GUJARAT ELECTRICITY REGULATORY COMMISSION

Tariff Order:

Truing up for FY 2010-11 and

Tariff for FY 2012-13

For

Torrent Power Limited-Generation, Ahmedabad

Case No. 1177 of 2011

2nd June 2012

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(GERC)

AHMEDABAD

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ANNEXURES

ABBREVIATION

AGP	Agriculture General Purpose
A&G	Administrative and General
AMR	Automatic Meter Reading
APDRP	Accelerated Power Development and Reform Program
APP	Ahmedabad Power Plant
APR	Annual Performance Review
APTEL	Appellate Tribunal for Electricity
ARR	Aggregate Revenue Requirement
BHP	Brake Horse Power
BoB	Bank of Baroda
C&I	Control & Instrumentation
CAPEX	Capital Expenditure
CCPP	Combined Cycle Gas Power Plant
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CHP	Coal Handling Plant
CIL	Coal India Limited
CoD	Commercial Operation Date
CPP	Captive Power Plant
CT	Current Transformer
CV	Calorific Value
D/C	Double Circuit
ERP	Enterprise Resource Planning
ESP	Electro Static Precipitator
FPA	Fuel Price Adjustment
FSA	Fuel Supply Agreement
FY	Financial Year
GCV	Gross Calorific Value
GERC	Gujarat Electricity Regulatory Commission
GFA	Gross Fixed Asset
GIS	Geographic Information System
GT	Gas Turbine
GTG	Gas Turbine Generator
GUVNL	Gujarat Urja Vikas Nigam Ltd
HDFC	Housing Development Finance Corporation
HV	High Voltage
IDFC	Infrastructure Development Finance Corporation
IEC	International Electro Technical Commission
IGP	Industrial General Purpose
IS	Indian Standards
IT	Information Technology
Kcal	Kilo Calorie
Kg	Kilo Gram
Km	Kilometre
kV	Kilo Volt
kWh	Kilo Watt Hour
LIC	Life Insurance Corporation
MAT	Minimum Alternate Tax
MMBTU	Million British Thermal Unit
MOCB	Miniature Oil Circuit Breaker
MOD	Merit Order Despatch
MRS	Main Receiving Station
MT	Metric Tonne
MU	Million Units
MVA	Mega Volt Ampere
MVAR	Mega Volt-Ampere Reactive
MW	Mega Watt
MYT	Multi-Year Tariff

NCV	Net Calorific Value
NTPC	National Thermal Power Corporation
O&M	Operations and Maintenance
OCB	Oil Circuit Breaker
OEM	Original Equipment Manufacturer
PAF	Plant Availability Factor
PBT	Profit Before Tax
PF	Power Factor
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
PPA	Power Purchase Agreement
PPC	Power Purchase Cost
PT	Potential Transformer
R&M	Repair and Maintenance
RE	Revised Estimate
REC	Renewable Energy Certificate
RFO	Residual Fuel Oil
RLA	Residual Life Assessment
RMU	Ring Main Unit
RoE	Return on Equity
RPO	Renewable Purchase Obligation
RTC	Round the Clock
RTI	Right to Information
SBAR	State Bank Advance Rate
SBI	State Bank of India
SBPLR	State Bank Primary Lending Rate
SCADA	Supervisory Control And Data Acquisition
SCM	Standard Cubic Meter
SD	Security Deposit
SECL	South Eastern Coal Fields Limited
SFC	Secondary Fuel Consumption
SHR	Station Heat Rate
Sq.Km	Square Kilometer
STG	Steam Turbine Generator
TO	Tariff Order
TPAL	Torrent Power AEC Limited
TPGL	Torrent Power Generation Limited
TPL	Torrent Power Limited
TPL-G	TPL Generation
TPL-D	TPL Distribution
TPL-G(APP)	TPL-G (Ahmedabad Power Plants)
TPSL	Torrent Power Surat Limited
UG cable	Underground Cable
UI	Unscheduled Interchange
VCB	Vacuum Circuit Breaker
VFD	Variable Frequency Drive
Wt.Av.	Weighted Average
YoY	Year on Year

Before the Gujarat Electricity Regulatory Commission at Ahmedabad

Case No. 1177 of 2011

Date of the Order: 2nd June 2012

CORAM

Dr. P.K. Mishra, Chairman
Shri Pravinbhai Patel, Member
Dr. M.K. Iyer, Member

ORDER

1. Background and Brief History

1.1 Background

Torrent Power Limited (hereinafter referred to as 'TPL' or 'petitioner') has filed petition under section 62 of the Electricity Act, 2003 read with Gujarat Electricity Regulatory Commission (Multi-Year Tariff Framework) Regulations, 2007 for the True up of FY 2010-11, and MYT Regulations, 2011 for determination of tariff for its generation business at Ahmedabad for the FY 2012-13 on 31st December, 2011

The Commission admitted the petition on 9th January, 2012.

1.2 Torrent Power Limited (TPL)

The Torrent Power Limited (TPL) is a company incorporated under the Companies Act, 1956 and is carrying on the business of Generation and Distribution of Electricity in the cities of Ahmedabad, Gandhinagar and Surat. The present petition has been filed by TPL-Generation (Ahmedabad) for its generation business in Ahmedabad.

TPL had assumed the business consequent upon the amalgamation of Torrent Power Ahmedabad Limited (TPAL), Torrent Power Surat Limited (TPSL) and Torrent Power Generation Limited (TPGL) with Torrent Power Limited. Besides, TPL is also engaged in other businesses, which do not come under the regulatory overview of the Commission.

TPL has existing generation facilities with total installed capacity of 500 MW at Ahmedabad and has commissioned a Combined Cycle Power Plant (CCPP) of 1147.5 MW (SUGEN) capacities near Surat in FY 2009-10. The generation facilities at Ahmedabad consist of 400 MW coal based Thermal Power Plant at Sabarmati and a 100 MW gas based CCPP at Vatva.

1.3 Commission's Order for the first control period

TPL filed its petition under the Multi-Year Tariff Framework for FY 2008-09, FY 2009-10 and FY 2010-11 on 8th May 2008 in accordance with Gujarat Electricity Regulatory Commission (Multi-Year Tariff Framework) Regulations, 2007 notified by the Commission. 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 in this behalf and after taking into consideration the submission made by TPL, the objections by various stakeholders, response of TPL, issues raised during the public hearing and all other relevant material, issued the Multi-Year tariff order on 17th January, 2009 for the control period comprising FY 2008-09, FY 2009-10 and FY 2010-11.

The Commission also issued the orders on (i) Annual Performance for FY 2008-09 and determination of tariff for FY 2009-10 on 9th December 2009 and (ii) Annual Performance Review for the FY 2009-10 and determination of tariff for FY 2010-11 on 31st March 2010.

1.4 Commission's Order for the second control period

TPL filed its petition under the Multi-Year Tariff Framework for the control period from FY 2011-12 to FY 2015-16 on 24th February, 2011 in accordance with Gujarat

Electricity Regulatory Commission (Multi-Year Tariff Framework) Regulations, 2007 notified by the Commission.

The Commission issued the new MYT regulations notified as GERC (Multi Year Tariff) Regulations, 2011 on March 22, 2011.

Regulation 1.4 (a) of GERC (Multi-Year Tariff) Regulations, 2011 reads as under:

> *"These Regulations shall be applicable for determination of tariff in all cases covered under these Regulations from 1st April, 2011 and onwards."*

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 in this behalf, and after taking into consideration the submissions made by TPL, the objections by various stakeholders, response of TPL, issues raised during the public hearing and all other relevant material, issued the Multi-Year Tariff order on 6th September, 2011 for the control period from FY 2011-12 to FY 2015-16 based on the MYT regulation, 2011.

1.5 Admission of the current petition and public hearing process

TPL submitted the current petition for 'Truing up' of FY 2010-11 and determination of tariff for FY 2012-13. The Commission admitted the petition (Case No. 1177/2011) on 9th January, 2012.

In accordance with section 64 of the Electricity Act, 2003, the Commission directed TPL to publish its application in the abridged form to ensure public participation. The Public Notice was published in the following newspapers on 19th January, 2012 inviting objections / suggestions from its stakeholders on the ARR petition filed by it.

Sl. No.	Name of the Newspaper	Language	Date of publication
1	The Indian Express	English	19th January, 2012
2	Sandesh	Gujarati	19th January, 2012
3	Gujarat Samachar	Gujarati	19th January, 2012
4	Divya Bhaskar	Gujarati	19th January, 2012
5	Sambhaav Metro	Gujarati	19th January, 2012

6	Jaihind	Gujarati	19th January, 2012
7	Loksatta	Gujarati	19th January, 2012

The petitioner also placed the public notice and the petition on its website (www.torrentpower.com) for inviting objections and suggestions on the petition.

The interested parties / stakeholders were asked to file their objections / suggestions on the petition on or before 18th February, 2012.

The Commission received objections / suggestions from 5 consumers / consumer organisations. The Commission examined the objections / suggestions received and fixed the date of public hearing for TPL to be held at Commission's office, Ahmedabad on 20th March, 2012 and 31st March, 2012. Communications were sent to these consumers / consumer organizations to take part in the public hearing process for presenting their views in person before the Commission. The public hearing was conducted in Commission's office at Ahmedabad as scheduled.

The names of consumers and consumer organizations who filed their objections / suggestions and the name of the objectors who participated in the public hearing for presenting their objections are given in Annexure 1.1 and 1.2 respectively.

A short note on the main issues raised by the objectors in written submissions in public hearing in respect of the petition along with the response of TPL and the Commission's views on the response is given in Chapter-3.

1.6 Contents of this order

The order is divided into six chapters as under:

1. The **first** chapter provides a brief background regarding the Petitioner, the petition on hand and details of the public hearing process and approach adopted in this order.
2. The **second** chapter outlines the summary of TPL petition.
3. The **third** chapter deals with the public hearing process including the objections raised by various stakeholders, TPL's response and Commission's views on the response.

4. The **fourth** chapter focuses on the details of truing up of FY 2010-11.
5. The **fifth** chapter deals with the determination of tariff for FY 2012-13.
6. The **sixth** chapter deals with compliance of directives and issue of fresh directives.

1.7 Approach of this order

The Multi-Year Tariff Regulations, 2007 provide for truing up of the previous year, Annual Performance Review (APR) for the current year and determination of tariff for the ensuing year. The Commission had approved the ARR for the three-years of the first control period from FY 2008-09 to FY 2010-11 in the MYT order dated 17th January, 2009. The Commission had approved the 'Truing up' of the FY 2008-09 in the tariff order dated 9th December, 2009 and the 'Truing up of the FY 2009-10 in the tariff order dated 6th September 2011.

TPL has approached the Commission with the present petition for 'Truing up' for the FY 2010-11.

The Commission has undertaken truing up for the FY 2010-11 including computation of gains and losses for the FY 2010-11 based on the submissions of the petitioner and the segregated audited annual accounts made available by the petitioner.

