

Petition to
Hon'ble Joint Electricity Regulatory Commission for
Approval of Aggregate Revenue Requirement ("ARR")
and
Determination of Tariff for 2011-12
of
ELECTRICITY DEPARTMENT, GOA
TARIFF PETITION & FORMATS

Submitted to
Joint Electricity Regulatory Commission,
Gurgaon

By



ELECTRICITY DEPARTMENT, GOVERNMENT OF GOA

PANAJI

JULY 2011

GENERAL HEADINGS OF PROCEEDINGS

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

Filing No.....

Case No.....

IN THE MATTER OF: Petition for Approval of the Aggregate Revenue Requirement (ARR) and Tariff Proposal for FY 2011-12 for the Electricity Department of Goa under Section 45, 46, 61, 62, 64 and 86 of the Electricity Act, 2003

AND

IN THE MATTER OF: Electricity Department, Goa
Vidyut Bhavan, Panaji,
Goa
.....Petitioner

Electricity Department of Goa (hereinafter referred to as "ED-Goa"), files petition for approval of Annual Revenue Requirement (ARR) and Tariff Proposal for FY 2011-12 under Section 45, 46, 61, 62, 64 and 86 of the Electricity Act, 2003

AFFIDAVIT

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

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AND

IN THE MATTER OF: Electricity Department, Goa
Vidyut Bhavan, Panaji,
Goa
.....Petitioner

AFFIDAVIT VERIFYING THE PETITION

I, **Shri Nirmal Braganza** son of **Charles Braganza**, aged 62 years residing at Taleigao, Goa, the deponent named above do hereby solemnly affirm and state on oath as under:-

1. That the deponent is the Chief Electrical Engineer of Electricity Department – Goa, and is acquainted with the facts deposed to below.
2. I say that on behalf of ED-Goa, I am now filing this Petition under The Electricity Act, 2003 for approval of the Aggregate Revenue Requirement (“ARR”) for FY 2011-12 and determination of tariffs to be charged by ED – Goa for its Licensee Area in FY 2011-12.

3. I further say that the statements made and financial data presented in the aforesaid Petition are as per records of the department and on the information received from the concerned officials and believed to be true to the best of my knowledge.
4. Further, to my knowledge and belief, no material information has been concealed in the aforesaid Petition.

**The Electricity Department of Goa
DEPONENT**

Place: Panaji, Goa

Dated: ___ July 2011

VERIFICATION

I, _____ Advocate, _____, do hereby declare that the person making this affidavit is known to me through the perusal of records and I am satisfied that he is the same person alleging to be deponent himself..

Advocate

Solemnly affirmed before me on this day of 2010 by the deponent who has been identified by the aforesaid Advocate. I have satisfied myself by examining the deponent that he understood the contents of the affidavit which has been read over and explained to him. He has also been explained about section 193 of Indian Penal Code that whoever intentionally gives false evidence in any of the proceedings of the Commission or fabricates evidence for purpose of being used in any of the proceedings shall be liable for punishment as per law.



**BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA, &
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AND

IN THE MATTER OF: Electricity Department, Goa
Vidyut Bhavan, Panaji,
Goa
.....Petitioner

PETITIONER, UNDER SECTIONS 45, 46, 61, 62 AND 64 OF THE ELECTRICITY ACT, 2003 FILES FOR INITIATION OF PROCEEDINGS BY THE HON'BLE COMMISSION FOR DECIDING ON THE MATTERS CONCERNING THE APPROVAL OF THE ANNUAL REVENUE REQUIREMENT AND TARIFF PETITION OF ELECTRICITY DEPARTMENT OF GOA (herein after referred to as "ED-Goa") FOR FY 2011-12.

The Petitioner respectfully submits as under: -

1. The Petitioner, The Electricity Department – Goa (ED-Goa) has been allowed to function as Distribution Utility for the State of Goa.
2. Pursuant to the enactment of the Electricity Act, 2003, ED-Goa is required to submit its Annual Revenue Requirement (ARR) and Tariff Petition as per the procedures outlined in section 61, 62 & 64 of EA 2003, and the governing regulations thereof.
3. ED-Goa has submitted its ARR and Tariff petition for determination of tariff for FY 2011-12 on the basis of the principles outlined in the Tariff Regulations 2009 notified by the Hon'ble Commission.



4. ED-Goa prays to the Hon'ble Commission to admit the attached petition for ARR and Tariff Petition for FY 2011-12 and would like to submit that:

Prayers to the Commission:

- A. The petition provides, inter-alia, ED-Goa's approach for formulating the present petition, the broad basis for projections used, summary of the proposals being made to the Hon'ble Commission, performance of ED-Goa in the recent past, and certain issues impacting the performance of ED-Goa in the Licensed Area.
- B. Broadly, in formulating the ARR and Tariff Petition for the FY 2011-12, the principles specified by the Joint Electricity Regulatory Commission in the notified (Terms and Conditions of Tariff) Regulations 2009 ("Tariff Regulations") have been considered as the basis.
- C. In order to align the thoughts and principles behind the ARR and Tariff Petition, ED-Goa respectfully seeks an opportunity to present their case prior to the finalization of the Tariff Order. ED-Goa believes that such an approach would go a long way towards providing a fair treatment to all the stakeholders and may eliminate the need for a review or clarification.

The petitioner respectfully prays that the Hon'ble Commission may:

- Accept the Annual Revenue Requirement and Tariff petition for the FY 2011-12 for ED-Goa 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;
- Approve total recovery of ARR of FY 2011-12;
- Approve the category-wise tariff including fixed/ demand charges submitted by ED-Goa to meet revenue requirement for FY 2011-12 including changes in tariff philosophy;
- Approve the Revenue Gap for FY 2011-12 and defer the recovery of Revenue Gap in subsequent years in APR/True-up of FY 2011-12 or provisionally create Regulatory Asset;
- Examine the proposal submitted by the petitioner as detailed in the enclosed proposal for a favourable dispensation.



ARR & Tariff Petition for FY 2011-12

- The delay in filing this ARR Petition may please be condoned and the Hon'ble Commission is requested to accept this Petition and process the same.
- Pass suitable orders with respect to the ARR for FY 2011-12 for the expenses already incurred by ED - Goa for serving its consumers.
- ED – Goa may also be permitted to propose suitable changes to the respective ARR's and the mechanism of meeting the revenue on further analysis, prior to the final approval by the Hon'ble Commission.
- Condone any inadvertent omissions/errors/shortcomings and permit ED – Goa to add/change/modify/alter this filing and make further submissions as may be required at a future date.
- Pass such further, as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

Electricity Department of Goa

Petitioner

Place: Panaji

Dated: __ July 2011



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Chapter 1. Introduction

1.1 Historical Perspective

1.1.1 Background of Goa

Goa, a tiny emerald land on the west coast of India, the 25th State in the Union of States of India, was liberated from Portuguese rule in 1961. It was part of Union territory of Goa, Daman & Diu till 30 May 1987 when it was carved out to form a separate State. Goa covers an area of 3702 square kilometers and comprises two Revenue district viz North Goa and South Goa. Boundaries of Goa State are defined in the North Terekhol river which separates it from Maharashtra, in the East and South by Karnataka State and West by Arabian Sea.

Goa, for the purpose of revenue administration is divided into district viz. North and South Goa with headquarters at Panaji and Margao respectively. The entire State comprises 11 talukas. For the purpose of implementation of development programmes the State is divided into 12 community development blocks. As per 2001 census, the population of the State is 13,42,998. Administratively the State is organised into two districts North Goa comprising six talukas with a total area of 1736 sq. kms. and South Goa comprising five talukas with an area of 1966 sq. kilometers. In all there are 383 villages of which 233 are in North Goa district and 150 in South Goa district. As per the 2001 census, there are 44 towns of which 14 are Municipalities and remaining are census towns.

A very striking feature of Goa is the harmonious relationship among various religious communities, who have lived together peacefully for generations. Though a late entrant to the planning process, Goa has emerged as one of the most developed States in India and even achieved the ranking of one of the best states in India with regards to investment environment, infrastructure and tourism.

1.1.2 Background of Electricity Department

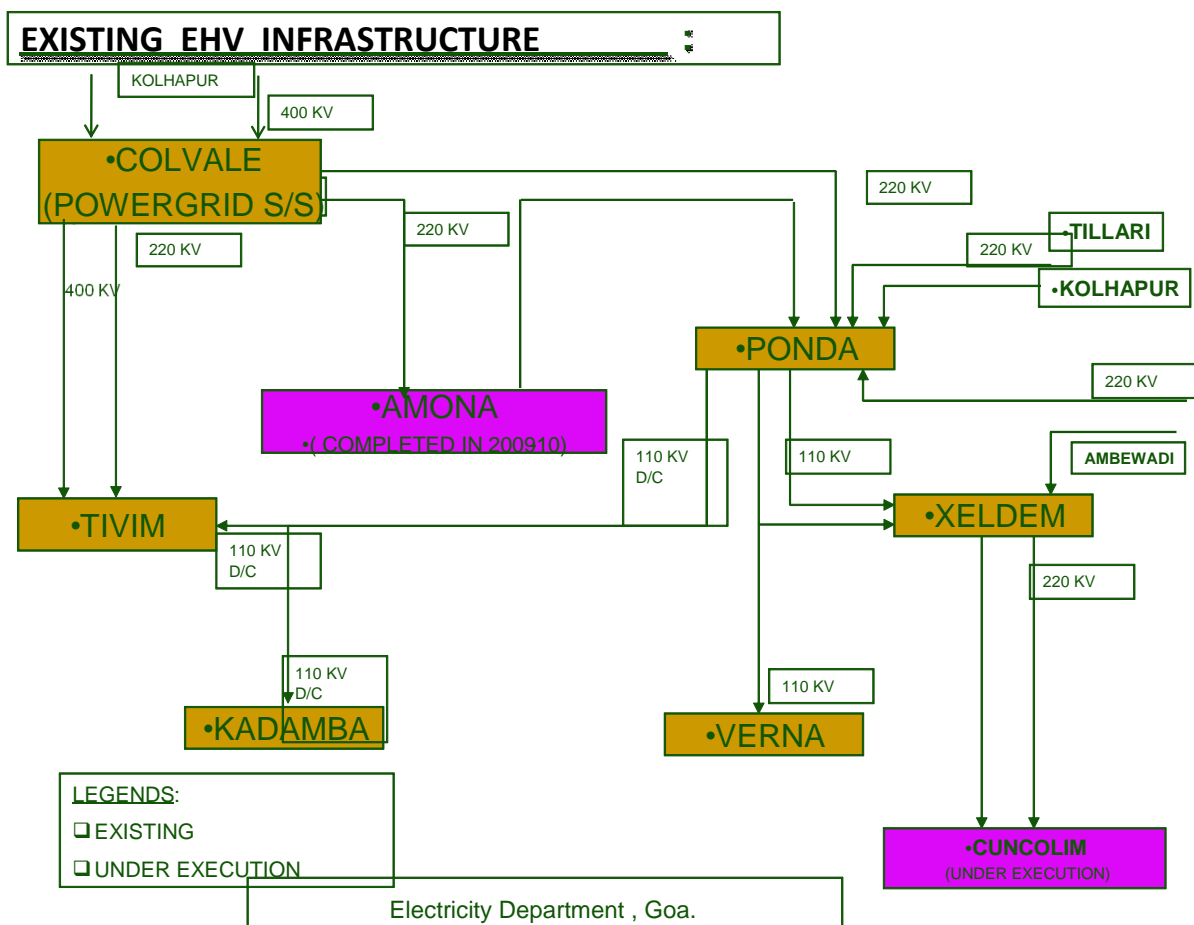
The Electricity Department was formed in January 1963 under the Government of Goa, Daman & Diu. It is the only licensee operating in the State of Goa for transmission and distribution of Electrical Energy. The Electricity Department of Goa does not have its own generation. The majority of the power requirement for the State of Goa is met through its share from Central Sector Power Stations of the National Thermal Power Corporation as allocated by the Central Government. The total central sector firm allocation of power is 407.5 MW and from unallocated capacity is 38.24 MW as on 1st June 2011. In addition, the department also purchases power from Co-generation, IPP and Trader.

There are no direct link lines between the generating station of central sector and Goa and hence this power is wheeled through the Grids of the neighbouring State of Maharashtra



and Karnataka. Electricity Department pays wheeling charges to MSETCL & KPTCL for using their line network for wheeling of power from central sector stations to Goa. The power from the Western region is wheeled from the MSETCL's 400 kV Sub-Station at Kolhapur to the 400 kV Sub-Station at Colvale in Goa. The power from these lines is transmitted at 220 kV level to Ponda and Tivim substations of the Department. Similarly the Southern region power is transmitted from Nagjhari to Ponda. The Department has adopted Voltages of 220 kV, 110 kV and 33 kV for sub transmission and 11 kV and 440 volts for distribution purpose. The Department has adopted overhead line system for transmission and distribution except for Panaji town where part of the area is covered by underground system. The remaining parts of Panaji and Margao town are now being provided with underground network. The Existing EHV Infrastructure is represented in the diagrammatic format as below:

Figure 1: Existing EHV Infrastructure



All the towns and villages of Goa are electrified and any intending consumer can avail power supply by submitting requisition in the prescribed form to the appropriate office of the Department subject to fulfilling the required conditions and payment of charges as per conditions of supply of Electrical Energy and miscellaneous charges. The power supply to the



new consumers is released on single phase, 230 Volts for connected load up to 3KW and on three phase, 400 volts for connected loads above 3KW but less than 70 KVA/HP connected for a single consumer. The power supply for connected loads / contract demands above 70 KVA but less than 100KVA is released at a voltage of 11KV and above 1000KVA the same is released at 33KV voltage. The Chief Electrical Engineer has however discretionary powers to release power supply at other voltages irrespective of connected load.

ED-Goa is under control of State Government and the maintenance of the accounts or Income and expenditure statement is on “cash” basis unlike other utilities/ licensees where it is being maintained on “accrual” basis.

The present unrestricted demand for the State of Goa is about 500 MW which is being met by power from various Central Sector Power Stations and generating stations within state. The Electricity Department of Goa caters to around 5 Lacs consumers with an annual energy consumption of approx 2800 MUs. The Consumers of the Electricity Department of Goa are classified as under:

- Domestic (26% of consumption)
- Commercial (7% of consumption)
- Industrial (61% of consumption)
- Agriculture (0.70% of consumption)
- Public Water Works (0.77% of consumption)
- Public Lighting (1.60% of consumption)

As seen from the above classification, the energy consumption of industrial consumers is the highest (61%) amongst all these categories.

1.1.3 Measures to Increase Power Availability

Allocations of power have been obtained from the Ministry of Power (MoP) against the demand made by the State from Central Sector Generating Stations;

- Another allocation of 200 MW has been decided by Secretary (Power), Ministry of Power, Government of India, from the Ultra Mega Project of Chhattisgarh Surguja Power Ltd. (Erstwhile Akaltara) in Chhattisgarh and for which as a commitment advance a sum of ₹ 2.00 Crores has been paid. For meeting the peak hour power requirement, power is obtained to some extent from the U.I. (unscheduled interchanges) pool depending upon permissible grid frequency and also from trader.
- The Government has obtained an allocation of the Gare Pelma, Sector III Coal Block at Chhattisgarh from the Government of India. This Coal Block has a generating



capacity of 1800 MW. An Agreement has been entered into with a developer who would provide minimum power of 15% i.e around 270 MW. The State also has the first right of refusal for another 10% power i.e around 180 MW. The power plant has been scheduled to come up in the next 3 to 4 years as per GIDC.

- A MoU has also been signed with GAIL for laying a gas pipeline from Gokak to Goa for the transportation of gas to Goa. This pipeline is scheduled to be completed by the December 2012. The Government of Goa is exploring the possibility of setting up of a gas power plant for which NTPC has been requested to carry out a feasibility study for setting up a gas based station in Goa.

The future power allocation from the Ministry of Power is as under:

Table 1-1: Future Power Allocation from MOP

Sr.No.	Power Projects	Capacity
1	Sipat I & II *	20 MW
2	Ratnagiri (Dabhol) – Stage I	19.67 MW
3	Subansari (lower)	8 MW
4	Kameng	2 MW
5	Kakrapar Atomic Power Project (Unit 3 & 4)	15.68 MW
6	Mauda I	11.20 MW
7	Vindhyachal IV	11.20 MW
8	Mauda Stage - II	14.50 MW

** Total allocation is 30 MW out of which 10 MW is available and balance 20 MW is yet to be declared as availability by NTPC.*

In addition to the power allocation from Table 1-1, the State of Goa has executed the PPAs from following central sector power projects:

Table 1-2: PPA Executed Central Sector Power Projects

Sr.No.	Power Projects	Installed Capacity	Likely COD
1	Vindhyachal V	500 MW	End of XII th Plan
2	Lara STPP – I & II	4000 MW	End of XII th Plan
3	Barh – II	1320 MW	April-Oct 2013
4	Solapur TPP	1320 MW	End of XII th Plan
5	Khargone STPP	1320 MW	End of XII th Plan



Sr.No.	Power Projects	Installed Capacity	Likely COD
6	Gadarwara STPP	2640 MW	End of XII th Plan
7	Dhuvaran STPP	1980 MW	End of XII th Plan
8	Ratnagiri (Dabhol) – Stage II	2100 MW	End of 2015

1.2 JERC Formation

In exercise of the powers conferred by the Electricity Act 2003 the Central Government constituted a Joint Electricity Regulatory Commission for all Union Territories to be known as “Joint Electricity Regulatory Commission for Union Territories” as notified on 2nd May 2005. Later 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 30th May 2008.

The Hon’ble Commission is a two-member body designated to function as an autonomous authority responsible for regulation of the power sector in the State of Goa and Union Territories of Andaman & Nicobar, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry. The powers and the functions’ of the Hon’ble Commission are as prescribed in the Electricity Act 2003. The Head Office of the Commission presently is located in the district town of Gurgaon, Haryana and falls in the National Capital Region.

The Joint Electricity Regulatory Commission for the State of Goa and Union Territories started to function with effect from August 2008 with the objectives and purposes for which the Commission has been established. Presently the Hon'ble Commission is framing various regulations as mandated in the Electricity Act 2003 to facilitate its functioning. Some of the Regulations notified by the Hon'ble Commission include the following:

- JERC Conduct of Business Regulations, 2009
- JERC Establishment of Forum for Redressal of Grievances of Consumers Regulations 2009;
- JERC Appointment and Functioning of Ombudsman Regulations 2009;
- JERC Treatment of other businesses of Transmission Licensees and Distribution Licensees Regulations, 2009.
- JERC Standard of Performance Regulations, 2009.
- JERC State Advisory Committee Regulations, 2009.
- JERC Open Access in Transmission and Distribution Regulations, 2009.
- JERC Terms and Conditions for Determination of Tariff Regulation, 2009.



1.3 Filing of ARR and Tariff Petition for the year FY 2011-12

Under the provisions of Electricity Act, 2003, Licensee is required to submit its ARR and Tariff Petitions as per procedures outlined in section 61, 62 and 64 of EA 2003, and the governing regulations of JERC thereof.

ED-Goa has adopted the principles of Terms and Conditions for Determination of Tariff Regulations 2009 (Tariff Regulations 2009) notified by the Joint Electricity Regulatory Commission.

Accordingly, ED-Goa is filing the present petition of Annual Revenue Requirement (ARR) and Determination of Tariff for the FY 2011-12 as per Tariff Regulations 2009 for the approval of Hon'ble Commission.



Chapter 2. Overall Approach for Present Filing

2.1 Annual Revenue Requirement and Tariff Petition for FY 2011-12

ED-Goa is filing the petition for the determination of Annual Revenue Requirement and Tariff Petition for the year FY 2011-12 based on the past performance and expected changes in each element of cost and revenue for the ensuing year. ED-Goa has studied the previous trends and taken cognisance of other internal and external developments to estimate the likely performance for FY 2011-12.

2.2 Approach for Filing

The present filing for the Annual Revenue Requirement and Tariff Petition for the FY 2011-12 is based on the principles enumerated by the Joint Electricity Regulatory Commission's (JERC) in the Terms and Conditions for determining of Tariff, Regulations 2009 notified in February 2010. The subsequent sections provide projection for various expenses, the proposed investment plan for the year and the expected revenue projections with existing tariff for FY 2011-11 based on the tariff notifications in force in the area of supply of ED-Goa.

Projections of various cost components required for determination of Aggregate Revenue Requirement for FY 2011-12 along with the rationale for estimation of such cost. Further, the philosophy adopted by ED-Goa for projecting sales, number of consumers and power purchase cost for FY 2011-12 has been covered in this section.

For the purpose of projecting the financial & technical parameters for FY 2011-12, ED-Goa has considered its actual unaudited performance during FY 2009-10 and provisional figures of FY 2010-11 as base and accordingly projected the figures for FY 2011-12 with supporting rationales. The figures of FY 2009-10 and FY 2010-11 presented in the Tariff Filing Formats and in the ARR Petition of FY 2011-12 are for reference purpose only and not subject to any determination of gap/ (surplus). Further the normative expenses such as Return on capital base, Interest on Working Capital, Provision for Bad & Doubtful Debts etc are not worked out in the ARR and only the actual expenses incurred are presented in the Tariff Filing Formats & ARR Petition.



