Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30’2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** " It is submitted that since the arrears comprise of very old dues and consumers are spread across various islands. Tracing of documents/details and analyzing the same for determination of recoverability of the dues will require further time. The Hon'ble Commission may kindly allow the report on the same to be submitted that along with the next ARR." **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The Petitioner, as per its request, is granted further time to comply with the above directive and is directed to submit the status report and progress in the collection of arrears along with the next ARR & tariff filing.

**Directive 8: Rural Electrification: -- Ref Petition 65/2012 --TO June 04,2012**

**Quote** "

*The Petitioner is directed to submit the status of rural electrification in their area along with the detailed plan for rural electrification with the timeline proposed to achieve the complete electrification of rural area as per definition of electrification in the Rural Electrification Policy.*

**" Unquote**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*"100% of the villages have been electrified as on October, 2012 (last two villages electrified in 10/2012.)"*

**Unquote**

**Commission's Comments**

Action taken is noted.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** "The directive stands complied as 100% of the villages have been electrified by October, 2012 which was also intimated to the Commission in reply to the Directives in the Tariff Order for FY 2012-13. As such the detailed plan for Rural Electrification in A&N Islands will not be required." **Unquote**

**Commission's Comments**

The compliance of the Petitioner is noted. This directive, is thereby, dropped.

**Directive 9: Capital expenditure: - Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

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

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*“Statement enclosed as Annexure -II.”*

**Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. As can be observed the submitted statement does not show the capitalization achieved. The timeline stipulated for the submission as per the direction should be adhered to and quarterly submissions should be made for the remaining quarters of FY 2012-13 and going forward for the coming years.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** “Details of Capital expenditure are submitted in the Format -5 of this petition” **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The Petitioner is directed to submit a detailed capital investment plan highlighting the cost-benefit analysis of each scheme separately and submit the same as per the regulations. Separate approval of the capital investment plan should be obtained from the Commission

**Directive 10 : Metering of consumer installations / replacement of Non-Functional or defective Meters:- Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

*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 to all consumers. ED A&N is directed to submit an action plan regarding installation/replacement of meters by 30th October 2012.*

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner’s submission**

**Quote**

*“100% metering has been done. Action plan is furnished below for replacement of defective meters. It is submitted that all the non-functional/ defective meters in operational area of the department shall be replaced within the schedule as provided below.*

S.No.	Date	%
1.	31/03/2013	10
2.	31/03/2014	50
3.	31/03/2015	40

**Unquote**

**Commission’s Comments**

Action taken is noted and the Petitioner is directed to expedite the work for completing the same on earlier schedules than shown above and to submit the status report and progress in this regard by September 30’ 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner’s submission**

**Quote**

Metering by Electricity Department in A&N islands in line to the CEA Regulation, 2006 (Installation and Operation of Meters) has been implemented and 31592 out of 1,13,688 Meters are Mechanical Meters which are proposed to be replaced by Electronic Meters in a phased manner. The Current Status of the Consumer Metering is tabulated below:-

S. No.	Description	Status as on 30.9.2013
1.	Name of Licensee	A&N Electricity Department
2.	No. of consumers	113688
	(i) Without meter	Nil
	(ii) With meter	113688
3.	No. of consumers having	
	(i) Mechanical meter	31592
	(ii) Electronic meter	82096
4.	Condition of Mechanical meters	
	(i) Working	28630
	(ii) Non-working	2962

5.	Condition of Electronic meter		
	(i) Working	77323	
	(ii) Non-working	4773	
6.	Total meters required to be installed / replaced		
	(i) Non installed	Nil	
	(ii) Non-working:	Mechanical	2962
		Electronic	4773
	(iii) Working:	Mechanical	28630
	<b>Total = 6(i+ii+iii):</b>		<b>36365</b>

### Unquote

#### Commission's Comments

The submission of the Petitioner is noted. The Commission appreciates the efforts of the Petitioner in this regard; particularly with regard to the metering of all the consumers. The status report and progress in this regard should be submitted before the Commission by 30<sup>th</sup> September 2014.