While Truing up of FY 2010-11 the Commission has been primarily guided by the following principles:

1. Controllable parameters have been considered at the level of approval under the MYT order unless the Commission considers that there are valid reasons for revision of the same
2. Un-controllable parameters have been revised based on the actual performance observed.

The Truing up for the FY 2010-11 has been considered based on the GERC MYT Regulations, 2007.

Annexure 1.1

List of Organisations and Individuals who filed objections / suggestions

Sr. No	Name
1	CERS - Consumer Education and Research Society
2	Shri Amarsinh Chavda
3	Shri Bharat Kanaiyalal Bhatt
4	Gandhinagar Shaher Vasahat Mahamandal
5	UUWA - Utilities Users' Welfare Association

Annexure 1.2

List of participants in public hearing

Sr. No	Name
1	CERS - Consumer Education and Research Society
2	Shri Amarsinh Chavda
3	Shri Bharat Kanaiyalal Bhatt
4	Gandhinagar Shaher Vasahat Mahamandal
5	UUWA - Utilities Users' Welfare Association

2. A Summary of TPL's Petition

2.1 Actuals for FY 2010-11 submitted by TPL

Torrent Power Limited (TPL) submitted the petition on seeking approval of True Up for ARR of FY 2010-11. The details of expenses under various heads of ARR are given in Table 2.1 below:

Table 2.1: Actuals claimed by TPL for FY 2010-11

(Rs. Crore)

Annual Revenue Requirement	MYT Order	Actuals FY 2010-11
Rs. Crs		
Fuel Cost	656.94	875.28
O&M Expense	**133.87**	**132.45**
Employee Cost	55.85	69.50
R&M Cost	53.12	45.68
A&G Cost	24.90	17.27
Depreciation	36.99	29.29
Interest Cost on Long-term Capital Loans	22.35	8.35
Interest on Working Capital Loans	28.34	35.31
Return on Equity	51.81	44.39
Income Tax	17.61	18.77
Incentive	-	5.55
Less:		
Non-Tariff Income	1.50	1.94
Annual Revenue Requirement	**946.41**	**1,147.45**

2.2 TPL's request to the Commission:

(a) To admit the petition for truing up for FY 2010-11.

(b) To approve the ARR of FY 2010-11 as per the final truing up.

(c) To approve the sharing of gains / losses proposed by TPL for FY 2010-11.

(d) To allow the petitioner to make additions/ alterations/ changes/ modifications to the application at a future date.

(e) To permit the Petitioner to file all necessary pleadings and documents in the

proceedings and documents from time to time for effective consideration of the proceedings.

(f) To condone the delay in filing the present petition.

(g) To allow the Petitioner for any other relief, order or direction, which the Commission deems fit to be issued.

(h) To condone any inadvertent omissions/errors/rounding off difference/ shortcomings.

3. Brief outline of objections raised, response from TPL and Commission's view

3.0 Public response to the petition

In response to the public notice, inviting objections/suggestions of the stakeholders on the petition filed by TPL for 'Truing up' of FY 2010-11and determination of tariff for FY 2012-13, a number of consumers/consumer organisations filed their objections / suggestions in writing. Some of these objectors participated in the public hearing also. It is observed that the objections / suggestions filed, by and large, are repetitive in nature. Some of the objections are general in nature and some are specific to the proposal submitted by TPL for approval of True up for FY 2010-11 and Tariff revision. The Commission has, therefore, addressed the objections/suggestions issue-wise rather than objector-wise. The objections / suggestions by consumers / consumer organisations, the response from the petitioner and the views of the Commission are as given below.

3.1 Quality of coal has gone down whereas the price has increased

Objections: TPL has stated in its petition that the ARR has increased due to the increase in fuel cost as the price of coal has risen steeply whereas its quality has gone down. The agreement is signed for supply of particular category of coal with certain specified calorific value of that coal and if the supplier does not supply coal with that calorific value, then it is the problem of TPL and consumers should not be burdened due to steps not taken by the petitioner.

TPL's response: TPL has submitted that the variations in quality are completely beyond its control. The coal requirement is met primarily from indigenous coal and the balance requirement from imported coal. The indigenous coal is procured from M/s SECL. There has always been a gap in the quality of coal billed by M/s SECL and the quality received. The erstwhile Coal Linkage Mechanism had the provision for a marginal compensation for such quality variations, whereas the current fuel supply agreement does not have any provision to deal with such variations.

Commission's view: *TPL should make the efforts to ensure the receipt of quality of coal as per the billing.*

3.2 Performance of C station

Objections: TPL should rectify the deficiencies of C station as its PLF is low coupled with a high auxiliary consumption.

TPL's response: TPL has submitted that lower PAF of C station is due to the forced outage on account of failure of T/A-15 rotor. The same has correspondingly affected its PLF on annual basis.

Commission's view: *The Commission has noted the views of the objector and the response of TPL.*

3.3 Transit Loss of Coal

Objection: The transit loss of coal should be bought down to 1.5% as it is a controllable parameter.

TPL's response: TPL has submitted that it has been outperforming in most of the operational performance parameters, however, it could not bring down the transit loss to 1.40% as it is on account of uncontrollable factors.

Commission's view: *The Commission has allowed a transit loss of 1.9% as against the normative loss of 0.8% considering the long distance involved and consequent losses. The Commission feels there is a scope for considerable reduction in transit loss through vigorous and sustained efforts.*

3.4 Income from sale of fly ash

Objection: TPL should indicate the amount it has recovered from the sale of fly ash.

TPL's response: TPL has submitted that as per the approved R&M expense in the MYT order for the FY 2010-11, income from sale of fly ash was considered as a part of R&M expenses. The details for FY 2010-11 have been submitted on similar lines. However, as the Commission has considered the income from sale of fly ash as part

of non-tariff income for the second MYT control period, TPL will follow the same from FY 2011-12 onwards.

Commission's view: *The Commission has noted the views of the objector and the response of TPL.*

3.5 Upgradation of E & F Stations

Objection: The expenses shown by TPL for upgradation of E & F (from 110 MW to 120 MW) stations are on much higher side. PLF of these plants are on higher side, they have already completed their life and there is no need of any upgradation.

TPL's response: TPL has submitted that E & F stations have completed their useful life of operation. The life extension program would include upgradation of the turbine internals with state of the art efficient components and existing analog control system upgradation by the state of the art DCS. The absence of spares and non-availability of service support from OEM for the obsolete Control & Instrumentation systems has necessitated the up-gradation. In addition to renewal of life, the generation capacity is also enhanced by 10 MW.

Commission view: *The Commission has noted the objection and petitioner's response.*

3.6 SHR of C Station

Objections: In 2001-02 when Station C was new, the SHR was around 4000 KCal/kWh. Now, when this unit is about to be scrapped the SHR shown is 2800 KCal/kWh. This is technically not comprehensible, and it shows that earlier the tariff hike proposed because of SHR is objectionable. Therefore, past SHR should be re-examined.

TPL's response: TPL has submitted that this issue is not part of the present petition. However during the course of hearing TPL has submitted that the SHR of C station for the FY 2010-11 as per the MYT order dated 17th January, 2009 was 3675 on NCV basis and considering NCV of fuel "as received" basis. Subsequently Central Electricity Authority has recommended SHR of 3240 for C station on GCV basis and taking GCV of fuel "as fired" basis. Considering the past performance, the TPL has

proposed and accordingly the Commission has approved SHR of C station for the FY 2010-11 as 3150 on GCV basis as well as considering GCV of fuel "as fired" basis in the order dated 31st March, 2010. Hence the reduction in SHR is mainly due to the conversion of SHR from NCV basis to GCV basis.

Commission's view: *The Commission has noted the objection and petitioner's response.*

3.7 Unit of secondary fuel oil consumption

Objection: TPL is required to submit its secondary fuel oil consumption in ml/kwh whereas it has submitted it in gm/kwh.

TPL's response: The original order of the Commission for which the truing up is sought is in gm/kWh. TPL would furnish the details in ml/kWh for FY 2011-12 onwards as per Commissions order in Case no. 1092/2011.

Commission's view: *The Commission has noted the views of the objector and the response of TPL.*

3.8 Use of imported coal

Objections: TPL wrongly calculates the proportion of imported coal and indigenous coal on overall basis instead of calculating station-wise. TPL has vested interest in using the imported coal.

TPL's response: Coal India and its subsidiaries supply part of the total quantity required under the existing Fuel Supply Agreement in accordance with the guidelines of MOP and CEA. TPL sources its primary requirement through the indigenous coal, and imported coal is used only to meet its balance requirement.

Commission view: *The Commission has noted the views of the objector and the response of TPL.*

3.9 Income Tax

Objections: TPL should be asked to submit separate accounting statement for the purpose of computation of tax @ 33.99%.

TPL's response: TPL has computed the income tax amount at the MAT rate applicable for the Company as a whole on the audited PBT.

Commission's view: *The Commission has addressed this issue while truing up for FY 2010-11.*

4. Truing up of FY 2010-11

4.0 Introduction

This chapter of the order deals with the truing up of FY 2010-11 for TPL-Generation, Ahmedabad.

The Commission has studied and analyzed each component of the ARR for the FY 2010-11 in the following paragraphs.

4.1. Generating Stations of TPL-G (APP)

The TPL has existing power generation facilities with total installed capacity of 500 MW at Ahmedabad [TPL-G (APP)] that consists of 400 MW coal based thermal power plant at Sabarmati and 100 MW combined cycle gas based power plant at Vatva. TPL had also commissioned a combined cycle power plant (CCPP) of 1147.5 MW (SUGEN) at Akhakhol village near Surat in FY 2009-10. For its distribution business, TPL sourced power from its own generation facilities in Ahmedabad, SUGEN (to the extent of 835 MW) and balance from other sources.

The generation cost of the SUGEN Plant is decided by CERC and shall be taken as power purchase cost for any purchase from SUGEN by TPL for its distribution companies at Ahmedabad, Gandhinagar and Surat.

The Commission is required to determine the generation cost for the TPL-G (APP) stations. The generation costs of these stations are discussed as below:

TPL-G (APP) owns and operates the following generating stations:

- Four coal-based thermal stations at Sabarmati namely, Sabarmati C Station, Sabarmati D Station, Sabarmati E Station and Sabarmati F Station.
- One Combined Cycle Gas based Power Plant at Vatva

The details of the stations existing as on 1st April, 2010 along with their capacities and dates of commission are given in the table below:

Table 4.1: Capacity, COD and age of TPL-G (APP) Stations as on 1st April 2010

Name of the station	Capacity in MW	Year of COD	Age/ Years
Sabarmati Thermal Power Plant (Coal based)			
C Station	2X30MW	1961/1997* *(Year of turbine retrofitting)	49
D Station	1X120MW	1978/2004 *(Uprating capacity)	32
E Station	1X110MW	1984	26
F Station	1X110MW	1988	22
Vatva Combined Cycle Gas based Power Plant			
Gas turbine	2X32.5MW	1990 & 1991	20
Steam turbine	1X35MW	1991	19

4.2 Operating Performance Parameters

The fuel cost of a generation station depends on (i) the performance parameters, such as Plant Load Factor (PLF), Station Heat Rate (SHR), Auxiliary Consumption, Secondary Fuel Oil Consumption and Transit Loss (in case of coal stations) (ii) cost parameters such as Gross Calorific Value of fuel, type of fuel and price of fuel etc.

