

# **GUJARAT ELECTRICITY REGULATORY COMMISSION**



## **Mid-term Review of Business Plan**

**For**

**Dakshin Gujarat Vij Company Limited  
(DGVCL)**

**Case No. 1353 of 2013**

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

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सत्यमेव जयते

**GUJARAT ELECTRICITY REGULATORY COMMISSION  
(GERC)**

**GANDHINAGAR**

**Mid-term Review  
of  
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## **ABBREVIATIONS**

A&G	Administration and General Expenses
ARR	Aggregate Revenue Requirement
CAPEX	Capital Expenditure
CERC	Central Electricity Regulatory Commission
CoD	Date of Commercial Operation
Control Period	FY 2011-12 to FY 2015-16
DGVCL	Dakshin Gujarat Vij Company Limited
DISCOM	Distribution Company
EA	Electricity Act, 2003
EHV	Extra High Voltage
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GFA	Gross Fixed Assets
GoG	Government of Gujarat
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
HT	High Tension
JGY	Jyoti Gram Yojna
kV	Kilo Volt
kVA	Kilo Volt Ampere
kVAh	Kilo Volt Ampere Hour
kWh	Kilo Watt Hour
LT	Low Tension Power
MGVCL	Madhya Gujarat Vij Company Limited
MU	Million Units (Million kWh)
MW	Mega Watt
MYT	Multi-Year Tariff
O&M	Operations & Maintenance
p.a.	Per Annum
PF	Power Factor
PGCIL	Power Grid Corporation of India Limited
PGVCL	Paschim Gujarat Vij Company Limited
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RLDC	Regional Load Despatch Centre
SBI	State Bank of India
SLDC	State Load Despatch Centre
UGVCL	Uttar Gujarat Vij Company Limited
WRLDC	Western Regional Load Despatch Centre





**Before the Gujarat Electricity Regulatory Commission**  
**at**  
**Gandhinagar**

**Case No. 1353 of 2013**

**Date of the Order: 29/04/2014**

**CORAM**

Shri Pravinbhai Patel, Chairman

Dr. M.K. Iyer, Member

**ORDER**

**1. Introduction**

**1.1 Background**

Section 16.2 of GERC (MYT) Regulations, 2011 of GERC provides for submission of Business Plan for each of the Control Period by the Generating Company, Transmission Licensee, Distribution Wires Business and Retail Supply Business. Based on the Business Plan, the applicant shall submit the forecast of Aggregate Revenue (ARR) for the entire control period and expected revenue from the



existing Tariffs for the first year of the control period, and the Commission shall determine ARR for the entire control period and the tariff of the first year of the control period for the Generating Company, Transmission Licensee and Distribution Wires Business Plan and Retail Supply Business.

Section 16.2 of the Regulations also provides that the Generating Company, Transmission Licensee and Distribution Licensee may seek Mid-term Review of the Business Plan through an application filed three (3) months prior to the filing of Petition for Truing up for the Second year of the control period and tariff determination for the fourth year of the control period.

Regulation 17.2 of the Regulations, 2011 provides that in case of Mid-term Review of Business Plan under Regulation 16.2, the Petition shall comprise of modification of the ARR for the remaining years of the control period, if any, with adequate justification for the same.

Regulation 19.1 of GERC (MYT) Regulations, 2011 also provides that Mid-term Review of the Business Plan / Petition may be sought by the Generation Company Transmission Licensee and Distribution Licensee through an application filed three months prior to the specified date of filing of the Petition for truing up for the second year of the control period and tariff determination for the fourth year of the control period.

## **1.2 Dakshin Gujarat Vij Company Limited (DGVCL)**

The Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1<sup>st</sup> April, 2005. The Generation, Transmission and Distribution businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies. The seven successor companies are listed below

<b>Generation</b>	Gujarat State Electricity Corporation Limited (GSECL)
<b>Transmission</b>	Gujarat Energy Transmission Corporation Limited (GETCO)



**Distribution Companies:**

<b>Sl. No</b>	<b>Name of Company</b>
1	Dakshin Gujarat Vij Company Limited (DGVCL)
2	Madhya Gujarat Vij Company Limited (MGVCL)
3	Uttar Gujarat Vij Company Limited (UGVCL)
4	Paschim Gujarat Vij Company Limited (PGVCL )

Gujarat Urja Vikas Nigam Limited (GUVNL), a holding company, is responsible for purchase of electricity from various sources and supply to Distribution Companies and also other activities including trading of electricity.

The Government of Gujarat, vide notification dated 3<sup>rd</sup> October, 2006, notified the final opening balance sheets of the transferee companies as on 1<sup>st</sup> April, 2005. The value of assets and liabilities, which stand transferred from the erstwhile Gujarat Electricity Board to the transferee companies, include Dakshin Gujarat Vij Company Limited (DGVCL). Assets and liabilities (gross block, loans and equity), as on the date mentioned in the notification, have been considered by the Commission in line with the Financial Restructuring Plan (FRP), as approved by Government of Gujarat.

**1.3 Commission's Order for the second Control period**

DGVCL filed its petition under the Multi-Year Tariff Framework for the control period FY 2011-12 to FY 2015-16 on 12<sup>th</sup> May, 2011 in accordance with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2011.

The Commission, in exercise of the powers vested in it under sections 61, 62 and 64 of the Electricity Act, 2003 and all other powers enabling it on this behalf, and after taking into consideration the submission made by DGVCL, the objections by various stakeholders, response of DGVCL, issues raised during public hearing and all other relevant material, issued the Multi-Year tariff order on 6<sup>th</sup> September, 2011 for the control period from FY 2011-12 to FY 2015-16 based on the GERC (MYT) Regulations, 2011.



#### **1.4 Petition of DGVCL for Mid-term Review of Business Plan**

In accordance with Regulation 16.2 of GERC (MYT) Regulation, 2011, the Dakshin Gujarat Vij Company Limited (DGVCL) has filed the Petition for Mid-term Review of Business Plan and Revision of ARR for the remaining control period for FY 2014-15 and FY 2015-16.

#### **1.5 Admission of the petition and the public hearing process**

The DGVCL has submitted the current petition for Mid-term Review of Business Plan and Revision ARR for balance years for FY 2014-15 and FY 2015-16 of the control period. The Commission admitted the above petition (Case No. 1353/2013) on 11<sup>th</sup> October, 2013.

In accordance with Section 64 of the Electricity Act, 2003, the Commission directed DGVCL to publish its application in the abridged form to ensure public participation. The Public Notice was issued in the following newspapers on 30<sup>th</sup> October, 2013 inviting objections / suggestions from its stakeholders on the Mid-term Review Petition filed by it.

<b>Sl. No.</b>	<b>Name of the Newspaper</b>	<b>Language</b>	<b>Date of publication</b>
1	Daily News and Analysis (DNA)	English	30.10.2013
2	Gujarat Samachar	Gujarati	30.10.2013

The petitioner also placed the public notice and the petition on the website ([www.dgvcl.com](http://www.dgvcl.com)) for inviting objections and suggestions on its petition. The interested parties/stakeholders were asked to file their objections / suggestions on the petition on or before 28<sup>th</sup> November, 2013.

The Commission received objections / suggestions from one stakeholder viz. Utility Users' Welfare Association. The Commission examined the objections / suggestions received and fixed the date for public hearing for the petition on 13<sup>th</sup> February, 2014 at the Commission's Office, Gandhinagar, and subsequently a communication was sent to the objectors to take part in the public hearing process for presenting their views in person before the Commission. The public hearing was conducted in the Commission's Office at Gandhinagar as scheduled on the





above date. Utility Users' Welfare Association participated in the public hearing and presented its objections.

A short note on the main issues raised by the objector in the submissions in respect to the Petition, along with the response of DGVCL and the Commission's views on the response, are briefly given in Chapter 3.

### **1.6 Contents of this order**

The order is divided into four chapters, as under:

1. The **First Chapter** provides the background, the petition and details of the public hearing process.
2. The **Second Chapter** outlines the summary of DGVCL's Mid-term Review Petition.
3. The **Third Chapter** provides a brief account of the public hearing process, including the objections raised by various stakeholders, DGVCL's response and the Commission's views on the response.
4. The **Fourth Chapter** deals with Mid-term Review of Business Plan and Revision of ARR for FY 2014-15 and FY 2015-16.



## 2. Summary of DGVCL's Petition

The DGVCL has projected its Revised Aggregate Revenue Requirement for FY 2014-15 and FY 2015-16 as part of Mid-term Review process for the remaining years of the control period.

### 2.1 Mid-term Review for FY 2014-15 and FY 2015-16

The comparison of revised projections for FY 2014-15 and FY 2015-16 in the Mid-term Review Vis-a-Vis the costs approved by the Commission in the MYT Order dated 6<sup>th</sup> September, 2011 are given as below:

**Table 2.1: Mid-term Review for FY 2014-15 and FY 2015-16**

(Rs. Crore)

Sl. No.	Particulars	FY 2014-15 (Approved in MYT)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT)	FY 2015-16 (Projected in MTR)
1	Cost of Power Purchase	6,219	7,667	6,933	8,339
2	Operations & Maintenance Expenses	216	229	229	270
2.1	Employee Cost	197	263	209	290
2.2	Repair & Maintenance	32	34	34	37
2.3	Administration & General Charges	36	57	38	62
2.4	Other Debits	4	6	4	6
2.5	Extraordinary Items	0	0	0	0
2.6	Net Prior Period Expenses / (Income)	-	-	-	-
2.7	Other Expenses Capitalised	(54)	(131)	(57)	(125)
3	Depreciation	168	197	184	230
4	Interest & Finance Charges	35	133	32	147
5	Interest on Working Capital	-	-	-	-
6	Provision for Bad Debts	4	16	4	18
7	<b>Sub-Total [1 to 6]</b>	<b>6,642</b>	<b>8,242</b>	<b>7,381</b>	<b>9,005</b>
8	Return on Equity	67	93	71	110
9	Provision for Tax / Tax Paid	19	19	19	22
10	<b>Total Expenditure (7 to 9)</b>	<b>6,728</b>	<b>8,353</b>	<b>7,471</b>	<b>9,137</b>
11	Less: Non-Tariff Income	89	143	89	146
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>6,639</b>	<b>8,210</b>	<b>7,383</b>	<b>8,991</b>

### 2.2 Request of DGVCL

1. To admit this petition seeking for Mid-term Review of Business Plan & Aggregate Revenue Requirement for the remaining Control Period of FY 2014 -15 to FY 2015-16.



2. To approve Mid-term Review of Business Plan & Aggregate Revenue Requirement of the remaining control period of FY 2014-15 to 2015-16 as requested in this petition.
3. To approve revised capital expenditure for FY 2013-14 to 2015-16 as proposed in this petition.
4. To increase the base FPPPA amount from 61 paisa/kWh to actual (weighted average of Q1 to Q4) FPPPA of FY 2012-13.
5. The Commission is requested to consider approved parameters/ARR of GSECL, GETCO and SLDC while finalizing tariff of DGVCL.
6. To grant any other relief as the Commission may consider appropriate.  
The petitioner craves leave of the Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
7. Pass any other order as the Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.



### **3. Brief outline of objections raised, response from DGVCL and the Commission's View**

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#### **3.1 Common Suggestions to Four DISCOMs, response from DISCOMs and the Commission's View**

The Utility Users Welfare Association has raised the following issues common to all DISCOMs.

##### **Issue 1: Profit Making**

The Petitioner is a profit making company and profits have increased beyond the reasonable limits despite high expenditure.

##### **Response of DISCOMs**

Over the years since unbundling, DISCOMs have shown very marginal surplus, much lower than allowable return on equity.

##### **Commission's observation**

Since electricity supply business is a regulated business the profit is limited to return on equity which is allowed as per Regulations.

##### **Issue 2: Transmission and Distribution Losses**

Transmission and Distribution losses are very high and consumers should not be burdened.

##### **Response of DISCOMs**

DISCOMs take various steps for reduction of distribution losses and try that loss reduction trajectory as approved by the Commission is achieved by the end of the control period.

The Commission has approved the loss trajectory for the entire control period from FY 2011-12 to FY 2015-16 and the company has proposed trajectory for distribution losses for FY 2014-15 and FY 2015-16.

The transmission loss is approved by the Commission for the transmission company and the same is followed by the company.

**Commission's observation**

The response of DISCOMs is noted.

**Issue 3: Procurement of Power at Competitive Rates**

It is the duty of the DISCOMs to procure power at competitive rates from generators. GUVNL determines the sale price of power for DISCOMs such that the ultimate tariff for the consumers remain equal in the State. This is not justified as the honest consumers and efficient DISCOMs are being penalised whereas the consumers who are dishonest and the performance of the DISCOMs is poor are being rewarded. Further the GUVNL is making profit by selling the power to other licensees and that profit has to be considered as a profit of the DISCOMs and tariff to that extent should be reduced.

**Response of DISCOMs**

- i. GUVNL has tied up power on long term basis to fulfil the requirement of DISCOMs. Intra-state ABT has been implemented in the State with effect from 5.4.2013 and accordingly power is procured on real time basis following the principle of merit order irrespective of ownership of generators whereby cheaper power is scheduled first and thereafter costlier power till the demand of the DISCOMs is met. GUVNL has not procured power on short term basis during FY 2012-13.

- ii. The GUVNL determined the sale price of power for DISCOMs in the way that the ultimate tariff for the consumers remain the same in the State.

In MYT order dated 6.9.2011, the Commission approved the concept of Bulk Supply Tariff (BST) for control period from FY 2011-12 to FY 2015-16 for allocation of power purchase cost by GUVNL to DISCOMs. As per the concept of BST as approved by the Commission the power purchase cost is allocated to DISCOMs based on their consumer mix.



**Commission's observation**

The response of DISCOMs is noted.

**Issue 4: Details of Power Purchase sources – Violation of MYT order**

The Utility Users' Welfare Association has stated that DISCOMs have not provided the details of power purchase sources with quantum and price (fixed and variable) to come to the correct calculations.

**Response of DISCOMs**

The details of power purchased by GUVNL for FY 2012-13 is provided in the audited accounts of GUVNL which is also available in the web-site.

**Commission's observation**

The details of Power Purchase sources and the quantum from each source and the cost are furnished by the DISCOMs in their petition.

**Issue 5: Is the function of GUVNL for sale and purchase of power as per provisions of EA 2003?**

The Utility Users' Welfare Association has requested the Commission to consider the contents of paras 13 to 45 of APTEL's order dated 1.10.2012 in appeal No. 31 of 2012 (PTC v/s GUVNL) and give advice under Sec 86 (2) to help minimising the A&G cost of other six corporate companies, if GUVNL is given the function of distribution, transmission, generation and trading.

**Response of DISCOMs**

GUVNL has been incorporated as successor entity to GEB pursuant to a transfer scheme notification under the provisions of Gujarat Electricity Industry (Reorganisation and Regulation) Act, 2003 and EA, 2003. Under Section 28 of the Gujarat Electricity Act, 2003, which is consistent with Section 131 of EA, 2003, the State Government issued first Transfer Scheme through its notification dated 24.10.2003, under which the functions of generation, transmission and generation have been vested with separate companies. Subsequently, the State Government issued a notification dated 10.12.2004 incorporating GUVNL for the purpose of transferring assets, liability and proceedings, mentioned in schedule of notification



dated 24.10.2003, of the erstwhile GEB including trading of electricity. Accordingly GUVNL has been entrusted with functions of bulk purchase from the generating companies within / outside the State of Gujarat and supply in bulk to the DISCOMs. Accordingly the GUVNL has undertaken the function of bulk power purchase and bulk supply to four DISCOMs.

**Commission's observation**

The response of DISCOMs is noted.

**Issue 6: Augmentation of distribution network to reduce T&D loss**

The Utility Users' Welfare Association has stated that there is no planning of either DISCOMs or GUVNL for augmentation of distribution network to reduce T&D losses.

**Response of DISCOMs**

DISCOMs have submitted proposals for capital expenditure plan for FY 2014-15 and FY 2015-16 as indicated below for ensuring reduction of distribution losses.

	<b>FY 2014-15 (Rs. Cr.)</b>	<b>FY 2015-16 (Rs. Cr.)</b>
PGVCL	1436	1500
DGVCL	657.45	627.20
UGVCL	850	878
MGVCL	366	387

The above capital expenditure plans include schemes like "System Improvement Scheme", "Scheme for Meters", R-APDRP, providing Area Bunch conductors, Converting LT Distribution System to High Voltage Distribution System (HVDS) etc., which are for reduction in distribution loss whereas other schemes are mainly for fulfilling "supply" related obligations and also help in reduction of distribution losses. These plans are aligned with the distribution loss trajectory proposed.

**Commission's observation**

The DISCOMs have been improving the distribution network over years to reduce loss and improve quality of power supply to consumers.

### **Issue 7: Expansion of Supply area to promote competition**

The Utility Users' Welfare Association has stated that there is no planning to expand the supply area of TPL of Surat by DGVCL and in Ahmedabad/ Gandhinagar by UGVCL, MGVCL and DGVCL in each other areas to promote competition.

#### **Response of DISCOMs**

GUVNL / DISCOMs have proposed to trade power to the extent of 7500 MUs and 8000 MUs for FY 2014-15 and FY 2015-16 respectively.

#### **Commission's observation**

The response is noted. However, the Act provides for multiple licensees.

### **Issue 8: Distribution Losses – retention of losses as in MYT order and segregation of losses**

M/s. All India Industrial Furnace Association and The Institute of Indian Foundrymen have requested that:

- (i) The projected losses for FY 2014-15 and FY 2015-16 should be retained as approved in MYT Order and instead base should be taken @10.41% proposed by the Petitioner, and
- (ii) To segregate approved losses for FY 2014-15 and FY 2015-16 for Agricultural and Non-Agricultural Category separately and in Non-Agricultural Category, Category –wise losses may be approved to enable improvement of efficiency of the Petitioner.

#### **Response of DISCOMs**

The Commission has approved distribution loss trajectory for the entire control period from FY 2011-12 to FY 2015-16. In the petition for Mid-term Review the company has proposed trajectory for distribution losses for FY 2014-15 and FY 2015-16 taking into account actual losses for FY 2012-13.

#### **Commission's observation**

The Commission has retained the losses as approved in the MYT order.





### **Issue 9: Feeder-wise results achieved against capex of Rs. 13 Crore**

M/s. All India Induction Furnace Association and the Institute of Indian Foundry men have stated that the Petitioner should submit feeder-wise results against capital expenditure of Rs. 13 Crore. The petitioner has not projected any amount in capex for FY 2014-15 and FY 2015-16 against non-agricultural loss reduction.

### **Response of DISCOMs**

Since reduction in distribution loss is a result of various activities/parameters, it is difficult to quantify exact result of any of the activities. However the overall losses of JGY and urban feeders are reduced from 23% and 10% to 22% and 9% respectively from FY 2011-11 to FY 2012-13. For selected JGY feeders loss reduction of more than 10% was observed and in urban category losses were reduced by more than 5% on an average.

The capex for non-agricultural loss reduction is shown separately but it is part of expenses to be otherwise carried out in SI scheme.

### **Commission's observation**

The response of DISCOMs is noted.

### **Issue 10: Expenditure on Smart Grid and SCADA**

M/s. All India Industrial Furnace Association and the Institute of Indian Foundrymen have stated that for smart grid project in Deesa and Naroda areas the petitioner proposed capex of Rs. 10,20 and 25 Crore for FY 2013-14, FY 2014-15 and FY 2015-16 respectively. Deesa is Agricultural dominated area where the petitioner is able neither to provide meters for each Agricultural Connections nor meter on each DTC. Naroda is highly industrial area where losses would be very low and it should be done in high loss areas. When power cost is continuously increasing, the expenditure of Rs. 55 Crore for smart grid and Rs. 37 Crore for SCADA in the three years should be avoided.



### **Response of DISCOMs**

Besides loss reduction, Smart Grid project is applicable to peak load management, AMI for Industrial Commercial and residential consumers, outage management, load forecasting, DSM and demand response, asset management and power quality management. It is proposed to implement the project in areas where large number of consumers are Agricultural and other locations selected where mix of residential, commercial and industrial is available and as such Deesa and Naroda areas are selected. SCADA is to be implemented under R-APDRP programme launched by Central Government.

### **Commission's observation**

The response of DISCOMs is noted.

### **Issue 11: Approval of revised losses for FY 2014-15 and 2015-16**

M/s The Institute of Indian Foundrymen, Ahmedabad chapter has stated that the actual distribution losses for FY 2012-13 are shown as 14.50% as against approved losses of 13%. In the Mid-term Review petition, the petitioner has requested to approve revised losses for FY 14015 and 15-16 as 13.50% and 13% respectively. The Petitioner has not submitted action taken to reduce losses, particularly vigilance activities and the petitioner may be requested to submit the same.

The projected losses for FY 2014-15 and FY 2015-16 should be retained as approved in MYT order as base should be taken as 10.40%.

### **Response of DISCOMs**

DISCOMs take various steps for reduction of distribution losses (both technical and commercial) and ensure loss reduction trajectory as approved by the Commission and at the end of the control period it shall achieve approved distribution losses.