**Directive 11: Strengthening of the Consumer redressal system: - Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

*The Commission directs the petitioner to find a way to dispose all pending application as per provision 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 direct to follow the Standard of Performance notified by the Commission strictly and the status report are submitted for all the new/shifting connection application's pending with the reason for their pendency by more than 45 days.*

*The petitioner is directed to promote and give publicity to the functioning of the Consumer Grievance Redressal Forum, so that each consumer could approach to CGRF, for redressal of their grievances regarding electricity unresolved complaints/concerns.*

*Commission directs the petitioner to publicize the benefit to consumers, highlighting the steps and necessary documents required & to initiate the action on the following:*

- *Complaint against fast meters/defective meters*
- *Application for Shifting of electricity connection*
- *Application for New Connection*
- *Complaint 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., Ex. En., and SE A&N to hear and settle the public grievances and complaints of Electricity at spot so that no consumer is forced to visit to the Port Blair.*

**Unquote”**

#### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

##### **Petitioner's submission**

##### **Quote**

*“The directive of the Hon'ble Commission in this regard is being complied. Schedule for visit to different Islands by officers of the ED A&N to hear and settle the public grievances and complaints of electricity has been made & the same is being followed.”*

**Unquote**

**Commission's Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30' 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** "The directive of the Hon'ble Commission is already being complied with by scheduled visit of officers of the department to different islands to settle the public grievance and complaints. The officials of CGRF are also making visits to different islands in coordination with the officers of the department to sensitize the public regarding their rights as a consumer of Electricity Department." **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The status report with complete details such as the no. of visits by officials, settlement of grievances and issues unsettled/outstanding should be submitted before the Commission by every quarter henceforth.

**Directive 12: Demand Side Management and Energy Conservation: - Ref Petition 65/2012 –TO June 04,2012**

**Quote "**

*The petitioner should focus on Demand Side Management and Energy Conservation particularly in context of Peak load. ED A&N is directed to conduct a detailed study on demand side management and energy conservation for efficient use of electricity by various means. An action plan for the same shall be submitted by ED A&N to the Commission by 30<sup>th</sup> October 2012.*

**Unquote"**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*"The ED, A&N has already taken initiatives in this regard. Energy Conservation schemes are being implemented. Action plan for the same will be submitted by 31.12.2012. It is submitted that Hon'ble Commission may kindly allow the same."*

**Unquote**

**Commission's Comments**

Action taken is noted. The action plan was to be submitted by 31.12.2012 is still awaited .The Petitioner is directed to submit the status report and progress report on quarterly basis in this regard.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** "Demand Side Management is presently not followed due to the fact there is a substantial gap between the average cost of power generation and revenue realization. Moreover, majority of consumer are domestic consumer's i.e. 83% and industrial consumers are hardly 0.5%.

Energy Conservation Schemes are being implemented and consumers are sensitized throughout the year to use energy efficient electrical gadgets, use of solar water heaters in all the Hotels are mandatory in these islands.

It is submitted that Hon'ble Commission may kindly allow the same." **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The status report on the various energy conservation schemes along with supporting details should be submitted before the Commission by 30<sup>th</sup> September 2014.