The TPL has submitted the actual operating performance on Plant Availability Factor (PAF), Plant Load Factor (PLF), Station Heat Rate (SHR), Auxiliary Consumption, Specific Oil Consumption and coal transit loss for FY 2010-11 for the individual stations. The Commission has taken up the truing up of the annual performance parameters for FY 2010-11, which are discussed in the following sections.

4.2.1 Plant Availability Factor (PAF)

Petitioner's submission

The TPL has submitted the actuals of plant availability factor for different stations for FY 2010-11. The PAF (i) approved in the MYT Order dated 17th January, 2009, (ii) considered in the Annual Performance Review (APR) by the Commission in its order dated 6th September, 2011 and (iii) the actuals as furnished by TPL in the present petition for the period are given in the table below:

Table 4.2: Plant Availability Factor of TPL-G (APP) for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
	Sabarmati			
1	C Station	91.03	85.76	76.61
2	D Station	90.73	93.14	93.06
3	E Station	93.71	95.73	96.23
4	F Station	94.02	95.13	95.30
5	Vatva Gas Station	95.63	95.96	96.60

The TPL has submitted that the PAF of the units have been computed considering their annual plant shut down schedules to undertake maintenance, statutory inspections and the actual forced outages of the units during FY 2010-11. The availability of the C Station is lower than the approved figure because of forced outage of the T/A – 15 rotor and IDCT works carried out resulting in higher shutdown period which needs to be considered as uncontrollable. The actual performance of PAF for all the other stations has been in line with the estimates considered in the APR for FY 2010-11.

Commission's Analysis

It is found in the analysis that the PAF level is lower than the approved levels of the MYT Order in the case of C station. In the case of other stations, it is higher than what was approved.

For the purpose of truing up for the FY 2010-11, the PAF level is considered as per the MYT order as given in the table below:

Table 4.3: Plant Availability Factor of TPL-G (APP) considered for truing up for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Considered for truing up for FY 2010-11
	Sabarmati				
1	C Station	91.03	85.76	76.61	91.03

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Considered for truing up for FY 2010-11
2	D Station	90.73	93.14	93.06	90.73
3	E Station	93.71	95.73	96.23	93.71
4	F Station	94.02	95.13	95.30	94.02
5	Vatva Gas Station	95.63	95.96	96.60	95.63

4.2.2 Plant Load Factor (PLF)

Petitioner's submission

The TPL has submitted the actuals of plant load factor (PLF) of different stations for FY 2010-11.

The PLF (i) approved in the MYT Order dated 17th January, 2009, (ii) considered in the Annual Performance Review (APR) by the Commission in its order dated 6th September, 2011 and (iii) the actuals as furnished by TPL in the present petition are given in the table below:

Table 4.4: Plant Load Factor of TPL-G (APP) for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
	Sabarmati			
1	C Station	89.89	65.11	63.11
2	D Station	89.42	85.40	86.72
3	E Station	92.53	85.25	88.83
4	F Station	93.01	85.89	87.71
5	Vatva Gas Station	89.23	80.45	76.54

TPL has submitted that the PLF for C & CCPP Vatva stations are lower than the revised PLF as given in the APR order due to the forced outage of T/A-15 rotor at C Station and reduction in gas availability for CCPP Vatva.

Commission's Analysis

The Commission has analyzed the submissions made by the Petitioner.

The Commission has taken note of the above reduction in PLF for C station and CCPP Vatva station and approved the PLF for FY 2010-11 for truing up purpose as per actuals as given in the table below:

Table 4.5: Plant Load Factor of TPL-G (APP) approved for truing up for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Approved in truing up for FY 10-11
	Sabarmati				
1	C Station	89.89	65.11	63.11	63.11
2	D Station	89.42	85.40	86.72	86.72
3	E Station	92.53	85.25	88.83	88.83
4	F Station	93.01	85.89	87.71	87.71
5	Vatva Gas Station	89.23	80.45	76.54	76.54

4.2.3 Auxiliary consumption

Petitioner's submission

The TPL has submitted the actuals of auxiliary consumption of different stations for FY 2010-11.

The auxiliary consumption (i) approved in the MYT Order dated 17th January, 2009, (ii) considered in the Annual Performance Review (APR) in the order dated 6th September, 2011 and (iii) the actuals as furnished by TPL in the present petition for the period are given in the table below:

Table 4.6: Auxiliary consumption of TPL-G (APP) for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
	Sabarmati			
1	C Station	9.41	9.41	10.30

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
2	D Station	8.73	8.73	9.00
3	E Station	8.73	8.73	9.00
4	F Station	8.73	8.73	9.00
5	Vatva Gas Station	2.92	2.74	2.70

TPL submitted that it has made substantial efforts to maintain the auxiliary consumption at approved level but the auxiliary consumption is at a higher level than that approved due to low load operation regime during the second half of the year. TPL submitted that the auxiliary consumption in the C Station was higher than estimated value because of part load operation due to outage of T/A-15 rotor. TPL has also requested the commission to consider the higher auxiliary consumption as uncontrollable.

Commission's Analysis

It is noted that for all the stations the actual auxiliary consumption is more than that of the approved levels in the MYT order except for CCPP Vatva station.

The Commission approves the auxiliary consumption for various stations as in the earlier MYT order dated 17th January, 2009 for FY 2010-11, for truing up purpose as it is a controllable parameter.

The auxiliary consumption approved for different stations for the purpose of 'truing up ' for FY 2010-11 is given in Table below:

Table 4.7: Auxiliary consumption of TPL-G (APP) approved for truing up for FY 2010-11

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Approved in truing up for FY 10-11
	Sabarmati				
1	C Station	9.41	9.41	10.30	9.41
2	D Station	8.73	8.73	9.00	8.73
3	E Station	8.73	8.73	9.00	8.73

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Approved in truing up for FY 10-11
4	F Station	8.73	8.73	9.00	8.73
5	Vatva Gas Station	2.92	2.74	2.70	2.92

4.2.4 Station Heat Rate (SHR)

Petitioner's submission

TPL has furnished the actual SHR attained for different stations during FY 2010-11. The station heat rate (i) approved in the MYT Order dated 17th January 2009, (ii) approved in the Tariff Order dated 31st March, 2010 (iii) considered in the Annual Performance Review (APR) in the order dated 6th September, 2011 and (iv) the actuals as furnished by TPL in the present petition for the period are given in the table below:

Table 4.8: Station Heat Rate of TPL-G (APP) claimed for FY 2010-11

(kCal/kWh)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order (NCV)	Approved for FY 2010-11 in the Tariff Order (GCV)	Considered in the APR for FY 2010-11 (GCV)	Actuals for FY 2010-11 (GCV)
	Sabarmati				
1	C Station	3675.00	3150.00	3130.00	3131.00
2	D Station	2565.00	2450.00	2433.00	2455.00
3	E Station	2525.00	2725.00	2707.00	2722.00
4	F Station	2715.00	2725.00	2708.00	2721.00
5	Vatva Gas Station	1950.00	2165.00	2137.00	2146.00

The SHR approved in the MYT order dated 17th January, 2009 for all the stations was based on Net Calorific Value (NCV). The values approved in the Tariff order for FY 2010-11, considered in the APR for FY 2010-11 and actuals for FY 2010-11 are based on GCV basis.

Commission's Analysis

The Commission examined the submission of TPL. In the MYT order the SHR approved for FY 2010-11 was based on NCV basis whereas the SHR approved in

the Tariff Order and in the APR was based on GCV basis. The Commission thus approves the SHR in the truing up for FY 2010-11 as approved in the Tariff Order for FY 2010-11 instead of SHR approved in MYT order. The SHR values approved for FY 2010-11, are as given in the table below:

Table 4.9: Station Heat Rate approved for truing up for FY 2010-11

(K.cal/kWh)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order (NCV)	Approved for FY 2010-11 in the Tariff Order (GCV)	Considered in the APR for FY 2010-11 (GCV)	Actuals for FY 2010-11 (GCV)	Approved in truing up for FY 10-11 (GCV)
	Sabarmati					
1	C Station	3675.00	3150.00	3130.00	3131.00	3150.00
2	D Station	2565.00	2450.00	2433.00	2455.00	2450.00
3	E Station	2525.00	2725.00	2707.00	2722.00	2725.00
4	F Station	2715.00	2725.00	2708.00	2721.00	2725.00
5	Vatva Gas Station	1950.00	2165.00	2137.00	2146.00	2165.00

4.2.5 Secondary Fuel Oil Consumption (SFC)

Petitioner's submission

The TPL has furnished the actuals of Secondary Fuel Oil Consumption for the different stations of TPL-G (APP) during the FY 2010-11.

The Secondary Fuel Oil Consumption (i) approved in the MYT Order dated 17th January 2009, (ii) considered in the Annual Performance Review (APR) in the order dated 6th September, 2011and (iii) the actuals as furnished by TPL in the present petition for the second control period are given in the table below:

Table 4.10: Secondary Fuel Oil Consumption of TPL-G (APP) for FY 2010-11

(gm/kWh)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Approved for FY 2010-11 in the Revised Order dated 6th Sep. 2011	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
	Sabarmati				

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Approved for FY 2010-11 in the Revised Order dated 6th Sep. 2011	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
1	C Station	1.45	1.34	1.50	1.27
2	D Station	1.45	1.34	0.69	0.40
3	E Station	1.45	1.34	0.60	0.32
4	F Station	1.45	1.34	0.60	0.32

TPL submitted that the Commission has considered the SFC based on the actual H_1 as submitted by it in the APR for FY 2010-11. Actual SFC as achieved by TPL is lower than that approved by the commission in its MYT and APR order.

Commission's Analysis

The actual Secondary Fuel Consumption (SFC) as submitted by TPL for FY 2010-11 is much lower than the SFC approved by the commission in the MYT order.

As the SFC is a performance parameter, which is controllable, the Commission approves, for truing up purpose, the SFC values as mentioned in the MYT order, for FY 2010-11. In the MYT order of January, 2009 the SFC has been approved considering 1.39 ml/kwh = 1.45gm/kwh. The Commission noticed that the conversion from ml/kwh to gm/kwh was erroneous which required to be corrected as 1.39ml/kwh = 1.34 gm/kwh.

Accordingly, the SFC approved for FY 2010-11, for truing up purpose is given in the table below:

Table 4.11: Secondary Fuel Oil Consumption approved for truing up for FY 2010-11

(gm/kWh)

Sl. No.	Station	Approved in the MYT Order for FY 2010-11	Corrected and considered for MYT order for FY 2010-11	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Approved in truing up for FY 10-11
	Sabarmati					
1	C Station	1.45	1.34	1.50	1.27	1.34
2	D Station	1.45	1.34	0.69	0.40	1.34
3	E Station	1.45	1.34	0.60	0.32	1.34
4	F Station	1.45	1.34	0.60	0.32	1.34

4.2.6 Transit Loss

Petitioner's submission

In its petition, the TPL has submitted the actual percentage of transit loss of coal for all the coal-based stations of TPL-G (APP) during the FY 2010-11.