The Commission has approved distribution loss trajectory for the entire MYT control period from FY 2011-12 to FY 2015-16. In the petition for Mid-term Review of Business Plan, the company proposed trajectory for distribution losses for FY 2014-15 and FY 2015-16.



Distribution losses being controllable factor, the company has given appropriate treatment to the deviation from the approved loss level in the true-up petition for FY 2012-13.

**Commission's observation**

The Commission has fixed distribution loss level to each DISCOM and energy requirement/purchase is regulated to the loss level approved by the Commission. The loss levels are closely monitored by the Commission. The DISCOMs are taking steps to reduce losses. The Commission has retained the distribution losses for FY 2014-15 and FY 2015-16 as approved in MYT order.



## **4. Mid-term Review of Business Plan for FY 2014-15 and FY 2015-16**

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### **4.1 Introduction**

In terms of Regulation 16.2 (i) of GERC (MYT) Regulations, 2011 that a Mid-term Review of Business Plan may be sought by the Generating Company, Transmission Company and Distribution Licensees through an application filed (3) months prior to the filing of petition for truing up for the second year of the control period and tariff determination for the fourth year of the control period.

The Generating Company, the Transmission Company and the Distribution Companies shall file for Mid-term Review of Business Plan three months prior to the filing of Truing up for the FY 2012-13 and determination of tariff for FY 2014-15.

### **4.2 Submission of DGVCL**

In accordance with the above provisions the Dakshin Gujarat Vij Company (DGVCL) has submitted the petition for Mid-term Review of Business Plan for the remaining control period for FY 2014-15 and FY 2015-16.

### **4.3 Summary of the petition for Mid-term Review for the remaining control period, FY 2014-15 and FY 2015-16**

4.3.1 DGVCL has projected its Revised Aggregate Revenue Requirement for FY 2014-15 and FY 2015-16 as part of Mid-term Review process for the remaining years of the control period.

The comparison of revised projections for FY 2014-15 and FY 2015-16 vis-à-vis the figures approved by the Commission in the MYT order dated 6<sup>th</sup> September, 2011 are given as under.

**Table 4.1: Mid-term Review for FY 2014-15 and FY 2015-16**

(Rs. Crore)

Sl. No.	Particulars	FY 2014-15		FY 2015-16	
		(Approved in MYT)	(Projected in MTR)	(Approved in MYT)	(Projected in MTR)
1	Cost of Power Purchase	6,219	7,667	6,933	8,339
2	Operations & Maintenance Expenses	216	229	229	270
2.1	Employee Cost	197	263	209	290
2.2	Repair & Maintenance	32	34	34	37
2.3	Administration & General Charges	36	57	38	62
2.4	Other Debits	4	6	4	6
2.5	Extraordinary Items	0	0	0	0
2.6	Net Prior Period Expenses / (Income)	-	-	-	-
2.7	Other Expenses Capitalised	(54)	(131)	(57)	(125)
3	Depreciation	168	197	184	230
4	Interest & Finance Charges	35	133	32	147
5	Interest on Working Capital	-	-	-	-
6	Provision for Bad Debts	4	16	4	18
7	<b>Sub-Total [1 to 6]</b>	<b>6,642</b>	<b>8,242</b>	<b>7,381</b>	<b>9,005</b>
8	Return on Equity	67	93	71	110
9	Provision for Tax / Tax Paid	19	19	19	22
10	<b>Total Expenditure (7 to 9)</b>	<b>6,728</b>	<b>8,353</b>	<b>7,471</b>	<b>9,137</b>
11	Less: Non-Tariff Income	89	143	89	146
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>6,639</b>	<b>8,210</b>	<b>7,383</b>	<b>8,991</b>

#### 4.4 Estimation of ARR for the remaining years of control period, FY 2014-15 and FY 2015-16.

The Mid-term Review highlights the following items of ARR for the remaining years of control period, FY 2014-15 and FY 2015-16.

- Energy projection
- Consumer profile
- Distribution loss
- Energy Requirement and energy balance
- Power purchase – Bulk supply tariff
- Transmission charges
- Capital expenditure and Funding of CAPEX.
- Operations and Maintenance Expenses
- Depreciation
- Interest on loan and finance charges
- Interest on Working Capital
- Return on Equity
- Provision for Tax



The Commission has analysed and discussed the energy sales and components of expenditure under Mid-term Review of Business Plan in this section.

## **4.5 Energy Sales**

### **4.5.1 Projection of Energy sales for FY 2014-15 and FY 2015-16**

DGVCL has projected the energy sales for FY 2014-15 and FY 2015-16 based on the trends during the past years. Wherever the trend has seemed unreasonable or unsustainable the growth factors have been corrected to arrive at more realistic projections.

The petitioner has furnished the category-wise energy sales for the last 5 years (FY 2008-09 to FY 2012-13) based on actuals and projected the sales for FY 2014-15 and FY 2015-16 and also underlying CAGR for (5 year, 3 year and YoY).

### **4.5.2 Category-wise sales over the last 5 years are shown in Table below:**

**Table 4.2: Historical Trend in Category-wise Units sold**

	(MU)				
<b>Category</b>	<b>FY 08-09</b>	<b>FY 09-10</b>	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>
<b>Low Tension Consumers</b>					
RGP	1,346	1,436	1,628	1,730	1918
GLP					32
Non - RGP & LTMD	2,767	3,117	3,296	3,439	3606
Public Water Works	89	97	106	113	127
Agriculture - Unmetered	427	424	423	423	421
Agriculture - Metered	106	146	140	156	207
Street Light	29	30	32	34	39
<b>LT Total</b>	<b>4,764</b>	<b>5,250</b>	<b>5,625</b>	<b>5,895</b>	<b>6,350</b>
<b>High Tension Consumers</b>					
Industrial HT	3,281	3,437	3,927	4,376	4,673
Railway Traction	260	272	285	292	314
<b>HT Total</b>	<b>3,541</b>	<b>3,709</b>	<b>4,212</b>	<b>4,668</b>	<b>4,987</b>
<b>Total</b>	<b>8,305</b>	<b>8,959</b>	<b>9,837</b>	<b>10,563</b>	<b>11,337</b>

**Table 4.3: Category-wise Growth rates of Units Sold**

	(%)		
<b>Category</b>	<b>5 years CAGR FY 13 over 09</b>	<b>3 years CAGR FY 13 over 11</b>	<b>FY 13 over FY 12</b>
<b>Low Tension Consumers</b>			
RGP	9.26%	8.54%	10.87%
GLP			
Non - RGP & LTMD	7.08%	5.06%	5.90%
Public Water Works	9.40%	9.66%	12.81%



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Category	5 years CAGR FY 13 over 09	3 years CAGR FY 13 over 11	FY 13 over FY 12
Agriculture	4.17%	5.58%	8.40%
Street Light	7.69%	10.40%	14.71%
<b>LT Total</b>	<b>7.45%</b>	<b>6.25%</b>	<b>7.72%</b>
<b>High Tension Consumers</b>			
Industrial HT	9.24%	9.09%	6.79%
Railway Traction	4.82%	4.94%	7.47%
<b>HT Total</b>	<b>8.94%</b>	<b>8.81%</b>	<b>6.83%</b>
<b>Total</b>	<b>8.09%</b>	<b>7.35%</b>	<b>7.33%</b>

### 4.5.3 Consumer Profile

DGVC has furnished the category-wise number of consumers for the past period and the CAGR growth rates for different periods (5 year 3, year and year on year) as given below:

**Table 4.4: Category-wise number of Consumers**

(Nos.)

Category	Actual				
	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13
<b>Low Tension Consumers</b>					
RGP	1,564,107	1,653,882	1,794,372	1,902,328	2,013,974
GLP					11,928
Non - RGP & LTMD	272,788	285,453	303,018	315,379	300,389
Public Water Works	8,315	9,733	11,418	13,056	14,813
Agriculture - Unmetered	46,178	45,848	45,707	45,578	45,448
Agriculture - Metered	38,139	42,777	46,503	49,599	59,198
Street Light	3,976	4,300	4,559	4,930	5,314
<b>LT Total</b>	<b>1,933,503</b>	<b>2,041,993</b>	<b>2,205,577</b>	<b>2,330,870</b>	<b>2,451,064</b>
<b>High Tension Consumers</b>					
Industrial HT	2,060	2,221	2,401	2,601	2,803
Railway Traction	5	5	5	5	6
<b>HT Total</b>	<b>2,065</b>	<b>2,226</b>	<b>2,406</b>	<b>2,606</b>	<b>2,809</b>
<b>Total</b>	<b>1,935,568</b>	<b>2,044,219</b>	<b>2,207,983</b>	<b>2,333,476</b>	<b>2,453,873</b>

**Table 4.5: Growth rate of Number of Consumers**

Category	5 years CAGR FY 13 over 09	3 years CAGR FY 13 over 11	FY 13 over FY 12
<b>Low Tension Consumers</b>			
RGP	6.52%	5.94%	5.87%
GLP	-	-	-
Non - RGP & LTMD	-	-	-
Public Water Works	15.53%	13.90%	13.46%
Agriculture	5.55%	6.53%	9.95%
Street Light	7.52%	7.96%	7.79%
<b>LT Total</b>	<b>6.11%</b>	<b>5.42%</b>	<b>5.16%</b>
<b>High Tension Consumers</b>			
Industrial HT	8.00%	8.05%	7.77%



Category	5 years CAGR FY 13 over 09	3 years CAGR FY 13 over 11	FY 13 over FY 12
Railway Traction	4.66%	9.54%	20.00%
<b>HT Total</b>	<b>8.00%</b>	<b>8.05%</b>	<b>7.79%</b>
<b>TOTAL</b>	<b>6.11%</b>	<b>5.42%</b>	<b>5.16%</b>

#### 4.5.4 Category-wise Connected Load

The Petitioner has also submitted the category-wise connected load for the past period and the CAGR growth rates for different periods (5 year, 3 year and year on year as given below :

**Table 4.6: Category-wise Connected Load**

(MW)					
Category	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13
<b>Low Tension Consumers</b>					
RGP	1,298	1,371	1,474	1,423	1,621
GLP					29
Non - RGP & LTMD	1,592	1,675	1,747	1,673	1,698
Public Water Works	61	64	70	78	88
Agriculture - Unmetered	182	186	186	185	185
Agriculture - Metered	189	193	211	223	260
Street Light	20	20	19	23	23
<b>LT Total</b>	<b>3,388</b>	<b>3,556</b>	<b>3,707</b>	<b>3,606</b>	<b>3,905</b>
<b>High Tension Consumers</b>					
Industrial HT	1,203	1,336	1,493	1,648	1,862
Railway Traction	64	64	64	68	79
<b>HT Total</b>	<b>1,267</b>	<b>1,400</b>	<b>1,557</b>	<b>1,716</b>	<b>1,941</b>
<b>TOTAL</b>	<b>4,655</b>	<b>4,955</b>	<b>5,264</b>	<b>5,322</b>	<b>5,846</b>

**Table 4.7: Growth Rate for Connected Load**

(%)			
Category	5 years CAGR FY 13 over 09	3 years CAGR FY 13 over 11	FY 13 over FY 12
<b>Low Tension Consumers</b>			
RGP	5.72%	4.87%	13.94%
GLP	-	-	-
Non - RGP & LTMD	-	-	-
Public Water Works	9.65%	12.45%	13.40%
Agriculture	4.64%	5.95%	8.91%
Street Light	3.97%	10.53%	0.15%
<b>LT Total</b>	<b>3.61%</b>	<b>2.64%</b>	<b>8.29%</b>
<b>High Tension Consumers</b>			
Industrial HT	11.54%	11.67%	12.98%
Railway Traction	5.35%	10.97%	15.62%
<b>HT Total</b>	<b>11.25%</b>	<b>11.64%</b>	<b>13.09%</b>
<b>TOTAL</b>	<b>5.86%</b>	<b>5.38%</b>	<b>9.84%</b>





#### 4.5.5 Category-wise Projected Growth rates of energy sales

The Growth rates considered by the Petitioner for projection of energy sales for the FY 2014-15 and FY 2015-16 are given below:

**Table 4.8: Projected Growth Rates of energy sales**

Particulars	Sales (MU)
<b>Low Tension Consumers</b>	
RGP	9.26%
GLP	0.00%
Non - RGP & LTMD	5.00%
Public Water Works	9.40%
Agriculture	-
Street Light	7.69%
<b>High Tension Consumers</b>	
Industrial HT	0.00%
Railway Traction	4.82%

#### Category-wise projected energy sales for the FY 2014-15 and FY 2015-16.

The Petitioner has projected the energy sales for the FY 2014-15 and FY 2015-16, the balance period of the control period at the projected growth rates in Table 4.8 above on the energy sales of FY 2012-13.

**Table 4.9: Projected Energy sales for FY 2013-14, 2014-15 and 2015-16**

Sales	Projection (MU)		
	FY 13-14	FY 14-15	FY 15-16
<b>Low Tension Consumers</b>			
RGP	2,096	2,290	2,502
GLP	32	32	32
Non - RGP & LTMD	3,786	3,976	4,174
Public Water Works	139	153	167
Agriculture	774	840	915
Street Light	42	45	49
<b>LT Total</b>	<b>6,869</b>	<b>7,335</b>	<b>7,838</b>
<b>High Tension Consumers</b>			
Industrial HT	4,673	4,673	4,673
Railway Traction	329	345	361
<b>HT Total</b>	<b>5,002</b>	<b>5,018</b>	<b>5,034</b>
<b>Total</b>	<b>11,871</b>	<b>12,353</b>	<b>12,873</b>

#### 4.5.6 Detailed Analysis of Energy Sales projected

DGVCL, in the Tables 4.3, 4.5 & 4.7 mentioned the growth rates as 5 year CAGR for the CAGR from FY 09 to FY 13 and 3 year CAGR for the CAGR from FY 2011



to FY 2013. But, actually these are 4 year and 2 year CAGRs. The Commission considers them so (4 year and 2 year CAGRs) in the following paras.

The category-wise sales given in Table-4.2 for the FY 2008-09 to FY 2012-13 are the actual, the energy sales for the FY 2014-15 and FY 2015-16 are projected based on 4 year and 2 year CAGR between FY 2008-09 and FY 2012-13 and year on year between the FY 2012-13 over FY 2011-12. Since the sales figures for FY 2013-14 are not available, the projected sales for FY 2014-15 and FY 2015-16 are considered based on actuals for FY 2012-13.

### **Residential (RGP)**

DGVCL has projected the energy sales to Residential category for the FY 2014-15 and FY 2015-16 as given below:

(MU)			
Particulars	FY 2013-14	FY 2014-15	FY 2015-16
Residential	2096	2290	2502

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

It is submitted by DGVCL that a 4 year growth rate between FY 2008-09 and FY 2012-13 was 9.26% and the company expects this trend to continue for the remaining years of the control period.

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

The Commission considered a growth rate of 11% against historical growth rate of 9.83% in the MYT Order dated 6<sup>th</sup> September, 2011 since a number of households were yet to be electrified. A historical trend of 9.26% CAGR is observed between FY 2008-09 and FY 2012-13 and the Petitioner expects the same growth to continue during the rest of the control period, FY 2014-15 and FY 2015-16. This shows the growth rate of 11% could not be achieved. The growth of 9.26% adopted by DGVCL is considered reasonable and the Commission, therefore, approves the energy sales at 2290 MU for FY 2014-15 and 2502 MU for FY 2015-16 in the review of Business Plan for the FY 2014-15 and FY 2015-16.

**The Commission approves the energy sales to residential category at 2290 MU and 2502 MU for FY 2014-15 and FY 2015-16 respectively against 2592 MU**



and 2855 MU approved in the MYT order for respective years at a growth rate of 11%.

**Table 4.10: Sales approved for Residential category in the Mid-term Review**

<b>(MU)</b>		
<b>Particulars</b>	<b>Approved in Mid-term Review FY 2014-15</b>	<b>Approved in Mid-term Review FY 2015-16</b>
Residential Category	2290	2502

## **GLP**

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

This category has been created during FY 2012-13. The DGVCL has submitted that in the absence of past trend and considering the category having lower sales, number of consumers and connected load, no growth has been proposed over actuals during FY 2012-13.

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

Educational Institutions come under this category created during FY 2012-13. The energy sales during 2012-13 were 32 MU and DGVCL has considered no growth for this category in the projections for FYs 2014-15 and 2015-16. The past trend is available for the categories GLP and Non-RGP & LTMD together. Hence, the analysis of sales for this category is considered along with the Non-RGP & LTMD category.

## **Non-RGP and LTMD**

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

The Tariff under non-RGP is applicable to consumers' premises of those categories, which are not covered by any other tariff categories up to and including 40 kW load and LTMD is applicable to consumers not covered under any other categories of consumers and having aggregate load above 40 kW and up to 100 kW.

The DGVCL has considered a growth rate of 5.00% to this category of consumers as is approved by the Commission for LT- industrial category in the MYT order of



6<sup>th</sup> September, 2011. The company projected the sales of 3976 MU for FY 2014-15 and 4174 for FY 2015-16.

**Commission's Analysis:**

The Commission has considered the growth rate of 11.00% for commercial (Non-RGP) and 5.00% for LTMD for FY 2014-15 and FY 2015-16 in the MYT order dated 6<sup>th</sup> September, 2011. In the review petition, DGVCL has adopted 5.00% growth rate for both the categories combined as approved by the Commission in MYT order for LTMD.

As mentioned earlier, as the past trend is available for the GLP, Non-RGP & LTMD categories together, the analysis is made for these categories together. The 4 year CAGR (FY 2013 over FY 2009) for these categories has been 7.08% and 2 year CAGR (FY 2013 over FY 2011) has been 5.06% and YoY growth (FY 2013 over FY 2012) was 5.9%. The actual sales for these categories for FY 2012-13 are 3638 MU (32+3606) and the projections for FYs 2014-15 and 2015-16 are 4008 MU (32+3976) and 4206 MU (32+4174) respectively, the growth rate projected works out to be 4.94%.

The Commission considers it reasonable to adopt the 4 year CAGR 7.08% for these categories together, over the sales of FY 2012-13, as this combined category, namely, educational institutions, commercial and LT Industrial category has potential for growth and it is comparable to the growth rate of 6.0% adopted in the MYT order for these categories of Non-RGP & LTMD together.

With this growth rate of 7.08%, the projected sales of these categories (GLP and Non-RGP & LTMD) work out as given in the Table below:

**Table 4.11: Approved Sales for GLP, Non-RGP & LTMD category together in the Mid-term Review**

Particulars	(MU)		
	FY 2012-13	FY 2014-15	FY 2015-16
GLP and Non-RGP & LTMD	3638	4171	4466



The above sales are apportioned among the GLP and Non-RGP & LTMD categories in the proportion of the actuals for FY 2012-13, which work out as given in the Table below:

**Table 4.12: Sales approved for GLP and Non-RGP and LTMD category together in the Mid-term Review**

(MU)		
Particulars	FY 2014-15	FY 2015-16
GLP	37	39
Non-RGP & LTMD	4134	4427

### **Public Water works**

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

DGVCL has submitted that the sales growth Rate between FY 2008-09 and FY 2012-13 (4 year CAGR) was 9.40% and expects same trend to continue for the remaining control period FY 2014-15 and FY 2015-16. The Petitioner has projected the sales for FY 2014-15 and FY 2015-16 at 153 MU and 167 MU respectively.

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

The 4 year CAGR (FY 2008-09 to FY 2012-13), 2 year CAGR (FY 2010-11 to FY 2012-13) and FY 2012-13 over FY 2011-12 were at 9.40%, 9.66% and 12.81% respectively. The Commission had approved the sales of 149 MU & 163 MU for FY 2014-15 and FY 2015-16 respectively in the MYT Order dated 6<sup>th</sup> September, 2011. This is almost in line with the projection now submitted in the review Petition for FY 2014-15 & FY 2015-16 at 9.4% growth rate. The growth rate of 9.40% adopted by DGVCL is considered reasonable for the FY 2014-15 and FY 2015-16.

The Commission therefore, approves the sales for FY 2014-15 and FY 2015-16 as below:

**Table 4.13: Sales approved for Public Water Works category in the Mid-term Review**

(MU)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Public Water Works	153	167



## **Agriculture**

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

The DGVCL has submitted that the company has stopped giving unmetered connections (A1 slab) and 0% rate is assumed for A1 slab for number of consumers and connected load. Sales are worked out to unmetered consumers on consumption norm of 1700 kWh/HP/Annum.