**Directive 13: Exploration of Alternative sources of Electrical Energy: - Ref Petition 65/2012 –TO June 04,2012**

**Quote "**

*Commission observed that there is huge dependency on diesel for generating electricity, which not only increased the average cost of supply but also puts a burden on the utility's financial health. Commission has noticed that the Petitioner has taken few initiatives in this regard but the firm execution is required so as to speed up the process of their construction and achievement of commercial operation date in the given timelines. Therefore, it is inevitable for this distribution licensee to explore alternative sources of Power, and also consumer's contribution in this regard is required in terms of installation of roof top solar, wind or hybrid equipments to reduce their 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 so as to speed up the process of its execution.*

**Unquote"**



**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*"Reports of initiatives taken for renewable energy sources are attached ...."*

**Unquote**

**Commission's Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30' 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** " Memorandum of Understanding has been signed by the Electricity Department, A&N Administration with the following organizations to phase out the existing diesel based power plants:-

- i. Petronet LNG Ltd.(PLL) to carry out feasibility study for establishment LNG based power plant in Port Blair, South Andaman as pilot project and;
- ii. The Energy Research Institute (TERI) to study the feasibility of Renewable Energy based Power Projects by assessment of Renewable Energy Sources (Wind, Solar and Biomass) in 16 islands of A&N Islands.

Moreover, matter is also being taken with National Institute of Ocean Technology (NIOT) for harnessing of Tidal Energy for power generation in these islands.

It is submitted that Hon'ble Commission may kindly allow the same." **Unquote**

**Commission's Comments**

The efforts of the Petitioner in this regard are appreciated. The Solar Plants at Niel Island and Havelock Islands should also be made operational at the earliest. The status report on the above should be submitted before the Commission by 30<sup>th</sup> September 2014.

**Directive 14: Energy Audit: - Ref Petition 65/2012 –TO June 04,2012**

**Quote "**

*The Petitioner is directed to get an Energy Audit conducted to assess actual technical and commercial losses. The Energy audit of generating stations is also required for an actual assessment of losses. Based on the studies, ED A&N shall propose 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 30<sup>th</sup> October 2012.*

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner’s submission**

**Quote**

*“The appointment of agency is under process. Energy audit is required to be done by visiting various Islands and will take time to get completed. The Hon’ble Commission may kindly allow to submit the report along with next ARR.”*

**Unquote**

**Commission’s Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30’ 2013.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner’s submission**

**Quote** “The A&N Administration has conveyed approval for appointing M/s Petroleum Conservation Research Association (PCRA) on nomination basis. The signing of MOU between A&N Administration and M/s PCRA is under process. The report will be submitted soon after its receipt from PCRA.

Moreover, for reduction of losses the details of existing and proposed T&D Loss and associated ongoing/proposed works are as below:-

(Rs. in lakhs)

S I N O .	Selected Items	Unit	2013-14		2014-15				2015-16		20 16 - 17
			Existing		-----Target-----						
1	T&D Loss	%	18		17		16		15		
2	Ongoing works		Tar.	Estt. Cost	Tar.	Estt. Cost	Tar.	Estt. Cost	Tar.	Est t. Co st	
	Extension of T&D lines	K m.	90	138.00	70	130.00	75	160.00	80	175.00	
	Erection of Dist. Transformer	No s.	36	30.00	42	32.00	48	35.00	56	38.00	
	Replacement of old defective meters	No s.	9000	35.00	6000	30.00	6600	45.00	4600	50.00	
	Dist. Transformer metering	No s.	60	12.00	65	14.00	70	15.00	75	16.00	
	Replacement of old conductor	K m.	25	43.00	30	45.00	40	50.00	50	53.00	
3	Source of funding	-	UT plan fund		UT plan fund		UT plan fund		UT plan fund		

The road map for reduction of T&D Loss is as below:-

Name of Licensee	T&D Losses			
	Existing	Targeted		
	2013-14	2014-15	2015-16	2016-17
ED, A&N Administration	18%	17%	16%	15%

Unquote

### **Commission's Comments**

The Commission understands that the process of energy audit would take time as the data/information is to be integrated across various islands. However, the same should be complied with and status report on the progress of implementation of the above directive should be submitted before the Commission by September 30' 2014

### **Directive 15: Management Information System: - Ref Petition 65/2012 –TO June 04,2012**

#### **Quote “**

*Commission observes that the petitioner is not maintaining the sales and revenue data in the regulatory formats specified in the JERC tariff regulations. The slab wise and category wise data is required to be maintained monthly for proper analysis of sales and revenue.*

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

*The ED A&N should conduct a study for a computerization of data and shall give a proposal for the same along with an action plan with target dates.*

#### **Unquote”**

### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

#### **Petitioner's submission**

#### **Quote**

*“Study for computerization is being done. Action plan and target will be submitted to the Hon'ble Commission will be submitted after completion of the study.”*

#### **Unquote**

### **Commission's Comments**

Action taken is noted and the Petitioner is directed to submit the status report and progress in this regard by September 30'2013.

### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

#### **Compliance/Action Taken as per the latest submission for this tariff order**

**Petitioner's submission**

**Quote** "The new Web-based billing software will take care of maintaining the sales and revenue data in the regulatory formats specified in the JERC tariff regulations. Hence, the same will be complied with the implementation of the software " **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. The status report on the progress of implementation of the above mentioned software should be submitted before the Commission by 30<sup>th</sup> September 2014.

**Directive 16: Annual Statement of Accounts: - Ref Petition 65/2012 –TO June 04,2012**

**Quote "**

*Commission observes that the department of Andaman & Nicobar is not maintaining the separate accounts 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.*

**Unquote"**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner's submission**

**Quote**

*"EDA&N has already compiled the Annual Accounts upto FY 2010-11 and same also been Audited. Annual Accounts for FY 2010-11 is attached. ...."*

**Unquote**

**Commission's Comments**

Action taken is noted.

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner's submission**

**Quote** " The Audited accounts for the FY 2011-12 is attached as Annexure-1" **Unquote**

**Commission's Comments**

The submission of the Petitioner is noted. However, the audited accounts for FY 2012-13 are still awaited. The same should be submitted along with the true-up petition for FY 2012-13. The Commission further directs that the accounts for FY 2012-13 must be prepared on the Commercial Principles for Accounting.

**Directive 17: Statement of Cross-Subsidy : - Ref Petition 65/2012 –TO June 04,2012**

**Quote “**

*As per the regulation 6 of JERC tariff regulations 2009:*

“

*(1) “Cross-subsidy for a consumer category” in the first phase (as defined in subregulation 2 below) means the difference between the average realization per unit from that category and the combined average cost of supply per unit expressed in percentage terms as a proportion of the combined average cost of supply. In the second phase (as defined in sub-regulation 2 below) means the difference between the average realization per unit from that category and the combined per unit cost of supply for that category expressed in percentage terms as a proportion of the combined cost of supply of that category.*

*(2) The Commission shall determine the tariff to progressively reflect the cost of supply of electricity and also reduce cross subsidies within a reasonable period. To this purpose, in the first phase the Commission shall determine tariff so that it progressively reflects combined average unit cost of supply in accordance with National Tariff Policy. In the second phase, the Commission shall consider moving towards the category-wise cost of supply as a basis for determination of tariff.*

“

*As per the regulation 6 of JERC Tariff regulations 2009 for Cross subsidy, the petitioner is directed to provide the detailed statement of cross-subsidy prevailing in the Andaman & Nicobar Islands as per the present arrangements and road-map for reduction of the cross-subsidies within a reasonable period to be submitted along with the next ARR and Tariff Petition. The road map shall be decided in the public hearing for next ARR and Tariff petition in consultation with stakeholders.*

**Unquote”**

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

**Petitioner’s submission**

**Quote**

*“The road map being notified by JERC by regulation on “Principles for determination of road map for Cross-subsidy reduction for Distribution Licensees) Regulations- 2012 will be implemented in A&N Islands.”*

## **Unquote**

### **Commission's Comments**

Commission noted the submission of the Petitioner.

### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

#### **Petitioner's submission**

**Quote** " It is submitted that the average cost of supply per unit to various categories of consumers as projected for the FY 2014-15 is Rs. 27.21, whereas the average revenue per unit at existing tariff is Rs. 4.76. The resultant gap is Rs.22.46 per unit. Hence, recovery of cost of supply through cross subsidy is not feasible as that would require very steep hike in tariff. The department is already charging tariff on the principles enshrined in the regulations on cross subsidy and shall further follow the same in accordance with projected road map to minimize the gap between cost of supply and revenue." **Unquote**

### **Commission's Comments**

The submission of the Petitioner is noted.

### **Directive 18: Cost of Power Generation: - Ref Petition 65/2012 –TO June 04,2012**

#### **Quote "**

*Commission observes that the department of Andaman & Nicobar is not maintaining the separate accounts for their Diesel generating sets, Hydro and Solar plants. Commission directs the petitioner to provide separate details of cost of Power Purchase and final arrived tariff from the following stations/sets:*

- i. Power Purchase Cost and Tariff from each Diesel Generating set.*
- ii. Power Purchase Cost and Tariff from Hydro – Generating Station.*
- iii. Power Purchase Cost and Tariff from Solar Power Plant.*
- iv. Power Purchase Cost and Tariff from other Renewable Power Plants.*

#### **Unquote"**

### **Compliance/Action Taken mentioned in ARR and tariff petition for FY 2013-14**

#### **Petitioner's submission**

**Quote**

*“Detailed statement of cost of power purchase & generation is attached –.....”*

**Unquote**

**Commission’s Comments**

The petitioner noted the submission of the petitioner

**Compliance/Action Taken mentioned in ARR and tariff petition for FY 2014-15**

**Petitioner’s submission**

**Quote** “ the directive stands complied” **Unquote**

**Commission’s Comments**

The submission of the Petitioner is noted and the Commission drops the directive in the current order.

**Directive 18: Accredited Agency for Certifying Renewable Purchase Obligations(RPO):**

An agency independent of Electricity Department may be informed to the Commission for its approval which can certify the RPOs in A&N.



## 9. CONCLUSION OF COMMISSION'S ORDER

The Commission has considered the petitions submitted by Electricity Department of Andaman & Nicobar Islands for Approval of Aggregate Revenue Requirement (ARR) and determination of retail tariffs for supply of energy for FY 2014-15 bearing petition no. 124/2014, the Commission approves the Aggregate Revenue Requirement (ARR) and the tariff structure for FY 2014-15.

1. The break-up of the Aggregate Revenue Requirement approved for ED Andaman & Nicobar for the year 2014-15 is given below.

Sr. No.	Particulars	FY 2014-15
		Approved by the Commission
1	Cost of fuel	265.15
2	Cost of power purchase for full year	182.18
3	Employee costs	54.03
4	Administration and General Expenses	2.68
5	Repair and Maintenance Expenses	38.30
6	Depreciation	5.95
7	Interest and Finance charges	12.17
8	Interest on Security Deposit & Interest on Working Capital	9.84
9	Return on NFA /Equity	3.54
10	Provision for Bad Debt	
11	Payment of contingency liability	
12	Incentive on achievement of norm of T&D loss	
<b>13</b>	<b>Total Revenue Requirement</b>	<b>573.85</b>
14	Less: Non Tariff Income	2.20
15	Less: Revenue from Surplus Power Sale/UI	
16	Less: Revenue from Short term sale	
<b>17</b>	<b>Net Revenue Requirement (13-14-15-16)</b>	<b>571.65</b>
18	Revenue from Retail Sales at Existing Tariff	112.24
<b>19</b>	<b>Net Gap / (Surplus) (17-18)</b>	<b>459.41</b>
20	Recovery on account of PPC variations	
<b>21</b>	<b>Gap after adjusting PPC variations</b>	<b>459.41</b>
22	Gap/(Surplus) for the previous year	
23	Carrying Cost	
24	Past Arrears/Refunds to Consumers	
<b>25</b>	<b>Total Gap/ (Surplus) (21+22+23+24)</b>	<b>459.41</b>
26	Additional revenue from proposed tariff	
<b>27</b>	<b>Revenue Gap/ (Surplus), if any, after proposed tariffs (25-26)</b>	<b>459.41</b>
28	Budgetary Support from Government	459.41
<b>29</b>	<b>Net Final Revenue Gap/ (Surplus) (27-28)</b>	<b>0.00</b>