The transit loss of coal (i) approved in the MYT Order dated 17th January, 2009, (ii) considered in the Annual Performance Review (APR) in the order dated 6th September, 2011 and (iii) the actuals as furnished by TPL in the present petition for the period are given in the table below:

Table 4.12: Transit Loss of TPL-G (APP) for FY 2010-11 (in %)

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11
1	All coal based stations	1.40	1.90	2.85

The TPL submitted that the actual transit loss achieved for FY 2010-11 is higher at 2.85% than the approved one in spite of all its efforts to contain the same and there are various uncontrollable reasons due to which the transit loss is still higher.

In its petition, the TPL submitted that it has reduced the transit loss from a one time high of 8% to the present level of 2.85%. TPL has further submitted that it has considered transit loss as a controllable parameter in its calculations but requests the commission to consider it as an uncontrollable parameter while truing up for FY 2010-11.

Commission's Analysis

The Commission has assessed the submission of the Petitioner and noted that the transit loss for FY 2010-11 in the MYT order dated 17th January, 2009 was approved at a higher level compared to the norms set for such transit losses as per GERC Terms and Conditions of Tariff Regulations, 2005.

The Commission has approved a transit loss of 1.4% in its MYT order. The Appellate Tribunal for Electricity (APTEL), in its order dated 23rd March, 2010, opined that some consideration deserves to be given for increased transit loss. However, the APTEL

left it to the State Commission, to decide increased percentage of allowable coal transit losses for TPL-G stations. Consequently, the Commission decided to approve transit loss of coal at 1.9% for the years FY 2009-10 and 2010-11 in their review order dated 05.09.2011 in the Petition No. 966 of 2009. Further in its APR for FY 2010-11 the commission had approved the transit loss at 1.9%.

Based on the above observation, the percentage of transit loss for truing up for FY 2010-11 is approved as given in the table below:

Table 4.13: Transit loss approved for truing up for FY 2010-11 (in %)

(%)

Sl. No.	Station	Approved for FY 2010-11 in the MYT Order	Considered in the APR for FY 2010-11	Actuals for FY 2010-11	Approved in truing up for FY 10-11
1	All coal based stations	1.40	1.90	2.85	1.90

4.2.7 Summary of performance parameters approved for truing up for FY 2010-11

Based on the analysis in the preceding paragraphs, the performance parameters approved for different power generation stations of TPL-G (APP) for the FY 2010-11, for truing up purpose are listed in the table below:

Table 4.14: Performance parameters for TPL-G (APP) stations approved for truing up for the FY 2010-11

Sl. No.	Station	PAF	PLF	Aux. Consum-ption	Station Heat Rate	Secondary fuel oil consumption	Transit loss of coal
		(%)	(%)	(%)	Kcal/kWh (on GCV basis)	(gm/kWh)	(%)
	Sabarmati						
1	C Station	91.03	63.11	9.41	3150.00	1.34	1.90
2	D Station	90.73	86.72	8.73	2450.00	1.34	1.90
3	E Station	93.71	88.83	8.73	2725.00	1.34	1.90
4	F Station	94.02	87.71	8.73	2725.00	1.34	1.90
5	Vatva Gas Station	95.63	76.54	2.92	2165.00	-	-

4.3 Gross and Net generation

The gross and net generation of power in different stations, as per actuals submitted by TPL and as approved for truing up purpose for the FY 2010-11 are given in the table below:

Table 4.15: The gross and net generation of power for truing up for FY 2010-11

Sr. No.	Power stations	As per actuals submitted by TPL				As approved by the Commission			
		Gross generation (MU)	Aux Cons. (%)	Aux. cons. (MU)	Net generation (MU)	Gross generation (MU)	Aux Cons. (%)	Aux. cons. (MU)	Net generation (MU)
	Sabarmati								
1	C Station	331.71	10.30	34.17	297.54	331.71	9.41	31.21	300.49
2	D Station	911.60	9.00	82.04	829.56	911.60	8.73	79.58	832.02
3	E Station	855.97	9.00	77.04	778.93	855.97	8.73	74.73	781.24
4	F Station	845.17	9.00	76.07	769.11	845.17	8.73	73.78	771.39
5	Vatva Gas Station	670.49	2.70	18.10	652.39	670.49	2.92	19.58	650.91
	Total	3614.94	-	287.42	3327.52	3614.94	-	278.88	3336.05

4.4 Cost Parameters

The cost parameters include NCV/GCV of fuel, mix of fuel and price of fuel. The Sabarmati C, D, E & F stations of TPL-G (APP) run on coal as base fuel. A mix of indigenous and imported coal is used in these stations.

The Vatva Gas Station (CCPP) is run by gas as base fuel.

The TPL submitted the details of actual Wt Av NCV, mix of coal and Wt Av price of fuel for different stations as discussed below for FY 2010-11:

4.4.1 Wt. Av. Calorific Value (CV) of fuel

The TPL has furnished the actuals of Wt. Av. Calorific Value of fuels for all the stations put together for FY 2010-11, as given in the table below:

Table 4.16: Actual Wt. Av. Calorific value (CV) of different fuels for coal based stations for FY 2010-11

Particulars	Calorific Value
Wt. Av. CV of the indigenous coal (K.cal/Kg)	4251.00
Wt. Av. CV of imported coal (K.cal/Kg)	5158.00
Wt. Av. CV of secondary fuel oil (K.cal/Kg)	10306.00

For Vatva gas station, TPL submitted that it has entered into heat value contract (Rs. /MMBTU) for gas sourcing.

In its reply to the communication sent by the Commission, TPL furnished additional information vide its e-mail dated 17.02.2012, wherein the details of fuel consumption and cost for each station are furnished. From these details the station wise, Wt. Av. CV of fuel consumed in each power station are as given in the table below:

Table 4.17: Wt. Av. Calorific value (CV) of fuels for different stations for FY 2010-11

Sl. No.	Station	Wt. Av. CV of the mix of the coal as fed into the boiler (K.cal/Kg)	Wt. Av. CV of secondary fuel oil (K.cal/Kg)	Wt Avg. CV of Gas (kcal/MMBtu)
	Sabarmati			
1	C Station	4278.97	10329.25	-
2	D Station	4601.70	10297.72	-
3	E Station	4555.00	10283.80	-
4	F Station	4571.24	10301.92	-
5	Vatva Gas Station			252000.00

4.4.2 Mix of coal

The TPL has furnished the details of actual percentages of the mix of indigenous and imported coal in its coal based power stations during the FY 2010-11, as given in the table below:

Table 4.18: The mix of different types of coal for FY 2010-11*

Sl. No.	Station	Indigenous coal (%)	Imported coal (%)
	Sabarmati		
1	C Station	100.00	0.00
2	D Station	60.62	39.38
3	E Station	66.68	33.32
4	F Station	64.16	35.84

* The mix of coal for different stations is as per the additional information furnished by TPL, in its e-mail dated 17.02.2012.

4.4.3 Wt Av Prices of Fuel

The TPL has furnished the actuals of Wt Av Price per unit of different fuels for all the stations put together for FY 2010-11, as given in the table below:

Table 4.19: Wt. Av. Price / unit of fuels for FY 2010-11 (Actuals)

Sl. No.	Station	Wt. Av. cost of indigenous coal (Rs/MT)	Wt. Av. cost of imported coal (Rs/MT)	Wt. Av. cost of secondary fuel oil (Rs/MT)	Wt. Av. cost of gas (Rs/MMBTU)
	Sabarmati				
1	All the coal stations	3435.85	5161.80	31295.52	-
2	Vatva Gas Station	-	-	-	292.87

In its communication dated 17.02.2012, TPL has furnished the actual Wt. Av. cost / MT of different fuels for different stations for FY 2010-11 as given in the table below:

Table 4.20: Wt. Av. Price / unit of fuels for FY 2010-11 (Actuals) for different stations

Sl. No.	Station	Wt. Av. cost of indigenous coal (Rs/MT)	Wt. Av. cost of imported coal (Rs/MT)	Wt. Av. cost of secondary fuel oil (Rs/MT)	Wt. Av. cost of gas (Rs/MMBTU)
	Sabarmati				
1	C Station	3417.03	-	31634.10	-
2	D Station	3437.19	5177.13	31335.14	-

Sl. No.	Station	Wt. Av. cost of indigenous coal (Rs/MT)	Wt. Av. cost of imported coal (Rs/MT)	Wt. Av. cost of secondary fuel oil (Rs/MT)	Wt. Av. cost of gas (Rs/MMBTU)
3	E Station	3427.09	5178.84	30960.78	-
4	F Station	3434.73	5172.03	31052.50	-
5	Vatva Gas Station	-	-	-	292.87

Commission's Analysis

As already discussed in paragraph 4.2.4 the Commission decided to consider the SHR on GCV basis and so the fuel calorific value also be on GCV basis.

The Commission, after due validation approves the Wt. Av. CV of fuels, percentage mix of coal and prices of fuels (actuals) as furnished by TPL for truing up purpose for FY 2010-11, as they are uncontrollable items.

4.5 Fuel Costs

Based on the performance and cost parameters, the normative fuel costs for each of the stations along with actuals furnished by TPL are given in the table below:

Table 4.21: Fuel cost of TPL-G (APP) for truing up for FY 2010-11

Sr.No.	Power stations	As per actuals submitted by TPL				Normative fuel cost			
		Gross generation (MU)	Net generation (MU)	Fuel Cost (Rs. Crore)	Fuel cost per unit net (Rs/kWh)	Gross generation (MU)	Net generation (MU)	Fuel Cost (Rs. Crore)	Fuel cost per unit net (Rs/kWh)
	Sabarmati								
1	C Station	331.71	297.54	86.34	2.90	331.71	300.49	86.09	2.86
2	D Station	911.60	829.56	204.27	2.46	911.60	832.02	204.72	2.46
3	E Station	855.97	778.93	209.48	2.69	855.97	781.24	210.49	2.69
4	F Station	845.17	769.11	207.94	2.70	845.17	771.39	209.04	2.71
5	Vatva Gas Station	670.49	652.39	167.23	2.56	670.49	650.91	168.70	2.59
	Total	3614.94	3327.52	875.28		3614.94	3336.05	879.04	

Detailed computation of the fuel cost for each of the stations has been given in Annexure 4.1 to 4.5 at the end of this chapter.

4.5.1 Approved fuel cost

The Commission has computed normative fuel cost for the purpose of computing the gain/loss due to the controllable factors.

The normative fuel costs of all the stations except C station of TPL are higher than the actual costs.

The Commission has verified the actual fuel cost submitted by TPL with the segregated audited account and it was found in order.