It is submitted that as per internal targets, it is planning to release new connections under metered category and the consumption of 1200 kWh/HP/Annum is considered for the additional metered connections targeted to be released. The targeted metered connections proposed to be released and the additional sales are furnished below:

**Table 4.14: New metered connections to Agricultural consumer**

<b>Agriculture Metered</b>	<b>No. of Connections</b>	<b>Average HP of Discom</b>	<b>HP Increase</b>	<b>MW Increase</b>	<b>Per HP Consumption</b>	<b>Additional Sale (MU)</b>
<b>FY 2013-14</b>	19,459	6.20	120,646	90	1,200	145
<b>FY 2014-15</b>	8,887	6.23	55,366	41	1,200	66
<b>FY 2015-16</b>	9,461	6.57	62,159	46	1,200	75

As per the data furnished by DGVCL, the unmetered connections up to FY 2012-13 were 45448 with a connected load of 185 Mw and the sales of 421 MU, which will be constant. The sales to metered category to be added during FY 2013-14, FY 2014-15 and FY 2015-16 would be 145, 66 and 75 MU respectively, at the consumption of 1200 kWh/HP/ Annum as per norm adopted by DGVCL for metered consumer. The total consumption projected at 1700 kWh/ HP/ Annum for unmetered consumers and at 1200 kWh/ HP/ Annum for metered consumers are as below:

<b>Sl. No.</b>	<b>Particulars</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>
1	Unmetered	421	421	421	421
2	Metered	207	353	419	494
3	Total	628	774	840	915

(MU)

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

The Commission has approved the energy consumption of 423 MU for unmetered consumers for FY 2014-15 and FY 2015-16 in the MYT Order dated 6<sup>th</sup> September,



2011. DGVCL has now projected 421 MU from the FY 2012-13 onwards. The Commission approves the sales for unmetered consumers at 421 MU for the FY 2014-15 and FY 2015-16 as projected by DGVCL.

In regard to Metered consumers the DGVCL has projected the sales of 419 MU and 494 MU for FY 2014-15 and FY 2015-16 respectively at a consumption of 1200 kWh/HP/Annum. The Commission has dealt in detail the metered consumption in MYT Order dated 6<sup>th</sup> September, 2011. In the MYT Petition also DGVCL projected the sales for metered consumers at 1200 kWh/HP/Annum. After detailed examination the Commission considered the average consumption for metered consumer at 524 kWh/HP/ Annum, this being weighted average consumption of metered consumers in DGVCL area during FY 2009-10 and FY 2010-11.

On calling for data on metered consumption by the Commission for the last three years, DGVCL has furnished the details of consumption of metered agricultural consumers for the FYs 2010-11, 2011-12 and 2012-13 as given in the Table below:

<b>FY 2010-11</b>	<b>Details</b>
Number of Consumers (Nos.)	-
Connected Load (HP)	282647
Consumption (MU)	139.984
<b>FY 2011-12</b>	
Number of Consumers (Nos.)	-
Connected Load (HP)	299251
Consumption (MU)	155.990
<b>FY 2012-13</b>	
Number of Consumers (Nos.)	-
Connected Load (HP)	348525
Consumption (MU)	207.00

From the above, the total connected load for the 3 years works out to 930423 HP (282647 + 299251 + 348525) and the total consumption for the above 3 years works out to 502.974 MU (139.984 + 155.990 + 207.00). Based on this, the weighted average consumption of metered consumers in DGVCL area for the FYs 2010-11, 2011-12 and 2012-13 works out to 541 kWh/HP/Annum.

The Commission, therefore, considers the consumption at 541 kWh/HP/annum for metered consumers for the years FY 2014-15 and FY 2015-16. As per data furnished, the connected load of metered consumers was 348525 HP in FY 2012-13.



DGVCL targeted an additional 120,646 HP during FY 2013-14, 55,366 HP during FY 2014-15 and 62,159 HP during FY 2015-16 (Table 8 of Petition).

The connected load by FY 2014-15 and FY 2015-16 would be as below:

Year	Connected load of Metered consumers	Addition	Connected Load (HP)
FY 2012-13	348525 HP		348525
FY 2013-14		120646/2	408848
FY 2014-15		55366/2	436531
FY 2015-16		62159/2	467611

The estimated consumption of metered consumers at 541 kWh/HP/annum for FY 2014-15 and FY 2015-16 would be as below:

**Table 4.15: Consumption of metered consumers approved for FY 2014-15 and FY 2015-16**

Year	Connected Load (HP)	Consumption (MU)
FY 2014-15	436531	236
FY 2015-16	467611	253

The consumption (sales) to Agricultural category both for un-metered and metered category would be as below:

**Table 4.16: Approved Sales for Agriculture Consumers in the Mid-term Review (MU)**

Particulars	FY 2014-15	FY 2015-16
Un-metered	421	421
Metered	236	253
Total	657	674

**The Commission approves the sales to Agriculture Category at 657 MU and 674 MU for FY 2014-15 and FY 2015-16 respectively.**

## **Street Lighting**

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

The DGVCL has submitted that the sales growth rate of the category was 7.69 % during the 4 year period (FY 2008-09 to FY 2012-13). The company expects the same growth rate for the remaining control period FY 2014-15 and FY 2015-16. The Petitioner has projected the sales at 45 MU and 49 MU for the FY 2014-15 and FY 2015-16 respectively.





**Commission's Analysis:**

The DGVCL has projected the sales at a growth rate of 7.69%. The Commission approved the sales for the category at 40 MU and 43 MU for the FY 2014-15 and FY 2015-16 respectively. The DGVCL has projected the sales for FY 2014-15 and FY 2015-16 at 45 MU and 49 MU respectively. The Commission considers the projected sales are reasonable based on the trend over the last 4 years. The Commission, therefore, approves the sales for FY 2014-15 and FY 2015-16 as below:

**Table 4.17: Energy Sales approved for street Light category in the Mid-term Review (MU)**

Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Street Light	45	49

**Industrial HT**

**Petitioner's Submission:**

The DGVCL has submitted that considering the recent trend of opting for Open Access by various HT industrial consumers, the growth rate of sales for the category of consumers was 6.97% between FY 2011-12 and FY 2012-13. It is further stated that opting for Open Access by eligible consumers has increased gradually during FY 2012-13. It is submitted, considering the consumers opting for Open Access and prevailing recessionary trend, it is very difficult to estimate the growth for the category. Considering this fact the sales for FY 2014-15 and FY 2015-16 is estimated at 4673 MU, same as for FY 2012-13.

**Commission's Analysis:**

It is observed the growth in sales of this category was 9.24% during the 4 year period (FY 2008-09 to FY 2012-13), 9.09% during 2 year period (FY 2010-11 to FY 2012-13) and 6.79% during the FY 2012-13 over FY 2011-12. There is decline in growth during the FY 2012-13, indicating that consumers are opting for Open Access.

The actual sales for this category during FY 2012-13 were 4673 MU. The projected sales to the category are the same during FY 2014-15 and FY 2015-16. This is



against approved sales of 4387 MU and 4606 MU during FY 2014-15 and FY 2015-16 respectively in the MYT Order.

In view of the fact that the Open Access is only for consumers with Contract Demand of 1 MW and above and also there will be addition of new HT consumers during the FY 2014-15 & 2015-16, the Commission considers it reasonable to adopt the YoY growth rate of 6.79% for this category for the purpose of Mid-term Review of Business plan.

Accordingly, the energy sales approved industrial HT category for FY 2014-15 and FY 2015-16 applying the growth rate of 6.79% over the sales of FY 2012-13 and onwards as given in the Table below:

**Table 4.18: Approved Sales for Industrial HT category in the Mid-term Review**

(MU)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Industrial HT	5329	5691

### **Railway Traction**

The DGVCL has submitted that the growth rate between FY 2008-09 and FY 2012-13 was 4.82% and the company expects the trend to continue for the remaining control period.

The projected sales for Railway Traction are 345 MU and 361 MU during FY 2014-15 and FY 2015-16 respectively.

### **Commission Analysis:**

The Commission approved the energy sales of 331 MU and 344 MU for FY 2014-15 and FY 2015-16 respectively in the MYT Order. Against this DGVCL has projected the sales of 345 MU and 366 MU respectively for the FY 2014-15 and FY 2015-16. Considering the past trend the increase in sales is considered achievable and hence the Commission approves the sales for Railway Traction as below:

**Table 4.19: Approved Sales for Railway Traction category in the Mid-term Review**

(MU)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Railway Traction	345	361



#### 4.5.7 Total Energy Sales

Total Energy sales approved by the Commission based on the above analysis is summarised for FY 2014-15 and FY 2015-16 in the Table below:

**Table 4.20: Energy Sales approved in the Mid-term Review**

(MU)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
	<b>LT</b>		
1	Residential (RGP)	2290	2502
2	GLP	37	39
3	Non- RGP and LTMD	4134	4427
4	Public Water Works	153	167
5	Agriculture	657	674
6	Street Light	45	49
7	<b>Total LT</b>	<b>7316</b>	<b>7858</b>
	<b>HT</b>		
8	Industrial – HT	5329	5691
9	Railway Traction	345	361
10	<b>Total HT</b>	<b>5674</b>	<b>6052</b>
	<b>Total LT+HT (7+10)</b>	<b>12990</b>	<b>13910</b>

#### 4.6 Distribution Losses

The DGVCL has projected the distribution losses for the FY 2014-15 and FY 2015-16 in the Mid-term Review as given in below:

**Table 4.21: Projected Distribution Losses for FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Distribution Loss	11.50%	11.50%

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

The DGVCL has submitted that it has achieved a significant reduction in distribution losses, during recent years. The effort shall continue and will be enhanced, In view of this the distribution loss in FY 2014-15 and FY 2015-16 will reduce but at a slow rate.

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

The Commission in the MYT Order dated 6<sup>th</sup> September, 2011, considered the distribution loss at 11.50% during FY 2014-15 and FY 2015-16 against projected distribution loss of 12.45% for FY 2014-15 and 12.20% for FY 2015-16. The



commission approves the distribution loss of 11.50% for FY 2014-15 and FY 2015-16 which is same as the approved loss in MYT Order.

#### **4.7 Energy Requirement and Energy Balance**

The total energy requirement of the distribution company to meet the total demand of its consumers is the sum of the estimated energy sales and the system losses (distribution loss) approved by the Commission.

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

The DGVCL has submitted that it has considered the transmission loss at 4.12%, same as approved in MYT Order dated 6<sup>th</sup> September, 2011 and pooled losses of PGCIL approved in the MYT Order dated 6<sup>th</sup> September, 2011. It is further submitted that the energy requirement for the company will be met by supply from GUVNL.

The DGVCL has projected the energy Requirement/ energy Balance as below:

**Table 4.22: Projected Energy Requirement and Energy Balance**

Sl. No	Particulars	Unit	(MU)	
			FY 2014-15 (Projected)	FY 2015-16 (Projected)
1	Energy Sales	MUs	12,353	12,873
2	Distribution Losses	MUs	1,605	1,673
		%	11.50%	11.50%
3	Energy Requirement	MUs	13,958	14,546
4	Transmission Losses	MUs	600	625
		%	4.12%	4.12%
5	Total Energy to be input to Transmission System	MUs	14,558	15,171
6	Pooled Losses in PGCIL System	MUs	325	372
7	Total Energy Requirement	MUs	14,883	15,543

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

Based on the energy sales and the distribution losses approved by the commission in Paragraphs 4.5.7 and 4.6 above the energy Requirement is arrived at as given in the Table below:

**Table 4.23: Total approved Energy Requirement in the Mid-term Review**

Sl. No.	Particulars	Units	FY 2014-15	FY 2015-16
1	Estimated Energy Sales	MU	12990	13910



Sl. No.	Particulars	Units	FY 2014-15	FY 2015-16
2	Distribution Loss	MU	1688	1808
		%	11.50	11.50
3	Energy requirement at the Distribution periphery	MU	14678	15718

## 4.8 Energy Balance

### Commission's Analysis:

The Energy Balance projected by the DGVCL is given in Table 4.22 above. The DGVCL has considered Transmission loss at 4.12% which is the same as approved by the Commission in MYT Order dated 6<sup>th</sup> September, 2011 as adopted by the DISCOM. The pooled losses in PGCIL system considered by DGVCL at 325 MU and 372 MU for FY 2014-15 and FY 2015-16 respectively are the same as approved by the Commission in the MYT Order dated 6<sup>th</sup> September, 2011. The Commission considers the Transmission loss at 4.12% and pooled losses in PGCIL system as projected by DGVCL to arrive at the Energy Balance in the Table below:

**Table 4.24: Approved Energy Balance for in the Mid-term Review**

Sl. No.	Particulars	Units	FY 2014-15	FY 2015-16
1	Energy Sales	MU	12990	13910
2	Distribution Loss	MU	1688	1808
		%	11.50	11.50
3	Energy Input Requirement Distribution periphery	MU	14678	15718
4	Transmission Loss	MU	631	675
		%	4.12	4.12
5	Total energy input into Transmission system	MU	15309	16393
6	Pooled losses in PGCIL system	MU	325	372
7	Total energy Requirement (5+6)	MU	15634	16765

## 4.9 Power Purchase – Bulk Supply Tariff

### 4.9.1 Bulk Supply Tariff

#### Petitioner's submission:

The DGVCL has submitted that when the erstwhile Gujarat Electricity Board (GEB) was unbundled into seven entities, it was decided by the State Government that

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Gujarat Urja Vikas Nigam Limited (GUVNL) shall purchase the entire power requirement from GSECL, central generating stations, traders, renewable sources, IPPs and any other source to meet the demand of DISCOMs and shall perform the activity of bulk supplier of power to all the four Distribution companies at bulk supply tariff. In accordance with the arrangement related to power procurement the distribution licensees have entered into bulk supply arrangement / agreement with GUVNL to meet the supply obligation.

It is also submitted that the State Government has envisaged uniform retail supply tariff in the four DISCOMs (of the unbundled GEB), so that the consumers in the similar category in the State could have a similar tariff. It is further submitted that since 84%-93% of the total cost incurred by DISCOMs is for power purchase, the same plays a major role in determining the ARR for the DISCOM for a particular year. Since the consumer profile and consumption pattern are different in the four distribution companies, the revenue earning capabilities of each of the DISCOMs differ resulting in different Annual Revenue Requirement. Therefore, it is necessary to build a mechanism in the projection to give them a level-playing field. This is proposed to be achieved by differential bulk supply tariff (BST) to each of the DISCOMs to ensure uniform retail consumer tariffs in the four DISCOMs.

#### **4.9.2 Power Purchase Sources**

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

The various sources of power purchase by GUVNL consist of: State generating plants (GSECL), central sector – NTPC and NPC, renewable sources of power – hydro, solar and wind, IPPs, other sources, etc. The power purchase sources have been differentiated into existing and additional capacity envisaged during remaining control period.

##### **(i) Existing capacity with GUVNL**

The existing capacity contracted by GUVNL, consists of: GSECL plants, IPPs, central sector plants, renewable sources, RLNG gas based plants etc., where the



plants which are commissioned and likely to get commissioned before 31<sup>st</sup> March, 2014. The existing contracted capacity tied up by GUVNL as on 31<sup>st</sup> March, 2014 is 19321 MW. The names of the existing power plants, their operational parameters, capacity allocated to GUVNL, their fixed cost as per capacity contracted, along with the variable cost of generation per unit are given below:

**Table 4.25: Existing Capacity contracted by GUVNL**

<b>Power Plants</b>	<b>Rated Capacity allocated to GUVNL (MW)</b>	<b>Auxiliary Consumption (%)</b>	<b>Plant Load Factor (%)</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>
<b>GSECL PLANTS</b>					
Ukai TPS	850	9	75%	334	2.59
Ukai Hydro	305	1	13%	25	0.00
Gandhinagar I to IV	660	10	79%	265	3.55
Gandhinagar V	210	9	85%	100	2.93
Wanakbori I to VI	1,260	9	85%	471	2.98
Wanakbori VII	210	9	85%	98	2.77
Sikka TPS	240	11	71%	115	4.01
Kutch Lignite I to III	215	12	75%	220	1.96
Kutch Lignite IV	75	12	75%	121	0.99
Kadana Hydro	242	1	6%	59	0.00
Utran Gas Based	135	4	80%	30	2.87
Dhuvaran Gas Based - Stage-I	107	3	80%	47	3.20
Dhuvaran Gas Based - Stage-II	112	3	80%	54	2.33
Utran Extension	375	3	80%	209	3.90
Ukai Expansion 6	500	9	80%	333	1.68
<b>Total of GSECL plants</b>	<b>5496</b>			<b>2,481</b>	
<b>IPPs</b>					
ESSAR	300	3	0%	-	2.79
GPEC	655	3	70%	320	4.24
GIPCL II (165)	165	3	80%	22	3.63
GIPCL-SLPP	250	10	75%	152	1.25
GSEG	156	3	80%	59	2.90
GIPCL - I (145)	145	3	80%	8	4.00
GMDC - Akrimota	250	10	75%	156	1.18
GIPCL, Expansion	250	10	80%	291	1.46
<b>Total of IPPs</b>	<b>2,171</b>			<b>1,008</b>	
<b>SHARE FROM CENTRAL SECTOR</b>					
NPC - Tarapur- 1&2	160	10	80%	-	0.96
NPC - Kakrapar	125	13	80%	-	2.38
NPC - Tarapur- 3&4	274	10	80%	-	2.87
NTPC - KORBA	360	8	85%	197	0.98



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<b>Power Plants</b>	<b>Rated Capacity allocated to GUVNL (MW)</b>	<b>Auxiliary Consumption (%)</b>	<b>Plant Load Factor (%)</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>
NTPC - VINDHYACHAL - I	230	9	85%	125	1.44
NTPC - VINDHYACHAL - II	239	8	85%	155	1.33
NTPC - VINDHYACHAL - III	266	8	85%	248	1.33
NTPC - KAWAS	187	3	85%	99	2.34
NTPC - JHANOR	237	3	85%	155	2.35
NTPC - Sipat Stage - I	540	8	85%	382	1.40
SSNNL - Hydro	232	1	14%	-	2.05
NTPC - Kahalgaon (New)	141	8	85%	128	1.96
NTPC - Sipat Stage-II	273	7	85%	235	1.28
NTPC - Mauda STPS-I	240	7	85%	313	2.98
NTPC - Vindhyachal STPS-IV	240	7	85%	254	1.00
NTPC - KORBA II	96	7	85%	110	0.97
Mundra UMPP	1,805	-	80%	1,148	1.43
<b>Total from Central Sector</b>	<b>5,645</b>			<b>3,549</b>	
<b>OTHERS</b>					
Captive Power Plant (MU)	8		80%		2.65
<b>Renewable</b>					
Wind Farms	1,908	-	23%	-	3.37
Solar	857	-	20%	-	14.04
Biomass	30	-	80%	-	4.28
Hydro	6	-	70%	-	3.35
<b>Competitive Bidding</b>					
APPL	2,000	-	80%	1,657	1.63
Aryan	200	-	80%	255	0.40
Essar - 1000 MW	1,000	-	80%	786	1.46
<b>Total Capacity</b>	<b>19,321</b>			<b>9,734</b>	

**(ii) Capacity additions during FY 2014-15 and FY 2015-16**

The capacity addition available for the State, which includes capacity additions of GSECL, central stations, IPPs and others and competitive bidding capacity, is given in the Table below with details of capacity allocated to Gujarat and unit - wise tentative commissioning schedule. PPAs are already entered into for various stations and are expected to get commissioned during the control period FY 2014-15 to FY 2015-16. GUVNL will purchase power from these stations.

The total additional capacity envisaged to get commissioned and allocated to GUVNL is arrived at 3269 MW. The additional capacity envisaged during FY 2014-15 and FY 2015-16, along with operational parameters, fixed cost, variable cost per





kWh and CoD are given below:

**Table 4.26: Capacity Addition during the remaining control Period**

Sl. No.	Particulars	Rated Capacity allocated to GUVNL (MW)	Auxiliary Consumption (%)	Plant Load Factor (%)		Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	CoD
				2014-15	2015-16			
1	Sikka 3 & 4	500	10	0%	80%	670	3.26	Apr-15
2	Dhuvaran CCPP Ext - 3	360	2.9	7%	80%	328	7.94	Mar-15
3	GSEG Expansion	351	3.5	0%	7%	238	7.94	Mar-16
4	GSPC-Pipavav	702	2.9	0%	7%	640	7.94	Mar-16
5	BECL	500	11	20%	80%	865	1.21	Jan-15
6	NTPC Kakrapar addition	476	13	0%	7%	-	2.38	Mar-16
7	NTPC - Lara	140	9	0%	7%	207	1.05	Mar-16
8	NTPC - Mauda STPS - II	240	7	0%	7%	380	1.05	Mar-16
	<b>Total Capacity Addition</b>	<b>3,269</b>				<b>3,328</b>		

### (iii) Other issues for consideration

The DGVCL has submitted the constraints in the operation of some of the stations as below:

- Essar Power having capacity of 300 MW has no fuel supply agreement and hence plant load factor considered at 0% for FY 2014 -15 & FY 2015-16. If gas is made available by some source then power generated from the plant will be purchased by GUVNL and accordingly payments will be made.
- GSEG Expansion, GSPC Pipavav and Dhuvaran CCPP Ext-3 gas based plants do not have fuel supply agreements as on date. GSEG expansion is in ready situation and GSPC Pipavav and Dhuvaran CCPP Ext-3 will be ready for generation shortly. GUVNL has assumed that fuel supply agreement will take some time and generation for GSEG Expansion, GSPC Pipavav and Dhuvaran CCPP Ext-3 will come in March 2016, March 2016 and March 2015 respectively. Cost implication of these plants is considered accordingly. If, there, is any cost implication on GUVNL for these plants because of early commissioning, same will be passed on to the consumers.
- DGVCL has further submitted that the base rates for calculation for power purchase cost are considered actual for FY 2012-13 and hence the



Commission is requested to revise FPPPA accordingly. The Commission is requested to freeze minimum FPPPA as per actual (weighted average of Q1 to Q4) FPPPA of FY 2012-13 of 120 paisa/kWh in place of existing level of 61 paisa/kWh.