Chapter 3. Annual Revenue Requirement for FY 2011-12

This Section captures the Annual Revenue Requirement of ED-Goa for FY 2011-12 which takes into consideration:

- i. Actual Performance of FY 2009-10 (Actual Un-audited Figures);
- ii. Actual Performance in FY 2010-11 (Provisional Figures);
- iii. Projection for FY 2011-12 based on the performance of FY 2009-10 & 2010-11;
- iv. Principles outlined in Tariff Regulations 2009 of JERC;

Past trends have been taken into cognizance in case of certain elements as deemed necessary. The figures discussed/ presented in subsequent sections for FY 2009-10 should be read as Actual Unaudited and for FY 2010-11 as Provisional. The present section has been structured in the following manner:

- Determination of Energy Requirement
 - Sales Projections
 - Loss Trajectory
 - Energy Balance
 - Power Purchase Sources
- Proposed Capital Expenditure and capitalization
 - Scheme wise details
 - Capital Expenditure
 - Asset Capitalisation
- Determination of the Annual Revenue Requirement
 - Power Purchase Costs & Transmission Charges;
 - Operation and Maintenance Expenses;
 - Employee Expenses
 - Administration & General expenses
 - Repairs & Maintenance Expenses
 - Depreciation;
 - Interest on Long Term Loans;
 - Interest on Working Capital;
 - Return on Capital Base/ Net Fixed Assets;
 - Provision for Bad and Doubtful Debts



3.1 Energy Requirement

The energy requirement of the license area is determined based on the expected sales in the area during the period under consideration and the expected distribution losses in the network. Accordingly, the energy requirement projected by Goa for the FY 2011-12 is as given in the succeeding paragraphs.

3.1.1 Category-wise Sales - Past Trend

The category wise sales for past period from FY 2004-05 to FY 2010-11 are given in the table below:

Table 3-1: Category Wise Sales – Past Trend

Category Wise Sales - Past Trend (Mus)								
Category	FY 2004-05 Actuals	FY 2005-06 Actuals	FY 2006-07 Actuals	FY 2007-08 Actuals	FY 2008-09 Actuals	FY 2009-10 Actuals	FY 2010-11 Prov	CAGR %
Domestic	463	453	503	540	554	662	702	9%
Commercial & Misc	123	139	157	181	203	295	319	19%
Public Lighting	27	25	30	36	35	31	33	2%
Public Water works	94	92	104	107	108	116	122	4%
Irrigation Pump sets	30	15	16	16	17	16	18	3%
Industries LT	70	68	81	83	90	77	88	2%
Industries HT	891	1,044	1,086	1,184	1,152	1,209	1,306	5%
Non Industrial	102	85	114	128	148	131	139	5%
Temp. Supply - HT	-	-	-	-	-	-	-	0%
Others	-	-	-	-	-	-	-	0%
Total	1,800	1,922	2,089	2,275	2,307	2,537	2,727	7%

The 5 year CAGR upto period FY 2010-11 works out to approx 7%.

3.1.2 Approach for Sales Projection FY 2011-12

The consumer base of Goa consists of HT Industry, LT Industry, Commercial and Domestic consumers. Sales mix is primarily dominated by HT Industry & LT Industry, followed by Domestic category. The total consumption for HT Industry is approximate 65 percent and Domestic category contributes to around 26 percent of total sales. The balance sales are contributed by other categories of consumers. Thus, the sales forecast would mostly depend on the sales expected in the HT Industry & Domestic 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. 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.

It is submitted that sales forecast using the CAGR as the basis for projections is a tried and tested method and is used extensively across states and accepted by the Regulators. The actual data for 2009-10 & 2010-11 was available & based on that the forecasting has been done for 2011-12. It is submitted that the same projections for FY 2011-12 and onwards given to CEA for 18th EPS are considered for FY 2011-12 for the purpose of ARR.

Based on the methodology outlined above, the projected energy sales, number of consumers and connected load of various categories of consumers for FY 2011-12 are given below:

Table 3-2: Projected Energy Sales, Consumer and Load – FY 2011-2012

Sr. No.	Consumer Category	2011-12		
		No. of Consumers at the end of the year (Nos.)	Connected Load at the end of the Year (KW/kVA)	Energy Sale/ Demand (MUs)
A	Low Tension Supply	597,946	1,370,000	1,222
1(a)	Tariff LTD/Domestic and Non - Commercial	446,802	683,756	712
1(b)	Tariff LTD/Low Income Group	17,903	5,610	6
1(c)	Tariff LTD/Domestic Mixed	50	84	2
2	Tariff LTC/Commercial	98,318	256,810	329
3	Tariff LTP/Motive Power	10,027	332,470	104
3(a)	Tariff-LTP/Mixed (Hotel Industries)	-	-	7
4	Tariff-LTAG/Agriculture	15,298	66,250	17
5	Tariff-LTPL/Public Lighting	9,000	12,670	44
6	Tariff-LT PWW/Public Water Works	548	12,350	2
B	High Tension Supply *	763	606,765	1,653
7	Tariff HT-Mixed	197	64,412	117
8	Tariff HTI/Industrial	408	248,424	499
9	H.T.Industrial (Ferro	28	130,388	575
10	Tariff-HTAG/Agriculture	63	14,435	8
11	EHTI/Industrial	5	77,647	152
12	H.T. PW/Public Water Supply and	32	36,600	121
13	H.T. MES/Defence Establishments	11	8,894	30
14	H.T. Industrial (Steel Rolling)	11	21,882	149
15	Tariff HT-Industries (IT High Tech).	8	4,082	1
C	Temporary Supply	420	2,890	16
16	Tariff-LT/Temporary	420	2,890	16
17	Tariff-HT/Temporary	-	-	-
18	Total Demand/ Sale Within	599,129	1,979,655	2,891

* The load figures of HT consumer categories are in kVA



3.1.3 Distribution Losses

The execution of the works under APDRP has drastically reduced the outages and the AT&C losses. The bifurcation of the feeders, new Sub-Stations has helped in improving the voltage profile and reliability of power supply. Augmentation of the capacities of the Sub-Stations has helped in releasing additional loads to the consumers and consequent increase in revenue. The underground conversion works in Panaji and Margao has reduced the interruptions even during the rainy season improving the quality of service to the consumers. The underground conversion of the HT feeders in the coastal feeders has helped the tourism industry by ensuring reliability in power supply.

The distribution losses in the Goa distribution network for 2009-10 & 2010-11 have been **14.34%** & **13.63%** respectively in the past. For the purpose of FY 2011-12 ARR, the losses have been at a median figure i.e. **14.00%**. However it may be noted that the distribution losses for the State of Goa are comparatively lower than many other state utilities and also competitive. ED-Goa expects that post completion of APDRP activities; it would be in a better position to reduce losses further. The AT&C loss for ED-Goa has been lower and hovering around 16% for the past 3 years and the year under consideration. The figures of AT&C loss are provided in Format 2 of Tariff Filing Formats.

3.1.4 Loss Reduction / Demand Side Management Measures for FY 2011-12

ED-Goa submits that apart from normal / routine measures to reduce the losses, following measures are planned under Loss Reduction Programme/ DSM for FY 2011-12:

1. Replacement of conventional energy meters provided to consumers by State of Art Electronic Meters which has resulted in about 15% loss reduction on the consumption of these consumers;
2. Use of Energy Efficient Star Rated transformers and other equipments;
3. Implementation of various energy efficient schemes through Bureau of Energy Efficiency (BEE):
 - a. Bachat Lamps Yojana; wherein a provision of providing 15 lakhs of CFL to households and other states has been made. The work has already been awarded in consultation with BEE;
 - b. LED demonstration scheme on National Highway-17 being implemented in consultation with BEE;
 - c. Replacement of 250 Watts HPSV fixtures by Energy Efficient T-5 fixtures;
 - d. Conducting investment grade energy audit of 11 Government buildings in the State;
4. Re-conductoring of feeders have been carried out and some feeders have also been bifurcated;



5. New Substations and Renovation and modernization of Sub stations have also been carried out;
6. Dedicated feeders have been provided for single/group of bulk power consumers with metering at sending end for energy audit;
7. State of Art Electronic Energy meters with downloading facility is provided for all H.T. consumers;
8. Special sealed metering cubicles with CT/PTs housed inside are provided to bulk H.T. consumers;
9. Special Vigilance squads are set up which carry out surprise raids.

3.1.5 Energy Requirement & Sources of Power Purchase

Based on the projected sales and distribution losses, the energy requirement for Goa is estimated at the State periphery. Further, to estimate the energy requirement at generation bus bar level for the purpose of representation in model, the PGCIL losses based on the average of losses observed in the year 2010-11 have been considered. As mentioned earlier, the energy requirement has been met from Central Sector Stations, Co-generation, IPP, Trader etc. Due to the dynamic load profile, ED-Goa needs to purchase power from pool depending upon permissible frequency and also from trader. During off-peak hours there is surplus available with ED-Goa which is accounted in UI Pool and sold on power exchange. The estimated energy balance for FY 2011-12 is as given below:

Table 3-3: Energy Requirement – FY2011-12

Energy Balance (Mus)	FY 2009-10	FY 2010-11	FY 2011-12
Energy Requirement			
LT Sales	1,078	1,156	1,238
HT Sales	1,459	1,571	1,653
Total Sales	2,537	2,727	2,891
Distribution Loss (%)	14.3%	13.6%	14.0%
Distribution Loss (Mus)	425	431	471
Total Energy Required at State Periphery (MUs)	2,962	3,158	3,361
Transmission Loss (%)	3.36%	3.37%	3.37%
Transmission Loss (Mus)	100	106	113
Total Energy Requirement (MUs)	3,062	3,264	3,474
Power Purchase from CGS	3,164	3,287	3,271
Power Purchase from Pool / UI	52	64	15
Power Purchase from Co-gen/ IPPs	235	249	220
Power Purchase from Traders			320
Banking Arrangement			22
Total Energy Availability	3,451	3,599	3,848
Energy Surplus sold/ diverted to	389	335	374
<i>Sale to Pool/ UI</i>	333	299	133
<i>Sale to Power Exchange</i>	56	36	217
<i>Banking Arrangement</i>	-	-	24



3.1.6 Power Purchase sources

The energy requirement of Goa is mainly met from the allocation of power through Central Sector Stations from Western & Southern region. The remaining gap is met by allocation through Private Generating Stations Like Reliance Infrastructure Ltd, Cogeneration facilities located in the state, open market etc. The total central sector firm allocation of power is 407.5 MW and from unallocated capacity is 38.24 MW as on 1st June 2011. In addition to the power allocation from MoP, the State of Goa has sought additional Central Sector Allocation of power as mentioned in previous chapter.

The PLF for most of the NTPC stations has been more than 90% in last two years. Accordingly based on the actual generation and PLF for last two years, ED-Goa has computed the generation for FY 2011-12. In case of VSTPS-II & III, the PLF has been more than 100%; however ED-Goa has restricted it to around 90-95%. The expected power purchase from the existing & new sources for FY 2011-12 are provided in the table below:

Table 3-4: Details of Power Procurement Sources – FY 2011-12

Power Procurement Sources	FY 2010-11 Actual		FY 2011-12		Remarks
	Capacity (MW)	MU's	Capacity (MW)	MU's	
NTPC	377	3,180	382	3,141	
KSTPS	210	1,616	210	1,656	90% PLF for FY12
VSTPS - I	35	285	35	276	90% PLF for FY12
VSTPS - II	12	110	12	100	95% PLF for FY12
VSTPS -III	10	97	10	83	95% PLF for FY12
KGPP	-	101	-	50	
GGPP	-	107	-	50	
SIPAT	10	94	10	83	95% PLF for FY12
RSTPS	100	772	100	788	90% PLF for FY12
KORBA - III	-	-	5	15	
RGPPPL	-	-	20	40	90% PLF for FY12 for 3.5 months
NPCIL	26	106	26	130	
KAPS	15	36	15	60	
TAPS	11	70	11	70	
Purchase from Pool	-	64	-	15	
Co-Generation	3	132	3	132	
Goa Energy Private Limited	-	108	-	108	
Goa Sponge & Power Limited	3	24	3	24	
IPP: Reliance Infra	14	117	14	88	
Traders	-	-	-	-	
NVVNL	-	-	37	320	
NVVNL - Banking Arrangement	-	-	-	22	
TOTAL	420	3,599	425	3,848	



3.2 Capital Expenditure & Capitalisation

3.2.1 Capital Expenditure & Capitalisation of Assets

The prevailing infrastructure of ED-Goa is insufficient to cater to the present load and hence to meet the increasing demand from HT and LT load, it is absolutely necessary to undertake significant capital expenditure.

The objective of incurring the capital expenditure is also to upgrade and strengthen the distribution network to meet the desirable standards of performance and provide better network reliability and sustainable performance to the consumers of Goa.

The various types of capital expenditure schemes carried by ED-Goa are as follows:

- a) **Normal Development Scheme** - The Scheme is for extending the HT and LT network and providing distribution transformer centres and releasing of service connections to all categories of consumers. The laying of underground cable for releasing connection to major consumers will also be taken up. Electrification of wadas/upcoming bastis and rural electrification works are also taken up.
 - i) Extension of 33 KV, 11 KV and LT lines for arranging power supply to individual and group of consumers;
 - ii) Erection of Transformer centres, metering structure, equipment for releasing of power supply to the intending consumers;
 - iii) Releasing of power supply and providing of metering to the intending consumers at different voltage levels.

- b) **Renovation and Improvement Scheme** - This System improvement scheme / Renovation and improvement Scheme is basically for the change of conductors, cross arms, insulators, metal parts & stay sets, etc. The conversion of LT line from 1 phase to 3 phase is also carried out under this scheme for improving the voltage profile, also enhancing the capacities of the distribution transformer centres and providing new transformer centres at load centre is taken up under this scheme. In Goa, some of the conductors have put in more than 25-30 years of service in the system and thus have become prone to interruptions due to overloading and corrosion of the metal parts. Renovation of the old lines is essentially to be carried out in the State to ensure reliability of power supply to the end consumers and avoid electrical accidents. Following are the benefits of the scheme:
 - i) To improve voltage at the tail end of each distribution system
 - ii) Better power transformation
 - iii) Less line losses



- iv) Less electrical accidents and breakdowns
- v) Avoiding overloading of transformers and lines

- c) **Construction of Staff Quarters and Office Buildings etc** - Under this scheme the construction of new office buildings/ extensions to existing buildings at various places and construction of staff quarters, taking up a number of works for enhancing the facilities at the quarters etc are carried out by the Civil Division No. XV attached to the Electricity Department.

- d) **Schedule Tribe Development Scheme** - This scheme has plan for Conversion of O/H HT network to underground cabling in Loutolim constituency, Conversion of O/H LT network to underground cabling in Raia, Loutolim, Conversion of O/H LT network to underground cabling in Nuvem, Verna etc

- e) **Erection and Augmentation of 33/11 kV S/S & Lines** – Under these schemes, major works such as Cavlossim S/S and 33 KV U/G cable link, Campal S/S, Ponda S/S, Shiroda S/S, IT Park Dona Paula S/S with 33 KV U/G cable link etc are carried out.

- f) **Infrastructure Development through Electricity Duty** – Government of Goa has issued notification on 28th May 2008 for collection of Electricity Duty from various consumer categories at various notified rates. Further the notification also provides that the duty amount such collected shall be transferred to separate reserve/ fund account for creation of required transmission & distribution infrastructure development for the State of Goa. There are various works being carried out under this scheme upon recommendation and approval of Technical Advisory Committee. The copy of the notification is provided at **Annexure I: Electricity Duty Notification**.

- g) **APDRP Schemes** – Under these schemes, the works such as Replacement of electromechanical meters with electronic meters, Conversion from overhead to underground cabling in the balance areas of Margao Municipal Council etc are carried out.

- h) **R-APDRP Schemes** – The Restructured Accelerated Power Development and Reforms Programme (R-APDRP) during the Eleventh Plan period has been put in place by the Government of India and the funding pattern has been restructured. It consists of Part A and Part B and it is mandatory to take up Part A, IT related works prior to taking up the Part B works. The Part A consists of Projects for establishment of baseline data and IT applications for energy accounting/auditing and IT based consumer service centres.



It includes preparation of Base-line data for the project area covering Consumer Indexing, GIS Mapping, Metering of Distribution Transformers and Feeders, and Automatic Data Logging for all Distribution Transformers and Feeders and SCADA / DMS system. It would include Asset Mapping of the entire distribution network at and below the 11Kv transformers and include the Distribution Transformers and Feeders, Low Tension lines, poles and other distribution network equipment.

It also includes adoption of IT applications for meter reading, billing & collection; energy accounting & auditing; MIS; redressal of consumer grievances; establishment of IT enabled consumer service centers etc. The base line data and required system shall be verified by an independent agency appointed by the Ministry of Power. DPRs for Part A had been prepared through appointment of IT consultant and the same was submitted to the Ministry of Power, for sanction of loan.

The Ministry of Power has sanctioned a total loan amounting to Rs. 104.89 crores for Goa. This loan could later be converted to grant on fulfilment of certain conditions. Tenders were called from System Integrators shortlisted by the Ministry and have been opened on 22/09/2009. System Integrator for these works has been finalized and the Letter of Intent placed on M/s Spanco Ltd. Work is being awarded at a cost of Rs. 84.99 crores.

The details of the capital expenditure and capitalization of major schemes are summarized as under:



Table 3-5: Capital Expenditure & Capitalisation FY 2011-12

Name of scheme	Estimated Cost (Rs.Crores)	FY 2009-10	FY 2010-11	FY 2011-12	Proposed Capitalisation during FY 2011-12 (Rs. Cr.)
		Actual	Provisional	Proposed	
Scheduled castes development scheme(P)	-	-	-	4.00	4.00
Schedule Tribe Development Scheme	Yearly basis	19.43	19.82	30.00	30.00
Infrastructure development through Electricity Duty (Plan)	Yearly basis	4.62	58.81	60.00	43.56
Erection and Augmentation of 33/11 KV S/S line (Plan)	Yearly basis	4.69	10.30	7.00	7.00
Normal Development Schemes (Plan)	Yearly basis	15.43	15.03	15.50	15.50
System Improvement Schemes (Plan)	Yearly basis	5.14	4.03	6.00	6.00
Erection of 220/33 KV 1X50 MVA Sub-Station at Cuncolim	67.03	2.88	3.90	8.00	-
Erection of 220 KV line from Xeldem to Cuncolim	8.68	0.14	0.87	4.00	-
Strengthening of 220 KV Transmission Network	Yearly basis	0.06	7.50	5.15	-
Augmentation of Kadamba S/S from 2x40 MVA to 4x40 MVA(Plan)	11.41	3.30	7.25	1.00	11.69
Erection of 2nd 100 MVA transformer at Xeldem 220/110 KV S/S	6.99	3.00	4.00	0.10	7.10
APDRP (State Schemes)	Yearly basis	11.16	11.00	30.00	-
Restructured - APDRP Schemes	-	-	-	40.00	-
Other Capital Expenditure Schemes		8.59			
Total		78.44	146.92	219.57	126.68

However as mentioned above, the various schemes/ works carried out from the Electricity Duty Reserve/ Fund Accounts. The works proposed to be capitalised during the year are estimated to ₹ 43.56 Crores, the details of which are given in the below table:

**Table 3-6: Capitalisation from ED Fund for FY 2011-12**

Sr. No.	Name of Work	Total Cost of Work in (Rs. Lacs)	Proposed Capitalisation in FY 2011-12 (Rs.Lacs)	Present status of work
1	Estimate for augmentation of 33/11 KV, 4 x 6.3 MVA Sub-Station to (3 x 10 MVA + 6.3 MVA) by introducing 3 nos. of 10 MVA power transformers alongwith its associated equipments at 33/11 KV Sub-Station at Mapusa, Bardez-Goa.	438.34	438.34	Work order is placed
2	Estimate for augmentation of 33/11KV sub-station at Pontemol- Curchorem from 2x 6.3MVA to 2 x 10MVA Power transformer in Quepem Taluka.	624.54		Work order is placed
3	Estimate for augmentation of 33/11KV Sub-Station at Bicholim.	102.87	102.87	Work order is placed
4	Estimate for enhancement of capacity of 33/11kv Sub-Station at Nagoa, Mapusa from (3.15+6.3) MVA to (10 MVA + 6.3 MVA) by supply, erection, testing and commissioning of 10 MVA Power Transformer along with the associated equipments and laying of single circuit 11kv, 3 core x185 sq. mm XLPE cable from Nagoa Sub-Station in order to bifurcate 11KV Sauthawado feeder and Calangute feeder.	262.38		Work order is placed
5	Estimate for augmentation of 33/11KV Velim sub-station from 1 x 6.3MVA to 2 x 6.3MVA.	226.95	226.95	Work order is placed
6	Estimate for augmentation of 33/11KV Majorda/Utorda Sub-Station from 1 x 6.3MVA to 16.3MVA by installing additional 10MVA Power transformer.	267.40		Work order is placed
7	Estimate for upgradation of existing infrastructure and improving of flexibility at 33/11KV Sub-Station under jurisdiction of Div-IV, Margao.	350.33		Work order is placed
8	Estimate for laying of 33KV 3 core 240sq.mm XLPE armoured underground cable from 1 x 6.3MVA Sanquelim ss to Bhupial 4 pole structure.	264.55	264.55	Work order placed.
9	Estimate for replacement of existing S & S make 33KV outdoor VCB's at Porvorim sub-station.	15.30		Work is completed
10	Estimate for augmentation of 33/11 KV, 1 x 3.15 MVA by 1 x 6.3 MVA at Shigao – Collem Sub-Station.	136.32	136.32	Financial bid is opened & is under evaluation
11	Estimate for renovation of 33KV single circuit Mapusa II line from Mapusa sub- station to 8 pole structure at Sangolda and renovation of 8 pole structure at Sangolda.	86.46	86.46	Work order is placed
12	Estimate for SETC of 1x10MVA,33/11KV Power transf at 2x 6.3MVA,33/11KV Porvorim ss and laying of 11KV S/C XLPE cable 3 c x 185sq.mm from Porvorim ss in order to bifurcate 11KV Housing Board ,Torda and Porvorim Bazaar feeder.	386.10		Work order is placed
13	Estimate for providing of underground 33KV XLPE cable from Viridi to Sankhali Sub-Station.	303.24	303.24	Work order is placed
14	Estimate for replacement of 33KV 630A 3 pole isolator and providing underground 3 core 300sq.mm XLPE cable for connecting 33KV ZIL and 33KV MES feeders from Sancoale sub-station.	7.41		Work is completed

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Sr. No.	Name of Work	Total Cost of Work in (Rs. Lacs)	Proposed Capitalisation in FY 2011-12 (Rs.Lacs)	Present status of work
15	Estimate for augmentation of 33/11kV Sub-Station at Waddem in Sanguem Taluka from 1 x 3.15MVA to 1 x 6.3MVA.	129.91		
16	Estimate for SETC of two nos. of 33KV 3 core x 400 mm ² underground cable link between Sancoale substation and Majorda Substation.	1188.51		Work order is placed
17	Estimate for laying of underground cable 33KV D/C feeder using XLPE 3 core 400 mm ² cable from 110/33KV Tivim Substation to 33/11KV 4x6.3MVA Mapusa Substation.	1517.45		Tender documents are under preparation
18	Estimate for laying of 33KV Double Circuit XLPE cable 3 core x 400mm ² from Tivim Substation to 2x6.3MVA Porvorim Substation at Porvorim under Infrastructure development fund.	2107.36		Tender documents are under preparation
19	Estimate for laying of underground cables for 33KV double circuit feeder from Xeldem substation to Aquem substation in Margao along with the associated switchgear and bay arrangements.	2047.51		Work order is placed
20	Estimate for SETC of 33KV D/C U.G. cables from Xeldem s/s to Cuncolim 33/11 KV s/s along with associated switch gear and bay arrangements.	1563.31		Work order is placed
21	Estimate for laying of 33 KV 3 core x 400mm ² D/C U/G XLPE armored cable from 220/33KV Ponda s/s to 33/11 KV Kundaim s/s via proposed Ponda colony s/s and Madkaim s/s.	2298.08		Tender documents are under preparation
22	Estimate for SETC of cable and accessories for 33KV D/C U.G. cables from Ponda s/s to Fatorda s/s via Raia s/s in Goa along with associated switch gear and bay arrangement.	2140.18	1070.09	Work order is placed
23	Estimate for laying of 33KV XLPE 3 core x 400mm ² underground cable from Verna sub-station to Kadamba substation at Vasco.	1839.23		Work order is placed
24	Estimate for erection of 110KV & 33KV SF6 breakers at Verna	55.38		Work is completed
25	Estimate for R & M of 220KV Tillari Ponda & Kolhapur Ponda line	194.18	194.18	Work order is placed
26	Estimate for R & M of 220KV line from Ambewadi to Ponda	302.31	302.31	Work order is placed
27	Estimate for erection of new 100MVA Power transformer at Ponda.	857.99	857.99	Work order is placed
28	Estimate for replaciong the existing HV/LV incomer BHEL make MOCB with SF6 breakers of 100MVA at Ponda.	79.71	79.71	Work order is placed
29	Estimate for augmentation of capacity of the 33/11KV sub-station at Valpoi from 1 x 6.3MVA to 2 x 6.3MVA	331.76		Tender documents are under preparation.
30	Estimate for laying of 33KV 3 core 400sq.mm D/C XLPE underground cable from 2 x 6.3MVA Porvorim ss to Assembly Complex at Porvorim in Bardez - Goa.	694.78		Estimate sanctioned on 13/07/2010



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Sr. No.	Name of Work	Total Cost of Work in (Rs. Lacs)	Proposed Capitalisation in FY 2011-12 (Rs.Lacs)	Present status of work
31	Estimate for supply, erection, testing and commissioning of cable and accessories for 33KV Double circuit under ground cable from Verna sub-station to Montehill sub-station in Goa alongwith the associated switchgear and bay arrangements.	2043.47		Estimate sanctioned on 03/09/2010
32	Estimate for augmentation of the 33//KV sub-station at Kundaim from existing capacity of 2 x 6.3MVA to 2 x 10MVA alongwith all the associated switchgear and equipments.	168.7		Estimate sanctioned on 04/10/2010
33	Estimate for supply, erection, testing and commissioning of 1x10MVA, sub-station at Verna	293.40	293.40	Estimate sanctioned on 27/10/2010
34	Estimate for the upgradation/modernization of MRT laboratories,RT unit, HTMT unit & MRT Vigilance pertaining to Div.VIII MRT,Margao	444.51		Estimate sanctioned on 06/12/2010
35	Est for laying of 11KV underground cable in the tourist belt of Candolim,Sinquerim,Calangute,Arpora and Baga areas in Bardez Taluka and the balance portion of 11KV Alor feeder,Baga feeder I and II,Kamat feeder and Ximer feeder.	708.80		Estimate sanctioned on 28/01/2011
36	Estimate for S,E,T & C involving enhancement of the 2 x6.3MVA to 2 x 10MVA Power transformers at 33/11KV Fatorda s/s.	333.46		Estimate sanctioned on 28/01/2011
37	Estimate for the work of SETC of 33KV, 3 core x 400sq.mm D/C XLPE U.G. cable alongwith associated equipments from 220/110/33KV Tivim s/s to 33/11KV Nagao s/s and 33/11KV Candolim s/s via 33/11KV Saligao sub-station.	2758.00		Estimate sanctioned on 23/03/2011
38	Estimate for work of providing 33 KV, 3 core x 400 sq. mm XLPE armoured cable from 110KV Kadamba sub-station to 33/11KV Kundaim sub-station via Corlim.	1264.00		Estimate sanctioned on 23/03/2011
39	Estimate for supply and laying of 33 KV, 3C x 400 sq. mm cable and supply,erection ,testing and commissioning of cable accessories for 33kv DC UG cables from Amona s/s to Kundaim s/s alongwith associated switchgear bus extension and bay arrangements.	1706.00		Estimate sanctioned on 24/03/2011
40	Estimate for supply & erection of cable and accessories for 33KV underground cable for providing 33KV link lines from 220/33KV Cuncolim sub-station to the existing 33KV feeders running via 33/11KV Cuncolim sub-station.	833.00		Estimate sanctioned on 24/03/2011
Total Sanctioned Amount		31373.17	4,356.41	

The capitalization of the assets from the above capital expenditure is estimated to ₹ **126.91** Crores for FY 2011-12.

3.2.2 Capital Works-in-progress

The details of the opening capital works-in-progress, investments during the year and investments capitalised for the year are summarised in the below table:



Table 3-7: Details of Capital Works-in-Progress

(Rs. Crore)

Sr. No.	Particulars	Previous year (Actual)	Current year (Provisional)	Ensuing year (Projection)
		2009-10	2010-11	2011-12
1	2	3	4	5
1	Opening balance	294.85	313.29	302.02
2	Add: New investments	78.77	146.96	219.57
3	Total	373.62	460.25	521.60
4	Less investment capitalized	60.33	158.22	126.91
5	Closing balance	313.29	302.02	394.69

3.3 Interest on Loan & Interest during Construction (IDC) Calculation

In this section, ED-Goa would like to apprise the Hon'ble Commission about the sources of funds used by ED-Goa for funding the capital expenditure. Further ED-Goa would also request the Hon'ble Commission to consider the principles and methodology discussed in the subsequent sections on computation of Interest on Loan and IDC.

3.3.1 Sources of Funding

ED-Goa submits that the funding for the capital expenditure is normally through the internal reserves/ equity contribution from Government of Goa. However for R-APDRP schemes there is a loan being facilitated by Power Finance Corporation (PFC) which later on gets converted to grant upon timely completion of projects and as per the terms and conditions laid down in the agreement.

As mentioned earlier in capital expenditure section, ED-Goa collects Electricity Duty and transfers to separate reserve account. It is submitted that in normal cases, the receipts of Electricity Duty amount are reimbursed back to the Government. However in the case of ED-Goa, the notification from Government of Goa dated 28th May 2008 provides to utilize the amount collected through Electricity Duty to be used for necessary infrastructure development works for the license area. ED-Goa undertakes Infrastructure Development Works as advised by Technical Advisory Committee and approved by Government. Hence, ED-Goa would wish to submit that the Government of Goa is rolling back the electricity duty amount to Electricity Department as Equity Contribution for capital works and the same should be considered to be the addition to Regulated Equity for computation of Return on Equity subject to the provisions in the regulation 23(1) of Tariff Regulations 2009.



3.3.2 Normative Loan & Interest thereon

ED-Goa submits that majority of the capital assets are created out of equity contribution from Government of Goa and the actual borrowing of loan is only to the extent of APDRP schemes. Based on the explanation provided for sources of funding in Section 3.3.1, the actual equity contribution in the capital expenditure for the year FY 2011-12 works out to more than 30%. The Regulation 23(1) of Tariff Regulations 2009 provides that equity employed for capital expenditure in excess of 30% should be considered as normative loan. The same is extracted for reference as under:

*(1) For the purpose of determination of tariff, debt-equity ratio in case of existing, ongoing as well as new projects commencing after the date of notification of these Regulations shall be 70:30. **Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan.** Where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.*

Emphasis added

This being the first year of filing petition, the normative debt-equity ratio principle is also being discussed first time. The excess of equity over 30% has not been considered as normative loan in the books of account or in this petition for any of the years. The Regulation 23(2) further provides that debt-equity ratio computed in terms of regulation 23(1) shall be used for the purpose of determining interest on loan, return on equity etc. The same is extracted for reference as under:

(2) The debt and equity amounts arrived at in accordance with sub-regulation (1) above shall be used for all purposes including for determining interest on loan return on equity, Advance against Depreciation and Foreign Exchange Rate Variation:

Further the Regulation 25(3) of Tariff Regulation 2009 also provides for interest on normative loan. The relevant regulation is extracted for reference as under:

(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:

As a principle, ED-Goa submits that the computation of debt ratio or computation of interest on loan (including normative loan) should be allowed on capital expenditure. ED-Goa in this petition has considered only actual loan transactions and interest on PFC loan for FY 2011-12. ED-Goa requests to Hon'ble Commission to kindly consider the above and accordingly allow for computation of debt-equity ratio on capital expenditure for computation of normative loan and interest on such normative loans.



3.3.3 Interest during Construction (IDC)

The Tariff Regulations 2009 also provides for Interest during Construction to be part of capital cost. The Regulation 22 (3) is extracted for reference as under:

(3) Scrutiny of the capital cost estimates by the Commission shall include the reasonableness, financing plan, interest during construction, use of efficient technology, gestation period and such other matters relevant for determination of tariff.

Further the 2nd proviso to Regulations 25 (3) also mentions of interest & finance charges on works in progress for consideration as part of capital cost.

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

ED-Goa in the current petition has not considered any IDC on capital works in progress and accordingly submits the following methodology to Hon'ble Commission for consideration of IDC computation in APR/ True-up as the case may be.

- i. Computation of Interest During Construction Charges charges on (a) Opening CWIP for the entire year and (b) Investment during the year for half year and the same is included in Investment for the current year;
- ii. Capitalisation of this IDC for the year in the ratio of Capitalisation/(Opening GFA plus Investment During the Year);
- iii. Based on i and ii, the amount of IDC during the year not capitalized in that year will be included in the Closing WIP and will be capitalized in the future years when the asset is capitalised
- iv. No Interest during construction to be accounted for the schemes which get initiated and completed in the same year.

The same has been explained by way of sample calculation as under:



Table 3-8: IDC Computation

Particulars	<u>(i)- Scheme Carried forward to the next year</u>		<u>(ii)- Scheme Capitalised during the year</u>	
<u>CWIP Movement during the year</u>				
Opening CWIP of the Scheme	a	100	a	100
Investment during the year	b	10	b	10
Capitalisation	c	0	c	110
Closing CWIP	d=a+b-c	110	d=a+b-c	0
<u>Interest Computation</u>				
<i><u>(a) Interest for the year on Opening CWIP</u></i>				
Rate of Interest	f	9%	f	9%
Principal for Interest	g=0.7xa	70	g=0.7xa	70
Time Period for Interest (Years)	h	1	h	0.5
Interest Amt	j=fxgxi	6.3	j=fxgxi	3.15
<i><u>(a) Interest for the year on Investment during the year</u></i>				
Rate of Interest	k	9%	k	
Principal for Interest	l=0.7xb	7	l=0.7xb	
Time Period for Interest (Years)	m	0.5	m	
Interest Amt	n=kxlxm	0.32	n=kxlxm	0
Total IDC for the year	o= j+n	6.62	o= j+n	3.15

3.3.4 Depreciation

As a general principle, the provision of depreciation expenses is allowed on the fixed assets to facilitate repayment of the loan taken for capital assets. However, ED-Goa has not considered normative loans and hence depreciation amount is higher than actual loan repayment amount projected in the ARR. ED-Goa requests that principle of loan repayment amount equal to depreciation may be allowed in APR/ True-up as the case may be and also allow Advance Against Depreciation (AAD) as per provisions of Tariff Regulations 2009.

ED-Goa requests Hon'ble Commission to allow computation of regulatory depreciation as per above methodology.

3.3.5 Summary on Normative Loan, IDC, Depreciation etc

This being the first year of ED-Goa in regulatory regime for filing the ARR & Tariff Petition, it requests Hon'ble Commission to consider the above discussed principles and allow the same for favorable dispensation during Annual Performance Review (APR)/ True-up as the case may be.

- a. Consideration of Debt-Equity Ratio of 70:30 on Capital Expenditure;



- b. Consideration of Equity in excess of 30% as Normative Loan;
- c. Consideration of Provision for Interest on Normative Loan at weighted average rate of interest on loan of ED-Goa (subject to ceiling of SBI PLR);
- d. Consideration of Provision for Computation of IDC as per suggested methodology;
- e. Consideration of Provision for Total Loan Repayment (including normative) equal to the depreciation during the year;

Annual Revenue Requirement for Goa

Based on the provisions of the Tariff Regulations, the estimate for the Annual Revenue Requirement (ARR) would consist of the following elements:

- Power Purchase Costs
- Transmission Charges
- Operation and Maintenance Expenses
- Depreciation
- Interest charges
- Interest on working capital
- Interest on security deposit
- Return on Capital Base/ NFA
- Provision for Bad and Doubtful Debts
- Less: Non Tariff Income

The above Annual Revenue Requirement is netted off for Non Tariff Income & other revenue from sale of surplus power for determining the net ARR for ED-Goa.

3.4 Power Purchase Costs

ED-Goa meets its total energy requirement from its allocation from the Central Generating Stations (CGS), Private Generators like Reliance Infrastructure Ltd, State based Co-generation facilities, Power Exchanges etc. ED-Goa receives power from CGS like NTPC and NPCIL as per allocation from time to time. ED-Goa's firm share allocation from CGS is comparatively less and hence has to mainly depend upon the infirm power allocation. The present power allocation of Goa is as listed below:

Table 3-9: Power Allocation as on 1st June 2011

Generating Station	Peak Hours (1800 to 2200 hours)		Off-Peak Hours (0000 to 1800 & 2200 to 2400 hours)	
	Share from Firm Allocation (MW)	Share from Unallocated Allocation (MW)	Share from Firm Allocation (MW)	Share from Unallocated Allocation (MW)
KSTPS	210.00	0.76	210.00	3.01
VSTPS-I	35.00	0.56	35.00	2.24
VSTPS-II	12.00	0.46	12.00	1.81
VSTPS-III	10.00	0.46	10.00	1.83
KGPP	-	12.37	-	12.37
GGPP	-	12.63	-	12.63
SIPAT	10.00	0.46	10.00	1.83
KAPP	15.00	0.14	15.00	0.54
TAPP-3 & 4	11.00	0.50	11.00	1.98
KSTPS-7	4.50	0.28	4.50	1.10
RSTPS	100.00	-	100.00	-
Total	407.50	28.62	407.50	39.34

Further, to cater to the increasing demand of its consumers, ED-Goa is pursuing with Ministry of Power for higher allocations from future power projects as discussed in earlier sections.

3.4.1 Assumptions for Power Purchase Cost Projections

The merit order dispatch principles are typically adopted when determining the power purchases from various generating stations. However, in a power deficit scenario, these principles do not play a significant role as the department /utilities will try and purchase all the power that is available at its disposal. Accordingly, ED-Goa has considered purchase of the entire power available from all the possible sources during FY 2011-12 to meet the demand to the extent possible of the consumers in peak hours. In the obligation of meeting requirement, as total power of CGS is scheduled and also there are other commitments of Co-gen & IPPs, the department is surplus during off-peak hours which is diverted again to pool / sold to power exchanges.

Power Purchase cost is a function of the energy requirement and price of available power from the different sources for meeting the energy requirement. Power purchase cost for FY 2011-12, is determined on the following parameters:

- The quantum of power allocated to ED-Goa from central generating station is based on



the allocation declared by MOP (Allocation w.e.f 1st June 2011);

- Power purchases from the CGS stations are accounted at the plant Ex-bus;
- PLF is assumed in line with past performance for FY 2009-10 & FY 2010-11;
- Fixed cost, other charges (Incl FPA) & Supplementary charges for CGS stations have been considered same as FY 2010-11;
- Energy charges have been considered based on the actual performance of 2 months of FY 2011-12;
- Power purchase from Co-Generation, IPPs and Traders have been considered as per PPAs;

3.4.2 Power purchase from CGS Stations

ED-Goa has projected that the quantum of power purchase from CGS stations (NTPC & NPCIL) will be based on the firm & unallocated allocations. The details of the computation of power purchases from CGS stations are provided in Format-4 of the Tariff Filing Formats submitted along with the petition. For projecting the net energy availability at State periphery for FY 2011-12, the external PGCIL losses of 3.37% have been considered as per previous year's loss levels. The cost of power purchase from NTPC and NPCIL works out to ₹ **539 Crores** for **3,271 MUs** for FY 2011-12.

3.4.3 Power purchase from Co-Generation

ED-Goa has an existing Power Purchase Agreement (PPA) with M/s.Goa Energy Private Limited where power is received to the extent of around 14-21 MW and power received from M/s.Goa Sponge & Power Limited is 3 MW. The cost of power purchase from Co-generation works out to ₹ **31 Crores** for **132 MUs** for FY 2011-12.

3.4.4 Independent Power Producers (IPPs)

ED-Goa also has an agreement with Reliance Infrastructure Limited which supplies 12MW / 16 MW out of its total capacity of 48 MW. All weekdays except Sunday from 23.00 hours to 24.00 hours – 12 MW, from 00.00 hours to 9.00 hours & from 13.00 hours to 15.00 hours – 12 MW, from 9.00 hours – 13.00 hours and 15.00 hours - 23.00 hours - 16 MW. Further on Sunday all the 24 hrs, 16 MW of the power is received by ED-Goa. The power plant is based on naphtha fuel and the fuel price is also linked to foreign exchange variation rate; hence the per unit cost varies from ₹ 8 p.u to ₹ 14 p.u. The estimated cost for **88 MUs** works out to ₹ **88 Crores** for FY 2011-12.

3.4.5 Power purchase from Traders

ED-Goa has recently entered into PPA with NVVNL for purchase of 37 MW on RTC basis. As an interim measure pending the identification of regular power injector for supplying above power, NVVNL had w.e.f 1st March 2011 till 31st March 2011 had arranged power on a



power swap (banking arrangement) basis. The quantum of power supplied was returned back to NVVNL in the ratio of 1:1.07 during 00.00 hours to 24.00 hours except 18.00 hours to 23.00 hours in the month of June 2011. ED-Goa has projected power purchase of **320** MUs for FY 2011-12 with a cost of ₹ **123** Crores.

3.4.6 Pool Power Purchase

ED-Goa has considered the actual power purchase from the pool to the extent of **15** MUs at a cost of ₹ **4** Crores for FY 2011-12.