The comparison between the fuel costs of all stations put together as per audited annual accounts for FY 2010-11, normative fuel cost and the cost approved for truing up purpose are as given in the table below:

Table 4.22: Fuel cost as per actual, normative and as approved for truing up for FY 2010-11

(Rs. Crore)

Particular	As per actuals	Normative fuel cost	As approved
Total fuel cost	875.28	879.04	875.28

4.5.2 Gains and losses in fuel costs due to controllable factors of TPL-G (APP)

TPL has arrived at the fuel expenses incurred for FY 2010-11, on the basis of the actual operational parameters such as station heat rate (SHR), auxiliary consumption, specific fuel oil consumption (SFC) and transit loss of coal. The Commission has compared the fuel expenses, so derived by TPL with the fuel expenses on the basis of the approved operational performance parameters for actual net generation for identification of gains / losses on account of variation in these parameters and approves the gains / losses station-wise as given in the table below:

Table 4.23: Approved gains / losses from fuel expenses (due to controllable factors) for FY 2010-11

(Rs. Crore)

Sl.No.	Station	Fuel cost arrived at with approved parameters for actual net generation for FY 2010-11*	Actual fuel cost as submitted by TPL	Gains / (losses) due to controllable factors
	Sabarmati			
1	C Station	85.24	86.34	(1.10)
2	D Station	204.12	204.27	(0.15)
3	E Station	209.87	209.48	0.39
4	F Station	208.42	207.94	0.48
5	Vatva Gas Station	169.09	167.23	1.85
	Total	876.73	875.28	1.47

*Detailed computation of the fuel cost for each of the stations with approved parameters for actual net generation has been given in Annexure 4.1 to 4.5 at the end of this chapter.

4.6 Fixed Charges

4.6.1 Operations and Maintenance (O&M) expenses

TPL has claimed a sum of Rs. 132.45 crore towards actual O&M expenses in the truing up for FY 2010-11, as against Rs. 133.87 crore approved in the MYT order dated 17th January, 2009 as detailed in the table below:

Table 4.24: O&M expenses of TPL-G (APP) claimed for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11		
	MYT Order	APR Order	Actual
Employee cost	55.85	57.88	69.50
R&M expenses	53.12	53.12	45.68
A&G expenses	24.90	24.90	17.27
Total O&M expenses	133.87	135.90	132.45

The O&M expenses are discussed component wise in the following paragraphs.

(i) Employee expenses

TPL has claimed a sum of Rs. 69.50 crore towards actual employee cost in the truing up for FY 2010-11, as against Rs. 55.85 crore approved in the MYT order dated 17th January, 2009.

Petitioner's submission

TPL has submitted that its employee expenses have exceeded the value approved in the MYT order due to change in gratuity policy issued by the central government and on account of wage revision settlement arrived at under section 12 (3) of the Industrial Dispute Act, 1947. TPL has also claimed that this wage revision is to be considered as uncontrollable factor and needs to be trued up at actual in accordance with GERC (MYT Framework) Regulations, 2007 read with the judgment of the Hon'ble Appellate Tribunal for Electricity in Appeal No. 68 of 2009.

Commission's Analysis

TPL has claimed an employee cost of Rs. 69.50 crore net of capitalisation for the FY 2010-11.The Commission verified the employee cost with the segregated annual accounts and found that the gross employee cost is Rs. 88.78 crore. Subsequently, TPL has reported that Rs. 19.33 crore pertaining to capitalisation of employee cost is deducted from the gross employee cost and Rs. 0.05 crore on account of commission paid to non-executive directors is added to gross employee cost to arrive at net employee cost of Rs. 69.50 crore.

While truing up of employee cost for FY 2010-11, the Commission has considered the capitalisation of Rs. 19.33 crore whereas the commission of Rs. 0.05 crore paid by TPL to non-executive director has been considered under the A&G expenses.

The Commission has approved the net employee cost of Rs. 69.45 crore as against Rs. 55.85 crore considered by the Commission in the MYT order. The deviation of Rs. 13.60 crore in employee cost is on account of wage revision and is considered as uncontrollable.

The Commission, therefore, approves the employee expenses at Rs. 69.45 crore in the truing up for FY 2010-11.

(ii) Repairs & Maintenance (R&M) expenses

TPL has claimed a sum of Rs. 45.68 crore towards actual R&M expenses in the truing up for FY 2010-11 against Rs. 53.12 crore approved in the MYT Order dated 17th January, 2009.

Petitioner's submission

TPL has submitted that the actual expenses under R&M are lower by an amount of Rs. 7.44 crore as compared to the approved expenses. TPL has further claimed that it has incurred a one - time expense of Rs. 6.97 crore on account of major overhauling of CCPP Vatva carried out in FY 2010-11which it considers to be an uncontrollable expense.

For computation of gains and losses for the FY 2010-11, TPL has considered Rs. 6.97 crore to be uncontrollable loss and Rs. 14.41 crore a controllable gain.

Commission's Analysis

The Commission has verified the actual R&M expenses with the segregated and audited accounts and found them to be correct. As per the MYT Framework Regulations, 2007 the deviation in R&M expenses is considered as a controllable factor.

The Commission, accordingly, approves the R&M expenses at Rs. 45.68 crore in the truing up for FY 2010-11.

(iii) Administration and General (A&G) expenses

TPL has claimed a sum of Rs. 17.27 crore towards actual A&G expenses in the truing up for FY 2010-11 against Rs. 24.90 crore approved in the MYT Order dated 17th January, 2009.

Petitioner's submission

TPL has submitted that the actual expenses under A&G are lower than the amount approved in the MYT order and on further analysis it is found that an amount of Rs.

7.63 crore has been saved as compared to the approved expense. Further, it is submitted that the sharing of gains and losses has been computed as per the Regulations.

Commission's Analysis

The commission has verified the A&G expenses from the segregated and audited annual accounts and found the expenses claimed by TPL to be in order. The actual A&G expenses are Rs. 17.32 Crore including the commission paid by TPL to non-executive director.

Further the deviation of the actual A&G expenses as claimed by TPL from the approved expenses is Rs. 7.58 crore and will be considered for the computation of gains/losses for the FY 2010-11.

The deviation in A&G expenses is considered as a controllable factor in accordance with the MYT Framework Regulations, 2007.

The Commission, accordingly, considers the A&G expenses at Rs. 17.32 crore in the truing up for FY 2010-11.

The total O&M expenses and the gain / loss approved in the truing up for FY 2010-11 are summarized in the table below:

Table 4.25: O&M expenses and gain / loss approved in truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to controllable factor	Gain / (loss) due to uncontrollable factor
Employee expenses	55.85	69.45	(13.60)	-	(13.60)
R&M expenses	53.12	45.68	7.44	7.44	-
A&G expenses	24.9	17.32	7.58	7.58	-
Total O&M expenses	133.87	132.45	1.42	15.02	(13.60)

4.6.2 Capital expenditure, Capitalization and Sources of Funding

TPL has claimed Rs. 33.94 crore towards actual capital expenditure in the truing up for FY 2010-11 as against Rs. 31.17 crore approved in the MYT order for FY 2010-11

and Rs. 111.66 crore considered in the APR for FY 2010-11. The details are given in the table below:

Table 4.26: Capital expenditure claimed by TPL-G (APP) for FY 2010-11

(Rs. Crore)

Particulars	MYT Order	APR Order	Actual
C station cooling tower – IDCT	-	7.00	6.35
F station upgradation	-	16.46	-
E station upgradation	-	16.46	-
ESP Field extension, overhauling of existing ESP, control replacement, Ash handling system extention	-	17.00	9.96
HP heater replacement for 'F' station	-	2.50	2.79
Renovation and refurbishment of civil structure / building for C station	-	5.00	-
Installation of new conveyor from conveyor N4B discharge end	-	-	-
Pollution control scheme	-	6.00	-
Renovation of down stream conveyor from existing crusher house to D,E&F station bunkers	7.50	-	-
Construction of new cooling towers	8.00	-	-
Normal capital expenditure - Sabarmati	12.54	22.57	0.58
Normal capital expenditure- Vatva	3.13	0.85	0.31
Construction of New Electrical Machines Motor Shed for D/E Station	-	-	-
Miscellaneous item – Admin	-	2.12	0.15
Carry over of earlier years	-	15.70	6.16
SAP	-	-	7.64
Total Cost	**31.17**	**111.66**	**33.94**

Petitioner's submission

TPL has explained the reasons for reduction of capital expenditure as given below:

- C Station cooling tower. IDCT was initially planned to be taken up during FY 2009 -10. However, due to delay in getting response from vendors, the project was deferred to FY 2010-11. During discussion at bid stage, it was decided to use RC C basin of old NDCT 14. Hence the cost of the project has reduced.
- E and F Station upgradation –

  E and F Station upgradation was initially planned to be

executed over a period of three years, i.e. FY 2010-11, FY 2011-12 and FY 2012-13. However, due to slow response from OEMs and longer implementation cycle by bidders, the project was deferred to FY 2011-12 onwards.

- Normal Capital Expenditure in Sabarmati has been Rs.0.24 Crores against approval of Rs. 22.57 Crores due to deferment. Similarly, Normal Capital Expenditure in Vatva has been Rs. 0.29 Crores against approval of Rs. 0.85 crore due to deferment.
- In the miscellaneous items, actual expenditure is nil against an estimate of Rs. 2.12 crore. The lower expenditure was due to non-execution of some major planned projects due to various constraints, such as, delay in land acquisition for the main gate entrance, access control system and common parking at the station premises.

Commission's Analysis:

TPL has claimed a capitalization of Rs. 30.75 crore against the actual capital expenditure of Rs. 33.94 crore. The asset addition during FY 2010-11 as claimed by TPL is put at Rs. 30.75 crore. .

The TPL has estimated that the quantum of debt and equity as detailed in the table below:

Table 4.27: Capitalization and sources of funding claimed in truing up for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11	
	APR Order	Actual
Capital expenditure	111.66	33.94
Capitalization during the year	78.74	30.75
Normative Debt	55.12	21.53
Normative Equity	23.62	7.43

The Commission observes that the actual capital expenditure achieved is far lower than the capital expenditure approved in the APR order for FY 2010-11. The Commission reiterates its earlier observation that utilities actually incur lower capital expenditure than what was approved while determining the tariff. TPL is required to propose realistic capital investment so that the consumers are not saddled with

avoidable burden. The capitalisation as verified from the audited annual accounts is Rs. 24.77 crore. TPL has calculated the normative debt as 70% of the gross capitalisation of Rs. 30.75 crore and normative equity as 30% of the net capitalisation of Rs. 24.77 crore. However the Commission has considered the normative debt and equity on the basis of net capitalisation of Rs. 24.77 crore.

The Commission approves the capitalization and sources of funding as shown in the table below in the truing up for FY 2010-11.