### **4.9.3 Power Purchase Cost**

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

The DGVCL has submitted that in order to minimize the power purchase cost, GUVNL has worked out a comprehensive merit order despatch (MOD) as shown below:

- The dispatch from individual generating stations is worked out based on the merit order for the variable cost of each generating unit.
- The NPC power plants, renewable, captive power plants and hydro plants have been considered as must run power plants and so they have been excluded from merit order calculations.
- The RLNG spot gas based power plants PLF is considered at 1% due to the high variable cost.
- The power purchase availability from these plants has been capped in order to minimize the impact of the high variable cost of generation from these plants.
- During merit order despatch, at least 5% availability of each plant has been considered to take care of the peak loads and peak season.
- The balance power based on the 80% availability, or the actual availability whichever is lower is considered to meet any additional demand which is not met after inclusion of must run power plant and 5% capacity of the other plant.
- Fixed costs for GSECL have been taken as approved by the Commission for FY 2014-15 in its order dated 11th April, 2011 and the same has been taken in future years, as well. Variable costs are taken as per actual for FY 2012-13. Transmission tariff for GETCO has been taken as approved by the Commission for the remaining control period in MYT order dated 31st March, 2011.
- For IPP, central sector, renewable and competitive bidding, fixed cost and



variable costs are taken as per actual for FY 2012-13. The availability has been projected based on the operation of a plant in a particular year and the past trend of energy availability from the plants.

Based on the above factors, the plant-wise dispatchable energy and cost of purchase by GUVNL from various plants of GSECL, central generating stations, IPPs and other sources, the generation fixed cost due to the capacity contracted, and variable cost of generation per unit are given in Table below. The dispatchable energy (MU) based on the allocated capacity and merit order stacking consists both for supplying power to DISCOMs as well as for trading purpose.

**Table 4.27: Projected Power Purchase cost for FY 2014-15 as per the petition**

<b>Power Purchase Cost FY 2014-15</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs. Crore)</b>
<b>GSECL PLANTS</b>						
Ukai TPS	5,082	2,560	334	2.59	663	997
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.55	92	357
Gandhinagar V	1,339	84	100	2.93	24	125
Wanakbori I to VI	8,035	502	471	2.98	150	621
Wanakbori VII	1,339	84	98	2.77	23	121
Sikka TPS	1,329	94	115	4.01	37	152
Kutch Lignite I to III	1,243	1,243	220	1.96	244	464
Kutch Lignite IV	434	434	121	0.99	43	165
Dhuvaran oil	-	-	-	0	-	-
Kadana Hydro	126	126	59	0	0	59
Utran Gas Based	505	32	30	2.87	9	39
Dhuvaran Gas Based - Stage-I	616	38	47	3.2	12	59
Dhuvaran Gas Based - Stage-II	642	642	54	2.33	150	204
Utran Extension	2,005	125	209	3.9	49	258
Ukai Expansion 6	3,206	3,206	333	1.68	540	873
Sikka 3 & 4	-	-	-	3.26	-	-
Dhuvaran CCPP Ext – 3	208	153	28	7.94	122	149
<b>Total of GSECL plants</b>	<b>30,565</b>	<b>9,928</b>	<b>2,509</b>		<b>2,158</b>	<b>4,668</b>
<b>IPPs</b>						
ESSAR	-	-	-	2.79	-	-
GPEC	2,328	166	320	4.24	70	390
GIPCL II (165)	559	35	22	3.63	13	35
GIPCL-SLPP	1,478	1,478	152	1.25	185	336
GSEG	858	54	59	2.9	16	74
GIPCL - I (145)	843	53	8	4	21	29
GMDC – Akrimota	1,478	1,478	156	1.18	175	331



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<b>Power Purchase Cost FY 2014-15</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs. Crore)</b>
GSEG Expansion	-	-	-	7.94	-	-
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	-	-	-	7.94	-	-
BECL	780	780	216	1.21	94	311
<b>Total of IPPs</b>	<b>9,901</b>	<b>5,621</b>	<b>1,224</b>		<b>804</b>	<b>2,027</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	-	0.96	97	97
NPC – Kakrapar	767	767	-	2.38	183	183
NPC Kakrapar addition	-	-	-	2.38	-	-
NPC - Tarapur- 3&4	1,728	1,728	-	2.87	497	497
NTPC - Lara	-	-	-	1.05	-	-
NTPC - KORBA	2,323	2,323	197	0.98	227	424
NTPC-VINDHYACHAL-I	1,467	1,467	125	1.44	211	336
NTPC-VINDHYACHAL-II	1,549	1,549	155	1.33	206	360
NTPC-VINDHYACHAL-III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	99	2.34	228	327
NTPC - JHANOR	1,231	1,231	155	2.35	290	445
NTPC - Sipat Stage - I	3,500	3,500	382	1.4	489	870
NTPC - Sipat Stage-II	283	283	-	2.05	58	58
SSNNL – Hydro	914	914	128	1.96	179	307
NTPC - Kahalgaon (New)	1,789	1,789	235	1.28	228	463
NTPC - Mauda STPS-I	1,573	98	313	2.98	29	343
NTPC - Vindhyachal STPS-IV	1,573	1,573	254	1	157	411
NTPC - Mauda STPS-II	-	-	-	1.05	-	-
NTPC - KORBA II	629	629	110	0.97	61	172
Mundra UMPP	12,649	12,649	1,148	1.43	1,808	2,955
<b>Total from Central Sector</b>	<b>35,679</b>	<b>34,204</b>	<b>3,549</b>		<b>5,177</b>	<b>8,725</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	-	2.65	15	15
<b>Renewable</b>						
Wind Farms	3,844	3,844	-	3.37	1,296	1,296
Solar	1,501	1,501	-	14.04	2,108	2,108
Biomass	210	210	-	4.28	90	90
Hydro	37	37	-	3.35	12	12
<b>Competitive Bidding</b>						
APPL	14,016	14,016	1,657	1.63	2,280	3,937
Aryan	1,402	1,402	255	0.4	56	311
Essar - 1000 MW	7,008	7,008	786	1.46	1,024	1,810
<b>RLNG</b>						
ESSAR – 300	-	-	-	5.34	-	-
GPEC - 655	22	22	216	5.21	12	228
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension – 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 – 107	1	1	8	5.26	1	9
Dhuvaran Gas Based -	2	2	10	5.26	1	11



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Power Purchase Cost FY 2014-15	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
Stage 2 – 112						
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	1	15
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS – 187	4	4	31	5.59	2	33
NTPC - JHANOR – 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28132</b>	<b>28132</b>	<b>3129</b>		<b>6912</b>	<b>10041</b>
<b>Total</b>	<b>104,276</b>	<b>77,884</b>	<b>10,410</b>		<b>15,050</b>	<b>25,460</b>

**Table 4.28: Projected Power Purchase cost for FY 2015-16 as per the petition**

Power Purchase Cost FY 2015-16	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
<b>GSECL PLANTS</b>						
Ukai TPS	5,082	2,527	334	2.59	654	988
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.55	92	357
Gandhinagar V	1,339	84	100	2.93	24	125
Wanakbori I to VI	8,035	502	471	2.98	150	621
Wanakbori VII	1,339	84	98	2.77	23	121
Sikka TPS	1,329	94	115	4.01	37	152
Kutch Lignite I to III	1,243	1,243	220	1.96	244	464
Kutch Lignite IV	434	434	121	0.99	43	165
Dhuvaran oil	-	-	-	0	-	-
Kadana Hydro	126	126	59	0	0	59
Utran Gas Based	505	32	30	2.87	9	39
Dhuvaran Gas Based - Stage-I	616	38	47	3.2	12	59
Dhuvaran Gas Based - Stage-II	642	642	54	2.33	150	204
Utran Extension	2,005	125	209	3.9	49	258
Ukai Expansion 6	3,206	3,206	333	1.68	540	873
Sikka 3 & 4	3,154	197	670	3.26	64	734
Dhuvaran CCPP Ext - 3	2,450	153	328	7.94	122	450
<b>Total of GSECL plants</b>	<b>35,960</b>	<b>10,091</b>	<b>3,479</b>		<b>2,214</b>	<b>5,692</b>
<b>IPPs</b>						
ESSAR	-	-	-	2.79	-	-
GPEC	2,328	166	320	4.24	70	390
GIPCL II (165)	559	35	22	3.63	13	35
GIPCL-SLPP	1,478	1,478	152	1.25	185	336
GSEG	858	54	59	2.9	16	74
GIPCL - I (145)	843	53	8	4	21	29
GMDC – Akrimota	1,478	1,478	156	1.18	175	331
GSEG Expansion	30	30	20	7.94	24	44
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	60	60	54	7.94	47	102
BECL	3,119	3,119	865	1.21	377	1,242



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<b>Power Purchase Cost FY 2015-16</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs. Crore)</b>
<b>Total of IPPs</b>	<b>12,329</b>	<b>8,049</b>	<b>1,947</b>		<b>1,158</b>	<b>3,105</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	-	0.96	97	97
NPC – Kakrapar	767	767	-	2.38	183	183
NPC Kakrapar addition	247	247	-	2.38	59	59
NPC - Tarapur- 3&4	1,728	1,728	-	2.87	497	497
NTPC - Lara	81	81	18	1.05	8	26
NTPC - KORBA	2,323	2,323	197	0.98	227	424
NTPC - VINDHYACHAL - I	1,467	1,467	125	1.44	211	336
NTPC - VINDHYACHAL - II	1,549	1,549	155	1.33	206	360
NTPC - VINDHYACHAL - III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	99	2.34	228	327
NTPC - JHANOR	1,231	1,231	155	2.35	290	445
NTPC - Sipat Stage - I	3,500	3,500	382	1.4	489	870
NTPC - Sipat Stage-II	283	283	-	2.05	58	58
SSNNL – Hydro	914	914	128	1.96	179	307
NTPC - Kahalgaon (New)	1,789	1,789	235	1.28	228	463
NTPC - Mauda STPS-I	1,573	98	313	2.98	29	343
NTPC - Vindhyachal STPS-IV	1,573	1,573	254	1	157	411
NTPC - Mauda STPS-II	142	142	32	1.05	15	47
NTPC - KORBA II	629	629	110	0.97	61	172
Mundra UMPP	12,649	12,649	1,148	1.43	1,808	2,955
<b>Total from Central Sector</b>	<b>36,149</b>	<b>34,675</b>	<b>3,599</b>		<b>5,258</b>	<b>8,857</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	-	2.65	15	15
<b>Renewable</b>						
Wind Farms	3,844	3,844	-	3.37	1,296	1,296
Solar	1,501	1,501	-	14.04	2,108	2,108
Biomass	210	210	-	4.28	90	90
Hydro	37	37	-	3.35	12	12
<b>Competitive Bidding</b>						
APPL	14,016	14,016	1,657	1.63	2,280	3,937
Aryan	1,402	1,402	255	0.4	56	311
Essar - 1000 MW	7,008	7,008	786	1.46	1,024	1,810
<b>RLNG</b>						
ESSAR – 300	-	-	-	5.34	-	-
GPEC - 655	22	22	216	5.21	12	228
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension - 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 – 107	1	1	8	5.26	1	9
Dhuvaran Gas Based - Stage 2 – 112	2	2	10	5.26	1	11
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	1	15
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS – 187	4	4	31	5.59	2	33



Power Purchase Cost FY 2015-16	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
NTPC - JHANOR – 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28,076</b>	<b>28,076</b>	<b>3,129</b>		<b>6,897</b>	<b>10,026</b>
<b>Total</b>	<b>112,569</b>	<b>80,946</b>	<b>12,153</b>		<b>15,542</b>	<b>27,694</b>

## 4.10 Transmission and other Cost

### Petitioner's submission:

It is submitted by DGVCL that the total power purchase cost for the company for the remaining control period, FY 2014-15 to FY 2015-16 consists of: transmission charges, GUVNL charges and SLDC fees and charges and GUVNL costs.

#### 4.10.1 Transmission charges

Transmission charges to GETCO are calculated as per the approved charges for GETCO in the MYT Order for the remaining control period FY 2014-15 to FY 2015-16. PGCIL charges are worked out, based on provisional accounts of FY 2012-13, with escalation of 5% every year.

Based on the transmission charges for PGCIL and GETCO, the transmission costs included in the calculation of bulk supply tariff of all DISCOMs is given below:

**Table 4.29: Projected Transmission charges for FY 2014-15 and FY 2015-16**

Particulars	2014-15	2015-16
Escalation for PGCIL Charges	5%	5%
PGCIL Charges (Rs. Crore/Annum)	790.72	830.26
GETCO Charges (Rs/ MW/Day)	3,029.08	2,727.17
GETCO Charges (Rs. Crore/ MW/Annum)	0.11	0.10
SLDC Fees (Rs./MW/Half Year)	363.43	313.14
SLDC Charges (Rs./MW/Month)	295.16	251.02

#### 4.10.2 GUVNL Cost

The DGVCL has submitted that GUVNL is entrusted with the function of supplying power to DISCOMs and the overall coordination between the subsidiary companies. It also undertakes the function of raising and managing overall loan



portfolio of GUVNL and its subsidiaries.

GUVNL will charge Rs. 0.04 for every transaction of the unit.

#### **4.10.3 SLDC Fees and Charges**

It is submitted by DGVCL that SLDC fees and charges have been taken as approved by the Commission in the SLDC MYT Order dated 31st March, 2011 as shown in Table above.

#### **4.11 Trading**

The DGVCL has stated that GUVNL has projected trading of surplus power based on its capacity to sell. GUVNL was able to sell 7147 MU during FY 2012-13 at the rate of Rs. 3.88 per kWh. Lack of demand in the market is attributable to below given reasons:

- Deteriorating financial conditions of Discoms - affecting the credit worthiness and capability to purchase power to meet ever increasing demand
- Discoms resorting to load shedding to balance out the demand supply gap;
- Lack of enforcement of USO affects creation of demand in the market;
- Lack of demand in the market is hampering GUVNL's ability to sell power;

As discussed above, market situation is not very encouraging to sale of more power. GUVNL still proposes higher trading units in comparison to FY 2012 -13. GUVNL has projected 7500 MU & 8000 MU for FY 2014-15 & FY 2015-16 respectively. Trading cost is calculated based on average variable cost of the power plants. The trading MUs envisaged for FY 2014-15 and FY 2015-16, are given below:

**Table 4.30: Trading of energy envisaged for FY 2014-15 and FY 2015-16**

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>
Trading Units (MU)	7500	8000





## 4.12 Total Power Purchase Cost

The total power purchase cost consisting of the cost of power purchase from various generating stations, transmission charges of PGCIL and GETCO, SLDC charges, GUVNL costs and trading units.

The total fixed costs, due to the capacity contracted, are passed on to the DISCOMs as shown in the Table below:

**Table 4.31: Projected Fixed cost for DISCOMS for FY 2014-15 and FY 2015-16**

Year	Fixed Cost (Rs. Cr.)	GETCO Cost (Rs. Cr.)	PGCIL Charges (Rs. Cr.)	SLDC Charges (Rs. Cs)	Total Fixed Cost (Rs. Cr.)	Fixed Cost (Rs. Cr.)
FY 2014-15	10,410	2,401	791	10	13,611	13,611
FY 2015-16	12,153	2,520	830	10	15,512	15,512

The total variable cost (energy cost) due to generating energy to supply power to DISCOMs, as well as for trading purpose, include additional 4 Paise/unit payable to GUVNL for the supply of such power. The basic purpose is to have an average variable cost to DISCOMs, as well as trading of power. The total variable cost is given in the Table below:

**Table 4.32: Projected Variable cost for DISCOMS and trading of energy from FY 2014-15 and FY 2015-16**

Year	Variable Cost (Rs. Cr.)	GUVNL Cost (Rs. Cr.)	Total Variable Cost (Rs. Cr.)	Total MUs despatch ed	Variable Cost (Rs/unit)	MUs	Variable Cost (Rs. Cr.)	MUs	Variable Cost (Rs. Cr.)
FY 2014-15	15,050	312	15,361	77,884	1.97	70,384	13,882	7,500	1,479
FY 2015-16	15,542	324	15,866	80,946	1.96	72,946	14,298	8,000	1,568

### 4.12.1 Net Power Purchase Cost

It is submitted that trading revenue for GUVNL is calculated, based on per unit variable cost of power plus Rs. 1.00 per unit of contribution. Hence, the revenue earned from sale of power to be traded is subtracted from the total power purchase cost for DISCOMs to obtain the net power purchase cost. The net power purchase cost is shown below:



**Table 4.33: Projected Net Power Purchase cost for FY 2014-15 and FY 2015-16**

Year	Discom Fixed Cost (Rs. Cr.)	Discom Variable Cost (Rs. Cr.)	Total Power Purchase Cost (Rs. Cr.)	Trading Cost (Rs. Cr.)	Contribution from Trading	Total Trading Revenue (Rs. Cr.)	Net Cost (Rs. Cr.)
FY 2014-15	13,611	13,882	27,493	1,479	750	2,229	26,743
FY 2015-16	15,512	14,298	29,810	1,568	800	2,368	29,010

## Commission's Analysis

### 4.13 Power Purchase Sources and Merit Order despatch

#### 4.13.1 Power Purchase Sources

As mentioned in Para 4.9.2 the DGVCL has submitted that GUVNL has entered in to contracts for the existing capacity with GSECL, Central Generating Companies, IPPs, renewable energy sources and RLNG gas based plants which were commissioned before 31<sup>st</sup> March, 2014. The details of the existing plants are given in Table 4.25. GUVNL has also entered into contract for additional capacity likely to be commissioned during FY 2014-15 and FY 2015-16. The details of additional plants likely to be commissioned during FY 2014-15 and FY 2015-16 are given in Table-4.26.

The quantum contracted including the additional capacity and the capacity approved by the Commission in MYT Order dated 6<sup>th</sup> September, 2011 from each of the sources are summarised in Table below:

**Table 4.34: Capacity Contracted Source – Wise by GUVNL in the MYT Order and Now Submitted by PGVCL for the period FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	FY 2014-15		FY 2015-16	
		Approved in MYT Order	Projected in the Review	Approved in MYT Order	Projected in the Review
1	GSECL	6182	5856	6982	6356
2	IPPS	3663	2671	3663	3724
3	Central Generating Station	6160	5645	7136	6501
4	Renewable	2041	2801	2041	2801
5	Competitive Bidding	3200	3200	5810	3200
6	Others – CPP	8	0	8	8
7	<b>Total</b>	<b>21254</b>	<b>20173</b>	<b>25640</b>	<b>22590</b>



#### **4.13.2 Constraints in the Operation of some Stations**

As discussed in Para 4.9.2(iii) DGVCL has submitted some constraints in the generation of power in Essar station 300 MW, GSEG expansion – 360 MW, GSPC-Pipavav – 702 MW and Dhuvaran CCPP Ext. – 3 – 360 MW due to non-availability of gas.

In view of non-availability of gas the generation at these stations is restricted as and when gas is made available, generation at these stations will be picked and supplied to the system and the costs will be passed on to the consumers.

DGVCL has submitted that it has considered the actual base rates for FY 2012-13 and requested to revise FPPPA accordingly.

#### **4.13.3 Power Purchase during FY 2014-15 and FY 2015-16**

The power purchase for the period FY 2014-15 and FY 2015-16 is based on the energy requirement of DGVCL / four DISCOMs approved by the Commission. As stated in the preceding paragraph the power purchase from GSECL stations, Central Generating stations, IPPS and Others, the fixed and variable costs are taken based on actual for FY 2012-13. The Power Purchase Cost for each of the year FY 2014-15 and FY 2015-16 as per MYT Order and as projected by DGVCL in the MTR are given in Tables 4.35 & 4.36 below. These include the energy available from each station, as estimated, and energy dispatchable based on the Merit Order as given in the above Tables.