3.4.7 Transmission Charges

ED-Goa has considered the transmission charges payable to PGCIL and wheeling charges MSETCL, GETCO & KPTCL same as previous year for FY 2011-12. The per unit transmission charges for FY 2011-12 works out to approx 20 paise/kWh at a total cost of ₹ **71** Crores.

3.4.8 Summary of Power Purchase Expenses

The summary of total power purchase expenses for the above mentioned sources for FY 2011-12 is tabulated below:

Table 3-10: Summary of Power Purchase Expenses for FY 2011-12

Power Purchase Sources	FY 2011-12		
	MUs	Total Cost (Rs.Crs)	Average PP (Rs/kWh)
NTPC	3,141	507	1.61
NPCIL	130	32	2.45
Pool Purchase	15	4	2.50
Co-generation	132	31	2.34
IPPs	88	88	10.03
Traders	320	123	3.85
Renewable Energy	-	-	-
Banking Arrangement	22	-	-
PGCIL & Other Charges	-	71	-
Total Power Purchase	3,848	856	2.22

The Hon'ble Commission is kindly requested to approve the total power purchase cost of ₹ **856** Crores including transmission charges for FY 2011-12.

3.4.9 Fuel Surcharge Formula

Further, it is submitted that any changes in the power purchase expenses during the year may be allowed to be recovered by ED-Goa from its consumers through a Fuel Surcharge Adjustment (FSA) / Fuel Price Adjustment (FPA) Mechanism that may be notified by the Hon'ble Commission. It is submitted that ED-Goa is in process of determining the FSA/ FPA



formula which is tentatively planned for submission to Hon'ble Commission in August 2011. This would ensure that such increased expenses do not affect the financial viability of the department and at the same time do not accumulate for true-up at the end of the year as this can have a significant impact on the tariffs in the subsequent years. Such mechanisms are prevailing in almost all states and have been envisaged in the Electricity Act 2003 (Section 62 (4)) also. The relevant section of the Act is reproduced below:

(4) No tariff or part of any tariff may ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified."

Hon'ble Commission in its Regulation 7 of Tariff Regulations 2009, has provided for recovery of variation in fuel / power purchase costs from consumers as per the formula to be approved by Hon'ble Commission. The relevant regulation is extracted as below:

7. Fuel Surcharge Formula

(1) The fuel cost revisions for the generating companies/units owned by the licensee that are due to reasons beyond the control of the generating companies / the licensee be in accordance with the fuel surcharge formula as may be decided by the Commission from time to time.

(2) The generating company or the licensee may determine such charge in accordance with the specified formula and recover the same from such categories of consumers or the licensees, as the case may be after following procedure and the terms and conditions attached thereto.

3.5 Operation and Maintenance (O&M) Expenses

Operation & Maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administration & General Expenses
- Repairs & Maintenance Expenses

As mentioned earlier in chapter 1, ED-Goa maintains its accounts on cash basis. Further ED-Goa does not maintain its accounts purely in the above categorisation of O&M heads. It has various heads such as salaries, medical treatment, domestic travelling, office expense, other charges towards supply materials, minor repair works etc which are categorised into O&M heads for the purpose of ARR.

3.5.1 Employee Expenses

The expense head of employee cost consists of salary and allowance, bonus, Leave Travel Concession (LTC) & Honorarium etc. It is submitted that in the absence of any practice of maintaining the provisions of pension, terminal benefits, etc. separately, ED-Goa has not



considered leave salary contribution, pension and terminal benefits of the employees in the Employee Expenses and the break-up is also unavailable for all salary heads. ED-Goa reserves its right towards this claim and will approach the Hon'ble Commission at the appropriate stage. ED-Goa has projected the employee cost for FY 2011-12 taking into consideration increase in the basic salary and related other remunerations on account of implementations of recommendations of Sixth Pay Commission and also corresponding increase due to additions during the year. It is therefore kindly requested to Hon'ble Commission to approve the employee expenses of ₹ 129.71 Crores for FY 2011-12.

3.5.2 Administration and General Expenses

A&G expenses comprise of the following broad subheads of expenditure, viz.

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

The details of the A&G expenses estimated for FY 2011-12 are provided in the table below:

Table 3-11: A&G Expenses for FY 2011-12

(Rs. Crore)

Sr. No.	Sub-head	Previous Year (FY 2009-10)	Current year (FY 2010-11)	Ensuing year (FY 2011-12)
1	2	3	4	5
1	Rent, rates & taxes	0.20	0.22	0.32
2	Domestic Travel Allowances	0.33	0.23	0.62
3	Office Expenses	18.40	16.44	16.44
4	Regulatory Expenses (License + Petition Fees)	0.37	0.38	0.65
5	Advertisement & Publicity	0.02	0.21	0.20
6	Legal, Professional & Special Service Charges	0.09	0.04	0.47
7	Other A&G Charges	0.36	0.22	0.51
8	Registration Charges - PGCIL (WR & SR) & SCADA/ EMS Charges	0.55	0.32	0.32
9	Other material related expenses			
10	Total	20.33	18.05	19.52
11	Add/Deduct share of others (to be specified)			
12	Total expenses	20.33	18.05	19.52
13	Less: Capitalized	0.15	0.21	0.23
14	Net expenses	20.18	17.84	19.30
15	Add: Prior period*			
16	Total A&G Expenses	20.18	17.84	19.30



It is therefore kindly requested to Hon'ble Commission to approve the net A&G expenses of ₹ 19.30 Crores for FY 2011-12.

3.5.3 Repairs and Maintenance Expenses

ED-Goa 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 details of the R&M expenses for FY 2011-12 are given in the table below:

Table 3-12: R&M Expenses for FY 2011-12

Particulars	Rs Crores		
	Previous year (Actual)	Current year (Prov)	Ensuing year (Projection)
	2009-10	2010-11	2011-12
Plant & machinery	0.03	0.04	0.11
Buildings (Electricity Residential & Non-Residential)	1.52	1.80	1.80
Hydraulic works & civil works	-	-	-
Line cable & network	11.66	10.57	11.00
Meters and metering equipment	0.04	0.12	0.10
Minor R&M Works	3.45	4.02	4.02
Total R&M expenses	16.69	16.55	17.03

It is therefore kindly requested to Hon'ble Commission to approve the R&M expenses of ₹ 17.03 Crores for FY 2011-12.

3.5.4 O&M Expenditure as a whole

The overall summary of O&M Expenditure for FY 2011-12 is estimated to be about ₹ 166.04 Crores and is tabulated below:

Table 3-13: O&M Expenditure – FY 2011-12

Elements of O&M Expenses	Rs.Crores		
	FY 2009-10	FY 2010-11	FY 2011-12
Employee Expenses	124.29	123.51	129.71
A&G Expenses	20.33	18.05	19.52
<i>Routine A&G</i>	19.96	17.67	18.87
<i>Regulatory Fees</i>	0.37	0.38	0.65
R&M Expenses	16.69	16.55	17.03
Sub-Total	161.31	158.10	166.26
Less: Expenses Captld	0.15	0.21	0.23
Total O&M Expenses	161.16	157.89	166.04



It is submitted that Goa is now gearing up for meeting the operational requirement of servicing existing and additional new consumers in line with the Standards of performance which the licensees have to adhere to. Hence there would be an increase in O&M expenditure to support full-fledged distribution business operations.

3.6 Gross Fixed Assets

The opening Gross Fixed Assets (GFA) for ED-Goa have been computed based on provisional figures of FY 2008-09 and FY 2009-10. The figures pertaining to additions to GFA & assets retirement for FY 2009-10 and FY 2010-11 have been considered to arrive at opening GFA for FY 2011-12.

As discussed in earlier sections of capital expenditure and capitalization, the additions to GFA estimated for FY 2011-12 is ₹ **126.91** Crores. The asset wise details are provided in the Format 7 of the Tariff Filing Format; however the same are represented for reference purpose as under:

Table 3-14: Details of Gross Fixed Assets FY 2011-12

(Rs. Crore)										
Sr. No.	Assets group	Value of assets at the beginning of previous	Addition during previous year	Value of assets sold/ disposed off	Closing balance at the end of previous year	Addition during the current year	Value of assets sold/ disposed off	Closing balance at the end of current year	Addition during ensuing year*	Closing balance at the end of ensuing year
		2009-10	2009-10	2009-10	2009-10	2010-11	2010-11	2010-11	2011-12	2011-12
1	2	3	4	5	6	7	8	9	10	9
1	Land	4.68	-	-	4.68	-	-	4.68		
2	Building	6.29	0.32	-	6.61	0.16	-	6.77		
3	Other Civil Works	1.18	0.08	-	1.26	9.50	-	10.76		
4	Plant & Machinery	53.09	12.23	-	65.33	35.06	-	100.39		
5	Transformers centres	64.97	11.59	0.16	76.41	15.38	0.19	91.60		
6	New Sub- Stations	12.93	3.51	-	16.44	6.00	-	22.43		
7	Static Machine Tools	2.42	-	-	2.42	-	-	2.42		
8	Vehicles(incl.Self propelled)	5.19	0.07	0.04	5.22	0.06	-	5.28		
9	Switch gear & S/S equip.	39.57	-	0.08	39.49	-	-	39.49		
10	Meters	42.01	5.45	0.06	47.41	4.64	-	52.05	126.91	878.01
11	Furniture and Fixtures	1.35	0.07	-	1.42	0.13	-	1.55		
12	Office Equipments	1.05	0.07	-	1.13	0.08	-	1.20		
13	Overhead lines	148.98	8.82	-	157.81	17.16	-	174.97		
14	Lightening arrestors	8.47	-	-	8.47	-	-	8.47		
15	Batteries	0.27	-	-	0.27	-	-	0.27		
16	St. light fittings	17.65	2.24	-	19.89	1.68	-	21.58		
17	Service lines	17.81	-	-	17.81	-	-	17.81		
18	Underground cables	97.72	15.86	-	113.58	68.56	-	182.15		
19	Others	7.23	-	-	7.23	-	-	7.23		
20	Total	532.88	60.33	0.33	592.88	158.41	0.19	751.10	126.91	878.01



3.7 Depreciation

ED-Goa has computed the depreciation as per JERC Regulations 2009 separately for each class of assets. Further ED-Goa has claimed depreciation on assets added during the year for 6 months only, as addition date/month would be in first half or second half. The depreciation for the ensuing year has been computed on the basis of weighted average rate of previous year.

It is submitted that ED-Goa would compute depreciation as per tariff regulations and as per the principle discussed in section 3.3 during the annual performance review / true-up. The table below provides the depreciation for FY 2011-12.

Table 3-15: Depreciation for FY 2011-12

Particulars	GFA & Depreciation (Rs.Crores)		
	FY 2009-10	FY 2010-11	FY 2011-12
Opening Gross Fixed Assets	532.88	592.88	751.10
Add: Assets Added during the year	60.33	158.41	126.91
Less: Assets retired during the year	0.33	0.19	-
Closing Gross Fixed Assets	592.88	751.10	878.01
Opening Accumulated Depreciation	114.00	143.37	178.55
Add: Depreciation for the year	29.69	35.37	42.87
Less: Depreciation on Retired Assets	0.33	0.19	-
Closing Accumulated Depreciation	143.37	178.55	221.42
Weighted Average Depreciation Rate	5.28%	5.26%	5.26%

The Hon'ble Commission is requested to kindly approve the depreciation amount of ₹ 42.87 Crores for FY 2011-12.

3.8 Interest and Financial Charges

The Interest and Finance costs have been estimated for following heads:

- Interest on Debt/ Long term loans
- Interest on Working Capital
- Interest on Security Deposit

3.8.1 Interest on Long Term Loans

ED-Goa has been taking various loans from Power Finance Corporation (PFC) for APDRP schemes. The loan amount sanctioned by PFC on 27th February 2009 under Part-A of R-APDRP for various projects amounts to ₹ 104.89 Crores, out of which ₹ 46.18 Crores has been disbursed in FY 2010-11. The copy of the PFC Loan sanctioned letter dated 27th February 2009 is provided at **Annexure III: PFC Loan Sanction Letter**. The details of loan and interest on loan for FY 2011-12 as per loan schedule & agreement are given in the table below:



Table 3-16: Interest on Long Term Loan FY 2011-12

Particulars	PFC Loan Details (Rs.Crores)		
	FY 2009-10	FY 2010-11	FY 2011-12
Opening Loan Balance	89.64	79.12	112.51
Add: Loan taken during the year	-	46.18	-
Less: Loan repayment during the year	10.52	12.79	2.99
Closing Loan Balance	79.12	112.51	109.52
Interest on PFC Loan	9.10	10.31	2.44

The Hon'ble Commission is kindly requested to approve the interest on loan amounting to ₹ **2.44** Crores for FY 2011-12.

3.8.2 Interest on Working Capital

ED-Goa has computed the Interest on Working Capital for FY 2011-12 on normative basis. As per the JERC Tariff Regulations, for the purpose of computation of normative working and Interest on working capital, the components of working capital are as follows:

- Power Purchase Cost
- One month's employee costs
- 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 year under consideration, which is 13.00% as on 1st April 2011. The details of working capital and interest on working capital are provided in the table below:

Table 3-17: Interest on Working Capital FY 2011-12

Sr. No.	Particulars	Amount (Rs. Crore)		
		Previous Year (FY 2009-10)	Current year (FY 2010-11)	Ensuing year (FY 2011-12)
1	2	3	4	5
1	Fuel Cost - 2 Month	-	-	-
2	Power Purchase Cost - 1 Month	54.31	65.54	71.34
3	Employee Cost - 1 Month	10.36	10.29	10.81
4	Administration & General Expenses- 1 Month	1.68	1.49	1.61
5	R&M Cost - 1 Month	1.39	1.38	1.42
6	Total	67.74	78.70	85.17
7	Interest Rate			13.00%
8	Interest on working capital	-	-	11.07

The Hon'ble Commission is kindly requested to approve the interest on working capital of ₹ **11.07** Crores on normative basis for FY 2011-12.



3.8.3 Security Deposit

ED-Goa does collect security/ miscellaneous deposits from consumers. The regulation 25 (4) of Tariff Regulations 2009 provide for Interest on security deposits if made by the consumers with licensee or electricity department. The provision of interest on security deposits is to be made at the bank rate. The prevailing bank rate of Reserve Bank of India is 6% p.a.

The details of security deposits held by Electricity Department of Goa and the interest provision therein is given in the table below:

Table 3-18: Interest on Security Deposit

Sr. No.	Particulars	Amount (Rs. Crore)		
		Previous Year (FY 2009-10)	Current year (FY 2010-11)	Ensuing year (FY 2011-12)
1	2	3	4	5
1	Opening Security Deposit	40.06	47.22	54.90
2	Add: Deposits during the Year	8.68	9.19	9.19
3	Less: Deposits refunded	1.52	1.52	1.52
4	Closing Security Deposit	47.22	54.90	62.57
5	Bank Rate			6.00%
6	Interest on working capital	-	-	3.52

The Hon'ble Commission is kindly requested to approve the interest on security deposit of ₹ **3.52** Crores for FY 2011-12.

3.9 Return on Capital base/ Net Fixed Assets

The proviso of Regulation 23 (2) and Regulation 24 of Tariff Regulations 2009 provides for entitlement for Returns on Capital Base/ Net Fixed Assets by utility / licensee. The return on net fixed assets as per Format 6 is claimed by ED-Goa for FY 2011-12 as under:

Table 3-19: Return on Net Fixed Assets

Sr. No.	Particulars	(Rs. Crore)		
		Previous Year (Actuals)	Current Year (Prov)	Ensuing Year (Projection)
		2009-10	2010-11	2011-12
1	2	3	4	5
1	Gross block at beginning of the year	532.88	592.88	751.10
2	Less accumulated depreciation	114.00	143.37	178.55
3	Net block at beginning of the year	418.87	449.51	572.55
4	Less accumulated consumer contribution	-	-	-
5	Net fixed assets at beginning of the year	418.87	449.51	572.55
6	Reasonable return @3% of NFA			17.18



The Hon'ble Commission is kindly requested to approve the return on net fixed assets of ₹ **17.18** Crores for FY 2011-12.

3.10 Provision for Bad and Doubtful Debts

The Regulation 28 of Tariff Regulations 2009 provides for provision for bad and doubtful upto 1% of receivables in revenue requirement of the licensee. The provision for bad and doubtful debts for FY 2011-12 at 0.5% of revenue at existing tariff computes to ₹ **4.27** Crores.

3.11 Other Expenses

ED-Goa in the past has incurred expenses as compensation for incidents/ accidents on accounts of electrocution of animals & / human beings to its electrical system. The same are estimated to around ₹ **0.21** Crores for FY 2011-12 which Hon'ble Commission may please approve in the ARR.

3.12 Non-Tariff Income

The Non-Tariff Income estimated for FY 2011-12 is ₹ **21.06** Crores which comprises of proceeds from sale of dead stock, waste paper & other miscellaneous receipts.

3.13 Revenue from Sale of Surplus Power

ED-Goa has estimated that there is some surplus available during off-peak hours which will be sold to Pool &/ Power Exchanges. The revenue from sale of surplus power to Power Exchanges is estimated at ₹ **97.43** Crores for **216.51** MUs of power. The sale rate for FY 2011-12 is assumed at ₹ **4.50 /kWh** which is the weighted average rate for FY 2009-10 as well as FY 2010-11. The revenue from sale of power to Pool Account is estimated to ₹ **33.36** Crores for FY 2011-12 for **133.43** MUs. The average rate of ₹ 2.50/kWh is considered for FY 2011-12 sale rate based on past trend for last two years.

3.14 Summary of Annual Revenue Requirement

The net annual revenue requirement of ED-Goa for FY 2011-12 along with summary of ARR for FY 2009-10 and FY 2010-11 for reference purpose is provided in the table below:



Table 3-20: ARR for FY 2011-12

Rs Crore				
Sr. No.	Item of expense	FY 2009-10 (Actual)	FY 2010-11 (Provisional)	FY 2011-12 (Projected)
1	2	3	4	5
1	Cost of fuel	-	-	-
2	Cost of power purchase	651.72	786.45	856.05
3	Employee costs	124.29	123.51	129.71
4	R&M expenses	16.69	16.55	17.03
5	Administration and general expenses	20.18	17.84	19.30
6	Depreciation	29.69	35.37	42.87
7	Interest charges (incl interest on working capital & Interest on Security Deposit)	10.11	12.05	17.04
8	Return on NFA /Equity	-	-	17.18
9	Provision for Bad Debt	-	-	4.27
10	Other Expenses	0.10	0.07	0.21
11	Total Revenue Requirement	852.79	991.84	1,103.65
12	Less: Non Tariff Income	12.76	9.61	21.06
13	Less: Revenue from Sale of Power - UI Pool	70.77	74.61	33.36
14	Less: Revenue from Sale of Power - Power Exchanges	25.33	16.19	97.43
15	Net Revenue Requirement (11-12-13-14)	743.93	891.42	951.80

The net ARR required by ED-Goa for FY 2011-12 to be met from the revenue from sale of power is ₹ 951.80 Crores.

3.15 Revenue from Existing Tariff

It is submitted that the existing tariffs are in place since 2002. The revenue from sale of power from existing retail tariffs for FY 2011-12 compute to ₹ 853.97 Crores. The category wise revenue from sale of power is tabulated below:



Table 3-21: Revenue from Existing Tariff

Sr. No.	Category of Consumer	2011-12		
		Energy Sale/ Demand (MUs)	Revenue (Rs Crore)	Average Revenue (Rs/kWh)
A	Low Tension Supply	1,222	257.62	2.11
1(a)	Tariff LTD/Domestic and Non-Commercial	712	109.15	1.53
1(b)	Tariff LTD/Low Income Group	6	0.43	0.69
1(c)	Tariff LTD/Domestic Mixed	2	0.37	2.43
2	Tariff-LTC/Commercial	329	103.82	3.16
3	Tariff-LTP/Motive Power	104	30.52	2.93
3(a)	Tariff-LTP/Mixed (Hotel Industries)	7	2.29	3.50
4	Tariff-LTAG/Agriculture	17	1.70	1.00
5	Tariff-LTPL/Public Lighting	44	8.82	2.00
6	Tariff-LT PWW/Public Water Works	2	0.53	3.00
			-	-
B	High Tension Supply	1,653	585.39	3.54
7	Tariff HT-Mixed	117	49.64	4.24
8	Tariff HTI/Industrial	499	194.45	3.90
9	H.T.Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive)	575	195.79	3.41
10	Tariff-HTAG/Agriculture	8	0.94	1.25
11	EHTI/Industrial	152	59.57	3.92
12	H.T. PW/Public Water Supply and Sewage	121	43.01	3.54
13	H.T. MES/Defence Establishments	30	9.14	3.00
14	H.T. Industrial (Steel Rolling)	149	31.85	2.14
15	Tariff HT-Industries (IT High Tech).	1	0.99	8.75
			-	-
C	Temporary Supply	16	10.96	7.00
16	Tariff-LT/Temporary	16	10.96	7.00
17	Tariff-HT/Temporary	-	-	-
	Total Demand/ Sale Within State	2,891	853.97	2.95

3.16 Revenue Gap / (Surplus) at Existing Tariffs

It is submitted that the revenue gap / (surplus) at existing tariff for FY 2011-12 for ED-Goa works to ₹ 97.83 Crores. The summary of ARR, revenue from sale of power, average cost of supply, average tariff and gap in terms of % to be met from tariff hike/ other options is presented in the table below:



Table 3-22: Revenue Gap / (Surplus) for FY 2011-12

S.No.	Particulars	Units	FY 2011-12
			Existing
1	ARR for FY 2011-12	Rs. Crores	952
2	Revenue for FY 2011-12 at existing tariff	Rs. Crores	854
3	Gap (1 - 2)	Rs. Crores	98
4	Total Sales	MU's	2,891
5	Average Cost of Supply (1 / 4 x 10)	Rs. per kWh	3.29
6	Average Revenue (2 / 5 x 10)	Rs. per kWh	2.95
7	Pure Gap (5 - 6)	Rs. per kWh	0.34
8	Gap in terms of % (7 / 6)	%	11%



Chapter 4. Tariff Proposal for FY 2011-12

4.1 Revenue gap / (surplus) for FY 2011-12

The pure gap for FY 2011-12 for ED-Goa based on the estimation of various expenses works out to ₹ 98 Crores.