Table 4.28: Approved capitalization and sources of funding in truing up for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11	
	Actual claimed for FY 2010-11	Approved in truing up for FY 2010-11
Capital expenditure	33.94	33.94
Capitalization during the year	30.75	24.77
Normative Debt	21.53	17.34
Normative Equity	7.43	7.43

4.6.3 Interest expenses

TPL has claimed a sum of Rs. 8.35 crore towards actual interest expenses in the truing up for FY 2010-11 against Rs. 22.35 crore approved in the MYT Order and Rs. 9.16 crore considered in the APR order for FY 2010-11 as detailed in the table below:

Table 4.29: Interest claimed in the truing up for FY 2010-11

(Rs. Crore)

Loan Heads	APR Order	Actual Claimed for FY 2010-11
Existing loans		
LIC I		
Opening Balance	41.88	41.88
Repayments	4.79	4.79
Closing Balance	37.09	37.09
Interest Rate	11.00%	11.00%
Interest on Loan	4.34	4.37
IDFC Term Loan II		

Loan Heads	APR Order	Actual Claimed for FY 2010-11
Opening Balance	10.71	10.71
Repayments	7.14	7.14
Closing Balance	3.57	3.57
Interest Rate	8.17%	8.17%
Interest on Loan	0.58	0.53
Bank of Baroda Term Loan		
Opening Balance	12.44	12.44
Repayments	1.28	1.28
Closing Balance	11.17	11.17
Interest Rate	10.75%	12.50%
Interest on Loan	1.27	1.34
Total	6.20	6.25
Loans drawn during FY 2010-11		
Capitalization During the Year	78.74	30.75
Normative Debt @ 70%	55.12	21.53
Opening Balance	-	-
New Borrowings	55.12	21.53
Repayments	-	2.04
Closing Balance	55.12	19.49
Interest Expense	2.96	2.10
Total Interest Expenses	**9.16**	**8.35**

Petitioner's submission

TPL has submitted that the Commission had revised the interest expenses in the APR order 1092/2010 based on the proposal of TPL on the actual loans at the beginning of the year and additional loan for capital expenditure during FY 2010-11. It is further submitted that the interest on loan be treated as uncontrollable as it depends on the actual capital expenditure during the year.

Commission's Analysis

The existing loans outstanding as on 1st April, 2010 and the details of repayment and interest charges on these loans are verified and found to be correct. The additional loan considered by the Commission is of Rs. 17.34 crore borrowed during FY 2010-11 and is in accordance with the capitalization of Capex and funding of the Capex as approved in table 4.28 above.

The Commission has re-computed the allowable interest charges for FY 2010-11 as detailed in the table below:

Table 4.30: Interest approved by the Commission in the truing up for FY 2010-11

(Rs. Crore)

Loan Heads	APR Order	Approved in truing up for FY 10-11
Existing loans		
LIC I		
Opening Balance	41.88	41.88
Repayments	4.79	4.79
Closing Balance	37.09	37.09
Interest Rate	11.00%	11.00%
Interest on Loan	4.34	4.37
IDFC Term Loan II		
Opening Balance	10.71	10.71
Repayments	7.14	7.14
Closing Balance	3.57	3.57
Interest Rate	8.17%	8.17%
Interest on Loan	0.58	0.53
Bank of Baroda Term Loan		
Opening Balance	12.44	12.44
Repayments	1.28	1.28
Closing Balance	11.17	11.17

Loan Heads	APR Order	Approved in truing up for FY 10-11
Interest Rate	10.75%	10.75%
Interest on Loan	1.27	1.34
Total	6.20	6.25
Loans drawn during FY 2010-11		
Capitalization During the Year	78.74	24.77
Normative Debt @ 70%	55.12	17.34
Opening Balance	-	-
New Borrowings	55.12	17.34
Repayments	-	1.73
Closing Balance	55.12	15.61
Interest Expense	2.96	0.75
Total Interest Expenses	9.16	7.00

The Commission, accordingly, approves the interest and finance charges at Rs. 7.00 crore in the truing up for FY 2010-11.

In regard to the computation of gains / losses, Regulation 9.6.2 (e) considers interest and finance charges as a controllable expense. The Commission has observed that the interest and finance charges are dependent on the total amount of capital expenditure, capitalization and the extent of borrowings accounted during the financial year. Therefore, the deviation is considered as uncontrollable.

The Commission, accordingly, approves the gains / losses on account of interest and finance charges in the truing up for FY 2010-11 as detailed in the table below:

Table 4.31: Gains / losses approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to uncontrollable factor
Interest and Finance charges	22.35	7.00	15.35	15.35

4.6.4 Interest on working capital

TPL has claimed a sum of Rs. 35.31 crore towards interest on working capital in the truing up of FY 2010-11 as against Rs. 28.34 crore approved in the MYT Order and Rs. 30.26 crore considered in the APR order for FY 2010-11 as detailed in the table below:

Table 4.32: Interest on working capital of TPL-G (APP) claimed for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11		
	MYT Order	APR Order	Actual
Coal and Secondary fuel for 2 months	84.41	96.71	118.01
Gas for 1 month	12.38	13.14	13.94
O&M expense for 1 month	11.16	11.33	11.04
1 % of GFA for maintenance spares	8.80	7.55	7.55
Receivables for 2 months	157.74	166.52	193.96
Normative Working Capital	274.49	295.25	344.49
Interest Rate	10.25%	10.25%	10.25%
Interest on Working Capital	28.34	30.26	35.31

Petitioner's submission

TPL has submitted that the revised computation for interest on working capital is higher than that of the interest approved in the MYT Order since the working capital requirement has increased mainly due to increase in the fuel costs compared to the approved base cost which is uncontrollable in nature.

Commission's Analysis

The Commission has examined the computation of normative working capital and interest thereon under GERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Based on the O&M expenses approved in the truing up and other components of ARR in the truing up for FY 2010-11, the Commission has computed the working capital and interest thereon as detailed in the table below:

Table 4.33: Interest on working capital approved in truing up for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11			
	MYT Order	APR Order	Actual	Approved in truing up for FY 10-11
Coal and Secondary fuel for 2 months	84.41	96.71	118.01	118.39
Gas for 1 month	12.38	13.14	13.94	14.06
O&M expense for 1 month	11.16	11.33	11.04	11.04
1 % of GFA for maintenance spares	8.80	7.55	7.55	7.55
Receivables for 2 months	157.74	166.52	193.96	190.31
Normative Working Capital	274.49	295.25	344.49	341.34
Interest Rate	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	28.34	30.26	35.31	34.99

The Commission, accordingly, approves the interest on working capital at Rs. 34.99 crore in the truing up for FY 2010-11.

As indicated above, the Commission has analysed various components – controllable and uncontrollable – to arrive at the approved figure of working capital, based on which the interest on working capital has been calculated. After working out the interest on working capital, the Commission has treated the interest as uncontrollable cost for the purpose of estimating gain/loss.

The Commission, accordingly, approves the gains / losses on account of interest on working capital in the truing up for FY 2010-11 as detailed in the table below:

Table 4.34: Gain / loss in Interest on working capital approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in truing up for FY 10-11	Deviation	Gain / (loss) due to uncontrollable factor
Interest on Working Capital	28.34	34.99	(6.65)	(6.65)

4.6.5 Depreciation

TPL has claimed a sum of Rs. 29.29 crore towards depreciation in the truing up for FY 2010-11 as against Rs. 36.99 crore approved in the MYT Order and Rs. 29.94 crore considered in the APR order for FY 2010-11 as detailed in the table below :

Table 4.35: Depreciation of TPL-G (APP) claimed for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11		
	MYT Order	APR Order	Actual
Depreciation	36.99	29.94	29.29

Petitioner's submission

TPL has submitted that the depreciation rates as per CERC (Terms and Conditions of Tariff) Regulations, 2004 are applied on opening GFA of FY 2010-11 and for addition of assets from 1st April, 2009 onwards it is computed at rates specified in the Appendix III to the CERC (Terms and Conditions of Tariff) Regulations, 2009.

Commission's Analysis

The Petitioner has computed and submitted the depreciation for FY 2010-11 using CERC depreciation rates and asset classification wise. The details of opening balance of assets as on 1st April, 2010 including addition and deduction to the Gross Block during FY 2010-11 and the depreciation on the assets, classification wise, are given in Form 12, Annexure-1 of the petition. The opening and closing balances of assets are as per the segregated and audited accounts for FY 2010-11.

The Commission, accordingly, approves the depreciation at Rs. 29.29 crore in the truing up for FY 2010-11.

In regard to the computation of gains / losses, Regulation 9.6.2 (e) considers depreciation as a controllable expense. However, the Commission has considered that the capital expenditure as an uncontrollable cost and hence depreciation being dependent on CAPEX and capitalization, treated it as uncontrollable factor.

The Commission, accordingly, approves the gains / losses on account of depreciation in the truing up for FY 2010-11 as detailed in the table below:

Table 4.36: Gain / loss due to depreciation approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in Truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to uncontrollable factor
Depreciation	36.99	29.29	7.70	7.70

4.6.6 Return on equity

TPL has claimed a sum of Rs. 44.39 crore towards return on equity in the truing up for FY 2010-11 against Rs. 51.81 crore approved in the MYT Order and Rs. 45.44 crore approved in the APR order for FY 2010-11 as detailed in the table below:

Table 4.37: Return on equity of TPL-G (APP) claimed for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11		
	MYT Order	APR Order	Actual
Opening equity	365.13	313.38	313.38
Equity addition	9.95	22.43	7.43
Closing equity	375.08	335.81	320.81
Return on equity	51.81	45.44	44.39

Petitioner's submission

TPL has submitted that the return on equity is computed at 14% on the average of the opening and closing balance of equity for FY 2010-11.

Commission's Analysis

The opening equity for FY 2010-11 is as per the closing equity for FY 2009-10 approved in the True up for FY 2009-10. The addition of equity is Rs. 7.43 crore during FY 2010-11 as per the capitalization in accordance with the segregated audited accounts for FY 2010-11.

The Commission, accordingly, approves the return on equity at Rs. 44.39 crore in the truing up for FY 2010-11 as detailed in the table below:

Table 4.38: Return on equity approved in the Truing up for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11	
	APR Order	Approved in Truing up for FY 10-11
Opening equity	313.38	313.38
Equity addition	22.43	7.43
Closing equity	335.81	320.81
Average equity	324.60	317.10
Return on equity @14%	45.44	44.39

The return on equity depends on the total amount of capitalization and the debt equity ratio considered during the Financial Year and these parameters are uncontrollable in nature. The variance in the amount of return on equity is therefore also treated as uncontrollable expense.

The Commission, accordingly, approves the gains / losses on account of return on equity in the truing up for FY 2010-11 as detailed below.

Table 4.39: Return on equity and gain / loss approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in Truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to uncontrollable factor
Return on Equity	51.81	44.39	7.42	7.42

4.6.7 Income Tax

TPL has claimed a sum of Rs. 18.77 crore towards income tax in the truing up for FY 2010-11 against Rs. 17.61 crore approved in the MYT Order and Rs. 26.68 crore considered in the APR order for FY 2010-11 as detailed in the table below :

Table 4.40: Income Tax claimed for TPL-G (APP) for FY 2010-11

(Rs. Crore)

Particulars	MYT Order	APR Order	Actual
Income Tax	17.61*	26.68	18.77

*Revised to Rs. 26.68 crore in Review Order dated 5th September, 2011

Petitioner's submission

TPL has submitted that it has calculated the income tax by applying the MAT rate of 19.93% on the PBT. Further it has submitted that the deviation in the income tax be considered as uncontrollable.