2. The approved retail tariff (as given below) for FY 2014-15 shall be as under:

S. No.	Category	Minimum Charges per connected load or part thereof per month (Rs./unit)	Rate (Rs./unit)
1	Domestic		
	Upto 100 units	Rs.30.00 per KVA	2.00
	101-200 units		3.70
	201 units & above		5.10
2	Commercial		
	upto 200 units	Rs.50.00 per KVA	5.40
	201 to 500 units		6.50
	501 units & above		7.25
3	Industry		
	Upto 500 units	a. Rs.50.00 per H.P.	4.45
	501 units & above	b. Rs.200.00 per month for Rice, Flour Millers of Rural areas who are having 15 HP capacity	5.00
4	Bulk	Rs.50.00 per KVA	9.20
5	Public Lighting	Rs.60.00 per KVA	4.50
6	Irrigation Pumps & Agriculture	Rs.15.00 per KVA	1.25

3. The approved tariff of FY 2014-15 shall come in force with effect from 1<sup>st</sup> April 2014 and shall remain valid till further orders of the Commission. All existing provisions which are not modified by this order, shall continue to be in force. The licensee shall publish the tariff structure and the salient features of tariff within one week in three daily newspapers in Hindi, Bengali and one in English, having wide circulation in their respective areas of supply. The distribution licensee shall also publish a booklet in Hindi, Bengali and English containing all details of tariff and its applicability for the benefit of consumers. It should be made available for sale to public at a nominal price.
4. It is seen that in the case of A&N, 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 A&N. Keeping the above fact 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.

5. Copy of this order may be sent to petitioner, CEA and Administration of UT of Andaman & Nicobar Islands. It shall be placed on the website of the Commission.

**-Sd-**  
**(Sh. S K Chaturvedi)**  
Chairman

Place: Gurgaon

Date: 11<sup>th</sup> April 2014

**Certified Copy**

**(Rajeev Amit)**  
Secretary

## 10. TARIFF SCHEDULE

### 1. DOMESTIC SUPPLY (DS)

#### APPLICABILITY

This schedule shall apply for single delivery point including light, fan, domestic pumping sets and household appliances in the following premises:

- a) Single private house/flat.
- b) Housing colonies and multi storied flats/buildings as defined in Electricity Supply Code Regulations notified by the JERC.

#### NOTES:

- i. Where a portion of the dwelling is used for the mixed load purposes the connection shall be billed for the purpose for which the tariffs are higher.

#### TARIFF

Consumption range	Minimum Charge per connected load or part thereof per month	Energy charge Rs./KWh
Upto 100 units	Rs.30.00 per KVA connected Load or part thereof per Month	2.00
101 units – 200 units		3.70
201 units & above		5.10

### 2. COMMERCIAL

#### APPLICABILITY

This schedule shall apply to all consumers, using electrical energy for light, fans appliances like pumping sets, motors of rating upto 3 HP used for commercial purpose, central air conditioning plant, lift ,welding set, small lathe, electric drill, heater, battery charger, embroidery machine, printing press, ice candy, dry cleaning machines, power press, small motors in commercial establishments/ non-residential premises such as Printing Press, Hotels, Rest Houses, Restaurants ,Hostels, Nursing Homes, Bus-stand, clubs, Auditorium, Communication, Cinema Theatre, Opera, Circus, Exhibition, All India Radio, SCI, Fisheries, Survey of India, Bakeries & Grinders & installations for private gains etc. Commercial supply shall also be applicable to multi consumer complex including commercial complexes as defined in the Electricity Supply Code Regulations notified by the JERC.