4.2 Proposal to meet Revenue Gap

ED-Goa respectfully submits that the revenue gap for FY 2011-12 is based on the past data/information which are provisional in nature i.e. the statement of accounts for FY 2009-10 and FY 2010-11 are under preparation. ED-Goa submits that this being the first of its tariff filing before Hon'ble Commission and since audit of accounts is in process, it is not seeking any tariff hike at this moment.

4.2.1 Creation of Regulatory Asset / Deferment of Revenue Gap

ED-Goa respectfully prays to Hon'ble Commission to provisionally create Regulatory Asset or defer the entire revenue gap for FY 2011-12 and allow the petitioner to claim the same in Annual Performance Review/ True-up process for FY 2011-12. As mentioned above, ED-Goa feels that in absence of past audited accounts, the revenue gap may not reflect correct picture and hence the revenue gap may be deferred for this petition.

The provision for creation of regulatory asset is there in National Tariff Policy 2006 as well as in Tariff Regulations 2009. The same are extracted here for ready reference.

4.2.1.1 Provisions of Tariff Policy

The provision related to Regulatory Asset in National Tariff Policy notified on 6th January 2006 is extracted as under:

8.2.2. The facility of a regulatory asset has been adopted by some Regulatory Commissions in the past to limit tariff impact in a particular year. This should be done only as exception, and subject to the following guidelines:

- a. The circumstances should be clearly defined through regulations, and should only include natural causes or force majeure conditions. Under business as usual conditions, the opening balances of uncovered gap must be covered through transition financing arrangement or capital restructuring;*
- b. Carrying cost of Regulatory Asset should be allowed to the utilities;*
- c. Recovery of Regulatory Asset should be time-bound and within a period not exceeding three years at the most and preferably within control period;*
- d. The use of the facility of Regulatory Asset should not be repetitive.*



e. In cases where regulatory asset is proposed to be adopted, it should be ensured that the return on equity should not become unreasonably low in any year so that the capability of the licensee to borrow is not adversely affected.

4.2.1.2 Provisions of JERC Tariff Regulations 2009

The various provisions in JERC Tariff Regulations 2006 related to Creation of Regulatory Asset are extracted as under:

10. Regulatory Asset

Only in extraordinary circumstances, the Commission may allow creation of Regulatory Asset in case the Revenue Gap is very substantial and is on account of one time factors beyond control of the generating company or the licensee and its full recovery in a single year will result in tariff shock for the consumers:

The Regulatory Assets so created along with carrying cost shall be liquidated in maximum 3 years period immediately following the year in which it is created.

4.2.1.3 Precedence in Other States

It is respectfully submitted that many Regulatory Commissions have adopted the method of creation of Regulatory Asset which are mentioned below for reference purpose.

- i. Orissa in 1998 & 2006
- ii. Haryana in 2002
- iii. Andhra Pradesh in 2002
- iv. Tamilnadu in 2010
- v. Delhi in 2002
- vi. Uttar Pradesh (NPCL) in 2008

4.3 Tariff Proposal for FY 2011-12

ED-Goa respectfully submits that the existing tariffs may be retained for FY 2011-12 and revenue gap provisionally determined may be deferred. The Proposed Tariff Schedule for FY 2011-12 i.e. existing tariff schedule is provided at **Annexure II: Proposed Tariff Schedule**.



Annexure I: Electricity Duty Notification

Reg. No. GR/RNP/GOA/32	RNI No. GOAENG/2002/6410
Panaji, 28th May, 2008 (Jyaishta 7, 1930)	SERIES I No. 8

OFFICIAL GAZETTE

GOVERNMENT OF GOA

EXTRAORDINARY

No. 2

GOVERNMENT OF GOA
Department of Power
Office of the Chief Electrical Engineer

Notification
120/2/CEE/Tech

In exercise of the powers conferred by the proviso to sub-section (1) of Section 3 of the Goa, Daman and Diu Electricity Duty Act, 1986 (Act No. 7 of 1986) and in supersession of the Government Notification No. 120/2/CEE/Tech/1771 dated 24-1-2006, published in the Official Gazette, Extraordinary 2, Series I No. 42, dated 24-1-2006, the Government of Goa, hereby levies on the units of energy consumed, a duty at the rate as indicated against respective category of consumers mentioned below, in the State of Goa, with immediate effect.

(I) Low Tension Supply	
(1) (i) LTD/Domestic and Non-Commercial	18 paise per unit.
(ii) LTD/Domestic Mixed	18 paise per unit.
(2) LTAG/Agriculture	18 paise per unit.
(3) LT PWW/Public Water Works	18 paise per unit.
(4) LTC/Commercial	58 paise per unit.
(5) LTP/Motive Power	58 paise per unit.
(6) LTP/Mixed (Hotel Industries)	58 paise per unit.
(7) LTP/Ice Manufacturing	* 58 paise per unit.



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(II) High Tension Supply		
(1) HT-Mixed		18 paise per unit.
(2) HT-Agriculture		18 paise per unit.
(3) HT PW/Public Water Supply and Sewage		18 paise per unit.
(4) HTI/Industrial		58 paise per unit.
(5) H.T. Industrial (Ferro Metallurgical/Steel Melting/Power Intensive)		58 paise per unit.
(6) HT Industrial (Steel Rolling)		58 paise per unit.
(7) HT Industries (IT High Tech)		58 paise per unit.
(8) HTI/Ice Manufacturing		58 paise per unit.
(9) EHTI/Industrial		58 paise per unit.
(III) Temporary Supply (HT or LT)		
The rate of duty for temporary supply (HT or LT) shall be at the same rate as in case of permanent supply.		
Note: The duty worked out as 50 paise and above shall be rounded off as rupee one and the duty worked out as less than 50 paise shall be treated as NIL.		
By order and in the name of the Governor of Goa.		
Nirma! Braganza, Chief Electrical Engineer and ex officio Additional Secretary.		
Panaji, 28th May, 2008.		
www.goagovt.nic.in/gazette.htm		
GOVERNMENT PRINTING PRESS, PANAJI-GOA. PRICE - Rs. 2.00		



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immediate action to prevent disturbance of the public peace and tranquillity, a need has been felt to enact a Legislation to arm the Police Force with legal provisions to enable them to handle all situations which may lead to disturbance of public peace or tranquillity and also enable the Police to take action in cases of public nuisance or acts causing annoyance to public.

3. There are many petty offences for which summary action is required to be taken by the Police. In the absence of a comprehensive Legislation with enabling provisions the Police Force will not be able to act in such cases.

4. The bill seeks to achieve the purpose.

Financial Memorandum

No financial implications are involved in the present Bill.

Memorandum Regarding Delegated Legislation

Clauses 3, 18, 19, 20, 22, 29, 30, 33, 37, 40, 47, 48, 49, 50, 53, 57, 58, 60, 62, 64, 63, 92, 93, 99 enable framing of Rules for the purposes of the Act. Thus delegated are of normal character.

Porvorim-Goa. Shri RAVI S. NAIK
Dated:- 25-8-2008. Home Minister

Assembly Hall, (R. KOTHANDARAMAN)
Porvorim-Goa. Secretary to the Legislative
Dated:- 25-8-2008. Assembly of Goa.

Department of Power
Office of the Chief Electrical Engineer

Notification
CEE/Accts-4 (Bud)/Part file/2469

The Government of Goa is pleased to formulate the following scheme:

1. *Title of the Scheme.*— This Scheme shall be called the "Scheme for Infrastructure Development through electricity duty."

2. *Period of Operation.*— The Scheme will be operated from the Financial Year 2008-09

3. *Objective of the Scheme.*— The Objective of the Scheme is to raise a fund through levy of electricity duty and set aside the same specifically for utilization for development of the Power Infrastructure in the State.

4. *Power Infrastructure Development covered under the Scheme.*— The present maximum demand of the State is of the order of 410 MW. As per the 17th Electricity Power Survey conducted by the Central Electricity Authority, the maximum demand could reach 721 MW by 2011-12 and 1500 MW by 2020-21. In order to cater to the anticipated load demand as well as to provide power to the consumers in the State, it is necessary to:

a) Upgrade and strengthen the interstate lines feeding power to Goa.

b) Ensure adequate transformation capacity at 220 KV, 110 KV and 33 KV levels as well as adequate transmission and sub-transmission capacities by suitably upgrading the transmission and sub-transmission network in the State.

As the process of building up of the transmission and sub-transmission network within the State, particularly considering that a lot of infrastructure has crossed its life, involves huge amount of investments, which cannot be met from the normal Budgetary Outlay, the Government of Goa, has decided to levy Electricity Duty on consumption of electricity by various category of consumers through the Goa Electricity Duty (Amendment) Act, 2008 notified vide Notification No. 7/8/2008-LA dated 7th May 2008. The Government has decided that the revenue generated through levy of Electricity Duty shall be utilized for the development and upgradation of Power Infrastructure in the State of Goa.

5. *Constitution of the Electricity Development Fund (EDF).*— The EDF will be constituted in the Public Account of the State and classified under the Head: J-Reserve Funds, (b) Reserve Funds not bearing interest, 8229- Development and Welfare Funds, 00-110-Electricity Development Fund, 01-Electricity Development Fund, in the accounts of the State Government concerned and will be utilized as per the provision of paras 6 to 8 of the Scheme.

6. *Source of Funding for EDF.*— The amount collected by way of Electricity Duty under the specific Receipt Head shall be accounted separately in the Estimate of Receipt Head under



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0801-05-101-05 and transferred to the fund under 8229-Development and Welfare Funds, 00-110-Electricity Development Fund, 01-Electricity Development Fund. The Department shall reconcile the revenue collected and transfer the same to EDF on monthly basis by debiting the same to the Expenditure Head "4801- Capital Outlay on Power Projects, 05-Transmission & Distribution, 800-Other Expenditure, 02-Infrastructure Development through Electricity Duty (Plan)", by the 15th of the succeeding month. No other expenditure to be booked against the Budget Head "4801-Capital Outlay on Power Projects, 05-Transmission & Distribution, 800-Other Expenditure, 02-Infrastructure Development through Electricity Duty (Plan)".

7. *Operation of EDF*— The Department shall undertake Infrastructure Development works as advised by the Technical Advisory Committee and approval by the Government, to the extent of Funds available under EDF. For this purpose the Department would have to take all the necessary approval like expenditure sanction including approval of EFC and GSWB, wherever necessary. All codal formalities are to be followed for execution of works as envisaged under GFR and any other procedure put in place by Government from time to time.

8. *Technical Advisory Committee*—

(a) *Composition of the Technical Advisory Committee:*

i) Chief Electrical Engineer ...	Chairman
ii) Superintending Engineers of the Respective Circles ...	Members
iii) Joint Director of Accounts ...	Member
iv) Executive Engineer (Plg.) ...	Member Secretary

(b) *Functions of the Committee:*

(i) The Technical Advisory Committee shall recommend the Developmental Schemes proposed to be carried out under the EDF to the Government.

(ii) Only such works which have been recommended by the Technical Advisory Committee of the Department and approved by the Government shall be undertaken under this Scheme, and the amount for execution of such works shall be spent from the EDF.

(iii) The Committee shall monitor the utilization of the amount kept under the disposal of the Government in respect of the

EDF and ensure that the money is utilized for the purpose for which it is meant.

9. *Unspent Balance of the Funds*— The unspent balance of EDF at the end of each financial year shall be the opening balance of the subsequent year.

10. *Accounts and Auditing*— The Accounts of the fund and its utilization shall be verified by the Accountant General in charge of the Accounts of the State in the normal course.

By order and in the name of the Governor of Goa.

Nirmal Braganza, Chief Electrical Engineer & Ex-Officio Additional Secretary.

Panaji, 29th August, 2008.

Department of Printing & Stationery
Government Printing Press

* Order
No. 13/7/07-STA-GP

It has been observed that the Departments are submitting frequently requests to publish orders/notifications in Extraordinary Gazettes. Extraordinary Gazettes are required to publish only in cases of dire urgency, hence Government has decided that only following matters will be published in Extraordinary Official Gazettes.

- 1) Constitutional Orders like Ordinances, etc., issued by the President of India, Governor of Goa, under the provisions of Constitution of India.
- 2) Act, Rules, which are giving financial impact on a State Treasury for increasing/ decreasing the revenue taxes/fees with immediate effect.
- 3) Orders issued by the Election authorities i.e. Chief Election Commission, State Election Commission and Returning Officers.

By order and in the name of the Governor of Goa.

N. D. Agrawal, Director & ex-officio Joint Secretary (Printing & Stationery)

Panaji, 28th August, 2008.



Annexure II: Proposed Tariff Schedule

Schedule General Conditions

- 1) These tariffs are subject to revision by the Government from time to time.
- 2) These tariffs are subject to the terms and conditions for power supply approved from time to time by the Government.
- 3) Supply of power in all cases shall be subject to the execution of Agreement with consumers.
- 4) As a general rule, no low voltage services shall be given where the connected load per service is over 100 kVA nor high voltage service shall be given where the loads is less than 100kVA. Exceptions may be made in special cases at the discretion of the Chief Electrical Engineer.
- 5) Supply to consumers having a connected load between 100 kVA to 1000 kVA will be generally at 11 kV, and for more than 1000kVA at 33kV exceptions may be made in special cases at the discretion of the Chief Electrical Engineer.
- 6) 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 shall be deemed as misuse and stealing of energy within the meaning of the Indian Electricity Act, 1910 (Central Act 9 of 1910). In such a case the energy consumption bill already rendered for the service shall be revised by applying the appropriate higher tariff from the date of connection unless convening reasons are adduced thereof for adopting a different period. The imposing of this higher shall not relieve the consumer from penalties under the law in force.
- 7) Surcharge of 2% compounded per month or part thereof shall be levied on all delayed payments of bills. Such surcharges shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paise shall be ignored and amount of 50 paise or more shall be rounded off to next multiple of rupee one.
- 8) If the consumers fail to pay the energy bill presented to them within the stipulated period, the Electricity Department shall have the right to disconnect the supply after serving a seven days clear notice on such consumer. Normally for LT consumer such notice is stamped on the bill cum receipt itself, issued to the consumer.
- 9) Consumers requiring supply of load not covered by these tariffs and also electro-chemical and electro-metallurgical industries, may negotiate for specific tariff with the Electricity Department.



- 10) In case of doubt or anomalies in respect of categorization of any consumers or in any other respect the decision of the Chief Electrical Engineer shall be final.
- 11) "Month" means the calendar month when the period commences from the beginning of a calendar month otherwise it shall mean a period of 30 days.
- 12) Dishonest Abstraction/use/consumption of Electricity or interference with the metering equipment or accessories:-
 - a) where it is prima facie established to the satisfaction of the Authorised Officer of the Department such as the Assistant Engineer, Executive, etc. has committed/ is committing an offence in terms of section 39, 44 of the Electricity Act, 1910 or of any other provision of the Act or these condition such officers shall estimate the value of the electricity thus abstracted, used, wasted or diverted in accordance with calculation table specified from time to time, for a period as may be deemed justified in the circumstances of a given case at twice the rate of tariff applicable to such category of installation and collect the same by issuing a supplementary bill. Such amount if not paid shall be deemed to be arrears of electricity.
 - b) where any consumer or his agent or servant etc., is/was found committing any of the offence mentioned above he Electricity Department reserves the right to disconnect the electricity supply to the installation for with and without any prior notice. However the supply may be restored at the discretion of the Electricity Department, if the consumers pays the supplementary billed raised as explained at (a) above. The Electricity Department may take such other action as may be necessary including recovery of dues with certain amount of down payment and balance in instalments, depending upon the quantum of supplementary bill.
 - c) However the consumer shall have to face the legal proceedings initiated for an offence committed under section 39 and 44 of the Indian Electricity Act, 1910. A Table for estimating the electricity dishonestly abstracted, wasted, used or diverted under sub-clause (a) above, is provided here below:-

TABLE

Type of installation	Units per kW of connected load as found during inspection or the sanctioned load, whichever is higher.
----------------------	--

A. L.T. Installation:

i. Domestic Category Lighting	80
ii. Domestic Category Lighting	100
iii. Commercial	200
iv. Agriculture	100
v. Industrial	150



B. L.T. Installation:

- i. Maximum demand on the basis of the actual highest maximum demand recorded during any of the previous 24 (Twenty Four) billing months immediately preceding the date of inspection or the contract demand, whichever is higher, and energy at 140 units per kVA of the minimum demand so assessed per shift. In case of HT (mixed) installation only one shift shall be considered for estimating the units.
- ii. In case of steel melting EHT/HT installation, energy consumption @ 175 units per kVA of the contract demand, per shift, shall be considered for estimating the energy.

Note: - The table is applicable when there is no recording in the meter during relevant period. If there is any recording in the meter during relevant period, the recorded quantum as per the table and such difference shall be the Electricity dishonestly abstracted, used, wasted or diverted.

- a) If the consumer is found second time indulging in the theft, pilferage, illegal abstraction and wastage of electricity supply as indicated at 12(a) above, the department shall disconnect the electricity supply on the spot and terminate the agreement and claim all the dues and such dues are payable by the consumers. If the same is not paid, then the department shall recover the same by initiating legal proceedings before appropriate forum.
- 13) Power Factor Incentives: - All High tension and Extra High Tension installation where the power Factor is maintained above 0.95 lagging shall be eligible for a rebate @ 1% of the energy charge only for every 1% improvement in the Power Factor above 0.95 lagging.
- 14) These tariffs are applicable for the consumption of energy with effect from 01-04-2002 to be billed from 01-05-2002.

Definitions

- a) "Connected Load" means the sum of rated capacities of all the energy consuming devices which may be operated simultaneously. This shall be expressed in kW/KVA. One HP shall be considered equivalent to one kVA for equipment rated in H.P.;
- b) "Seasonal Consumers" means all the consumers who work only during a part of the year upto a maximum of nine months, such as cotton corning and pressing factories and includes ice factories, mining industries, oil mills, which



may work throughout the year but intermittently, and any other consumer which may be approved by the Electricity Department from time to time as seasonal consumers.

- c) "Maximum demand" means the maximum KVA supplied during the 30 minutes (or any other shorter period as may be specified by the Electricity Department) of maximum use in a month.
- d) "Contract demand" means the maximum KVA for which the Electricity Department has undertaken to provide the facilities from time to time.
- e) "billing demand" means:-
 - i. the actual demand recorded during the month; or
 - ii. 75% of the contract demand; or
 - iii. actual maximum demand recorded during the previous 11 months; or
 - iv. 50 KVA, whichever is higher.

(A) Low Tension Supply

- 1) (a) Tariff LTD/Domestic and Non-Commercial** - Applicable to private house, bungalows, charitable or educational institutions approved by Goa Board/Central Board, colleges approved by Goa University and religious institutions etc. for consumption of energy on lights, fans, radios, domestic heating and other household appliances.

Tariff KWH/month	Ps/Unit (KWH)
(a) First 60 Unit	100
(b) 61 to 250 units	150
(c) 251 to 500 units	220
(d) Above 500 units	250

Minimum Charges: - Rs. 20/- (Rupees Twenty) per month for the first 500 watts and Rs. 10/- (Rupees Ten) for every additional 500 watts or part thereof of the connected load.

- 1) (b) Tariff LTD/Low Income Group** - Applicable to consumers of low Income Group with a connected load 2 x 40 watts only.

Upto 2 points -----> Rs 20/- per month

Note: - For any unauthorised increase in load beyond 2 x 40 watts, penal charges at the rate of Rs. 20/- per month, per point, shall be levied and the installation shall be liable for disconnection.



- 1) **(c) Tariff LTD/Domestic Mixed** - Houses with the rent back facilities, clubs, hospitals and which are not covered under (A) 1(a) LTD/Domestic Category.

Tariff KWH/month	Ps/Unit (KWH)
(a) First 400 units	230
(b) Above 400 units	300

Minimum Charges: - Rs. 20/- (Rupees Twenty) per month for the first 500 watts and Rs. 10/- (Rupees Ten) for every additional 500 watts or part thereof of the connected load.