Commission's Analysis

The Commission directed the petitioner to furnish the income tax details along with the PBT of the entire TPL in its e-mail dated 31.01.2012. TPL vide its letter dated February 17, 2012 has stated that the tax for FY 2010-11 is Rs.274.54 Crore for the entire TPL. Further, TPL has submitted the PBT of TPL for FY 2010-11 is Rs. 1428.82 Crore as per the published audited accounts.

The Commission verified the PBT figures with the segregated and audited accounts for FY 2010-11 and has found that the petitioner has shown a PBT of Rs. 94.17 Crore. The Commission has computed the income tax for the petitioner based on the proportion of total share of the petitioner in the total PBT of the entire TPL. The income tax apportioned to the Ahmedabad generation is Rs.18.09 Crore for FY 2010-11.

The Commission, accordingly, approves the income tax at Rs.18.09 crore in the Truing up for FY 2010-11

The Commission has treated the income tax as an uncontrollable expense. The Commission, accordingly, approves the gains / losses on account of income tax in the truing up for FY 2010-11 as detailed in the table below:

Table 4.41: Income Tax and gain/loss due to income tax approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in Truing Up FY 2010-11	Deviation +/(-)	Gain/(loss) due to controllable factor	Gain/(loss) due to uncontrollable factor
Income Tax	26.68*	18.09	8.59	-	8.59

*Revised from Rs. 17.61 crore to Rs. 26.68 crore in Review Order dated 5th September, 2011

4.6.8 Non-Tariff income

Petitioner's submission

TPL has submitted that the actual non-tariff income was Rs. 1.94 crore in the truing up for FY 2010-11 as against Rs. 1.50 crore approved in the MYT order and Rs. 14.18 crore considered in the APR for FY 2010-11 as detailed in the table below:

Table 4.42: Non-tariff income for TPL-G (APP) claimed for FY 2010-11

(Rs. Crore)

Particulars	FY 2010-11		
	MYT Order	APR Order	Actual
Non-Tariff Income	1.50	14.18*	1.94

*Revised to Rs. 0.95 crore in the Order dated 14th march, 2012 in Review Petition 1137/2011

Commission's Analysis

The non-tariff income of TPL is put at Rs.1.94 crore as per the segregated and audited annual accounts.

The Commission, accordingly, approves the non-tariff income at Rs. 1.94 crore in the truing up for FY 2010-11.

The deviation in non-tariff income is at Rs**.** 0.44 crore, which is a loss and considered as an uncontrollable factor.

The Commission, accordingly, approves the gains / losses on account of non-tariff income in the truing up for FY 2010-11 as detailed below.

Table 4.43: Non-tariff income and gains / losses approved in the truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Approved in truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to uncontrollable factor
Non-Tariff income	1.50	1.94	(0.44)	(0.44)

4.6.9 Incentive

TPL has claimed a sum of Rs. 5.55 crore towards incentive in the truing up for FY 2010-11.

Petitioner's submission

The TPL has submitted that, as per Regulation 15 (ii) of the GERC (Terms and Conditions of Tariff) Regulations, 2005 an incentive has to be paid for the increase in generation over and above the target PLF of 80%. As per Regulation 22, the incentive shall be payable at a flat rate of 25.0 Paise/kWh for ex-bus actual energy in excess of ex-bus energy corresponding to target plant load factor.

TPL has submitted that it has achieved a PLF above the target PLF of 80% and accordingly the excess generation available for the purpose of incentive works out to 222.16 MUs. At the rate of 25 paise/kwh the incentive works out to Rs. 5.55 crore.

Commission's Analysis

According to Regulation 15 (ii) read with Regulation 22 of GERC (Terms and Conditions of Tariff) Regulations, 2005, incentive for achieving higher PLF is payable for actual ex-bus generation over and above the target PLF of 80% at the rate of 25P/kWh. For computing the incentive the Commission has first computed the net generation for all the five stations at 80 % PLF, considering the approved auxiliary consumption as shown in the Table given below:

Table 4.44: Net Generation at 80% PLF and approved Auxiliary Consumption

Sr.No.	Power stations	Capacity (MW)	Gross generation at 80% PLF	Aux. Cons. %	Aux. Cons. MU	Net generation (MU)
	Sabarmati					
1	C Station	60	420.48	9.41	39.57	380.91
2	D Station	120	840.96	8.73	73.42	767.54
3	E Station	110	770.88	8.73	67.30	703.58
4	F Station	110	770.88	8.73	67.30	703.58
5	Vatva Gas Station	100	700.80	2.92	20.46	680.34
	Total	500	3504.00		268.04	3235.96

The excess generation for the purpose of incentive has been worked out by getting the difference between the actual net generation and the net generation computed at 80% PLF. The excess generation has then been multiplied by 25 paise per unit to get the incentive as shown in the Table below:

Table 4.45: Approved Incentive for TPL for the FY 2010-11

Actual Net generation for FY 2010-11 (MU)	Net Generation at 80% PLF (MU)	Incentive at 25 paise per unit (Rs. Crore)
A	**B**	**(A-B)*25P/kwh**
3327.52	3235.96	2.29

The Commission, accordingly, approves the incentive at Rs. 2.29 crore in the truing up of TPL for FY 2010-11.

4.7 Revised ARR for FY 2010-11

The Commission has reviewed the performance of TPL-G (APP) under Regulation 9.3 of MYT Regulations, 2007 with reference to segregated and audited annual accounts for FY 2010-11.

Accordingly, the Commission has computed the sharing of gains and losses for FY 2010-11 based on the truing up for each of the components discussed in the above paragraphs.

The ARR approved in the MYT order dated 17th January, 2009 as claimed by TPL in truing up for FY 2010-11 along with sharing of gains / losses computed in accordance with MYT Regulations, 2007 are given in the table below:

Table 4.46: ARR approved in truing up for FY 2010-11

(Rs. Crore)

Particulars	As per MYT Order for FY 2010-11	Actual claimed for FY 10-11	Approved in truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to controllable factor	Gain / (loss) due to uncontrollable factor
Rs. Crs						
Fuel Cost	656.94	875.28	875.28	(218.34)	1.47	(219.80)
O&M Expense	**133.87**	**132.45**	**132.45**	1.42		
Employee Cost	55.85	69.50	69.45	(13.60)		(13.60)
R&M Cost	53.12	45.68	45.68	7.44	7.44	
A&G Cost	24.90	17.27	17.32	7.58	7.58	

Particulars	As per MYT Order for FY 2010-11	Actual claimed for FY 10-11	Approved in truing up for FY 10-11	Deviation +/(-)	Gain / (loss) due to controllable factor	Gain / (loss) due to uncontrollable factor
Rs. Crs						
Depreciation	36.99	29.29	29.29	7.70		7.70
Interest Cost on Long-term Capital Loans	22.35	8.35	7.00	15.35		15.35
Interest on Working Capital Loans	28.34	35.31	34.99	(6.65)		(6.65)
Return on Equity	51.81	44.39	44.39	7.42		7.42
Income Tax	26.68*	18.77	18.09	8.59		8.59
Incentive		5.55	2.29	(2.29)		(2.29)
Less:						
Non-Tariff Income	1.50	1.94	1.94	(0.44)		(0.44)
Annual Revenue Requirement	**955.48**	**1,147.45**	**1,141.84**	**(186.36)**	**16.49**	**(202.85)**

*Revised from Rs. 17.61 crore to Rs. 26.68 crore in Review Order dated 5th September, 2011

4.8 Sharing of Gains / Losses for FY 2010-11

The Commission has analyzed the gains / losses on account of controllable and uncontrollable factors.

The relevant Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2007 are as extracted below:

Regulation 10.1 "The approved aggregate gain or loss to the Generating Company or Licensee on account of uncontrollable factors shall be passed through as an adjustment in the tariff of the Generating Company or Licensee over such period as may be specified in the Order of the Commission passed under Regulation 9.7 (a)."

Regulation 11.1 "The approved aggregate gain to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:

(a) One third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission under Regulation 9.7;

(b) One third of amount of such gain shall be retained in a special reserve by the Generating Company or Licensee for the purpose of absorbing the impact of any future losses on account of controllable factors under clause (b) of Regulation 11.2; and

(c) The balance amount of gain may be utilized, at the discretion of the Generating Company or Licensee".

Regulation 11.2 "The approved aggregate loss to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:

(a) One third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be specified in the Order of the Commission under Regulation 9.7; and

(b) The balance amount of loss shall be absorbed by the Generating Company or Licensee."

Accordingly, the gain on account of controllable factors is arrived at Rs. 16.49 crore for FY 2010-11. Out of this 1/3rd gain, i.e. Rs.5.50 crore is to be passed on to the consumers and another 1/3rd, Rs.5.50 crore, is to be credited to the special reserve. Similarly, the total loss of Rs.202.85 crore on account of uncontrollable factors shall also be passed on to consumers through an adjustment in the tariff.

Further, the Commission has noticed that in the Table no. 4.45 of the Tariff order dated 6th September, 2011 the approved variable cost in the truing up of FY 2009-10 was taken as normative fuel cost, which is required to be corrected by taking actual fuel cost. Accordingly the difference of Rs. 9.41 crore between normative fuel cost and actual fuel cost of the FY 2009-10 is adjusted in this truing up exercise. The details are given in table below:

Table 4.47: Revised ARR approved for TPL-G (APP) for FY 2010-11

(Rs. Crore)

Sl.No.	Particulars	FY 2010-11
1.	ARR approved in the MYT for FY 2010-11 (T.O. dated 19/01/2009)	955.48
2.	Less: Gain on account of controllable factor to be passed on to the consumers (1/3rd)	5.50
3.	Add: Loss on account of uncontrollable factor to be passed on to consumers	(202.85)
4.	Less: Adjustment due to correction in deviation between actual and approved fuel cost of FY 2009-10	9.41
5.	Revised ARR for FY 2010-11 (Trued up)	1143.42

Annexure 4.1

C – Station: Fuel cost approved for FY 2010-11

S.No.	GENERATION C station	Derivation	Units	FY 2010-11 Approved
1	Gross Generation	A	MUs	331.71
2	Auxiliary Consumption	F=A*E	MUs	31.21
3	Net Generation	G=A-F	MUs	300.49
4	Capacity	B	MW	60
5	Availability Factor	C	%	91.03%
6	Plant Load Factor	D	%	63.11%
7	Auxiliary Consumption	E	%	9.41%
8	Station Heat Rate	H	kcal/kWh	3,150
9	Sp. Oil Consumption	I	gm/kWh	1.34
10	Gross Calorific Value of Coal	J	kcal/kg	4,279
11	Calorific Value of Oil	K	kcal/kg	10,329
12	Overall Heat	L=A*H	G Cal	1,044,874
13	Heat from Oil	M=(A*I*K)/1000	G Cal	4,586
14	Heat from Coal	N=L-M	G Cal	1,040,288
15	Transit losses	O	%	1.90%
16	Coal Blend			
17	A) Indigenous Coal	X1	%	100.00%
18	c) Imported Coal	X2	%	0%
19	Actual Oil Consumption	P=A*I	kg	444
20	Actual Coal Consumption	Q=(N*1000)/J	MT	243,117
21	A) Indigenous Coal	R1=Q*X1/(1-O)	MT	247,825
22	c) Imported Coal	R2Q*X2	MT	-
23	Specific Coal Consumption		kg/kWh	0.73