This schedule shall also apply to the Places of Worship, like Temples, Mosques, Churches, Gurudwaras, Buddhist Pongi Chung (not for residential or shopping complex only for pooja places) Public Pooja celebration and religious ceremonies.

No separate circuit/connection for power load including pumping set/central air conditioning plant, lifts etc. is permitted.

#### TARIFF

Consumption range	Minimum Charge per connected load or part thereof per month	Energy Charges Rs./KWh
upto 200 units	Rs.50.00 per KVA connected Load or part thereof per Month	5.40
201 units to 500 units		6.50
501 units & above		7.25

### 3. INDUSTRIAL SUPPLY

#### APPLICABILITY

The schedule shall apply for supply of energy for lighting , fan and power to Industrial establishments & Industries such as wood based, cottage, small scales, medium scales, finishing shell based and any other establishments/organizations engaged in the manufacturing and processing goods for sale, rice mills, flour mills, workshops, Drydock, factories base repair organization, Public water works & Gem cutting units.

#### TARIFF

Consumption range	Minimum Charge per connected load or part thereof per month	Energy Charges Rs./KWh
Upto 500 units	a) Rs.50.00 per H.P. connected load or part thereof. b) Rs.200.00 per month for Rice , Flour Millers of Rural areas who are having 15 HP capacity.	4.45
501 units & above		5.00

#### POINT OF SUPPLY

The above mentioned tariff is based on the supply being given through a single delivery and metering point and at a single voltage.

**4. IRRIGATION, PUMPING & AGRICULTURE****APPLICABILITY**

This schedule shall apply to all consumers for use of electrical energy for irrigation and agricultural purposes including animal husbandry.

**TARIFF**

<b>Consumption range</b>	<b>Minimum Charge per connected load or part thereof per month</b>	<b>Energy Charges Rs./KWh</b>
Upto 500 units	Rs.15.00 per KVA connected Load or part thereof per month	1.25

**POINT OF SUPPLY**

The above mentioned tariff is based on the supply being given through a single delivery and metering point and at a single voltage.

**5. PUBLIC LIGHTING (PL)****APPLICABILITY**

This tariff schedule shall apply for lighting on public road, footpath, streets & through fares in parks & markets etc. Cost of spares, materials and labour required for maintenance to be borne by respective Panchayati Raj Institutions/Local Bodies.

**TARIFF**

<b>Consumption range</b>	<b>Minimum Charge per connected load or part thereof per month</b>	<b>Energy Charges Rs./KWh</b>
Public lighting system managed by Municipal Corporation, Panchayat and Street lights maintained/outsourced to an external agency	Rs.60.00 per KVA connected Load or part thereof per month	4.50

**6. BULK SUPPLY****APPLICABILITY**

This tariff schedule shall apply to general or mixed loads receiving supply of energy through a bulk energy meter either at HT or LT supply and distribution is maintained by them. For dedicated transformer the complete cost of Technical transmission lines of transformers sub-station, switch gear & installation is to be borne by the consumer.

**TARIFF**

<b>Consumption range</b>	<b>Minimum Charge per connected load or part thereof per month</b>	<b>Energy Charges Rs./KWh</b>
Bulk category	Rs.50.00 per KVA connected Load or part thereof per month	9.20

**POINT OF SUPPLY**

The above mentioned tariff is based on the supply being given through a single delivery and metering point and at a single voltage.

**7. TEMPORARY SUPPLY****APPLICABILITY**

The supply may 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 maximum period of six months. Rate shall be the three times the rate applicable to the relevant category of consumers.

## GENERAL CONDITIONS FOR LT & HT SUPPLY

The above mentioned LT/HT Tariffs are subjected to the following conditions, applicable to all category of consumers.