- 2) ***Tariff-LTC/Commercial*** – Applicable to shops, offices, railway stations, race course, computer training schools, photo studio, photo copier, colour laboratories, private guest house, messes, bus stand, private agriculture nurseries dry cleaners, film studio, AIR and TV station and studios, telephone exchanges, petrol pumps, battery charging units, tyre vulcanizing centres, ice parlours, bars and cold drink houses, commercial complexes, petrol, diesel and oil storage plants, for lights, fans, TV, radio, heating, and other appliances.

Tariff KWH/month	Ps/Unit (KWH)
First 100 units	275
From 100 units- 1000 units	350
Above 1000 units	380

Minimum Charges: (i) *For Single Phase Connections Rs. 50 (Rupees fifty) per month for first 500 watts and Rs. 15 (Rupees Fifteen) for every additional 500 watts or part thereof the connected load.*

(ii) *For Three Phase Connections Rs. 120 (Rupees One Hundred Twenty) per month for first 3kW and Rs.30 (Rupees thirty) for every additional usage of 1kW or part thereof.*

- 3) ***Tariff-LTP/Motive Power*** – Applicable to consumers such as industrial units, workshops, flour mills, wet grinding, rice mills, milk dairies, ice cream manufacturing units, dairy testing process, garment manufacturing, tyre retreading units, ice manufacturing plants, bakery, motive power load, industrial units engaged in manufacturing process or project activities where connected load is not more than 100kVA.



Tariff KWH/month	Ps/Unit (KWH)
(a) Upto 50 HP	255
(b) Above 50 HP	295

Minimum Charges: Rs.25/- (Rupees Twenty five) per kVA/HP/month or Rs. 32/- (Rupees Thirty two) per kW of connected *or part thereof*.

Note:-

- i. Supply under this tariff will be for a minimum of 3 BHP. If any load less than 3 BHP is required by the consumer, minimum bill shall be charged on the basis of load 3 BHP.
- ii. The power factor should not in any case fall below 0.85 lagging. If the power factor is found to be lagging, the consumer shall install capacitors to bring the power factor to at least 0.85 lagging. In case the power factor is found to be lower than 0.85, penal charges at the rate of 2.5% in the monthly bill corresponding to the energy charges only shall be levied. In case the power factor is less than 0.7 lagging, the installation is liable to be disconnected.
- iii. The bonafide factory lighting for this category of consumers will be billed as per motive power tariff only. A separate energy meter for recording energy consumed towards factory lighting for new installation need not be provided. For the existing installations, till the factory lighting meter's mains are shifted to main meter, the total energy consumption shall be arrived by adding the energy consumption of motive power energy meter and factory lighting meter.

3 (a) Tariff-LTP/Mixed (Hotel Industries): Hotels, restaurants, lodging and boarding where the total connected load of such installation is more than 3 KW.

Tariff KWH/month	Ps/Unit(KWH)
All energy consumed during the month	350

Minimum charges: - Rs.50/-(Rupees fifty) per month, per KW, of connected load or part thereof.

Note:- Consumer intend to avail the facility of this tariff should produce the certificate from Tourism Department stating that the intending applicant is registered under Goa Registration of Tourist Trade Act, 1982 and in Hotel business on regular basis. Such tariff shall be made applicable only from the date of receipt of such certificate and no earlier refund will be considered.



- 4) **Tariff-LTAG/Agriculture-** Applicable to irrigation pumping and agricultural purposes, poultry, piggery, pisciculture etc for consumption of energy on lights, fans, heating and other appliances.

Tariff KWH/month	Ps/Unit(KWH)
All consumption during the month	100

Minimum charges: - (a) Rs.120/- (Rupees One Hundred Twenty) per HP/KVA per annum for connected load or part thereof, subject to a minimum of 2 BHP

(b) Rs. 30/- (Rupees Thirty) per month, per KW of connected load or part thereof for poultry, diary, piggery, Pisciculture and mushroom cultivation only.

Note:-

- (i) Bonafide lighting of the pump house upto 5% of the motive power consumption is permitted under this category and excess consumption chargeable at LTD/Domestic under (A) 1 (a) above.
- (ii) The power factor should not in any case fall below 0.85 lagging. If the power factor is lower than 0.85 lagging the consumer shall install capacitors to bring the power factor to at least 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 2.5% on the monthly bill corresponding to energy charges shall be levied. In case the power factor is less than 0.7 lagging, the installation is liable to be disconnected.
- (iii) This rate of tariff is made applicable for poultry, piggery, and pisciculture only from the date of production of a certificate from the Directorate of Animal Husbandry or Fisheries Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis.

- 5) **Tariff-LTP/Public Lighting** - Applicable to public lighting systems including signal systems, road and parking lighting belonging to local authorities such as Municipality/Panchayat etc. This is also applicable to public lighting of Government/Semi-Government Establishments but shall not be applicable in case of private establishment.

Tariff KWH/month	Ps/Unit (KWH)
All consumption during the month	200



Minimum Charges: - The minimum charges per month shall be Rs. 100/- (Rupees One Hundred) per KW of connected load. The connected load for the purpose of billing shall be the average of the connected load on the first day and the last day of the month in question.

Note:- Handling charges of filament, mercury vapour, florescent or any other lamps of different wattage at the rate of Rs. 5/- (Rupees Five) per month, per fixtures/lamp. In case of private colonies, the street lighting fixtures, etc shall have to be provided as well as maintained by them.

6) Tariff-LT PWW/Public Water Works: - Applicable to public water supply and sewage pumping stations and treatment plants where connected load is not more than 100 H.P.

Tariff KWH/month	Ps/Unit(KWH)
All consumption during the month	300

Minimum Charges: - Rs. 25/- (Rupees Twenty Five) per KVA/HP, per month of Rs. 32/- (Rupees Thirty two) per KW of connected load or part thereof.

Note:-

- i. Supply under this tariff will be for a minimum of 3 BHP. If any load less than 3 BHP is required by the consumer, minimum bill shall be charged on the basis of load 3 BHP.
- ii. The power factor should not in any case fall below 0.85 lagging. If the power factor is found to be lagging, the consumer shall install capacitor to bring the power factor to at least 0.85 lagging. In case the power factor is found to be lower than 0.85, penal charges at the rate of 2.5% in the monthly bill corresponding to the energy charges only shall be levied. In case the power factor is less than 0.7 lagging, the installation is liable to be disconnected.

(B) High Tension Supply

7) Tariff HT-Mixed - Applicable to bulk supply of power at 11 KV and above for a connected load of more than 100 KVA such a railway, educational institutions, non-industrial establishment etc. having mixed load with predominantly lighting or non-industrial load of more than 50% of connected load.

Demand Charges	Plus Energy Charge	Ps/Unit(KWH)
(a) Rs. 150/- per month, per KVA of billing demand	All consumption during month	325



<i>upto contract demand.</i>		
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month</i>		

Note: - The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable to be disconnected.

Minimum Charges: - Monthly demand charges on billing demand.

- 8) Tariff HTI/Industrial** - Applicable to supply of power at 11 KV and above for a contract demand above 100 KVA for industries, factories, hotels/restaurants, other industrial purpose as may be decided by the Chief Electrical Engineer.

<i>Demand Charges</i>	<i>Plus Energy Charge</i>	<i>Ps/Unit(KWH)</i>
<i>(a) Rs. 150/- per month, per KVA of billing demand upto contract demand.</i>	<i>All consumption during month</i>	<i>300</i>
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month</i>		

Minimum Charges: - Monthly demand charges on billing demand.

Note: -

- (a) Lighting upto 10% of the monthly energy consumption is allowed under HTI tariff, for bonafide factory lighting purposes. Excess is chargeable at "Tariff LTC/Commercial", under (A) 2 above.
- (b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main factory and when distribution lines, service lines, meters, etc. are permitted to be owned and maintained by HT consumers, all energy consumed shall be charged under "Tariff LTD/Domestic and Non-Commercial", under the heading (A) -1(a) above.



- (c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.
- (d) Hotels/restaurants, lodging and boarding intend to avail the facility of this tariff should produce the certificate from Tourism Department stating that they are carrying out such business on regular basis. Such tariff shall be made applicable only from the date of producing such certificate in the Electricity Department. The concession of 10% of the monthly shall not be allowed, as there predominant load is for lighting.

9) H.T. Industrial (Ferro Metallurgical/Steel Melting/Power Intensive) - Applicable to supply of power at 11 KV and 33 KV having a contract demand above 100 KVA for Metal Alloy, Steel Melting, Ferro Alloy and Ferro metallurgical industries all types of Ferro alloy units where melting is involved using electric power.

<i>Demand Charges</i>	<i>Plus Energy Charges</i>	<i>Ps/Unit(KWH)</i>
<i>(a) Rs. 700/- per month, per KVA of contract demand</i>	<i>First 300 Units per KVA</i>	<i>100</i>
	<i>Next 200 units per KVA</i>	<i>200</i>
<i>(b) For billing demand in excess of contract demand, Rs. 700/- per KVA, per month.</i>	<i>Above 300 units per KVA</i>	<i>250</i>

Minimum Charges: - Monthly demand charges on contract demand, whenever the industry is running, and otherwise minimum charges are leviable as per note (f) under this category.

Note:-

- (a) Lighting upto 10% of the monthly energy consumption is allowed under HT Industrial (Metallurgical) tariff, for bonafide factory lighting purposes. Excess is chargeable under "Tariff LTC/Commercial", specified at Sr. No. 2 under the heading "(A) Low tension Supply".
- (b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main factory and when distribution lines, service lines, meter etc. are permitted to be owned and maintained by HT consumers, all energy consumed shall be charged as specified under 1(a) "Tariff -LTD/Domestic and Non-Commercial" under the heading "(A) Low Tension Supply".
- (c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% on the monthly bill corresponding to demand charges and energy charges only shall



be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

- (d) The connected loads of this category of installations are subject to verification periodically.
- (e) If the industry is closed continuously for a minimum period of 7 days or more during the month, with the Department's incoming Gang Operated Air Break (GOAB) switch of the installation kept open, in such case, the demand charges for that particular month shall be considered for billing demand charges on prorata basis.
- (f) In the event of such industry being totally closed, the monthly minimum charges shall be billed equivalent to 1/12th of the annual line minimum guarantee as indicated in clause 10 of the H.T. agreement executed with the consumer.

10) Tariff HT-AG/Agriculture - Applicable to supply of power at 11 KV and above to agricultural consumer, lift irrigation schemes, agricultural farms etc.

Tariff KWH/Month	Ps/Unit (KWH)
All consumption during the month	125

Minimum Charges- Rs. 10/- (Rupees ten) per month, per H.P. of connected load or part thereof subject to minimum of 70 H.P.

Note:-

- (a) Bonafide lighting of the pump-house upto 5% of the motive power consumption is permitted under this category and excess consumption is chargeable at tariff LTD/Domestic, under (A) 1(a) above.
- (b) For street lighting and other lighting situated separately from the pump house and when distributing lines, service lines meters, etc. are permitted to be owned and maintained by EHT consumers, all energy consumed shall be charged at tariff LTD/Domestic, under (A)-1(a) above.
- (c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

11) EHTI/Industrial – Applicable to bulk supply of power at 110 KV and above for industries, factories and other industrial purpose as may be decided by the Chief Electrical Engineer.



<i>Demand Charges</i>	<i>Energy Charges</i>	<i>Ps/Unit(KWH)</i>
<i>(a) Rs. 150/- per month, per KVA of billing demand upto contract demand.</i>	<i>All energy consumption during the month</i>	<i>300</i>
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month</i>		

Minimum Charges: - Monthly demand charges on billing demand.

Note: -

- a) Lighting upto 10% of the monthly energy consumption is allowed under EHTI tariff, for bonafide factory lighting purpose. Excess shall be chargeable at tariff LTC/Commercial, under (A)-2 above.
- b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main factory and when distribution lines, service lines, meters, etc. are permitted to be owned and maintained by EHT consumers, all energy consumed shall be charged at tariff LTD/Domestic, under (A)-1(a) above.
- c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

12) H.T. PW/Public Water Supply and Sewage: - Applicable to supply of power at 11 KV and above for a contract demand above 100 KVA for public water supply and sewage pumping stations and public water treatment plant.

<i>Demand Charges</i>	<i>Plus Energy Charge</i>	<i>Ps/Unit</i>
<i>(a) Rs. 150/- per month, per KVA of billing demand upto contract demand.</i>	<i>All energy consumption</i>	<i>300</i>
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month</i>		



Minimum Charges- Monthly demand charges on billing demand.

Note: -

- (a) Lighting upto 10% of the monthly energy consumption is allowed under H.T PW tariff, for bonafide factory lighting purpose. Excess shall be chargeable at tariff LTC/Commercial, under (A)-2 above.
- (b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main plant and when distribution lines, service lines, meters, etc. are permitted to be owned and maintained by HT consumers, all energy consumed shall be charged at tariff LTD/Domestic, under (A)-1(a) above.
- (c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

13) H.T. MES/Defence Establishments - Applicable to supply of power at 11 KV and above for a contract demand of 100 KVA above for defence installation establishments, having mixed load with predominantly lighting or non industrial load of more than 50% of connected load.

<i>Tariff Energy Charges</i>	<i>Ps/Unit(KWH)</i>
<i>All consumption during the month</i>	<i>300</i>

Minimum charges- Rs.100/-(Rupees one hundred) per KVA, per month or part thereof the contract demand.

Note: -

- (a) Monthly minimum charges or energy charges whichever is higher, shall be billed.
- (b) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

14) H.T. Industrial (Steel Rolling) - Applicable to supply of power at 11 KV and 33 KV, having a contract demand above 100 KVA for Steel Rolling Industries.



<i>Demand Charges</i>	<i>Plus Energy Charges</i>	<i>Ps/Unit(KWH)</i>
<i>(a) Rs. 450/- per month, per KVA of contract demand</i>	<i>First 200 Units per KVA</i>	<i>100</i>
	<i>Next 100 units per KVA</i>	<i>200</i>
<i>(b) For billing demand in excess of contract demand, Rs. 450/- per KVA, per month.</i>	<i>Above 300 units per KVA</i>	<i>300</i>

Minimum Charges- Monthly demand charges on contract demand will be levied whenever the industry is running; otherwise minimum charges are leviable as per note (f) under this category.

Note: -

- a) Lighting upto 10% of the monthly energy consumption is allowed under HT Industrial (Metallurgical) tariff, for bonafide factory lighting purposes. Excess is chargeable under "Tariff LTC/Commercial", specified at Sr.No.2 under the heading "(A) Low tension Supply".
- b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main factory and when distribution lines, service lines, meters, etc. are permitted to be owned and maintained by HT consumers, all energy consumed shall be charged under "Tariff LTD/Domestic and Non-Commercial", specified at Sr. No 1(a) under the heading " (A) Low tension Supply".
- c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.
- d) The connected load of this category of installations is subject to verification periodically.
- e) If the industry is closed continuously for a minimum period of 7 days or more during the month, with the Department's incoming Gang Operated Air Break (GOAB) switch of the installation kept open, in such case, the demand charges for that particular month shall be considered for billing demand charges on prorata basis.
- f) In the event of such industry being totally closed, the monthly minimum charges shall be billed equivalent to 1/12th of the annual line minimum guarantee as indicated in clause 10 of the H.T Agreement executed with the consumer.
- g) *Option to the above tariff-* The Steel Rolling Mills having energy consumption upto 100 units, per KVA per month continuously for a period of 3 months, such industrial units may opt to avail Tariff HT1/Industrial, specified at Sr.No. 8 under "(B) High



Tension Supply". The option will remain valid during the tariff period provided the energy consumption of such rolling mills does not exceed 100 units per kVA per month continuously for period of 3 months.

15) Tariff HT- Industries (IT High Tech)

<i>Demand Charges</i>	<i>Plus Energy Charges</i>	<i>Ps/Unit(KWH)</i>
<i>(a) Rs. 150/- per month, per KVA of contract demand</i>	<i>All Consumption during the month</i>	225
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month.</i>		

Note:-

- a) Lighting upto 10% of the monthly energy consumption is allowed under HT Industrial (Metallurgical) tariff, for bonafide factory lighting purposes. Excess is chargeable under "Tariff LTC/Commercial", specified at Sr.No.2 under the heading "(A) Low tension Supply".
- b) For staff quarters, rest/guest houses, street lighting in the colony situated separately from the main factory and when distribution lines, service lines, meters, etc. are permitted to be owned and maintained by HT consumers, all energy consumed shall be charged under "Tariff LTD/Domestic and Non-Commercial", as specified at Sr. No. 1 (a) under the heading "(A) Low tension Supply".
- c) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

Minimum Charges- Monthly demand charges on billing demand.

16) Time of the Day Tariff

- (1) This tariff is applicable to HT/ EHT industrial consumers covered under category at Sr. No. 8 and 11, under the heading "(B) High Tension Supply", and who opt to avail facility to TOD tariff, except hotel industries.
- (2) For recording energy consumption during 22.00 hrs. To 6.00 hrs., TOD meters of reputed make, as approved by Chief Electrical Engineer, shall be procured by the consumer at its own cost and the same shall be got tested, calibrated, sealed and



installed by the MRT laboratory staff of Electricity Department, Goa. The rebate shall be made applicable only to those EHTI/HTI consumers who comply with this requirement. This tariff will be made applicable from the date of commissioning of Time Of Date (TOD) meter.

- (3) Rebate only on energy charges shall be granted for energy consumed between 22.00 hrs. To 6.00 hrs. And penalty shall be chargeable for the energy consumed from 18.00 hrs. To 22.00 hrs.
- (4) For EHTI/HTI industrial consumers, rebate on energy (kWH) charges for the energy consumed during night off peak hours between 22.00 hrs. To 6.00 hrs during the month, a 25% rebate on the energy consumed is admissible.
- (5) For energy consumed during evening peak hours i.e. from 18.00 hrs. To 22.00 hrs. the energy charges shall be considered for billing 50% more than the normal highest slab of prevailing energy charges as applicable to the EHTI/HTI category of consumers, under this notification, at Sr. No. 8 and 11 under the Heading "(B) High Tension Supply".

(C) Temporary Supply

17) *Tariff-LT/Temporary - Applicable to lights, fans and small appliances.*

<i>Items</i>	<i>Energy Charges</i>	<i>Minimum Charges</i>
<i>(a) For Single Phase only</i>	<i>See Note</i>	<i>Rs. 10/- per day for supply upto 3 days and Rs. 5/- per day thereafter.</i>
<i>(b) For Three Phase only</i>	<i>-Do-</i>	<i>Rs. 10/- per day for supply upto 3 days and Rs. 5/- per day thereafter.</i>
<i>(c) Applicable to motive power</i>	<i>-Do-</i>	<i>Rs. 100/- per HP of connected load or part thereof for not exceeding one month.</i>
<i>(d) Touring talkies and Cinema</i>	<i>-Do-</i>	<i>Rs. 100/- for period of supply upto 15 days and Rs. 180/- after 15 days but not exceeding one month.</i>

Note: -

- a) The above temporary tariffs are applicable for temporary supply at low/medium voltage for a period not exceeding one month which may be extended beyond that period only with the prior permission of the Electricity Department.



- b) The energy charges at the double the rate in the respective category of permanent supply.
- c) Temporary supply availed for building construction purpose shall be categorized as commercial category.

18) Tariff HT/Temporary –

<i>Demand Charges</i>	<i>Energy Charges</i>
<i>(a) Rs. 150/- per month, per KVA of billing demand upto contract demand.</i>	<i>At double the rate in the respective category of permanent supply.</i>
<i>(b) For billing demand in excess of contract demand, Rs. 300/- per KVA, per month</i>	

Minimum Charges - Monthly demand charges on billing plus energy consumed during the month.

Note: -

- a) Available for a period not exceeding six months which may be extended with prior permission of the Electricity Department.
- b) The power factor shall not in any case fall below 0.85 lagging. In case the power factor is found to be lower than 0.85 lagging, penal charges at the rate of 0.5% in the monthly bill corresponding to demand charges and energy charges only shall be levied for every 0.01 by which the power factor falls below 0.85 lagging. In case the power factor is less than 0.7 lagging, the installation is liable for disconnection.

METER RENT:

A. Permanent Supply:

<i>(1) Hire of 220/230 volts energy meter</i>	<i>Rs. 5/- per month</i>
<i>(2) Hire of 400/440 volts energy meter</i>	<i>Rs. 10/- per month</i>
<i>(3) Hire of HT metering equipment</i>	<i>Rs. 500/- per month</i>

Note:-

For the first month of service connection, the meter rent shall be proportionate to the number of the days in the month for which energy is supplied, limited to Rs. 1/- (Rupee one) minimum.




For the month in which the meter is removed on or after disconnection of a service and installed a fresh on reconnection, the meter rent shall be proportionate to the number of days in the month during which the meter remains on the installation of the consumer limited to Rs. 1/- (Rupee one) minimum.