The source wise Power available and dispatchable based on the merit despatch in the MYT Order and as projected in Mid-term Review for FY 2014-15 and FY 2015-16 are given in Table below:

**Table 4.35: Energy Available & Dispatchable as approved in MYT order and projected in MTR for FY 2014-15**

Sl. No.	Particulars	FY 2014-15 MYT Order		FY 2014-15 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
	<b>GSECL Plants</b>				
1	Ukai TPS	5082	3388	5082	2560
2	Ukai Hydro	345	345	345	345



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Sl. No.	Particulars	FY 2014-15 MYT Order		FY 2014-15 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
3	Gandhinagar I to IV	4111	2602	4111	260
4	Gandhinagar V	1339	837	1339	84
5	Wanakbori I to VI	8035	5022	8035	502
6	Wanakbori VII	1339	837	1339	84
7	Sikka TPS	1329	936	1329	94
8	Kutch Lignite I to III	1243	829	1243	1243
9	Kutch Lignite IV	434	289	434	434
10	Dhuvaran oil				
11	Kadana Hydro	126	126	126	126
12	Utran Gas Based	505	315	505	32
13	Dhuvaran Gas Based - Stage - I	616	385	616	38
14	Dhuvaran Gas Based - Stage - II	642	401	642	642
15	Utran Extension	2005	1253	2005	125
16	Ukai Extension 6	3206	2004	3206	3206
17	Sikka 3 & 4	3206	2004		
18	Dhuvaran CCPP Ext – 3	1934	1529	208	153
	<b>Total</b>	<b>35497</b>	<b>23102</b>	<b>30565</b>	<b>9928</b>
	<b>IPPs</b>				
1	ESSAR	1439	1028		
2	GPEC	2328	1663	2328	166
3	GIPCL II (160)	559	349	559	35
4	GIPCL II (165)				
5	GIPCL – SLPP	1478	986	1478	1478
6	GSEG	858	536	858	54
7	GIPCL - I (145)	140	87	843	53
8	GIPCL Addition	268	268		
9	GMDC – Akrimota	1478	1478	1478	1478
10	GSEG Expansion	149	149		
11	GIPCL Expansion	1577	986	1577	1577
12	GSPC – Pipavav	296	296		
13	BECL	3119	1949	780	780
	<b>Total</b>	<b>13689</b>	<b>9775</b>	<b>9901</b>	<b>5621</b>
	<b>CENTRAL SECTOR</b>				
1	NPC - Tarapur- 1&2	1009	1,009	1009	1,009
2	NPC – Kakrapar	767	767	767	767
3	NPC Kakrapar addition				
4	NPC - Tarapur- 3&4	1728	1,728	1728	1,728
5	NTPC - Lara				
6	NTPC - KORBA	2323	2,323	2323	2,323
7	NTPC - VINDHYACHAL - I	1467	917	1467	1,467
8	NTPC - VINDHYACHAL - II	1549	968	1549	1,549
9	NTPC - VINDHYACHAL - III	1724	1,078	1724	1,724
10	NTPC - KAWAS	971	607	971	971
11	NTPC - JHANOR	1231	769	1231	1,231
12	NTPC - Sipat Stage - I	3500	3,500	3500	3,500
13	NTPC - Sipat Stage-II	1789	1,754	1789	1,789
14	SSNNL – Hydro	283	283	283	283



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Sl. No.	Particulars	FY 2014-15 MYT Order		FY 2014-15 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
	NTPC - Kahalgaon (New)	914	571	914	914
16	NTPC - Mauda STPS-I	1573	983	1573	98
17	NTPC - Vindhyachal STPS-IV	1573	1,573	1573	1,573
18	NTPC - Mauda STPS-II				
19	NTPC - KORBA II	629	629	629	629
20	Mundra UMPP	7586	7,586	12649	12,649
21	NTPC - Barh STPS I	1559	1559		
22	NTPC - Barh STPS II	1140	713		
23	Tilaiya UMPP	909	909		
	<b>Total from Central Sector</b>	<b>34224</b>	<b>30226</b>	<b>35679</b>	<b>34204</b>
	<b>OTHERS</b>				
	Captive Power Plant (MU)	56	56	56	56
	<b>Total</b>	<b>56</b>	<b>56</b>	<b>56</b>	<b>56</b>
	<b>Renewable</b>				
1	Wind Farms			3844	3844
2	Solar			1501	1501
3	Biomass	210	210	210	210
4	Hydro	53	53	37	37
5	Wind Farms (1.75)	44	44		
6	Wind Farms (3.37)	1575	1575		
7	Wind Farms (3.56)	462	462		
8	Solar Photovoltaic	1653	1653		
9	Solar Thermal	44	44		
	<b>Total</b>	<b>4041</b>	<b>4041</b>	<b>5592</b>	<b>5592</b>
	<b>Competitive Bidding</b>				
1	APPL	14016	8,760	14016	14016
2	Aryan	1402	1,402	1402	1402
3	Essar - 1000 MW	7008	4,380	7008	7008
4	ESSAR – 300	25	25		
5	Wardha Power - KSK Mahanadi Power Co.				
6	ESSAR 800 MW				
7	Shapoorji Pallonji				
	<b>Total</b>	<b>22451</b>	<b>14567</b>	<b>22426</b>	<b>22426</b>
	<b>RLNG</b>				
1	ESSAR – 300				
2	GPEC - 655	112	112	22	22
3	Utran Gas Based - 135	25	25	5	5
4	Utran Extension – 375	34	34	7	7
5	Dhuvaran Gas Based - Stage 1 – 107	7	7	1	1
6	Dhuvaran Gas Based - Stage 2 – 112	8	8	2	2
7	GIPCL II (160) - 165	35	35	7	7
8	GSEG - 156	13	13	3	3
9	GIPCL - I (145) - 42	9	9	2	2
10	NTPC - KAWAS – 187	19	19	4	4
11	NTPC - JHANOR – 237	24	24	5	5



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Sl. No.	Particulars	FY 2014-15 MYT Order		FY 2014-15 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
	<b>Total</b>	<b>286</b>	<b>286</b>	<b>58</b>	<b>58</b>
	<b>Sub – Total</b>	<b>110244</b>	<b>82053</b>	<b>104277</b>	<b>77885</b>

**Table 4.36: Energy Available & Dispatchable as approved in MYT order and projected in MTR for FY 2015-16**

Sl. No.	Particulars	FY 2015-16 MYT Order		FY 2015-16 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
	<b>GSECL Plants</b>				
1	Ukai TPS	5082	3388	5082	2527
2	Ukai Hydro	345	345	345	345
3	Gandhinagar I to IV	4111	1972	4111	260
4	Gandhinagar V	1339	837	1339	84
5	Wanakbori I to VI	8035	5022	8035	502
6	Wanakbori VII	1339	837	1339	84
	Wanakbori Expansion	5102	3189		
7	Sikka TPS	1329		1329	94
8	Kutch Lignite I to III	1243	829	1243	1243
9	Kutch Lignite IV	434	289	434	434
10	Dhuvaran oil				
11	Kadana Hydro	126	126	126	126
12	Utran Gas Based	505	315	505	32
13	Dhuvaran Gas Based-Stage-I	616		616	38
14	Dhuvaran Gas Based-Stage-II	642		642	642
15	Utran Extension	2005	1253	2005	125
16	Ukai Extension 6	3206	2004	3206	3206
17	Sikka 3 & 4	3206	2004	3154	197
18	Dhuvaran CCPP Ext - 3	2447		2450	153
	<b>Total</b>	<b>41112</b>	<b>22410</b>	<b>35961</b>	<b>10092</b>
	<b>IPPs</b>				
1	ESSAR	1439			
2	GPEC	2328		2328	166
3	GIPCL II (160)	559	349	559	35
4	GIPCL II (165)				
5	GIPCL – SLPP	1478	986	1478	1478
6	GSEG	858	536	858	54
7	GIPCL - I (145)	140	87	843	53
8	GIPCL Addition	3154	1971		
9	GMDC – Akrimota	1478	986	1478	1478
10	GSEG Expansion	149	149	30	30
11	GIPCL Expansion	1577	986	1577	1577
12	GSPC – Pipavav	296	296	60	60
13	BECL	3119	1949	3119	3119
	<b>Total</b>	<b>16575</b>	<b>8295</b>	<b>12330</b>	<b>8050</b>
	<b>CENTRAL SECTOR</b>				
1	NPC - Tarapur- 1&2	1009	1,009	1009	1,009



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Sl. No.	Particulars	FY 2015-16 MYT Order		FY 2015-16 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
2	NPC – Kakrapar	767	767	767	767
3	NPC Kakrapar addition	247	247	247	247
4	NPC - Tarapur- 3&4	1728	1,728	1728	1,728
5	NTPC - Lara	81	81	81	81
6	NTPC - KORBA	2323	1,452	2323	2,323
7	NTPC - VINDHYACHAL - I	1467	917	1467	1,467
8	NTPC - VINDHYACHAL - II	1549	968	1549	1,549
9	NTPC - VINDHYACHAL - III	1724	1,078	1724	1,724
10	NTPC - KAWAS	971	607	971	971
11	NTPC - JHANOR	1231	769	1231	1,231
12	NTPC - Sipat Stage - I	3500	2,188	3500	3,500
13	SSNNL – Hydro	283	283	283	283
14	NTPC - Kahalgaon (New)	914	571	914	914
15	NTPC - Sipat Stage-II	1789	1,118	1789	1,789
16	NTPC - Mauda STPS-I	1573	983	1573	98
17	NTPC - Vindhyachal STPS-IV	1573	983	1573	1,573
18	NTPC - Mauda STPS-II	142	142	142	142
19	NTPC - KORBA II	629	393	629	629
20	Mundra UMPP	12649	7,906	12649	12,649
21	NTPC - Barh STPS I	1704	1065		
22	NTPC - Barh STPS II	1140	713		
23	Tilaiya UMPP	2102	1314		
	<b>Total from Central Sector</b>	<b>41095</b>	<b>27282</b>	<b>36149</b>	<b>34674</b>
	<b>OTHERS</b>				
	Captive Power Plant (MU)	56	56	56	56
	<b>Total</b>	<b>56</b>	<b>56</b>	<b>56</b>	<b>56</b>
	<b>Renewable</b>				
1	Wind Farms			3844	3844
2	Solar			1501	1501
3	Biomass	210	210	210	210
4	Hydro	53	53	37	37
5	Wind Farms (1.75)	44	44		
6	Wind Farms (3.37)	1575	1575		
7	Wind Farms (3.56)	462	462		
8	Solar Photovoltaic	1653	1653		
9	Solar Thermal	44	44		
	<b>Total</b>	<b>4041</b>	<b>4041</b>	<b>5592</b>	<b>5592</b>
	<b>Competitive Bidding</b>				
1	APPL	14016	8,760	14016	14016
2	Aryan	1402	876	1402	1402
3	Essar - 1000 MW	7008	4,380	7008	7008
4	ESSAR – 300	25	25		
5	Wardha Power - KSK Mahanadi Power Co.	6498	4424		
6	ESSAR 800 MW	5147	3504		
7	Shapoorji Pallonji	5147	3504		
	<b>Total</b>	<b>39243</b>	<b>25473</b>	<b>22426</b>	<b>22426</b>



Sl. No.	Particulars	FY 2015-16 MYT Order		FY 2015-16 as projected in MTR	
		Available MUs	Dispatch MUs	Available MUs	Dispatch MUs
	<b>RLNG</b>				
1	ESSAR – 300				
2	GPEC - 655	112	112	22	22
3	Utran Gas Based - 135	25	25	5	5
4	Utran Extension - 375	34	34	7	7
5	Dhuvaran Gas Based - Stage 1 – 107	7	7	1	1
6	Dhuvaran Gas Based - Stage 2 – 112	8	8	2	2
7	GIPCL II (160) - 165	35	35	7	7
8	GSEG - 156	13	13	3	3
9	GIPCL - I (145) - 42	9	9	2	2
10	NTPC - KAWAS – 187	19	19	4	4
11	NTPC - JHANOR - 237	24	24	5	5
	<b>Total</b>	<b>286</b>	<b>286</b>	<b>58</b>	<b>58</b>
	<b>Sub – Total</b>	<b>142408</b>	<b>87843</b>	<b>112572</b>	<b>80948</b>

The availability and dispatchable energy from all sources projected by DGVCL in the Mid-term Review for the years FY 2014-15 and FY 2015-16 and as approved by in MYT Order dated 6<sup>th</sup> September, 2011 are summarised below:

**Table 4.37: Availability and Dispatchable as approved in MYT Order and as Projected in MTR for FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	Approved in MYT Order		Projected in MTR	
		FY 2014-15	FY 2015-16	FY 2014-15	FY 2015-16
1	Available	110244	142408	104277	112572
2	Dispatchable	82053	87843	77885	80948

The availability projected in the Mid-term Review during FY 2014-15 and FY 2015-16 is less by about 6000 MU during FY 2014-15 and 30,000 MU during FY 2015-16 compared to availability approved in MYT order. The reduced availability is due to delay in Commissioning of some of the generating stations/units by GSECL and IPPS.

#### **4.13.4 Merit Order despatch and Total Energy requirement including tradable energy**

As discussed in paragraph 4.9.2, GUVNL has entered into contract for the existing capacity with GSECL, central generating stations, IPPs, renewable energy sources





and RLNG gas based plants which are commissioned before 31<sup>st</sup> March, 2014. The details of existing plants etc., are given in Table 4.25.

GUVNL has also entered in to contract for new capacity that is likely to be commissioned during FY 2014-15 and FY 2015-16. The details of new plant likely to be commissioned during FY 2014-15 and FY 2015-16 are given in Table 4.26.

The details of capacity contracted by GUVNL, from the existing plant and the additional plant envisaged during FY 2014-15 and FY 2015-16 with operational, fixed and variable costs are given in Tables 4.25 and 4.26.

### **Power Purchase in merit order**

As discussed earlier in Paragraph 4.9.3, GUVNL in order to optimize the Power Purchase Cost has worked out based on comprehensive merit order despatch (MOD).

The quantum of power dispatchable (to be purchased) is arrived at looking to the energy available from various sources, less energy requirement by the four DISCOMs and energy that could be traded by GUVNL. The energy requirement and the tradable energy for working out dispatchable units are mentioned in table below as given in the Table below:

**Table 4.38: Energy requirement and Energy dispatchable as projected by the DISCOMs**

Sl. No.	DISCOM	Energy Requirement (MU)	
		FY 2014-15	FY 2015-16
1	DGVCL	14883	15543
2	MGVCL	9212	9566
3	UGVCL	19469	20074
4	PGVCL	26820	27763
5	<b>Total requirement at four DISCOMs</b>	<b>70384</b>	<b>72946</b>
6	Tradable energy projected by GUVNL	7500	8000
7	<b>Total Despatch units</b>	<b>77884</b>	<b>80946</b>

Though the availability is in the order of 104,277 MU and 112,572 MU during FY 2014-15 and FY 2015-16 as shown in Tables 4.41 and 4.42, the despatch is limited to 77884 MU and 80946 MU as above to meet the total requirement of the four DISCOMs and tradable energy.



The projected dispatchable energy is about 75% of the projected available energy during FY 2014-15 (the available energy being 104276 MU and dispatchable energy 77884 MU) and 72% during FY 2015-16 (the available energy being 112569 and dispatchable energy 80946 MU) as shown in Tables 4.35 & 4.36.

The Commission in the analysis of energy sales projected by DISCOMs has approved energy sales and energy requirement of each DISCOM.

The energy requirement projected and energy requirement approved for each DISCOM by the Commission are summarised below:

**Table 4.39: Energy requirement projected and approved for each DISCOM for FY 2014-15 and FY 2015-16**

Sl. No.	DISCOM	Energy Requirement			
		FY 2014-15		FY 2015-16	
		Projected	Approved	Projected	Approved
1	DGVCL	14883	15634	15543	16765
2	MGVCL	9212	9322	9566	9850
3	UGVCL	19469	19742	20074	20514
4	PGVCL	26820	26516	27763	27669
5	<b>Total requirement of four DISCOMs</b>	<b>70384</b>	<b>71214</b>	<b>72946</b>	<b>74798</b>
6	Tradable energy projected by GUVNL	7500		8000	
7	<b>Total Dispatchable units</b>	<b>77884</b>		<b>80946</b>	

(MU)

It is observed from the above that the energy requirement is more than projected energy requirement, when tradable energy is not considered. The Commission agrees with the Justification submitted by DGVCL (para 4.11) for projecting the Tradable energy at 7500 MU and 8000 MU for FYs 2014-15 and 2015-16 and accordingly approves the same. Thus, the approved energy requirement for each Discom along with the tradable energy is given in the Table below:

**Table 4.40: Energy requirement including Tradable Units approved for FYs 2014-15 and 2015-16**

Sl. No.	DISCOM	Energy Requirement			
		FY 2014-15		FY 2015-16	
		Projected	Approved	Projected	Approved
1	DGVCL	14883	15634	15543	16765
2	MGVCL	9212	9322	9566	9850
3	UGVCL	19469	19742	20074	20514

(MU)



Sl. No.	DISCOM	Energy Requirement			
		FY 2014-15		FY 2015-16	
		Projected	Approved	Projected	Approved
4	PGVCL	26820	26516	27763	27669
5	<b>Total requirement of four DISCOMs</b>	<b>70384</b>	<b>71214</b>	<b>72946</b>	<b>74798</b>
6	Tradable energy	7500	7500	8000	8000
7	<b>Total Dispatchable units</b>	<b>77884</b>	<b>78714</b>	<b>80946</b>	<b>82798</b>

The total dispatchable units as approved are more by 830 MU for FY 2014-15 and 1852 MU for FY 2015-16, when compared to the projected ones. The higher dispatch would be advantageous to the GSECL stations as the dispatchable energy can be increased in those stations which come under merit order. The dispatchable energy is accordingly revised.

Any variation in the traded energy and dispatchable energy will be considered in the truing up for FY 2014-15 and FY 2015-16.

#### **4.13.5 Power Purchase Cost for the period FY 2014-15 and FY 2015-16**

The DGVCL in its petition has submitted that the power purchase costs are arrived at based on actual for FY 2012-13 and the costs projected by DGVCL are given in Tables 4.27 & 4.28.

On a query from the Commission, DGVCL/GUVNL has furnished the revised power purchase cost based on actuals for FY 2012-13, on 23<sup>rd</sup> January 2013, as given in the Table below:

**Table 4.41: Revised Power Purchase Costs furnished by DGVCL/GUVNL for FY 2014-15**

Power Purchase Cost FY 2014-15	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
<b>GSECL PLANTS</b>						
Ukai TPS	5082	2,560	334	2.37	607	941
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.44	89	354
Gandhinagar V	1,339	84	100	2.93	25	125
Wanakbori I to VI	8,035	502	471	2.84	143	614
Wanakbori VII	1,339	84	98	2.77	23	121
Sikka TPS	1,329	94	121	3.42	32	153
Kutch Lignite I to III	1,243	1,243	220	1.43	178	398
Kutch Lignite IV	434	434	121	1.43	62	183



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<b>Power Purchase Cost FY 2014-15</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs. Crore)</b>
Dhuvaran oil	0	0	0	0	0	0
Kadana Hydro	126	126	59	0	0	59
Utran Gas Based	505	32	54	3.47	11	65
Dhuvaran Gas Based - Stage-I	616	38	56	3.18	12	68
Dhuvaran Gas Based - Stage-II	642	642	65	3.18	204	269
Utran Extension	2,005	125	266	3.47	43	309
Ukai Expansion 6	3,206	3,206	545	1.68	539	1084
Sikka 3 & 4	0	0	0	0	0	0
Dhuvaran CCPP Ext – 3	208	153	357	7.94	121	478
<b>Total of GSECL plants</b>	<b>30,565</b>	<b>9,928</b>	<b>3,157</b>		<b>2,089</b>	<b>5,246</b>
<b>IPPs</b>						
ESSAR	0	0	0	0	0	0
GPEC	2,328	166	536	4.24	70	606
GIPCL II (165)	559	35	45	3.63	13	58
GIPCL-SLPP	1,478	1,478	443	1.35	200	643
GSEG	858	54	75	2.9	16	91
GIPCL - I (145)	843	53	9	4	21	30
GMDC – Akrimota	1,478	1,478	81	1.18	174	255
GSEG Expansion	0	0	0	0	0	0
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	0	0	0	0	0	0
BECL	780	780	216	1.21	94	310
<b>Total of IPPs</b>	<b>9,901</b>	<b>5,621</b>	<b>1,696</b>		<b>819</b>	<b>2,515</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	0	0.96	97	97
NPC – Kakrapar	767	767	0	2.38	183	183
NPC Kakrapar addition	0	0	0	0	0	0
NPC - Tarapur- 3&4	1,728	1,728	0	2.87	496	496
NTPC - Lara	0	0	0	0	0	0
NTPC - KORBA	2,323	2,323	307	0.98	228	535
NTPC-VINDHYACHAL-I	1,467	1,467	125	1.44	211	336
NTPC-VINDHYACHAL-II	1,549	1,549	155	1.33	206	361
NTPC - VINDHYACHAL – III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	130	2.34	227	357
NTPC - JHANOR	1,231	1,231	203	2.35	289	492
NTPC - Sipat Stage - I	3,500	3,500	612	1.35	714	1326
NTPC - Sipat Stage-II	1,789	1,789				
SSNNL – Hydro	283	283	0	2.05	58	58
NTPC - Kahalgaon (New)	914	914	114	1.96	179	293
NTPC - Mauda STPS-I	1,573	98	0.44	2.98	29	30
NTPC - Vindhyachal STPS-IV	1,573	1,573	4	1	157	161
NTPC - Mauda STPS-II	0	0	0	0	0	0
NTPC - KORBA II	629	629	110	0.97	61	171