- 1) If energy supplied for a specific purpose under a particular tariff is used for a different purpose, not contemplated in the contract for supply and / or for which higher tariff is applicable, it will be deemed as unauthorized use of electricity and shall be dealt with for assessment under the provisions of section 126 of the Electricity Act, 2003 & Supply Code Regulation notified by JERC.

Provided that

- a) If a portion of the domestic premises limited to only one room is used for running small household business having connection under domestic category, such connection shall be billed under domestic category provided that the total monthly consumption of the consumer (including consumption for above mentioned small household business) does not exceed 150 kWh.
  - b) If either more than one room or only one room having monthly consumption exceeding 150 kWh for consecutive three months is detected in the domestic premises being used for mixed purposes having domestic connection, such connection shall further be billed under commercial category until a separate connection of appropriate tariff is taken for that portion used for non-domestic purpose.
- 2) If connected load of a domestic category is found to be at variance from the sanctioned/contracted load as a result of increase of load or due to replacement of lamps, fans, fuses, switches, low voltage domestic appliances, fittings, etc it shall neither fall under unauthorized use of electricity (Section 126 of EA 2003) nor under theft of electricity (Section 135 of EA 2003).
  - 3) 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.
  - 4) **Additional charges for exceeding contracted load/contracted maximum demand,**

If in any month the consumer exceeds his contracted load/contracted demand the portion of the load/demand in excess of the contracted load/demand will be dealt as per the provisions made in JERC(Electricity Supply Code), 2010.



This will not be applicable to the consumers who has self-declared their connected load as the provision under regulation 4.13 (2) of Supply Code Regulations, 2010 as amended from time to time.

**5) Power Factor Incentive**

The monthly average power factor of the plant and apparatus installed by the consumer should be maintained at better than 90% lagging. The monthly average power factor shall mean the ratio expressed as percentage of total kWh to total kVAh supplied during the month. The ratio shall be rounded up to two figures.

In case the monthly average power factor is above 95%, consumer shall get a rebate at a rate of 1% on billed energy charges for each 1% increase in monthly average power factor above 95%.

For example, if the average power factor in a month is 97%, then the consumer shall be given rebate of 2% on the billed energy charges for that month.

**6) Incentive for usage of alternative (Renewable) Sources of Energy:**

A concession of Rs. 50/- (Rupees Fifty only) per month in electricity bill will be given to the consumers using solar water heater in domestic/commercial establishments on one-time verification of original invoice of its purchase and verification of the installation of equipment by the Engineer in charge of the area. The concession will be given to the consumers on the basis of the ownership of equipment; concession will be divided amongst the consumers, if they are sharing common equipment of solar water heater.

The concession of Rs. 1.00 per kWh over the units generated per month by the equipment generating energy using renewable energy including roof-top solar equipment, solar wind hybrid systems. The actual units generating will be verified from the energy meter to be installed in such systems for recording the electricity generated. The concession will be given to the consumers on the basis of the ownership of equipment; concession will be divided amongst the consumers, if they are sharing the equipment of roof-top solar or solar wind hybrid systems.

The incentive will be reviewed in next ARR and tariff order based on the reduction in the drawl of units of conventional power substituted by Renewable Power is based on the data from June-December 2012.

**7) Late Payment Surcharge**

For the existing connections, if the payment is made after the due date (as mentioned on the bill), the consumer is liable to pay additional charges on delayed amount at the rate of 2% per month. However for disconnected consumers, additional amount at the rate of 10% per annum on the outstanding amount shall be charged.

8) **Advance Payment Rebate:** If payment is made in advance well before commencement of consumption period for which bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding security deposit) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.

9) **Prompt Payment Rebate:** If payment is made at least 7 days in advance of the due date of payment a rebate for prompt payment @ 0.25 % of the bill amount shall be given. Those consumers having arrears shall not be entitled for such rebate.

**10) Taxes & Duties**

The tariff does not include any tax or duty etc. on electricity energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.