B. Temporary Supply:

<i>(1) Hire of 220/230 volts energy meter</i>	<i>Rs. 10/- (Rupees ten) for a period of service not exceeding one month or part thereof.</i>
<i>(2) Hire of 400/440 volts energy meter</i>	<i>Rs. 20/- (Rupees Twenty) per month for a period of service not exceeding one month or part thereof.</i>
<i>(3) Hire of HT metering equipment</i>	<i>Rs. 1000/- (Rupees one thousand) per month or part thereof.</i>



Annexure III: PFC Loan Sanction Letter

 **पावर फाइनेंस कॉर्पोरेशन लिमिटेड**
POWER FINANCE CORPORATION LTD.
 (महत्त्व सरकार का उपक्रम) (A Govt. of India Undertaking)

Speed Post/Courier

No.02:10:R-APDRP(P-A):2009:GOA

Loan Nos.:18233001 to 18233004

Date: 27.02.09

The Chief Electrical Engineer,
 Goa Electricity Department
 3rd Floor, Vidyut Bhawan,
 Panaji, Goa

Sub: Goa Electricity Department :Financial assistance for implementation of projects for Part-A under R-APDRP in Goa

ER (PFC)

2251
5/3/09

18/1/7

69

Dear Sir,

With reference to letter No. 60/2/RAPDRP/CEE/TECH/1426 dated 09.2.2009 regarding financial assistance for implementation of projects of Part-A under R-APDRP in Goa, involving total 04 number of towns(project areas) at estimated cost of Rs. 189.44 crore; we are pleased to inform you that the Steering Committee constituted by Ministry of Power, GoI has approved the total loan amount of Rs.104.89 Crore towards 04 projects of Part-A under R-APDRP of Goa Electricity Department to be released through PFC, the Nodal Agency for R-APDRP. The list of loan sanctioned w.r.t. each of the approved projects of Part-A under R-APDRP along with loan numbers assigned is enclosed at Annexure-I.

Each of these loans shall be subject to the terms and conditions given in the Attachment to this letter and the duly signed Tripartite Agreement with State Govt., MoP and PFC(the nodal agency) as well as the terms & conditions as are laid down in the Memorandum of Agreement (MOA) to be executed between PFC and Goa Electricity Department.

We request you to communicate your acceptance within one month from the date of this letter to avail the above loans on the said terms and conditions.

The following documents (in the prescribed formats) shall be required at the time of execution / disbursement of loan as per policy applicable:

a. **Documents required at the time of execution/signing of loan documents (MOA) (to be submitted to L&D unit of PFC):**

1. Extract of Board Resolution, duly attested by the Secretary/Company Secretary/Member, accepting the loan on the terms and conditions and authorizing an officer to accept and agree to said terms and conditions and execute the relevant loan documents / undertakings etc.
2. *Resolution under section 293(1) (a) and 293 (1) (d) of the Companies Act 1956, duly attested by Company Secretary (applicable to entities registered under Companies Act, 1956).
3. Specimen signatures of authorized signatory duly attested by Secretary/Company Secretary/Member.
4. Certificate of compliance of laws, bye-laws, etc, applicable to the borrower- to be issued by the Company Secretary/ Secretary of the borrower, as the case may be.
5. Certificate from the Company Secretary /Members/ Statutory Auditors of the Borrower that the borrowing is within the borrowing limits with details thereof, if applicable.

पंजीकृत कार्यालय : "कर्मनिधि", 1, बाराहम्बा लेन, कनौट प्लेस, नई दिल्ली - 110001 दूरभाष : 23456000 फैक्स : 011-23412545
 Regd. Office : "Urjanidhi", 1, Barakhamba Lane, Connaught Place, New Delhi-110001. Phones : 23456000 Fax : 011-23412545
 वेबसाइट / Website : www.pfcindia.com



Part-A.: Loan Nos.:18233001 to 18233004

6. Certificate in prescribed format that the borrower shall continue to be the owner and in physical possession of the project till the outstanding loan amount is fully liquidated.
7. Undertaking from borrower in terms of Clause 16.0 of the Terms & Conditions annexed hereto.
8. Confirmation to the effect that the scheme for which loan is sanctioned is approved by the Distribution Reforms Committee of the State.
9. Quarter-wise drawl schedule for each of the individual loans.

** Not applicable in case of State Electricity Boards*

b. Documents required at the time of disbursement of each of these loans:

1. Tripartite Agreement with State Govt., MoP and PFC (the nodal agency) duly signed in the prescribed format.
2. Tripartite Escrow Agreement in the prescribed format.
3. State Govt. guarantee in the prescribed format.
4. Security documents in the prescribed format for taking charge on assets.
5. Equipment, Materials, and Works schedule, in the prescribed format, for each of the individual projects(towns) to be financed under the loan.

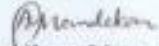
In addition to above the borrower shall furnish all other documents as may be required in terms of loan.

Your kind attention is invited to clause 18.0 of Terms and Conditions of sanction, which reads as under:-

"The sanction of loan accorded in terms of this sanction letter will stand cancelled if the Borrower fails to execute the complete documents (i.e., MOA along with documents required before or at the time of execution of MOA) within a period of six months from the date of sanction letter. The Corporation may, in exceptional cases, agree to extend the aforesaid period of six months, for such further period as it may deem appropriate if the Borrower makes an application to the Corporation before expiry of six months period, duly supported by the reasons for such extension."

Thanking you.

Yours faithfully,
for POWER FINANCE CORPORATION LTD.


(Prashant Moundekar)
Nodal Officer (APDRP-Goa)

Encl: as above

Copy for information to:

- i. Director (Distribution), Ministry of Power, Shram Shakti Bhavan, Rafi Marg, New Delhi.
- ii. Chairman (Distribution Reforms Committee), Goa State.
- iii. Member, Planning Commission, Planning Commission, Yojana Bhavan, Sansad Marg, New Delhi -110001.
- iv. The Chief Secretary (Power), Govt. of Goa, New Secretariat Complex, Aldo, Porvorim, Goa - 403521
- v. Nodal Officer-APDRP, Goa Electricity Department, 3rd Floor, Vidyut Bhawan, Panaji, Goa



ANNEXURE-I

List of Loans sanctioned to GOA Elec Deptt. under Part-A of R-APDRP

Sl. No.	Town/Project	Loan No.	Project Cost	Loan Amount
Units >>			Rs. Crore	Rs. Crore
1	Mapusa	18233001	28.95	13.88
2	Panaji	18233002	122.90	72.97
3	Margao	18233003	27.71	14.40
4	Marmagao	18233004	9.79	3.85
	TOTAL		189.44	104.89

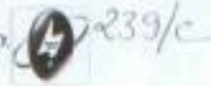
(Signature)

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ATTACHMENT TO SANCTION LETTER
FOR PART-A LOAN NOS. 18233001 To 18233004

POWER FINANCE CORPORATION LTD.



TERMS AND CONDITIONS OF SANCTION
FOR
UNDER PART-A OF R-APDRP

1.0 AGREEMENT:

- 1.1 The Borrower shall execute a Memorandum of Agreement (MOA) in the form prescribed by the Power Finance Corporation Ltd. (the Corporation) for the purpose and submit all other documents as required within six months of the date of letter of sanction of loan.
- 1.2 The Memorandum of Agreement shall not be executed in case the borrower has been declared a defaulter by PFC.

2.0 RATE OF INTEREST:

- 2.1 The Borrower shall pay interest on the said Loan at the rate as notified by Ministry of Finance from time to time for "Others" at Sl. No. 4(iv) in the Table for Category of borrowers & type of loan, which is currently 11.50% per annum w.e.f. 01.04.2008, alongwith interest tax at the rate as decided by GoI from time to time. The interest and interest tax shall begin to accrue after commencement of disbursement from the date of payment/cheque issued by the Nodal Agency (i.e. Power Finance Corporation Ltd). The amount of interest and interest tax payable will be calculated at the above rate upto the date immediately preceding the due date of payment i.e. 14th day of the month on the amount disbursed/ outstanding upto the last day of the preceding month. Computation of interest shall be made on a daily basis using 365 days factor.
- 2.2 During the current financial year, the due interest on the said loan from the date of release of loan by Ministry of Power to PFC shall be borne by the Utility.


3.0 REPAYMENT OF LOAN:

- 3.1 Utility is required to ensure timely debt service for payment of principal, interest and other charges as applicable. There will be moratorium on repayment of principal and interest on the loan for the sanctioned periods of execution which shall in no case exceed three years. The tenure of loan will be 10 years including moratorium period (say **M** months of moratorium). The loan shall be repaid by the Borrower in **X** months excluding April and May months of each year. (Note: **X** = (120 months - **M** months - (total of April & May months of each year of loan tenure)).
- 3.2 The repayment will be made annually in equal monthly instalments together with interest on the outstanding balance commencing after the expiry of moratorium period. The amounts payable annually (by way of principal and interest) would be recovered in ten equal monthly instalments on 15th of every month from June to March each year.

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ATTACHMENT TO SANCTION LETTER
FOR PART-A LOAN NOS. 18233001 To 18233004

POWER FINANCE CORPORATION LTD.  238/C

3.3 The first instalment will become due on 15th day of any of the months except April and May falling immediately after moratorium and the subsequent installments will become due for payment on the 15th day of every month except April and May & every year.

4.0 **PRE-PAYMENT OF LOAN:**

The Borrower may prepay the outstanding principal amounts of the loan only after obtaining the prior written approval from the Corporation which may or may not be granted at the sole discretion of the Corporation. The approval for prepayment may be granted subject to such conditions as the Corporation may deem fit including prepayment premium.

5.0 **PENALTY:**

5.1 In the event of default in the repayment of installment(s) of principal and/or interest to the Corporation by the Borrower on the due date as indicated in the foregoing clauses, the Borrower shall pay to the Corporation a penal rate of interest of 2.50% over and above the rate of interest mentioned in Para 2.1 ante at which the loan is sanctioned.

5.2 The Borrower shall pay on demand all costs, charges, expenses, losses and other money that may be incurred by the Corporation, in connection with remittance/receipt of moneys to or to the order of or from the borrower, or in connection with protecting and/or enforcing the rights of the Corporation under the Memorandum of Agreement and/or Guarantee Deed and/or any other document for the loan in question. The decision of the Corporation with regard to the amount/loss incurred on these shall be final and binding on the Borrower.

6.0 **APPROPRIATION OF AMOUNT PAID BY THE BORROWER:**

6.1 The money paid by the Borrower shall be appropriated in the following order:

- a) Costs, charges, expenses, losses, applicable taxes, statutory duties and other moneys
- b) Interest on costs, charges, expenses, losses, applicable taxes, statutory duties and other moneys
- c) Penal Interest
- d) Commitment Charges
- e) Interest/interest tax
- f) Repayment of principal in the order of the occurrence of the dues; and lastly;
- g) Prepayment of principal.

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ATTACHMENT TO SANCTION LETTER
FOR PART-A LOAN NOS. 18233001 To 18233004

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7.0 ALL PAYMENTS TO BE REALISABLE AT PAR IN NEW DELHI:

7.1 The Borrower shall so arrange that the amounts due and payable to the GoI are realizable by the Nodal Agency at par on the due date of the relevant payments in New Delhi. The Nodal Agency shall prefer and encourage the borrowers to make payments of the dues through e-payment system, in specified Bank Account(s) of the Nodal Agency, as may be notified from time to time.

8.0 SHIFTING OF DUE DATE OF PAYMENT OF INSTALMENT:

In case the standard due date falls on a bank holiday (at PFC's bank at New Delhi); the due date shall be shifted to the immediately following bank working day.

9.0 MAINTENANCE OF ACCOUNTS AND AUDIT:

9.1 The Borrower shall maintain proper accounts and other records and prepare annual accounts including the profit and loss account and the balance sheet in the forms and manner prescribed under the Electricity Act, 2003 or any other statute as applicable. The Borrower shall furnish to the Nodal Agency the un-audited annual accounts, within three months and audited accounts within seven months of the close of the year to which the accounts relate.

10.0 INSPECTIONS:

10.1 It would be open to the corporation to depute its officers and other staff/nominees for inspection of the matters relating to this loan and its purposes and the inspecting staff shall have access to such books, records and stores of the Borrowers as will be deemed necessary by the inspecting staff/ nominees. The Borrower shall allow all facilities to the inspecting officers/ nominees for the purpose of carrying out such inspection and render such explanation or elucidation as may be required by the Corporation and or its nominees and allow the taking of any copies of/or extracts there from.

11.0 REPORTS:

11.1 The Borrower shall also furnish to the Corporation such reports on its working, either in general or in specific relation to this loan, in the manner as may be prescribed by the Corporation from time to time.

11.2 The Borrower shall furnish periodic progress reports on the formats, as defined by the Corporation on the utilisation of this loan and on the physical progress of the project/programme on quarterly basis.

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ATTACHMENT TO SANCTION LETTER
FOR PART-A LOAN NOS. 18233001 To 18233004

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11.3 The Borrower shall furnish a completion report on the successful completion of the project within one year of the commercial operation of the project/ scheme as per format prescribed by the corporation.

12.0 GUARANTEE AND SECURITIES:

12.1 Escrow Account:

The Utility receiving loans under R-APDRP will have to open/enhance an escrow account in the bank to ensure debt servicing of Principal, interest and other charges for the entire pendency of the loan to the satisfaction of the nodal agency.

12.2 Charge on Assets:

12.2.1 The loan together with all interest (including penal interest), costs, expenses and other monies whatsoever stipulated in the Memorandum of Agreement shall be secured by first charge, in favour of the Corporation (on pari-passu basis, if in syndication), by way of hypothecation, on the newly financed assets under the project as securities for loan. Wherever this is not possible or value of such assets is not adequate, charge can be taken on / extended to other assets of the utility. Existing assets shall be valued on depreciated replacement cost basis.

Security shall be determined by applying coverage factor of 1.1 times of value of asset(s). Thus, where the assets financed under the loan do not cover the said factor, the utility has to provide other assets to meet the said factor.

12.2.2 **Creation of additional security:** The Borrower undertakes that if, at any time during the subsistence of this Agreement, the Corporation is of the opinion that the security provided by the Borrower has become inadequate to cover the balance of the loans then outstanding, the Borrower shall provide and furnish to the Corporation additional security as may be acceptable to the Corporation to cover such deficiency.

12.2.3 **Registration of charge:** The Borrower shall have the particulars of charge registered with the Registrar of Companies (ROC) as per the Companies Act within stipulated time, and shall submit a certificate from the ROC certifying the registration of charge.

And/or

The borrower shall have the particulars of charge registered with the Sub-Registrar of Assurances in case of English Mortgage wherever executed.

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ATTACHMENT TO SANCTION LETTER
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12.3 State Government Guarantee:

The loan together with all interest (including penal interest), costs, expenses and other monies whatsoever stipulated in the Memorandum of Agreement shall be secured by a Guarantee from State Govt. in terms of the APDRP Quadripartite Agreement, with a provision that in case of default by the utility, the Corporation shall be entitled to receive all outstanding dues of the utilities from the Central Plan Assistance due to the States. The state Government Guarantee in the form of recovery from Central Plan Assistance due to state may be invoked after the invoking the escrow account and the pari-passu charge on assets.

The Borrower shall make out good marketable title to its properties to the satisfaction of the Corporation and comply with all such formalities as may be necessary or required for the said purpose.

13.0 UTILISATION OF LOAN AND COMPLETION OF PROJECT:

13.1 The Borrower shall ensure that the equipment/materials for which the loan is obtained from the Corporation are utilised for the implementation of the project.

13.2 The Borrower shall not raise borrowings from any other sources for meeting any part of the cost of equipment/materials/works financed through this loan.

13.3 The Borrower shall take all necessary steps to ensure that the project is completed as envisaged in the manner and according to the time schedule envisaged, i.e. by the **end of February, 2012.**

13.4 The procurement by the borrower of the equipment and material agreed to be financed by this loan shall be done in accordance with the procedure laid down/mutually agreed by the Corporation and shall be agreed between borrower and the Corporation before or at the time of signing of loan agreement. Such procurement procedure may be either as laid down by the Corporation or as applicable by the International Financial Institution whose loan proceeds may be intended to be availed under the loan or the procurement procedure is being followed by the borrower in case it is acceptable to PFC.

13.5 The borrower shall furnish a completion report on the successful completion of the project within six (6) months of the commercial operation of the project/schemes as per format prescribed by the Corporation.


14.0 DRAWAL/ RELEASE OF LOAN:

14.1 100% of the approved project cost of Part-A shall be provided as loan from the Govt. of India through Gross Budgetary Support (GBS). The Govt loan shall be disbursed to the State Power Utilities through Nodal Agency as follows:

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ATTACHMENT TO SANCTION LETTER
FOR PART-A. LOAN NOS. 18233001 To 18233004

POWER FINANCE CORPORATION LTD.  239/C

a) Up to 30% of the project cost can be released as GoI loan upfront on approval of the Project.

b) 60% of project cost would be disbursed as GoI loan progressively against certified claims from Utility based on progress/ utilization against achievement of identified milestones.

c) Balance 10% of the project cost would be disbursed as GoI loan only after full utilization of the loan disbursed through earlier tranches.

14.2 The Borrower shall before the disbursement of the loan sanctioned, furnish to the Corporation a schedule in the prescribed form containing complete details of the equipment/materials ordered/supplied and/or civil/ erection work completed/ to be completed for which the payments are required to be made or to become due.

14.3 The Borrower shall have to submit its application for drawl of the loan duly supported by the certificates and documents as required by the Corporation.

14.4 The loan shall be disbursed according to the disbursement procedure in the R-APDRP Guideline / the Corporation, as modified/amended from time to time and/or as mutually agreed. Normally, disbursement will be made on the basis of the standard equipment/materials ordered/supplied as required for the completion of the project/programme and payment for these equipment/ materials becoming due by the Borrower to the supplier(s) concerned and also in respect of the civil/erection works completed/to be completed for implementation of project/programme through any agency (ies) engaged for the purpose.

14.5 If desired by the Borrower, the Corporation may make an advance payment as per the disbursement procedure in the R-APDRP Guideline/Corporation on completion of necessary loan documents. (The certificate/proof, as may be needed by the Corporation, in regard to utilisation of advance will be submitted by borrowers within six months of the drawl or in such a time frame as agreed to by the Corporation).

14.6 The Corporation shall not be liable for any charge whatsoever for which the Borrower may become liable due to delayed payment in respect of the equipment/materials ordered/supplied or in respect of civil/erection works executed through the agency (ies) engaged.

14.7 The borrower shall draw the loan as per drawl schedule and the loan closing date shall be end of August, 2012 or such other date as may be agreed to by the Corporation.

14.9 Claims for expenditure incurred from 27.02.2009 will be admissible against this loan.

14.10 Conversion of loan into grant:

I. The Part-A loan along with interest thereon shall be converted into grant once the establishment of the required system is achieved and verified by an independent agency appointed by Ministry of Power (MoP). No conversion to grant will be made in case projects are not completed within 3 years from the date of sanctioning of the

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ATTACHMENT TO SANCTION LETTER
FOR PART-A. LOAN NOS. 18230001 To 18239004

project. In such cases the concerned utility will have to bear full loan and interest repayment. The project will be deemed to be completed on the establishment of the required system duly verified by an independent agency appointed by MoP.

- ii. Whenever the loan from Govt and FIs will be converted into grant, interest and other charges paid on the converted amount will also be treated as grant & reimbursed to Utility. For the loan and interest which could not be converted into grant on account of not meeting the conditions of conversion, the utility / state will have to bear the balance burden of loan and interest repayment.

15.0 SUPERVISION AND MONITORING:

- 15.1 The Corporation and/or agencies appointed on its behalf would monitor the progress of project/scheme financed by it. In this respect:
 - a) the borrower shall furnish periodic progress reports on the formats, as defined by the Corporation or as agreed and intimated to the borrower;
 - b) the borrower shall provide full co-operation and access to the officials of the Corporation, and/or agencies appointed on its behalf for monitoring through visits to Project related sites, store as well as the Head Quarters of the borrowers and for verifying base line (starting) AT&C loss figures, completion of Part-A project and subsequent yearly AT&C loss figures as directed by PFC / MoP. The borrower shall also provide documents as may be deemed necessary for assessing the physical as well as financial progress of the project.
- 15.2 In case the Corporation and/or agencies appointed on its behalf is not satisfied with the progress of the project/scheme financed or the utilisation of financial assistance provided, it may resort to remedial measures as stipulated in the clause DEFAULT hereunder.

16.0 UNDERTAKINGS

- 16.1 The Borrower shall, before disbursement, furnish the following undertakings through "Board Resolution" of the borrower's Board:
 - i) The Borrower shall not sell/transfer or abandon the project at any stage in any manner whatsoever without prior written consent of the Corporation.
 - ii) In case of sale/transfer/abandonment of the project or assets, the Borrower shall pay to PFC the entire outstanding dues in one installment or in a manner as may be agreed between PFC and the Borrower before such transfer is effected.
 - iii) If the project fails to take off for any reason whatsoever or project cost after bidding works out to be less than the advance released, PFC will have right to ask the borrower to return the outstanding loan including interest/other charges, if any.