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Power Purchase Cost FY 2014-15	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
Mundra UMPP	12,649	12,649	529	1.43	1809	2338
<b>Total from Central Sector</b>	<b>35,679</b>	<b>34,204</b>	<b>2,537</b>		<b>5,174</b>	<b>7,711</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	0	2.65	15	15
<b>Renewable</b>						
Wind Farms	3,844	3,844	0	3.37	1295	1295
Solar	1,501	1,501	0	14.04	2107	2107
Biomass	210	210	0	3.89	82	82
Hydro	37	37	0	3.89	14	14
<b>Competitive Bidding</b>						
APPL	14,016	14,016	1,657	1.61	2257	3914
Aryan	1,402	1,402	184	0.4	56	240
Essar - 1000 MW	7,008	7,008	450	1.46	1023	1473
<b>RLNG</b>						
ESSAR – 300	0	0	0	5.34	0	0
GPEC - 655	22	22	216	5.21	11	227
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension – 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 - 107	1	1	8	5.26	1	9
Dhuvaran Gas Based - Stage 2 – 112	2	2	10	5.26	1	11
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	2	16
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS – 187	4	4	31	5.59	2	33
NTPC - JHANOR – 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28132</b>	<b>28132</b>	<b>2722</b>		<b>6881</b>	<b>9603</b>
<b>Total</b>	<b>104,277</b>	<b>77,885</b>	<b>10,112</b>		<b>14,962</b>	<b>25,074</b>

**Table 4.42: Revised Power Purchase Costs furnished by DGVCL/GUVNL for FY 2015-16**

Power Purchase Cost FY 2015-16	Available MUs	Dispatch MUs	Fixed Cost (Rs.Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs.Crore)
<b>GSECL PLANTS</b>						
Ukai TPS	5,082	2,527	335	2.37	599	934
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.44	89	354
Gandhinagar V	1,339	84	101	2.93	25	126
Wanakbori I to VI	8,035	502	470	2.84	143	613
Wanakbori VII	1,339	84	99	2.77	23	122
Sikka TPS	1,329	94	121	3.42	32	153
Kutch Lignite I to III	1,243	1,243	219	1.43	178	397
Kutch Lignite IV	434	434	119	1.43	62	181
Dhuvaran oil	0	0	0	0	0	0



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<b>Power Purchase Cost FY 2015-16</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs.Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs.Crore)</b>
Kadana Hydro	126	126	58	0	0	58
Utran Gas Based	505	32	54	3.47	11	65
Dhuvaran Gas Based - Stage-I	616	38	52	3.18	12	64
Dhuvaran Gas Based - Stage-II	642	642	64	3.18	204	268
Utran Extension	2,005	125	260	3.47	43	303
Ukai Expansion 6	3,206	3,206	545	1.68	539	1084
Sikka 3 & 4	3,154	197	574	3.26	64	638
Dhuvaran CCPP Ext – 3	2,450	153	357	7.94	121	478
<b>Total of GSECL plants</b>	<b>35,961</b>	<b>10,092</b>	<b>3,718</b>		<b>2,146</b>	<b>5,864</b>
<b>IPPs</b>						
ESSAR	0	0	0	2.79	0	0
GPEC	2,328	166	536	4.24	70	606
GIPCL II (165)	559	35	45	3.63	13	58
GIPCL-SLPP	1,478	1,478	443	1.35	200	643
GSEG	858	54	75	2.9	16	91
GIPCL - I (145)	843	53	9	4	21	30
GMDC – Akrimota	1,478	1,478	81	1.18	174	255
GSEG Expansion	30	30	20	7.94	24	44
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	60	60	54	7.94	48	102
BECL	3,119	3,119	865	1.21	377	1242
<b>Total of IPPs</b>	<b>12,330</b>	<b>8,050</b>	<b>2,419</b>		<b>1,173</b>	<b>3,592</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	0	0.96	97	97
NPC – Kakrapar	767	767	0	2.38	183	183
NPC Kakrapar addition	247	247	0	2.38	59	59
NPC - Tarapur- 3&4	1,728	1,728	0	2.87	496	496
NTPC - Lara	81	81	18	1.05	9	27
NTPC - KORBA	2,323	2,323	307	0.98	228	535
NTPC - VINDHYACHAL – I	1,467	1,467	125	1.44	211	336
NTPC - VINDHYACHAL – II	1,549	1,549	155	1.33	206	361
NTPC - VINDHYACHAL – III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	130	2.34	227	357
NTPC - JHANOR	1,231	1,231	203	2.35	289	492
NTPC - Sipat Stage - I	3,500	3,500	612	1.35	714	1326
NTPC - Sipat Stage-II	1,789	1,789				
SSNNL – Hydro	283	283	0	2.05	58	58
NTPC - Kahalgaoon (New)	914	914	114	1.96	179	293
NTPC - Mauda STPS-I	1,573	98	0.44	2.98	29	30
NTPC-Vindhyachal STPS-IV	1,573	1,573	4	1	157	161
NTPC - Mauda STPS-II	142	142	32	1.05	15	47
NTPC - KORBA II	629	629	110	0.97	61	171
Mundra UMPP	12,649	12,649	529	1.43	1809	2338
<b>Total from Central Sector</b>	<b>36,149</b>	<b>34,674</b>	<b>2,587</b>		<b>5,256</b>	<b>7,843</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	0	2.65	15	15



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Power Purchase Cost FY 2015-16	Available MUs	Dispatch MUs	Fixed Cost (Rs.Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs.Crore)
<b>Renewable</b>					0	0
Wind Farms	3,844	3,844	0	3.37	1295	1295
Solar	1,501	1,501	0	14.04	2107	2107
Biomass	210	210	0	3.89	82	82
Hydro	37	37	0	3.89	14	14
<b>Competitive Bidding</b>					0	0
APPL	14,016	14,016	1,657	1.61	2257	3914
Aryan	1,402	1,402	184	0.4	56	240
Essar - 1000 MW	7,008	7,008	450	1.46	1023	1473
<b>RLNG</b>					0	0
ESSAR – 300	0	0	0	5.34	0	0
GPEC - 655	22	22	216	5.21	11	227
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension – 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 - 107	1	1	8	5.26	1	9
Dhuvaran Gas Based - Stage 2 - 112	2	2	10	5.26	1	11
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	2	16
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS – 187	4	4	31	5.59	2	33
NTPC - JHANOR – 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28132</b>	<b>28132</b>	<b>2722</b>		<b>6881</b>	<b>9603</b>
<b>Total</b>	<b>112,572</b>	<b>80,948</b>	<b>11,446</b>		<b>15,455</b>	<b>26,901</b>

The Commission has considered the power purchase costs for GSECL stations taking into consideration the approved fixed cost for GSECL stations for FY 2014-15 and variable costs approved in the True-up for FY 2012-13, the revised power purchase cost furnished by DGVCL/GUVNL on 23<sup>rd</sup> January 2014 in the case of other stations, the approved requirement of power for all the DISCOMs put together, the Trading Units and revised dispatchable units for the FY 2014-15 and FY 2015-16 as discussed above and are given in the Tables below:

**Table 4.43: Approved Power Purchase Cost for FY 2014-15**

Power Purchase Cost FY 2014-15	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E = B*D/10</b>	<b>F = C+E</b>
<b>GSECL PLANTS</b>						
Ukai TPS	5082	4071	334	2.39	973	1307
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.53	92	357





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<b>Power Purchase Cost FY 2014-15</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs. Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs. Crore)</b>	<b>Total Cost (Rs. Crore)</b>
Gandhinagar V	1,339	84	100	2.86	24	124
Wanakbori I to VI	8,035	473	471	2.92	138	609
Wanakbori VII	1,339	84	98	2.76	23	121
Sikka TPS	1,329	94	121	3.93	37	158
Kutch Lignite I to III	1,243	1,243	220	1.38	172	392
Kutch Lignite IV	434	434	121	1.31	57	178
Dhuvaran oil	0	0	0	0	0	0
Kadana Hydro	126	126	59	0	0	59
Utran Gas Based	505	32	54	3.13	10	64
Dhuvaran Gas Based - Stage-I	616	38	55	3.14	12	67
Dhuvaran Gas Based - Stage-II	642	142	65	3.17	45	110
Utran Extension	2,005	125	266	4.14	52	318
Ukai Expansion 6	3,206	3,206	545	1.68	539	1084
Sikka 3 & 4	0	0	0	0	0	0
Dhuvaran CCPP Ext – 3	208	0	357	2.29	0	357
<b>Total of GSECL plants</b>	<b>30,565</b>	<b>10,757</b>	<b>3,156</b>		<b>2,173</b>	<b>5,329</b>
<b>IPPs</b>						
ESSAR	0	0	0	0	0	0
GPEC	2,328	166	536	4.24	70	606
GIPCL II (165)	559	35	45	3.63	13	58
GIPCL-SLPP	1,478	1,478	443	1.35	200	643
GSEG	858	54	75	2.9	16	91
GIPCL - I (145)	843	53	9	4	21	30
GMDC – Akrimota	1,478	1,478	81	1.18	174	255
GSEG Expansion	0	0	0	0	0	0
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	0	0	0	0	0	0
BECL	780	780	216	1.21	94	310
<b>Total of IPPs</b>	<b>9,901</b>	<b>5,621</b>	<b>1,696</b>		<b>819</b>	<b>2,515</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	0	0.96	97	97
NPC – Kakrapar	767	767	0	2.38	183	183
NPC Kakrapar addition	0	0	0	0	0	0
NPC - Tarapur- 3&4	1,728	1,728	0	2.87	496	496
NTPC - Lara	0	0	0	0	0	0
NTPC - KORBA	2,323	2,323	307	0.98	228	535
NTPC - VINDHYACHAL – I	1,467	1,467	125	1.44	211	336
NTPC - VINDHYACHAL – II	1,549	1,549	155	1.33	206	361
NTPC - VINDHYACHAL – III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	130	2.34	227	357
NTPC - JHANOR	1,231	1,231	203	2.35	289	492
NTPC - Sipat Stage - I	3,500	3,500	612	1.35	714	1326
NTPC - Sipat Stage-II	1,789	1,789				
SSNNL – Hydro	283	283	0	2.05	58	58
NTPC - Kahalgaon (New)	914	914	114	1.96	179	293
NTPC - Mauda STPS-I	1,573	98	0.44	2.98	29	30





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Power Purchase Cost FY 2014-15	Available MUs	Dispatch MUs	Fixed Cost (Rs. Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs. Crore)	Total Cost (Rs. Crore)
NTPC-Vindhyachal STPS-IV	1,573	1,573	4	1	157	161
NTPC - Mauda STPS-II	0	0	0	0	0	0
NTPC - KORBA II	629	629	110	0.97	61	171
Mundra UMPP	12,649	12,649	529	1.43	1809	2338
<b>Total from Central Sector</b>	<b>35,679</b>	<b>34,204</b>	<b>2,537</b>		<b>5,174</b>	<b>7,711</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	0	2.65	15	15
<b>Renewable</b>						
Wind Farms	3,844	3,844	0	3.37	1295	1295
Solar	1,501	1,501	0	14.04	2107	2107
Biomass	210	210	0	3.89	82	82
Hydro	37	37	0	3.89	14	14
<b>Competitive Bidding</b>						
APPL	14,016	14,016	1,657	1.61	2257	3914
Aryan	1,402	1,402	184	0.4	56	240
Essar - 1000 MW	7,008	7,008	450	1.46	1023	1473
<b>RLNG</b>						
ESSAR – 300	0	0	0	5.34	0	0
GPEC - 655	22	22	216	5.21	11	227
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension – 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 - 107	1	1	8	5.26	1	9
Dhuvaran Gas Based - Stage 2 - 112	2	2	10	5.26	1	11
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	2	16
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS – 187	4	4	31	5.59	2	33
NTPC - JHANOR – 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28132</b>	<b>28132</b>	<b>2722</b>		<b>6881</b>	<b>9603</b>
<b>Total</b>	<b>1,04,277</b>	<b>78,714</b>	<b>10,111</b>		<b>15,045</b>	<b>25,157</b>

**Table 4.44: Approved Power Purchase Cost for FY 2015-16**

Power Purchase Cost FY 2015-16	Available MUs	Dispatch MUs	Fixed Cost (Rs.Crore)	Variable Cost (Rs./Unit)	Variable Cost (Rs.Crore)	Total Cost (Rs.Crore)
	A	B	C	D	E = B*D/10	F = C+E
<b>GSECL PLANTS</b>						
Ukai TPS	5,082	4906	335	2.39	1173	1508
Ukai Hydro	345	345	25	0	0	25
Gandhinagar I to IV	4,111	260	265	3.53	92	357
Gandhinagar V	1,339	84	101	2.85	24	125
Wanakbori I to VI	8,035	473	470	2.92	138	608
Wanakbori VII	1,339	84	99	2.76	23	122
Sikka TPS	1,329	94	121	3.93	37	158
Kutch Lignite I to III	1,243	1,243	219	1.38	172	391



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<b>Power Purchase Cost FY 2015-16</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs.Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs.Crore)</b>	<b>Total Cost (Rs.Crore)</b>
Kutch Lignite IV	434	434	119	1.31	57	176
Dhuvaran oil	0	0	0	0	0	0
Kadana Hydro	126	126	58	0	0	58
Utran Gas Based	505	32	54	3.13	10	64
Dhuvaran Gas Based-Stage-I	616	38	52	3.14	12	64
Dhuvaran Gas Based-Stage-II	642	142	64	3.17	45	109
Utran Extension	2,005	125	260	4.14	52	312
Ukai Expansion 6	3,206	3,206	545	1.68	539	1084
Sikka 3 & 4	3,154	197	574	3.19	63	637
Dhuvaran CCPP Ext - 3	2,450	153	357	2.29	35	392
<b>Total of GSECL plants</b>	<b>35,961</b>	<b>11,942</b>	<b>3,718</b>		<b>2,470</b>	<b>6,188</b>
<b>IPPs</b>						
ESSAR	0	0	0	2.79	0	0
GPEC	2,328	166	536	4.24	70	606
GIPCL II (165)	559	35	45	3.63	13	58
GIPCL-SLPP	1,478	1,478	443	1.35	200	643
GSEG	858	54	75	2.9	16	91
GIPCL - I (145)	843	53	9	4	21	30
GMDC - Akrimota	1,478	1,478	81	1.18	174	255
GSEG Expansion	30	30	20	7.94	24	44
GIPCL, Expansion	1,577	1,577	291	1.46	230	521
GSPC-Pipavav	60	60	54	7.94	48	102
BECL	3,119	3,119	865	1.21	377	1242
<b>Total of IPPs</b>	<b>12,330</b>	<b>8,050</b>	<b>2,419</b>		<b>1,173</b>	<b>3,592</b>
<b>SHARE FROM CENTRAL SECTOR</b>						
NPC - Tarapur- 1&2	1,009	1,009	0	0.96	97	97
NPC - Kakrapar	767	767	0	2.38	183	183
NPC Kakrapar addition	247	247	0	2.38	59	59
NPC - Tarapur- 3&4	1,728	1,728	0	2.87	496	496
NTPC - Lara	81	81	18	1.05	9	27
NTPC - KORBA	2,323	2,323	307	0.98	228	535
NTPC - VINDHYACHAL - I	1,467	1,467	125	1.44	211	336
NTPC - VINDHYACHAL - II	1,549	1,549	155	1.33	206	361
NTPC - VINDHYACHAL - III	1,724	1,724	248	1.33	229	477
NTPC - KAWAS	971	971	130	2.34	227	357
NTPC - JHANOR	1,231	1,231	203	2.35	289	492
NTPC - Sipat Stage - I	3,500	3,500	612	1.35	714	1326
NTPC - Sipat Stage-II	1,789	1,789				
SSNNL - Hydro	283	283	0	2.05	58	58
NTPC - Kahalgaon (New)	914	914	114	1.96	179	293
NTPC - Mauda STPS-I	1,573	98	0.44	2.98	29	30
NTPC - Vindhyachal STPS-IV	1,573	1,573	4	1	157	161
NTPC - Mauda STPS-II	142	142	32	1.05	15	47
NTPC - KORBA II	629	629	110	0.97	61	171
Mundra UMPP	12,649	12,649	529	1.43	1809	2338
<b>Total from Central Sector</b>	<b>36,149</b>	<b>34,674</b>	<b>2,587</b>		<b>5,256</b>	<b>7,843</b>
<b>OTHERS</b>						
Captive Power Plant (MU)	56	56	0	2.65	15	15



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<b>Power Purchase Cost FY 2015-16</b>	<b>Available MUs</b>	<b>Dispatch MUs</b>	<b>Fixed Cost (Rs.Crore)</b>	<b>Variable Cost (Rs./Unit)</b>	<b>Variable Cost (Rs.Crore)</b>	<b>Total Cost (Rs.Crore)</b>
<b>Renewable</b>					0	0
Wind Farms	3,844	3,844	0	3.37	1295	1295
Solar	1,501	1,501	0	14.04	2107	2107
Biomass	210	210	0	3.89	82	82
Hydro	37	37	0	3.89	14	14
<b>Competitive Bidding</b>					0	0
APPL	14,016	14,016	1,657	1.61	2257	3914
Aryan	1,402	1,402	184	0.4	56	240
Essar - 1000 MW	7,008	7,008	450	1.46	1023	1473
<b>RLNG</b>					0	0
ESSAR - 300	0	0	0	5.34	0	0
GPEC - 655	22	22	216	5.21	11	227
Utran Gas Based - 135	5	5	24	5.77	3	27
Utran Extension - 375	7	7	57	4.96	3	60
Dhuvaran Gas Based - Stage 1 - 107	1	1	8	5.26	1	9
Dhuvaran Gas Based - Stage 2 - 112	2	2	10	5.26	1	11
GIPCL II (160) - 165	7	7	22	5.49	4	26
GSEG - 156	3	3	14	5.21	2	16
GIPCL - I (145) - 42	2	2	1	5.49	1	2
NTPC - KAWAS - 187	4	4	31	5.59	2	33
NTPC - JHANOR - 237	5	5	48	5.59	3	51
<b>Others Total</b>	<b>28132</b>	<b>28132</b>	<b>2722</b>		<b>6881</b>	<b>9603</b>
<b>Total</b>	<b>1,12,572</b>	<b>82,798</b>	<b>11,446</b>		<b>15,779</b>	<b>27,226</b>

#### **4.13.6 Transmission and Other Costs**

##### **4.13.6.1 Transmission Cost**

The Transmission costs include the cost to be paid to PGCIL for regional transmission and cost of GETCO for intrastate transmission.

The Transmission charges of PGCIL are approved by CERC and to be paid by GUVNL on the basis of calculation of Regional Energy Account of Western Region by WRLDC, hence the Commission accepts the projection of DGVCL/GUVNL for PGCIL charges.

The Transmission charges of GETCO are considered by the Commission for FY 2014-15 and FY 2015-16 as approved in the Tariff Order of GETCO for FY 2014-15 and FY 2015-16. The Commission has not considered the 5% increase per annum for the charges projected by DGVCL in the case of PGCIL charges. The



Transmission charges payable for PGCIL and GETCO are given in the Table below:

**Table 4.45 Transmission charges approved by the Commission for period FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	PGCIL Charges (Rs. Cr./annum)	751.18	788.75
2	Annual Transmission charges of GETCO (Rs. Cr.)	2473	2770
3	SLDC Charges	19	19

#### **4.13.6.2 GUVNL Cost**

The DGVCL has submitted in Para 4.10.2 above that GUVNL is charging Rs. 0.04 for every transaction of one unit of energy for providing the services of procuring power and supply to DISCOMs, the overall co-ordination between the subsidiary companies and also under taking the function of raising and managing the overall loan portfolio of GUVNL and its subsidiaries.

The Commission considered the charges of Rs. 0.04/unit to handle power procurement and supply etc., as approved in MYT Order are reasonable and approves the GUVNL costs as given below, based on energy handled during the period FY 2014-15 and FY 2015-16.

**Table 4.46: GUVNL Costs approved by the Commission for the period FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Energy handled (MU)	78714	82798
2	GUVNL Cost at 4.00 Paise/unit (Rs. Crore)	315	331

#### **4.13.6.3 SLDC Fees and Charges**

DGVCL has submitted that SLDC fees and charges have been taken as approved by the Commission in SLDC MYT Order dated 31<sup>st</sup> March, 2011. The Commission has considered SLDC charges as approved in the Tariff order for FY 2014-15.

The Commission approves the SLDC charges as given in Table below:

**Table 4.47: SLDC charges approved by the Commission for FY 2014-15 and FY 2015-**

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Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	SLDC Charges (Rs. Cr.)	19	19



#### 4.13.7 Trading

As discussed earlier in Paragraph 4.11, GUVNL has projected trading in surplus power based on its capacity to sell. GUVNL has estimated the sales of 7500 MU during FY 2014-15 and 8000 MU during FY 2015-16. As discussed in Para 4.13.4 above the Commission has considered the Trading Sales as projected by DGVCL/GUVNL. The trading cost is based on average variable cost plus Rs. 1.00 per unit of contribution. The trading cost works out to Rs. 2.95 per unit.

#### 4.13.8 Total Power Purchase Cost

##### 4.13.8.1 Fixed Cost

The total power purchase cost, consisting of the cost of energy procured from various sources, transmission costs of PGCIL and GETCO, SLDC Charges and Trading Costs approved by the Commission are aggregated to arrive at the total power purchase cost for all DISCOMs/Trading Units. The fixed costs due to capacity contracted by GUVNL are passed on to DISCOMs. For trading, on the basis of energy despatched, the cost allocated to trading is given below:

**Table 4.48: Fixed cost of DISCOMs and Trading Energy for the period FY 2014-15 and FY 2015-16**

(Rs. Crore)						
Year	Fixed Cost	GETCO Cost	PGCIL Charges	SLDC Charges	Total Fixed Cost	DISCOMS Fixed Cost
FY 2014-15	10111	2473	751	19	13354	13354
FY 2015-16	11446	2770	789	19	15024	15024

##### 4.13.8.2 Variable Costs

The total variable cost consists of the energy costs supplied to DISCOMs, GUVNL cost as well as variable cost of energy for trading units. The total variable cost and variable cost per unit are given in the Table below:

**Table 4.49: Variable cost for DISCOMs and Trading Units for the period FY 2014-15 and FY 2015-16**

Year	Variable Cost (Rs. Cr.)	GUVNL Cost (Rs. Cr.)	Total Variable Cost (Rs. Cr.)	Total MU Despatched	Variable Cost (Rs. /Unit)	DISCOM		Trading	
						MU	Variable Cost (Rs. Cr.)	MU	Variable Cost (Rs. Cr.)
FY 2014-15	15045	315	15360	78714	1.95	71214	13887	7500	1473



FY 2015-16	15779	331	16110	82798	1.95	74798	14586	8000	1524
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#### **4.13.8.3 Net Power Purchase Cost**

The revenue from trading of energy by GUVNL is calculated, based on the variable cost of power plus Rs. 1.00 per unit of contribution. Hence the revenue earned from sale of power from trading is subtracted from the total power purchase cost for DISCOMs to obtain the net power purchase cost. The net power purchase cost is shown below:

**Table 4.50: Net Power Purchase Cost for the Period FY 2014-15 and FY 2015-16**

(Rs. Crore)

Year	DISCOM Fixed Cost	DISCOM Variable Cost	Total Power Purchase Cost for DISCOMs	Trading Cost	Contribution from Trading	Total Trading Revenue	Net Cost = Total Power Purchase Cost for DISCOMs - contribution from Trading
FY 2014-15	13354	13887	27241	1473	750	2223	26491
FY 2015-16	15024	14586	29610	1524	800	2324	28810

#### **4.14 Allocation of Power Purchase Cost**

The Commission had allocated power cost based on bulk supply tariff worked out in the MYT Order dated 6<sup>th</sup> September, 2011. Net Power Purchase cost worked out in the above section for FY 2014-15 and FY 2015-16 is allocated based on the methodology adopted by the Commission in the MYT Order dated 6<sup>th</sup> September, 2011 by working out revenue available for purchase of power, Non-Tariff Income, Agricultural Subsidy and Aggregate Revenue requirement other than power purchase as given in the following Tables:



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**Table 4.51 (a): Category Wise sales approved and existing average tariff in Rs./kWh**

Sl. No.	Category	DGVCL			MGVCL			PGVCL			UGVCL		
		FY 2014-15	FY 2015-16	Average Tariff Rs./kWh	FY 2014-15	FY 2015-16	Average Tariff Rs./kWh	FY 2014-15	FY 2015-16	Average Tariff Rs./kWh	FY 2014-15	FY 2015-16	Average Tariff Rs./kWh
		Sales (MU)	Sales (MU)		Sales (MU)	Sales (MU)		Sales (MU)	Sales (MU)		Sales (MU)	Sales (MU)	
1	RGP	2290	2502	3.80	2137	2316	3.73	3279	3551	3.71	1778	1949	3.45
2	GLP	37	39	4.06	52	55	4.08	102	113	3.98	38	41	4.38
3	Non-RGP and LTMD	4134	4427	4.93	1267	1349	5.57	3360	3719	5.12	1573	1714	5.29
4	Public Water Works	153	167	3.53	197	211	3.28	646	748	3.24	581	618	3.51
5	Agriculture	657	674	1.34	1104	1161	1.12	5888	6005	1.35	7846	7994	1.33
6	Public Lighting	45	49	4.00	63	64	4.03	88	93	4.09	47	49	4.04
7	Industrial HT	5329	5691	5.91	2467	2473	6.03	5580	5799	5.79	4218	4461	5.67
8	Railway Traction	345	361	5.45	372	372	5.43	0	0	0.00	21	22	5.24
9	Total	<b>12990</b>	<b>13910</b>		<b>7659</b>	<b>8001</b>		<b>18943</b>	<b>20028</b>		<b>16102</b>	<b>16848</b>	



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**Table 4.51 (b): Revenue with existing Tariffs for FY 2014-15 and FY 2015-16 with approved sales**

(Rs. Crore)

Sl. No.	DISCOM	DGVCL		MGVCL		PGVCL		UGVCL		Total	
		2014-15	2015-16	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16
1	RGP	870	951	798	865	1215	1316	613	672	3496	3803
2	GLP	15	16	21	22	41	45	17	18	93	101
3	Non- RGP and LTMD	2038	2182	706	751	1720	1904	832	906	5295	5744
4	Public Water Works	54	59	65	69	209	242	204	217	532	587
5	Agriculture	88	89	124	127	793	800	1043	1052	2047	2067
6	Public Lighting	18	20	25	26	36	38	19	20	98	104
7	Industrial HT	3152	3366	1488	1492	3229	3356	2393	2531	10263	10745
8	Railway Traction	188	197	202	202	0	0	11	12	401	410
9	<b>Total</b>	<b>6423</b>	<b>6879</b>	<b>3428</b>	<b>3554</b>	<b>7243</b>	<b>7701</b>	<b>5131</b>	<b>5427</b>	<b>22225</b>	<b>23561</b>
	<b>Approved Sales</b>	<b>12990</b>	<b>13910</b>	<b>7659</b>	<b>8001</b>	<b>18943</b>	<b>20028</b>	<b>16102</b>	<b>16848</b>	<b>55694</b>	<b>58787</b>
10	FPPPA @ 1.20 p/kWh	1559	1669	919	960	2273	2403	1932	2022	6683	7054
11	Other Income	314	314	82	82	221	221	139	139	756	756
12	Agriculture Subsidy	53	53	82	82	436	436	530	530	1101	1101
13	<b>Grand Total</b>	<b>8349</b>	<b>8916</b>	<b>4511</b>	<b>4678</b>	<b>10173</b>	<b>10761</b>	<b>7732</b>	<b>8118</b>	<b>30766</b>	<b>32473</b>





**Table 4.52: Aggregate Revenue Requirement for Power Purchase for FY 2014-15 and FY 2015-16**

(Rs. Crore)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
<b>A</b>	<b>Total Revenue of DISCOMS (A)</b>		
1	DGVCL	8349	8916
2	MGVCL	4511	4678
3	PGVCL	10173	10761
4	UGVCL	7732	8118
		<b>30766</b>	<b>32473</b>
<b>B</b>	<b>Expenditure Other than Power Purchase (B)</b>		
5	DGVCL	410	499
6	MGVCL	532	577
7	PGVCL	1254	1409
8	UGVCL	684	780
		<b>2881</b>	<b>3265</b>
<b>C</b>	<b>Amount available with the DISCOM for Power Purchase (A-B)</b>		
9	DGVCL	7938	8417
10	MGVCL	3979	4101
11	PGVCL	8919	9352
12	UGVCL	7048	7338
		<b>27884</b>	<b>29208</b>

**Table 4.53: Total Revenue Gap for FY 2014-15 and FY 2015-16**

(Rs. Crore)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Total Power Purchase Cost (A)	26491	28810
2	Aggregate Amount available for Power Purchase (B)	27827	29145
3	<b>Surplus/(Gap)[B-A]</b>	<b>1393.15</b>	<b>397.75</b>

**Table 4.54: Energy Requirement and Percentage Energy required for FY 2014-15 and FY 2015-16**

Sl. No.	DISCOMs	FY 2014-15		FY 2015-16	
		Energy Required (MU)	Percentage	Energy Required (MU)	Percentage
1	DGVCL	15634	21.95%	16765	22.41%
2	MGVCL	9322	13.09%	9850	13.17%
3	PGVCL	26516	37.23%	27669	36.99%
4	UGVCL	19742	27.72%	20514	27.43%
	<b>Total</b>	<b>71214</b>		<b>74798</b>	

**Table 4.55 Allocation of Surplus for FY 2014-15**

Sl. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total surplus for the year (Rs. Cr.)	1393.15			
2	Ratio of allocation of surplus	21.95%	13.09%	37.23%	27.72%
3	Surplus allocation (Rs. Cr.)	305.85	182.36	518.73	386.21



**Table 4.56: Allocation of Surplus for FY 2015-16**

Sl. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus for the year (Rs. Cr.)	397.75			
2	Ratio of allocation of Surplus	22.41%	13.17%	36.99%	27.43%
3	Surplus allocation (Rs. Cr.)	89.15	52.38	147.13	109.09

**Table 4.57: Bulk Supply Tariff for FY 2014-15**

Sl. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Amount available for power purchase (Rs. Cr.)	7938	3979	8919	7048
2	Surplus allocated (Rs. Cr.)	305.85	182.36	518.73	386.21
3	Power purchase cost for DISCOM (1-2) (Rs. Cr.)	7632.47	3796.61	8399.89	6662.03
4	Energy Purchase in DISCOM (MU)	15634	9322	26516	19742
5	Bulk Supply Tariff (Rs./kWh)	4.88	4.07	3.17	3.37

**Table 4.58: Bulk Supply Tariff for FY 2015-16**

Sl. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Amount available for power purchase (Rs. Cr.)	8417	4101	9352	7338
2	Surplus allocated (Rs. Cr.)	89.15	52.38	147.13	109.09
3	Power purchase cost for DISCOM (1-2) (Rs. Cr.)	8327.45	4048.89	9204.68	7228.97
4	Energy Purchase in DISCOM (MU)	16765	9850	27669	20514
5	Bulk Supply Tariff (Rs./kWh)	4.97	4.11	3.33	3.52

## 4.15 Capital Expenditure

### Petitioner's submission

DGVCL has projected the capital expenditure in the Mid-term Review at Rs. 657.45 Crore for FY 2014-15 and Rs. 627.20 Crore for FY 2015-16 against Rs. 311.36 Crore and Rs. 316.36 Crore approved in the MYT order for the years FY 2014-15 and FY 2015-16 respectively as detailed in the Table below:

**Table 4.59: Capital Expenditure loan in the Mid-term Review for FY 2014-15 and FY 2015-16 (Rs. Crore)**

Sl. No.	Particulars	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
<b>A</b>	<b>Distribution Schemes</b>			
	Normal Development Scheme	160.00	165.00	170.00
	System Improvement Scheme	15.00	15.00	15.00
	Electrification of hutments	1.00	1.00	1.00
	Kutir Jyoti Scheme	0.50	0.50	0.25
	<b>Total</b>	<b>176.50</b>	<b>181.50</b>	<b>186.25</b>
<b>B</b>	<b>Rural Electrification Schemes</b>			



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Sl. No.	Particulars	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
	TASP(Wells & Petapara)	240.00	240.00	240.00
	Special Component plan	0.25	0.25	0.25
	New Gujarat Pattern	1.00	1.00	1.00
	RE Normal Wells - New Gujarat Pattern	24.00	24.00	24.00
	<b>Total</b>	<b>265.25</b>	<b>265.25</b>	<b>265.25</b>
<b>C</b>	<b>Others</b>	-	-	-
	Energy Conservation	2.00	2.00	2.00
	<b>Total</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>
<b>D</b>	<b>Non Plan Schemes</b>			
	RAPDRP Part A + SCADA	12.00	12.00	3.00
	RAPDRP Part B	40.00	46.00	-
	Forest Petapara	1.50	1.50	1.50
	<b>Total</b>	<b>53.50</b>	<b>59.50</b>	<b>4.50</b>
<b>E</b>	<b>Other New Schemes</b>			
	Automatic PF control panels	15.00	50.00	50.00
	Aerial Bunch Conductors	10.00	10.00	10.00
	HVDS	5.00	5.00	5.00
	Automatic meter reading	1.00	1.00	1.00
	GIS in cities	0.05	0.05	0.05
	Under Ground Cables	60.00	60.00	80.00
	Coastal	11.00	11.00	11.00
	Handheld instruments	0.15	0.15	0.15
	Misc. Civil Work	12.00	11.00	11.00
	Special Repairs, Maint.	1.00	1.00	1.00
	<b>Total</b>	<b>115.20</b>	<b>149.20</b>	<b>169.20</b>
<b>F</b>	<b>Capital Expenditure Total</b>	<b>612.45</b>	<b>657.45</b>	<b>627.20</b>

### Commission's Analysis

DGVCL has revised the capital expenditure by about 100% increase in the revised estimates for FY 2014-15 and FY 2015-16 over the approved capital expenditure plan for these years in the MYT order dated 6<sup>th</sup> September 2011. With a reference to a query from the Commission as to the justification of about 100% increase in the capital expenditure projection in the Mid-term Review, DGVCL has furnished, vide its letter dated 11<sup>th</sup> December 2013, the scheme wise major deviation as given below:

#### (A) Distribution Scheme:

Comparison of approved projection of Business Plan 2011-12 to 2015-16 v/s. revised Business Plan submitted to GERC for remaining Control Period of 2013-14 to 2015-16.



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(Rs. Crore)							
Sl. No.	Scheme	Approved Projection for 2013-14	Revised Projection for 2013-14	Approved Projection for 2014-15	Revised Projection for 2014-15	Approved Projection for 2014-15	Revised Projection for 2014-15
1	Normal Development Scheme	80	160	85	165	90	170
2	Electrification of Hutments	0.33	1.00	0.33	1.00	0.33	1.00
3	Kutir Jyoti	0.88	0.50	0.88	0.50	0.88	0.50

- At the time formulation of Business Plan for the Control Period 2011-12 to 2015-16, the load growth of year 2011 over 2010 is about 300 MW at the rate of 6.23% while for the year 2013 over 2012 is 524 MW at the rate of 9.84%. DGVCL is expecting this trend to continue in next year as number of applications are being received in residential infrastructure, LT and HT Industries indicates the same. Hence, looking to the above trend, DGVCL has raised the CAPEX accordingly.
- It is worth to mention that revised projection in Kutir Jyoti Scheme and new Gujarat Pattern is reduced compared to sanction in MYT Order due to majority area is covered under RGGVY scheme.

**(B) Rural Electrification Schemes:**

Sl. No.	Scheme	Earlier Projection for 2013-14	Revised Projection for 2013-14	Earlier Projection for 2014-15	Revised Projection for 2014-15	Earlier Projection for 2014-15	Revised Projection for 2014-15
1	TAPS wells & Petapara	123.75	240.00	123.75	240.00	123.75	240.00
2	Special Component Plan (SCP)	0.01	0.25	0.01	0.25	0.01	0.25
3	New Gujarat Pattern	1.20	1.00	1.20	1.00	1.20	1.00
4	RE Normal Wells (NGP)	9.90	24.00	9.90	24.00	9.90	24.00

- The scheme wise proposal was prepared in FY 2011-12 to 2015-16 but looking to the revised guidelines of the Government of Gujarat and GUVNL, the Tribal area Fund is increased tremendously to give the maximum benefits in the Tribal area and hence the target is increased up to 100%.



2. Target for TASP & SAP wells during 2013-14 are 15842 & 1392 respectively. DGVCL has planned to clear Ag. Applications on year to year basis subject to GoG concurrence.

**(C) Non-Plan Scheme:**

(Rs. Crore)							
Sl. No.	Scheme	Approved Projection for 2013-14	Revised Projection for 2013-14	Approved Projection for 2014-15	Revised Projection for 2014-15	Approved Projection for 2014-15	Revised Projection for 2014-15
1	R-APDRP (Part –B)	0	40	0	46	0	0

1. CAPEX under R-APDRP (Part – B) was projected Rs. 159 Crore in year 2011-12 and no CAPEX for the remaining years, while formulating Business Plan for Control Period 2011-12 to 2015-16. R-APDRP (Part- B) is being implemented in phased manner, hence the CAPEX utilised during year 2011-12 is Rs. 30.36 Crore and year 2012-13 is Rs. 91 Crore. Therefore, looking to this trend, CAPEX for R-APDRP is revised as above.

**(D) Other New Schemes;**

(Rs. Crore)							
Sl. No.	Scheme	Approved Projection for 2013-14	Revised Projection for 2013-14	Approved Projection for 2014-15	Revised Projection for 2014-15	Approved Projection for 2014-15	Revised Projection for 2014-15
1	Automatic PF Control Panel	0	0	0	0	0	0
2	Aerial Bunch Conductor	10	25	10	60	10	60
3	HVDS	2.00	5.00	2.00	5.00	2.00	5.00
4	UG Cable	28	60	28	60	28	80
5	Handheld Instrument	0	0.15	0	0.15	0	0.15

- There is no change in CAPEX of Automatic PF Control Panels.
- DGVCL has planned and implementing programme to improve Reliability Indices as a better consumer services and improving efficiency and reduction in T&D Losses. Aerial bunched conductor is part of this programme, hence CAPEX is revised.
- In Ag. Sector, through HVDS Reliability of power supply is increased, hence CAPEX is revised.
- Government of Gujarat has announced critical infrastructure scheme to improve and modernise the Electrical network for all GIDC Industrial Estates under 50% participation



scheme by Government and other stake holders like GIDC, Municipal Corporation, Department of Industries GoG and Industries Association. Balance 50% cost of estimate to be borne by DGVCL. Under this scheme, DGVCL has planned the conversion of overhead networks of HT line by underground HT Cable line in the GIDC estates i.e., Pandesara, Billimora, Vapi, Ankleshwar and Sachin in phased manner. DGVCL has already started the work of underground cable at GIDC Pandesara at an estimated cost of Rs. 37.44 Crore and at GIDC Billimora, at an estimated cost of Rs. 4.5 Crore and at other estates, projects are under process for approval. The huge work of Network improvement in Urban and City area of Surat, Bharuch, Valsad, Navsari and Vyara has already commenced. As, Surat city is transforming to Mega-City, the reliability of power is of prime importance and hence the Urban peripheral area of Surat City is also covered for conversion from Overhead Network into U.G. Network and work has already commenced at Rander, Adajan, Veshu, Piplod and Dumas Rd. area. DGVCL has also introduced 50% Cost Contribution Scheme in the Network shifting with under-grounding in Surat Municipal Corporation area under ongoing construction of BRTS route and at Road Widening works sites. Presently, shifting of line on SMC's request under 50% cost contribution scheme is under progress at various locations like Rander Adajan, Jahangirpura, Dumas Road, Veshu-VIP road, Udhana-Bhestan Road, Unn Sachin Road etc. All works are capital intensive and hence DGVCL inclined to enhance the projected allocation as above.

5. DGVCL has planned to improve the meter reading system with Handheld Instrument for better service to the consumers.

### **Commission's Approval**

The Commission takes into consideration the justification given by DGVCL for the increased projection of capital expenditure in the Mid-term Review for FY 2014-15 and FY 2015-16. Though DGVCL has furnished revised projection for FY 2013-14 also the Commission has taken into consideration the revised projections for FY 2014-15 and FY 2015-16 only in the Mid-term Review. The Commission approves the CAPEX for FY 2014-15 and FY 2015-16 as Rs. 657.45 Crore and Rs. 627.20 Crore respectively.



## **Capitalization and Funding**

### **Petitioner's Submission**

DGVCL has submitted that it is expecting all the capital expenditure will be capitalised in the same year. The funding of the projected capital expenditure is envisaged through various sources categorized under four headings: namely Consumer Contribution, Grants, Equity and debt. DGVCL has further submitted that Consumer Contributions are considered in the ratio of capitalisation as per actuals of FY 2012-13 and the balance is proposed to be funded through debt and equity in the ratio of 70: 30. The detailed break-up of funding of capitalisation for FY 2013-14 to FY 2015-16 furnished by DGVCL is as given in the Table below:

**Table 4.60: Funding of capitalisation projected in Mid-term Review**

(Rs. Crore)				
Sl. No.	Particulars	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
1	Capitalisation	612	657	627
2	Less : Consumer Contribution	102	110	105
3	Grants	107	115	110
4	<b>Balance CAPEX</b>	<b>403</b>	<b>432</b>	<b>412</b>
5	Debt @ 70%	282	303	289
6	Equity @ 30%	121	130	124

### **Commission's Analysis**

The Commission has taken into consideration the capitalisation and funding for FY 2013-14 as approved for this year in the MYT order. The DGVCL has proposed to capitalize the entire capital expenditure in the same year of investment. The Commission has observed that the Capex approved in the MYT order dated 6<sup>th</sup> September 2011 for FY 2011-12 and FY 2012-13 has been fully utilised by the DGVCL. The actual capitalisation achieved v/s Capex approved in these two years is as shown below:

**Table 4.61: Approved CAPEX vs. Actual Capitalisation for FY 2011-12 and FY 2012-13**  
**(Rs. Crore)**

Particulars	FY 2011-12	FY 2012-13
Approved CAPEX in MYT Order	527.70	302.26
Actual capitalisation	267.23	478.99
Achievement in Percentage	50.64%	158.46%



From the above, it can be observed that, DGVCL is capable to capitalise 100% of the total CAPEX approved.