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FOR PART-A LOAN NOS. 18233001 To 18233004

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- iv) All un-metered consumers shall be metered at utility cost within 16 weeks along with ring fencing.
- v) The borrower shall implement the project in line with SRS document & R-APDRP guideline.
- vi) The borrower shall furnish the declaration as per DPR format duly signed.
- vii) The borrower shall maintain separate account head and bank account for R-APDRP funds i.e. disbursements/recovery of loans and/or grant.
- viii) The borrower shall submit the "As is" study before issue of RFP for ITIA.

17.0 DEFAULTS:

- 17.1 In case it is found to the satisfaction of the Corporation, which shall be final and not questioned, that the amount already disbursed has not been properly and effectively utilised by the Borrower for the project/programme and/or the progress achieved in the implementation of the project/programme or compliance of any of the condition(s) of this loan is considered to be not satisfactory, the Corporation shall have absolute discretion at any time to suspend, reduce, cancel, alter or delay disbursement of said loan and/or instalments in any manner and may decline to disburse any and/or all the remaining instalments without assigning any reason thereof, to the Borrower and without being liable for any losses or damages.
- 17.2 If the Borrower defaults in the payment of principal or interest or any other payment required under the loan agreement, the Corporation, at its option, may by notice to the Borrower and to the guarantor, declare the principal of the loan then outstanding to be due and payable immediately together with the interest and other charges thereon, and on such declaration such principal, together with the interest and other charges thereon, shall become due and payable immediately.

18.0 VALIDITY PERIOD OF SANCTION:

- 18.1 The sanction of loan accorded in terms of the sanction letter will stand cancelled if the Borrower fails to execute the complete documents (i.e. MOA along-with documents required before or at the time of execution of MOA) within a period of six months from the date of sanction letter. The Corporation may, in exceptional cases, agree to extend the aforesaid period of six months, for such further period as it may deem appropriate if the Borrower makes an application to the Corporation before expiry of six-months period, duly supported by the reasons for such extension.

19.0 SALE/ TRANSFER/ ABANDONING OF THE PROJECT BY THE BORROWER

- 19.1 a) The Borrower must be and continue to be the owner and in physical possession of the project at the time of execution of Memorandum of Agreement, disbursement of each installment of loan amount and till all the moneys due to the Corporation are fully liquidated by the Borrower.



ATTACHMENT TO SANCTION LETTER
FOR PART-A. LOAN NOS. 18233001 To 18233004

POWER FINANCE CORPORATION LTD.



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b) The Borrower shall not transfer or abandon the project at any stage without written consent of the Corporation. In case at any stage or on a future date, the project is proposed to be transferred to any other organisation or to be abandoned, the entire outstanding e.g. (principal, interest, interest-tax, service charges, commitment charges, penal interest, interest on penal interest etc.) due from the Borrower shall be paid to PFC before any such transfer is affected.

20.0 MISCELLANEOUS PROVISIONS:


- 20.1 The Borrower shall be bound to follow and give effect to all instructions/recommendations of the Corporation as well as the R-APDRP Guideline.
- 20.2 The said loan shall also be subject to such further terms and conditions as may be laid down in the form of agreement to be executed by the Borrower.
- 20.3 Notwithstanding the various terms and conditions herein above mentioned the Borrower has been given a copy of the R-APDRP Guideline. Further the Borrower shall also take note of and comply with any change/revision/modification amendments/instructions that may be made subsequently and notified by MoP/PFC.
- 20.4 The Corporation shall recover interest tax from the borrowers wherever applicable at the applicable rate under Interest Tax Act, 1974.
- 20.5 The borrower shall during the currency of loans bear all such imposts, duties and taxes or any other charges as may be levied from time to time by the Government or other authority.

21.0 SPECIAL/ OTHER CONDITIONS:

- 21.1 The quadripartite agreement with State Govt., Utility, MoP and PFC (the nodal agency) in the prescribed format should be signed to be eligible for release of any funds under R-APDRP and submitted to PFC before execution of loan document.
- 21.2 The borrower shall confirm that the scheme for which loan is sanctioned is approved by its Distribution Reform Committee.
- 21.3 The borrower shall furnish the necessary proof in respect of information to SERC about the scheme for which loan is availed.
- 21.4 The loan/fund and monitoring of projects etc. shall be guided by guidelines and other OMs issued by MoP from time to time.
- 21.5 Each State will have one data centre for all the DISCOMS in the State and one Disaster Recovery (DR) instead of one data centre per Utility without Disaster Recovery (DR). State will establish the data centre & Disaster Recovery in two different geographical locations/towns. However the total cost of this alternative will not exceed that of whatever had been proposed by the States.

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ATTACHMENT TO SANCTION LETTER
FOR PART-A LOAN NOS. 18233001 to 18233004 POWER FINANCE CORPORATION LTD.  230/c

21.6 In case the borrower is unable to award contract (IT Implementation Agency) within 12 weeks from the date of sanction order or the date of release of advance from PFC, whichever is earlier the sanction will deemed to be cancelled. No separate orders will be needed to be issued for deemed cancellation. Borrower will also be liable to accrued interest for the period for which the funds were released from Ministry of Power to Power Finance Corporation (PFC) and could not be disbursed by PFC because of non-award and consequential lapse of sanction. Loan amount already released against the lapsed sanctioned project along with accrued interest on it will have to be returned.

However, for the project sanctioned before 28.02.2009, the borrower may take 13 weeks as an exception for the award of the contract (IT Implementation Agency).

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ELECTRICITY DEPARTMENT - GOA
ANNUAL REVENUE REQUIREMENT FOR THE YEAR 2011-12
REVENUE AT EXISTING TARIFF
YEAR 2009-10 (Actual Unaudited)

Sr. No.	Category of Consumer	No of Consumers	Energy Sale/ Demand (MUs)	Contracted Maximum Demand (KW/kVA)	Fixed Charge (Rs/kW Rs/kVA Rs/BHP Rs/Month/ Connection)	Energy Charge (Rs/kWh)	Minimum Charge (Rs/HP Rs/KW Rs/KVA /Month/Annum)	Revenue (Rs Crore)				Share in Total Revenue (%)	Average Revenue (Rs/kWh)
								Fixed Charge	Energy Charge	Minimum Charge	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	Low Tension Supply	536,749	1,064	1,147,701				0.40	220.22		220.62	30%	2.07
1(a)	Tariff LTD/Domestic and Non-Commercial	411,399	655	629,652				-	100.44		100.44	13%	1.53
	<i>First 60 Units</i>	88,073	140	134,797		1.00		-	14.03		14.03	2%	1.00
	<i>61 to 250 Units</i>	247,788	395	379,243		1.50		-	59.19		59.19	8%	1.50
	<i>251 to 500 Units</i>	59,553	95	91,147		2.20		-	20.86		20.86	3%	2.20
	<i>Above 500 Units</i>	15,985	25	24,465		2.50		-	6.36		6.36	1%	2.50
1(b)	Tariff LTD/Low Income Group	16,485	6	5,170	20			0.40	-		0.40	0%	0.69
1(c)	Tariff LTD/Domestic Mixed	46	1	8				-	0.34		0.34	0%	2.43
	<i>First 400 Units</i>	38	1	6		2.30		-	0.26		0.26	0%	2.30
	<i>Above 400 Units</i>	8	0	1		3.00		-	0.08		0.08	0%	3.00
2	Tariff-LTC/Commercial	84,253	282	220,080				-	88.88		88.88	12%	3.16
	<i>First 100 Units</i>	40,965	137	107,005		2.75		-	37.67		37.67	5%	2.75
	<i>From 101 to 1000 Units</i>	37,703	126	98,485		3.50		-	44.12		44.12	6%	3.50
	<i>All Consumption above 1000 Units</i>	5,586	19	14,590		3.80		-	7.10		7.10	1%	3.80
3	Tariff-LTP/Motive Power	6,940	72	230,120				-	21.13		21.13	3%	2.93
	<i>Connected Load upto 50 HP</i>	364	4	12,074		2.55		-	0.97		0.97	0%	2.55
	<i>Connected Load above 50 HP</i>	6,576	68	218,046		2.95		-	20.17		20.17	3%	2.95
3(a)	Tariff-LTP/Mixed (Hotel Industries - 3 kW)	-	5	-		3.50		-	1.58		1.58	0%	3.50
4	Tariff-LTAG/Agriculture	9,711	11	42,060		1.00		-	1.08		1.08	0%	1.00
5	Tariff-LTPL/Public Lighting	7,400	31	9,011		2.00		-	6.27		6.27	1%	2.00
6	Tariff-LT PWV/Public Water Works	515	2	11,600		3.00		-	0.50		0.50	0%	3.00
B	High Tension Supply	660	1,459	532,753				175.37	342.08		517.45	69%	3.55
7	Tariff HT-Mixed	176	104	57,341	150	3.25		10.32	33.86		44.18	6%	4.24
8	Tariff HTI/Industrial	359	439	218,329	150	3.00		39.30	131.59		170.89	23%	3.90
9	H.T.Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive)	25	505	114,588				96.25	75.81		172.07	23%	3.41
	<i>First 300 Units/kVA</i>		273	61,873	700	1.00		51.97	27.28		79.25	11%	2.91
	<i>Next 200 Units/kVA</i>		191	43,368	700	2.00		36.43	38.24		74.67	10%	3.91
	<i>Above 500 Units/kVA</i>		41	9,347	700	2.50		7.85	10.30		18.15	2%	4.41
10	Tariff-HTAG/Agriculture	40	5	9,165		1.25		-	0.60		0.60	0%	1.25
11	EHTI/Industrial	4	134	68,235	150	3.00		12.28	40.07		52.35	7%	3.92
12	H.T. PW/Public Water Supply and Sewage	30	114	34,353	150	3.00		6.18	34.18		40.37	5%	3.54
13	H.T. MES/Defence Establishments	10	27	7,918		3.00		-	8.14		8.14	1%	3.00
14	H.T. Industrial (Steel Rolling)	9	131	19,235				10.39	17.60		27.99	4%	2.14
	<i>First 200 Units/kVA</i>		93	13,691	450	1.00		7.39	9.32		16.72	2%	1.79
	<i>Next 100 Units/kVA</i>		30	4,473	450	2.00		2.42	6.09		8.51	1%	2.79
	<i>Above 300 Units/kVA</i>		7	1,071	450	3.00		0.58	2.19		2.77	0%	3.79
15	Tariff HT-Industries (IT High Tech).	7	1	3,588	150	2.25		0.65	0.22		0.87	0%	8.77
C	Temporary Supply	360	13	2,480				-	9.39		9.39	1%	7.00
16	Tariff-LT/Temporary	360	13	2,480				-	9.39		9.39	1%	7.00
17	Tariff-HT/Temporary	-	-	-				-	-		-	0%	-
	Total Demand/ Sale Within State	537,769	2,537	1,682,934				175.77	571.69	-	747.46	100%	2.95

ELECTRICITY DEPARTMENT - GOA
ANNUAL REVENUE REQUIREMENT FOR THE YEAR 2011-12

REVENUE AT EXISTING TARIFF
YEAR 2010-11 (Provisional)

Sr. No.	Category of Consumer	No of Consumers	Energy Sale/ Demand (MUs)	Contracted Maximum Demand (KW/kVA)	Fixed Charge (Rs/kW Rs/kVA Rs/BHP Rs/Month/ Connection)	Energy Charge (Rs/kWh)	Minimum Charge (Rs/HP Rs/KW Rs/KVA /Month/Annum)	Revenue (Rs Crore)				Share in Total Revenue (%)	Average Revenue (Rs/kWh)
								Fixed Charge	Energy Charge	Minimum Charge	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	Low Tension Supply	572,550	1,142	1,245,040				0.42	237.40		237.81	30%	2.08
1(a)	Tariff LTD/Domestic and Non-Commercial	436,331	695	667,738				-	106.53		106.53	13%	1.53
	First 60 Units	93,411	149	142,951		1.00		-	14.88		14.88	2%	1.00
	61 to 250 Units	262,804	419	402,182		1.50		-	62.78		62.78	8%	1.50
	251 to 500 Units	63,162	101	96,660		2.20		-	22.13		22.13	3%	2.20
	Above 500 Units	16,954	27	25,945		2.50		-	6.75		6.75	1%	2.50
1(b)	Tariff LTD/Low Income Group	17,483	6	5,480		20		0.42	-		0.42	0%	0.69
1(c)	Tariff LTD/Domestic Mixed	48	1	82				-	0.36		0.36	0%	2.43
	First 400 Units	39	1	67		2.30		-	0.28		0.28	0%	2.30
	Above 400 Units	9	0	15		3.00		-	0.08		0.08	0%	3.00
2	Tariff-LTC/Commercial	91,119	305	238,010				-	96.13		96.13	12%	3.16
	First 100 Units	44,303	148	115,723		2.75		-	40.74		40.74	5%	2.75
	From 101 to 1000 Units	40,775	136	106,508		3.50		-	47.72		47.72	6%	3.50
	All Consumption above 1000 Units	6,041	20	15,779		3.80		-	7.68		7.68	1%	3.80
3	Tariff-LTP/Motive Power	7,967	83	264,200				-	24.26		24.26	3%	2.93
	Connected Load upto 50 HP	418	4	13,862		2.55		-	1.11		1.11	0%	2.55
	Connected Load above 50 HP	7,549	78	250,338		2.95		-	23.15		23.15	3%	2.95
3(a)	Tariff-LTP/Mixed (Hotel Industries)	-	5	-		3.50		-	1.82		1.82	0%	3.50
4	Tariff-LTAG/Agriculture	11,060	12	47,900		1.00		-	1.23		1.23	0%	1.00
5	Tariff-LTPL/Public Lighting	8,000	33	9,410		2.00		-	6.55		6.55	1%	2.00
6	Tariff-LT PWW/Public Water Works	542	2	12,220		3.00		-	0.53		0.53	0%	3.00
B	High Tension Supply	707	1,571	567,459				187.99	367.74		555.73	69%	3.54
7	Tariff HT-Mixed	186	110	60,776	150	3.25		10.94	35.89		46.83	6%	4.24
8	Tariff HTI/Industrial	387	474	235,788	150	3.00		42.44	142.11		184.55	23%	3.90
9	H.T.Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive)	27	546	123,753				103.95	81.88		185.83	23%	3.41
	First 300 Units/kVA		295	66,821	700	1.00		56.13	29.46		85.59	11%	2.91
	Next 200 Units/kVA		206	46,837	700	2.00		39.34	41.30		80.64	10%	3.91
	Above 500 Units/kVA		45	10,095	700	2.50		8.48	11.13		19.61	2%	4.41
10	Tariff-HTAG/Agriculture	45	5	10,435		1.25		-	0.68		0.68	0%	1.25
11	EHTI/Industrial	4	144	68,235	150	3.00		12.28	43.27		55.55	7%	3.85
12	H.T. PW/Public Water Supply and Sewage	31	120	36,200	150	3.00		6.52	36.02		42.54	5%	3.54
13	H.T. MES/Defence Establishments	10	29	7,918		3.00		-	8.63		8.63	1%	3.00
14	H.T. Industrial (Steel Rolling)	10	141	20,765				11.21	19.01		30.23	4%	2.14
	First 200 Units/kVA		101	14,780	450	1.00		7.98	10.07		18.05	2%	1.79
	Next 100 Units/kVA		33	4,829	450	2.00		2.61	6.58		9.19	1%	2.79
	Above 300 Units/kVA		8	1,156	450	3.00		0.62	2.36		2.99	0%	3.79
15	Tariff HT-Industries (IT High Tech).	7	1	3,588	150	2.25		0.65	0.24		0.89	0%	8.29
C	Temporary Supply	389	15	2,680				-	10.15		10.15	1%	7.00
16	Tariff-LT/Temporary	389	15	2,680				-	10.15		10.15	1%	7.00
17	Tariff-HT/Temporary	-	-	-				-	-		-	0%	-
	Total Demand/ Sale Within State	573,646	2,727	1,815,179				188.41	615.28	-	803.69	100%	2.95

ELECTRICITY DEPARTMENT - GOA
ANNUAL REVENUE REQUIREMENT FOR THE YEAR 2011-12

REVENUE AT EXISTING TARIFF
YEAR 2011-12 (Projections)

Sr. No.	Category of Consumer	No of Consumers	Energy Sale/ Demand (MUs)	Contracted Maximum Demand (KW/kVA)	Fixed Charge (Rs/kW Rs/kVA Rs/BHP Rs/Month/ Connection)	Energy Charge (Rs/kWh)	Minimum Charge (Rs/HP Rs/KW Rs/KVA /Month/Annun)	Revenue (Rs Crore)				Share in Total Revenue (%)	Average Revenue (Rs/kWh)
								Fixed Charge	Energy Charge	Minimum Charge	Total		
1	2	4	5	6	7	8	9	10	11	12	13	14	15
A	Low Tension Supply	597,946	1,222	1,370,000				0.43	257.19		257.62	30%	2.11
1(a)	Tariff LTD/Domestic and Non-Commercial	446,802	712	683,756				-	109.15		109.15	13%	1.53
	First 60 Units	95,652	152	146,380		1.00		-	15.24		15.24	2%	1.00
	61 to 250 Units	269,111	429	411,830		1.50		-	64.32		64.32	8%	1.50
	251 to 500 Units	64,678	103	98,979		2.20		-	22.67		22.67	3%	2.20
	Above 500 Units	17,361	28	26,567		2.50		-	6.92		6.92	1%	2.50
1(b)	Tariff LTD/Low Income Group	17,903	6	5,610		20		0.43	-		0.43	0%	0.69
1(c)	Tariff LTD/Domestic Mixed	50	2	84				-	0.37		0.37	0%	2.43
	First 400 Units	41	1	69		2.30		-	0.28		0.28	0%	2.30
	Above 400 Units	9	0	15		3.00		-	0.08		0.08	0%	3.00
2	Tariff-LTC/Commercial	98,318	329	256,810				-	103.82		103.82	12%	3.16
	First 100 Units	47,803	160	124,863		2.75		-	43.99		43.99	5%	2.75
	From 101 to 1000 Units	43,997	147	114,921		3.50		-	51.53		51.53	6%	3.50
	All Consumption above 1000 Units	6,518	22	17,026		3.80		-	8.29		8.29	1%	3.80
3	Tariff-LTP/Motive Power	10,027	104	332,470				-	30.52		30.52	4%	2.93
	Connected Load upto 50 HP	526	5	17,444		2.55		-	1.39		1.39	0%	2.55
	Connected Load above 50 HP	9,501	99	315,026		2.95		-	29.12		29.12	3%	2.95
3(a)	Tariff-LTP/Mixed (Hotel Industries)	-	7	-		3.50		-	2.29		2.29	0%	3.50
4	Tariff-LTAG/Agriculture	15,298	17	66,250		1.00		-	1.70		1.70	0%	1.00
5	Tariff-LTPL/Public Lighting	9,000	44	12,670		2.00		-	8.82		8.82	1%	2.00
6	Tariff-LT PWW/Public Water Works	548	2	12,350		3.00		-	0.53		0.53	0%	3.00
B	High Tension Supply	763	1,653	606,765				198.95	386.44		585.39	69%	3.54
7	Tariff HT-Mixed	197	117	64,412		150	3.25	11.59	38.05		49.64	6%	4.24
8	Tariff HTI/Industrial	408	499	248,424		150	3.00	44.72	149.73		194.45	23%	3.90
9	H.T.Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive)	28	575	130,388				109.53	86.27		195.79	23%	3.41
	First 300 Units/kVA		310	70,404		700	1.00	59.14	31.04		90.18	11%	2.91
	Next 200 Units/kVA		218	49,348		700	2.00	41.45	43.51		84.96	10%	3.91
	Above 500 Units/kVA		47	10,636		700	2.50	8.93	11.72		20.66	2%	4.41
10	Tariff-HTAG/Agriculture	63	8	14,435		1.25		-	0.94		0.94	0%	1.25
11	EHTI/Industrial	5	152	77,647		150	3.00	13.98	45.59		59.57	7%	3.92
12	H.T. PW/Public Water Supply and Sewage	32	121	36,600		150	3.00	6.59	36.42		43.01	5%	3.54
13	H.T. MES/Defence Establishments	11	30	8,894			3.00	-	9.14		9.14	1%	3.00
14	H.T. Industrial (Steel Rolling)	11	149	21,882				11.82	20.03		31.85	4%	2.14
	First 200 Units/kVA		106	15,575		450	1.00	8.41	10.61		19.02	2%	1.79
	Next 100 Units/kVA		35	5,089		450	2.00	2.75	6.93		9.68	1%	2.79
	Above 300 Units/kVA		8	1,218		450	3.00	0.66	2.49		3.15	0%	3.79
15	Tariff HT-Industries (IT High Tech).	8	1	4,082		150	2.25	0.73	0.25		0.99	0%	8.75
C	Temporary Supply	420	16	2,890				-	10.96		10.96	1%	7.00
16	Tariff-LT/Temporary	420	16	2,890				-	10.96		10.96	1%	7.00
17	Tariff-HT/Temporary	-	-	-				-	-		-	0%	-
	Total Demand/ Sale Within State	599,129	2,891	1,979,655				199.38	654.59	-	853.97	100%	2.95