As the expenditure projected is mostly for the network expansion and installation of additional equipment besides replacement of equipments, the Commission approves the capitalization as proposed by DGVCL. However, actual capitalisation shall be allowed at the time of True-up of the corresponding years as per the Regulations, 2011.

**Table 4.62: Approved capitalisation in the Mid-term Review**  
(Rs. Crore)

Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	CAPEX	657.45	627.20
2	Capitalisation	657.45	627.20

The Commission has analysed the funding submitted by DGVCL. DGVCL has submitted that consumer contributions are considered in the ratio of capitalisation as per actual of FY 2012-13. The consumer contributions were Rs. 78.96 Crore and grants were Rs. 85.79 Crore against the actual capitalisation of Rs. 478.99 Crore during FY 2012-13. The consumer contributions and grants during FY 2012-13 worked out to 16.48% and 17.91% respectively against capitalisation. The Commission considers the consumer contributions/ grants at the same level towards funding the capitalisation in the Mid-term Review.

The approved capitalisation and funding in the Mid-term Review for FY 2014-15 and FY 2015-16 are given in the Table below:

**Table 4.63: Approved CAPEX, Capitalization and Funding for the FY 2014-15 and FY 2015-16**  
(Rs. Crore)

Sl. No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	New Investment	307.26	657.45	627.20
2	Investment Capitalised (100%)	307.26	657.45	627.20
3	Less: Consumer contribution		108.35	103.36
4	Less: Grants		117.75	112.33
5	Balance capitalisation {2-(3+4)}		431.35	411.51
6	Debt @ 70%		301.95	288.05
7	Equity @ 30%		129.41	123.45

#### **4.16 Operations and Maintenance (O&M) Expenses**

DGVCL has projected the O&M expenses at Rs. 229 Crore for FY 2014-15 and Rs. 270 Crore for FY 2015-16 in the Mid-term Review petition. The O&M expenses approved for





these years in the MYT order dated 6<sup>th</sup> September, 2011 and the revised projection submitted by DGVCL are given in the Table below:

**Table 4.64: O&M expenses projected for the Control Period FY 2014-15 to FY 2015-16**  
**(Rs. Crore)**

Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Employee Cost	197	263	209	290
2	Repair & Maintenance	32	34	34	37
3	Administration & General Charges	36	57	38	62
4	Other Debits	4	6	4	6
5	Extraordinary Items	-	-	-	-
6	Net Prior Period Expenses / (Income)	-	-	-	-
7	Other Expenses Capitalised	(54)	(131)	(57)	(125)
8	<b>Operations &amp; Maintenance Expenses</b>	<b>216</b>	<b>229</b>	<b>229</b>	<b>270</b>

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

DGVCL has submitted that it has considered growth rate of the actuals for FY 2012-13 in working out, the O&M expenses for remaining control period. DGVCL has mentioned that the company has witnessed inflation factor of 9.63% of p.a. based on the CPI. It has considered point to point CAGR between March 2010 and March 2013 in the CPI for industrial workers and proposed 10% increase over actual for FY 2012-13 in working out the O&M expenses in Mid-term Review.

DGVCL has further submitted that other debits and extraordinary items are projected at the same level of actuals for FY 2012-13 and other expenses capitalised are proposed based on capital expenditure of the respective year.

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

The Commission has examined the O&M expenses incurred by DGVCL during FY 2012-13 component wise. GERC (MYT) Regulations, 2011 specified the escalation of O&M Expenses viz., Employee cost, Repairs and Maintenance expenses and Administration and General Expenses at 5.72% p.a. for FY 2012-13 onwards.



The Commission, accordingly, approves the Employee cost, R&M Expenses and A&G Expenses with 5.72% escalation p.a. for FY 2014-15 and FY 2015-16 over the actuals incurred under these heads during FY 2012-13 as per audited accounts. The Other expenses are considered at the level of actuals for FY 2012-13 as per audited accounts. However, other expenses capitalised are considered with 5.72% escalation p.a. over the actuals for FY 2012-13. The approved O&M expenses are given in the Table below:

**Table 4.65: O&M expenses approved in the Mid-term Review for FY 2014-15 to FY 2015-16**

(Rs. Crore)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Employee Cost	243.21	257.12
2	Repair & Maintenance	31.37	33.17
3	Administration & General Charges	55.84	59.03
4	Other Debits	0.94	0.94
5	Extraordinary Items	-	-
6	Net Prior Period Expenses / (Income)	-	-
7	Less: Other Expenses Capitalised	131.00	125.00
8	<b>Operations &amp; Maintenance Expenses</b>	<b>200.36</b>	<b>225.26</b>

#### 4.17 Depreciation

DGVCL has projected the depreciation at Rs. 197 Crore for FY 2014-15 and Rs. 230 Crore for FY 2015-16 based on the revised capital expenditure projected in the Mid-term Review for these years. The depreciation approved for these years in the MYT order dated 6<sup>th</sup> September, 2011 and revised projections submitted by DGVCL are as given in the Table below:

**Table 4.66: Depreciation projected for the Control Period FY 2014-15 to FY 2015-16**

(Rs. Crore)					
Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Gross Block in Beginning of the year	3028	3429	3340	4087
2	Additions during the Year (Net)	311	657	316	627
3	<b>Depreciation for the Year</b>	<b>168</b>	<b>197</b>	<b>184</b>	<b>230</b>
4	Average Rate of Depreciation	5.27%	5.25%	5.27%	5.24%



### **Petitioner's Submission**

DGVCL has submitted that it has considered the opening gross block of fixed assets of FY 2012-13 and projected additions in FY 2012-13 to arrive at the opening gross block for FY 2013-14 and thereof. Depreciation has been calculated taking into consideration the opening balance of assets in the beginning of the year and projected capitalisation. Depreciation has been computed as per GERC Tariff Regulations applying average rate of depreciation of 5.25%.

### **Commission's Analysis**

The Commission has approved the capitalisation in Table 4.62 above. The Commission has considered the average rate of depreciation at 5.25% based on the actual depreciation for FY 2012-13. The Commission has computed the depreciation based on the capitalisation approved as given in the Table below:

**Table 4.67: Depreciation approved in the Mid-term Review**  
(Rs. Crore)

Sl. No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	Gross Block in Beginning of the year	2816.68	3123.94	3781.39
2	Additions during the Year (Net)	307.26	657.45	627.20
3	<b>Closing GFA</b>	3123.94	3781.39	4408.59
4	Average GFA		3452.67	4094.99
5	Average Rate of Depreciation		5.25%	5.25%
6	<b>Depreciation for the Year</b>		181.26	214.99

**The Commission approves the depreciation charges at Rs. 181.26 Crore for FY 2014-15 and Rs. 214.99 Crore for FY 2015-16 in the Mid-term Review.**

### **4.18 Interest and Guarantee Charges**

The DGVCL has projected the interest and finance charges including interest on security deposit from consumers and guarantee charges at Rs. 133 Crore for FY 2014-15 and Rs. 147 Crore for FY 2015-16 in the Mid-term Review petition. The interest charges approved for these years in the MYT order dated 6<sup>th</sup> September, 2011 and the revised projections submitted in the Mid-term Review are as given in the Table below:

**Table 4.68: Interest & Guarantee Charges projected in the Mid-term Review**  
**(Rs. Crore)**

Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Opening Loans	63	360	-	466
2	Loan Additions during the Year	61	303	68	289
3	Repayment during the Year	124	197	68	230
4	Closing Loans	-	466	-	524
5	<b>Average Loans</b>	<b>31</b>	<b>413</b>	<b>-</b>	<b>495</b>
6	Interest on Loan	3	37	-	45
7	Interest in Security Deposit	31	94	31	101
8	Other Finance Charges	1	2	1	2
9	<b>Total Interest &amp; Financial Charges</b>	<b>35</b>	<b>133</b>	<b>32</b>	<b>147</b>

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

The DGVCL has submitted that it has considered the closing balance of loan approved in true-up for FY 2011-12 in Tariff order dated 16<sup>th</sup> April 2013 and normative addition in the following years based on the funding plan projected. Repayment of loan is considered equivalent to the depreciation and the rate of interest has been considered at 9.05% on the loans. The interest on security deposit has been considered at 9.5% prevailing RBI bank rate security deposit is projected based on year on year growth rate of 7.06% over the actuals for FY 2012-13 for the remaining control period. Other finance charges comprising guarantee and other charges are proposed same as actuals of FY 2012-13.

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

The opening balance of loan for FY 2013-14 is taken as per actual normative closing balance for FY 2012-13. The Commission has approved the capitalisation and funding of capital expenditure in Table No. 4.63 above. The Commission has considered the weighted average rate of interest of 9.75% based on the actual loan portfolio submitted by DGVCL vide its e-mail dated 30<sup>th</sup> March 2014 for FY 2012-13, as per Regulation 39.5 of GERC (MYT) Regulations, 2011.

In respect of Interest on Security Deposit, DGVCL has proposed the bank rate of 9.5%. The bank rate was 9.5% as on 01.04.2013 and this is applied on the balance of security deposit



to arrive at the interest on security deposit. The growth in deposit is considered at 7.06% p.a. as suggested by DGVCL. The repayment of loan is considered equivalent to depreciation approved in accordance with the Regulation 39 of GERC (MYT) Regulations, 2011. The guarantee charges are considered at the level of actuals for FY 2012-13. Considering all the above the Commission has computed the interest and guarantee charges as detailed in the Table below in the Mid-term Review.

**Table 4.69: Approved Interest and Guarantee Charges in the Mid-term Review**  
(Rs. Crore)

Sl. No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	Opening loan	237.05	146.64	267.32
2	Loan addition during the year	61.08	301.95	288.05
3	Less: Repayment during the year	151.49	181.26	214.99
4	Closing loan	146.64	267.32	340.39
5	Average loan		206.98	303.86
6	Rate of Interest		9.75%	9.75%
7	Interest Charges		20.18	29.63
8	Opening Security Deposit	864.2	925.21	990.53
9	Addition during the year @ 7.06%	61.01	65.32	69.93
10	Closing Security Deposit	925.21	990.53	1060.46
11	Average Security Deposit		957.87	1025.50
12	Rate of Interest on Security Deposit @ 9.50%		91.00	97.42
13	Guarantee Charges		5.87	5.87
14	Interest and Guarantee Charges (7+12+13)		117.05	132.92

**The Commission approves the interest and guarantee charges at Rs. 117.05 Crore for FY 2014-15 and Rs. 132.92 Crore for FY 2015-16 in the Mid-term Review.**

#### **4.19 Interest on Working Capital**

DGVCL has not claimed any interest on working capital as detailed in the Table below:

**Table 4.70: Interest & Finance Charges projected in the Mid-term Review**  
(Rs. Crore)

Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	O&M expenses	18	19	19	22
2	Maintenance Spares	22	43	23	52
3	Receivables	491	684	522	749
4	Less: Amount held as security deposit from consumers	651	991	651	1,061
5	<b>Total Working Capital</b>	<b>(120)</b>	<b>(244)</b>	<b>(87)</b>	<b>(237)</b>
6	Rate of Interest on	11.75%	14.45%	11.75%	14.45%



Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
	Working Capital				
7	Interest on Working Capital	-	-	-	-

DGVCL has not claimed interest on working capital as the security deposit available is more than the working capital requirement.

#### **4.20 Provision for Bad and Doubtful Debts**

The DGVCL has estimated the bad and doubtful debts at Rs. 16 Crore for FY 2014-15 and Rs. 18 Crore for FY 2015-16 in the Mid-term Review petition. The provision approved for these years in the MYT order dtd. 6<sup>th</sup> September 2011, and the revised provision submitted in the Mid-term Review are given in the Table below:

**Table 4.71: Provision for Bad and Doubtful debts projected for the Control Period FY 2014-15 to FY 2015-16**

(Rs. Crore)					
Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Provision for Bad Debts	4	16	4	18

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

THE DGVCL has submitted that it has projected Provision for bad and doubtful debts for the remaining control period FY 2014-15 and FY 2015-16 as 0.2% of the annual revenue requirement in line with the approval by the Commission and considering new scheme from Govt. like Amnesty Scheme.

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

The Regulations 98.8 of the GERC (MYT) Regulations, 2011 specifies that the Commission may allow bad debts written off as a pass through, in the ARR. The allowable actual bad debts written off were Rs. 0.10 Crore as per audited annual accounts for FY 2012-13.

The Commission approves the provision for bad and doubtful debts at the level of actual allowable bad debts written off for FY 2012-13 for the FYs 2014-15 and 2015-16 in the Mid-term Review. However, actual bad debts written off shall be allowed by the Commission after prudence check at the time of truing up for FY 2014-15.

The approved provision for bad and doubtful debts in the Mid-term Review is given in the Table below:



**Table 4.72: Approved bad and doubtful debts in the Mid-term Review**

(Rs. Crore)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Provision for Bad and Doubtful Debts	0.10	0.10

#### 4.21 Return on Equity

DGVCL has projected the return on equity at Rs. 93 Crore for FY 2014-15 and Rs. 110 Crore for FY 2015-16 @ 14% in the Mid-term Review petition. The return on Equity approved for these years in the MYT order dated 6<sup>th</sup> September, 2011 and the revised projection submitted in the Mid-term Review are given in the Table below:

**Table 4.73: Return on Equity projected for the Mid-term Review**

(Rs. Crore)					
Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Opening Equity Capital	464	597	491	726
2	Additions during the year	26	130	29	124
3	Closing Equity	491	726	520	850
4	Average Equity	477	662	505	788
5	Rate of Return on Equity	14%	14%	14%	14%
6	<b>Return on Equity</b>	<b>67</b>	<b>93</b>	<b>71</b>	<b>110</b>

#### Petitioner's Submission

DGVCL has submitted that the return on equity has been computed @ 14% on average equity based upon the opening balance of equity and normative additions during the year that was arrived by considering 30% of the capital expenditure net of consumer contribution and grants as funded from equity.

#### Commission's Analysis

The Commission has computed the return on equity @ 14% on the average equity of opening and closing balance considering the addition during the year. The computation of return on equity is given in the Table below:

**Table 4.74: Approved Return on Equity for the Mid-term Review**

(Rs. Crore)				
Sl. No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	Opening Equity Capital	471.75	497.93	627.34
2	Additions during the year	26.18	129.41	123.45
3	Closing Equity	497.93	627.34	750.79
4	Average Equity		562.63	689.06
5	Rate of Return on Equity		14.00%	14.00%
6	Return on Equity		78.77	96.47



**The Commission approves the return on equity at Rs. 78.77 Crore for FY 2014-15 and Rs. 96.47 Crore for FY 2015-16 in the Mid-term Review.**

#### **4.22 Income Tax**

DGVCL has claimed Income Tax at Rs. 19 Crore for FY 2014-15 and Rs. 22 Crore for FY 2015-16 in the Mid-term Review against Rs. 19 Crore for each year approved in the MYT order dated 6<sup>th</sup> September 2011 as detailed in the Table below:

**Table 4.75: Income Tax projected in the Mid-term Review**

(Rs. Crore)					
Sl. No.	Particulars	FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Return on Equity		93		110
2	Mat Rate		20.008%		20.008%
3	Tax	19	19	19	22

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

DGVCL has submitted that it has calculated tax by applying MAT rate of 20.008% on return on equity of respective year.

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

The Regulation 42.1 of the GERC (MYT) Regulations, 2011 specifies that the Commission in its MYT order shall provisionally approve income tax payable for each year of the control period, if any, based on the actual income tax paid as per the latest audited accounts available for the applicant, subject to prudence check. The latest audited accounts available for DGVCL are for FY 2012-13 and the income tax for FY 2012-13 is Rs. 6.51 Crore.

The Commission, however, retains the provision at Rs. 6.51 Crore for these years in the Mid-term Review as approved in the MYT order as given in the Table below:

**Table 4.76: Income Tax approved in the Mid-term Review**

(Rs. Crore)			
Sl. No.	Particulars	FY 2014-15	FY 2015-16
1	Income Tax	6.51	6.51

#### **4.23 Non-Tariff Income**

DGVCL has projected the Non-Tariff income at Rs. 143 Crore for FY 2014-15 and Rs. 146 Crore for FY 2015-16 in the Mid-term Review against Rs. 89 Crore approved for each year of





the control period in the MYT order dated 6<sup>th</sup> September, 2011 as detailed in the Table below:

**Table 4.77: Non-Tariff Income projected in the Mid-term Review**

Sl. No.	Particulars	Rs. Crore)			
		FY 2014-15 (Approved in MYT Order)	FY 2014-15 (Projected in MTR)	FY 2015-16 (Approved in MYT Order)	FY 2015-16 (Projected in MTR)
1	Non-Tariff Income	89	143	89	146

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

DGVCL has submitted that it has considered the Non-Tariff income for the remaining control period for FY 2014-15 and FY 2015-16 considering growth rate of 2% over actuals for FY 2012-13.

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

The Commission has noted that the actual Non-Tariff income in FY 2012-13 was Rs. 167.02 Crore considering the growth rate of 2% p.a. submitted by DGVCL. The Non-Tariff income approved in the Mid-term Review is given in the Table below:

**Table 4.78: Non-Tariff Income approved for the Control Period FY 2014-15 to FY 2015-16**

Sl. No.	Particulars	(Rs. Crore)	
		FY 2014-15	FY 2015-16
1	Non-Tariff Income	173.77	177.24

### **4.24 Approved Aggregate revenue Requirement (ARR) for Mid-term Review for FY 2014-15**

As Discussed in the above paragraphs, the Annual Revenue Requirement for FY 2014-15 and FY 2015-16 is summarised as given in the Table below:

**Table 4.79: Aggregate Revenue Requirement for the Control Period FY 2014-15 to FY 2015-16**

Sl. No.	Particulars	(Rs. Crore)	
		Approved for Mid-term Review	
		FY 2014-15	FY 2015-16
1	Cost of Power Purchase	7632.47	8327.45
2	Operations & Maintenance Expenses	200.36	225.26
2.1	Employee Cost	243.21	257.12
2.2	Repair & Maintenance	31.37	33.17
2.3	Administration & General Charges	55.84	59.03
2.4	Other Debits	0.94	0.94
2.5	Extraordinary Items	-	-
2.6	Net Prior Period Expenses / (Income)	-	-



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Sl. No.	Particulars	Approved for Mid-term Review	
		FY 2014-15	FY 2015-16
2.7	Other Expenses Capitalised	(131.00)	(125.00)
3	Depreciation	181.26	214.99
4	Interest & Guarantee Charges	117.05	132.92
5	Interest on Working Capital	0	0
6	Provision for Bad Debts	0.10	0.10
7	<b>Sub-Total [1 to 6]</b>	<b>8,131.24</b>	<b>8,900.72</b>
8	Return on Equity	78.77	96.47
9	Provision for Tax / Tax Paid	6.51	6.51
10	<b>Total Expenditure (7 to 9)</b>	<b>8,216.52</b>	<b>9,003.69</b>
11	Less: Non-Tariff Income	173.77	177.24
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>8,042.75</b>	<b>8,826.45</b>

The Commission approves the revised ARR at Rs. 8042.75 Crore for FY 2014-15 and Rs. 8826.45 Crore for FY 2015-16 in the Mid-term Review.



## **COMMISSION'S ORDER**

The Commission approves the Aggregate Revenue Requirement for FY 2014-15 and FY 2015-16 in the Mid-term Review for DGVCL as shown in the Table below:

**Approved ARR for DGVCL for FY 2014-15 and FY 2015-16**

Sl. No.	Particulars	(Rs. Crore)	
		Approved for Mid-term Review FY 2014-15	FY 2015-16
1	Cost of Power Purchase	7632.47	8327.45
2	Operations & Maintenance Expenses	200.36	225.26
2.1	Employee Cost	243.21	257.12
2.2	Repair & Maintenance	31.37	33.17
2.3	Administration & General Charges	55.84	59.03
2.4	Other Debits	0.94	0.94
2.5	Extraordinary Items	-	-
2.6	Net Prior Period Expenses / (Income)	-	-
2.7	Other Expenses Capitalised	(131.00)	(125.00)
3	Depreciation	181.26	214.99
4	Interest & Finance Charges	117.05	132.92
5	Interest on Working Capital	0	0
6	Provision for Bad Debts	0.10	0.10
7	<b>Sub-Total [1 to 6]</b>	<b>8,131.24</b>	<b>8,900.72</b>
8	Return on Equity	78.77	96.47
9	Provision for Tax / Tax Paid	6.51	6.51
10	<b>Total Expenditure (7 to 9)</b>	<b>8,216.52</b>	<b>9,003.69</b>
11	Less: Non-Tariff Income	173.77	177.24
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>8,042.75</b>	<b>8,826.45</b>

Sd/-

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**DR. M.K. IYER**  
Member

Sd/-

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**SHRI PRAVINBHAI PATEL**  
Chairman

Place: Gandhinagar  
Date: 29/04/2014