S.No.	GENERATION C station	Derivation	Units	FY 2010-11 Approved
24	Price of Coal			
25	A) Indigenous Coal	S1	Rs/MT	3417
26	c) Imported Coal	S2	Rs/MT	-
27	Price of Oil	S3	Rs/MT	31,634
28	Coal Cost			
29	A) Indigenous Coal	T1=R1*S1/10^5	Rs Crores	84.68
30	c) Imported Coal	T2=R2*S2/10^5	Rs Crores	-
31	Total Coal Cost	T3=T1+T2	Rs Crores	84.68
32	Oil Cost	T4=S3*P/10^5	Rs Crores	1.40
33	**Total Fuel Cost**	U=T3+T4	**Rs Crores**	**86.09**
34	**Fuel Cost/Unit Gross**	V=U/(A*10)	**Rs/kWh**	**2.60**
35	**Fuel Cost/Unit Net**	W=U/(G*10)	**Rs/kWh**	**2.86**
36	Cost of fuel/G.Cal	Y=(U/L)*10^5	Rs/Gcal	823.90
37	Actual Net generation	Z	MUs	297.54
38	Normative fuel cost for actual net generation	Z1=Z*W*10	Rs Crores	85.24

Annexure 4.2

D – Station: Fuel cost approved for FY 2010-11

S.No.	GENERATION D station	Derivation	Units	FY 2010-11 Approved
1	Gross Generation	A	MUs	911.60
2	Auxiliary Consumption	F=A*E	MUs	79.58
3	Net Generation	G=A-F	MUs	832.02
4	Capacity	B	MW	120
5	Availability Factor	C	%	90.73%
6	Plant Load Factor	D	%	86.72%
7	Auxiliary Consumption	E	%	8.73%
8	Station Heat Rate	H	kcal/kWh	2,450
9	Sp. Oil Consumption	I	gm/kWh	1.34
10	Gross Calorific Value of Coal	J	kcal/kg	4,602
11	Calorific Value of Oil	K	kcal/kg	10,298
12	Overall Heat	L=A*H	G Cal	2,233,422
13	Heat from Oil	M=(A*I*K)/1000	G Cal	12,565
14	Heat from Coal	N=L-M	G Cal	2,220,857
15	Transit losses	O	%	1.90%
16	Coal Blend			
17	A) Indigenous Coal	X1	%	60.62%
18	c) Imported Coal	X2	%	39.38%
19	Actual Oil Consumption	P=A*I	kg	1,220
20	Actual Coal Consumption	Q=(N*1000)/J	MT	482,617
21	A) Indigenous Coal	R1=Q*X1/(1-O)	MT	298,229
22	c) Imported Coal	R2Q*X2	MT	190,054.42
23	Specific Coal Consumption		kg/kWh	0.53
24	Price of Coal			

S.No.	GENERATION D station	Derivation	Units	FY 2010-11 Approved
25	A) Indigenous Coal	S1	Rs/MT	3437.19
26	c) Imported Coal	S2	Rs/MT	5,177.13
27	Price of Oil	S3	Rs/MT	31,335.14
28	Coal Cost			
29	A) Indigenous Coal	T1=R1*S1/10^5	Rs Crores	102.51
30	c) Imported Coal	T2=R2*S2/10^5	Rs Crores	98.39
31	Total Coal Cost	T3=T1+T2	Rs Crores	200.90
32	Oil Cost	T4=S3*P/10^5	Rs Crores	3.82
33	**Total Fuel Cost**	U=T3+T4	**Rs Crores**	**204.72**
34	**Fuel Cost/Unit Gross**	V=U/(A*10)	**Rs/kWh**	**2.25**
35	**Fuel Cost/Unit Net**	W=U/(G*10)	**Rs/kWh**	**2.46**
36	Cost of fuel/G.Cal	Y=(U/L)*10^5	Rs/Gcal	916.64
37	Actual Net generation	Z	MUs	829.56
38	Normative fuel cost for actual net generation	Z1=Z*W*10	Rs Crores	204.12

Annexure 4.3

E – Station: Fuel cost approved for FY 2010-11

S.No.	GENERATION E station	Derivation	Units	FY 2010-11 Actuals
1	Gross Generation	A	MUs	855.97
2	Auxiliary Consumption	F=A*E	MUs	74.73
3	Net Generation	G=A-F	MUs	781.24
4	Capacity	B	MW	110
5	Availability Factor	C	%	93.71%
6	Plant Load Factor	D	%	88.83%
7	Auxiliary Consumption	E	%	8.73%
8	Station Heat Rate	H	kcal/kWh	2,725
9	Sp. Oil Consumption	I	gm/kWh	1.34
10	Gross Calorific Value of Coal	J	kcal/kg	4,555
11	Calorific Value of Oil	K	kcal/kg	10,284
12	Overall Heat	L=A*H	G Cal	2,332,507
13	Heat from Oil	M=(A*I*K)/1000	G Cal	11,782
14	Heat from Coal	N=L-M	G Cal	2,320,725
15	Transit losses	O	%	1.90%
16	Coal Blend			
17	A) Indigenous Coal	X1	%	66.28%
18	c) Imported Coal	X2	%	33.72%
19	Actual Oil Consumption	P=A*I	kg	1,146
20	Actual Coal Consumption	Q=(N*1000)/J	MT	509,490
21	A) Indigenous Coal	R1=Q*X1/(1-O)	MT	344,230
22	c) Imported Coal	R2Q*X2	MT	171,799.89
23	Specific Coal Consumption		kg/kWh	0.60
24	Price of Coal			

S.No.	GENERATION E station	Derivation	Units	FY 2010-11 Actuals
25	A) Indigenous Coal	S1	Rs/MT	3427
26	c) Imported Coal	S2	Rs/MT	5,178.84
27	Price of Oil	S3	Rs/MT	30,960.78
28	Coal Cost			
29	A) Indigenous Coal	T1=R1*S1/10^5	Rs Crores	117.97
30	c) Imported Coal	T2=R2*S2/10^5	Rs Crores	88.97
31	Total Coal Cost	T3=T1+T2	Rs Crores	206.94
32	Oil Cost	T4=S3*P/10^5	Rs Crores	3.55
33	**Total Fuel Cost**	U=T3+T4	**Rs Crores**	**210.49**
34	**Fuel Cost/Unit Gross**	V=U/(A*10)	**Rs/kWh**	**2.46**
35	**Fuel Cost/Unit Net**	W=U/(G*10)	**Rs/kWh**	**2.69**
36	Cost of fuel/G.Cal	Y=(U/L)*10^5	Rs/Gcal	902.42
37	Actual Net generation	Z	MUs	778.93
38	Normative fuel cost for actual net generation	Z1=Z*W*10	Rs Crores	209.87

Annexure 4.4

F – Station: Fuel cost approved for FY 2010-11

S.No.	GENERATION F station	Derivation	Units	FY 2010-11 Approved
1	Gross Generation	A	MUs	845.17
2	Auxiliary Consumption	F=A*E	MUs	73.78
3	Net Generation	G=A-F	MUs	771.39
4	Capacity	B	MW	110
5	Availability Factor	C	%	94.02%
6	Plant Load Factor	D	%	87.71%
7	Auxiliary Consumption	E	%	8.73%
8	Station Heat Rate	H	kcal/kWh	2,725
9	Sp. Oil Consumption	I	gm/kWh	1.34
10	Gross Calorific Value of Coal	J	kcal/kg	4,571
11	Calorific Value of Oil	K	kcal/kg	10,302
12	Overall Heat	L=A*H	G Cal	2,303,098
13	Heat from Oil	M=(A*I*K)/1000	G Cal	11,654
14	Heat from Coal	N=L-M	G Cal	2,291,444
15	Transit losses	O	%	1.90%
16	Coal Blend			
17	A) Indigenous Coal	X1	%	64.16%
18	c) Imported Coal	X2	%	35.84%
19	Actual Oil Consumption	P=A*I	kg	1,131
20	Actual Coal Consumption	Q=(N*1000)/J	MT	501,274
21	A) Indigenous Coal	R1=Q*X1/(1-O)	MT	327,847
22	c) Imported Coal	R2Q*X2	MT	179,656.63
23	Specific Coal Consumption		kg/kWh	0.59
24	Price of Coal			

S.No.	GENERATION			
	F station	Derivation	Units	FY 2010-11
				Approved
25	A) Indigenous Coal	S1	Rs/MT	3434.73
26	c) Imported Coal	S2	Rs/MT	5,172.03
27	Price of Oil	S3	Rs/MT	31,052.50
28	Coal Cost			
29	A) Indigenous Coal	T1=R1*S1/10^5	Rs Crores	112.61
30	c) Imported Coal	T2=R2*S2/10^5	Rs Crores	92.92
31	Total Coal Cost	T3=T1+T2	Rs Crores	205.53
32	Oil Cost	T4=S3*P/10^5	Rs Crores	3.51
33	**Total Fuel Cost**	U=T3+T4	**Rs Crores**	**209.04**
34	**Fuel Cost/Unit Gross**	V=U/(A*10)	**Rs/kWh**	**2.47**
35	**Fuel Cost/Unit Net**	W=U/(G*10)	**Rs/kWh**	**2.71**
36	Cost of fuel/G.Cal	Y=(U/L)*10^5	Rs/Gcal	907.64
37	Actual Net generation	Z	MUs	769.11
38	Normative fuel cost for actual net generation	Z1=Z*W*10	Rs Crores	208.42

Annexure 4.5

Vatva – CCPP: Fuel cost approved for FY 2010-11

S.No.	GENERATION			
	Vatva CPPP	Derivation	Units	FY 2010-11
				Approved
1	Gross Generation	A	MUs	670.49
2	Auxiliary Consumption	G=A*E	MUs	19.58
3	Net Generation	H=A-G	MUs	650.91
4	Capacity	B	MW	100
5	Availability Factor	C	%	95.63%
6	Plant Load Factor	D	%	76.54%
7	Auxiliary Consumption	E	%	2.92%
8	Station Heat Rate	F	kcal/kWh	2,165
9	Calorific Value of Gas	G	kcal/MMBtu	252,000
10	Overall Heat from Gas	H=A*F	G Cal	1,451,612
11	Actual Gas Consumption	I=H(10^6)/G	M. scm	5,760,364
12	Price of Gas	J	Rs/MMBtu	292.87
13	Cost of Gas	K=(I*J)/10^7	Rs Crores	168.70
14	**Total Fuel Cost**	L=K	**Rs Crores**	**168.70**
15	**Fuel Cost/Unit Gross**	M=K/A*10	**Rs/kWh**	**2.52**
16	**Fuel Cost/Unit Net**	N=K/H*10	**Rs/kWh**	**2.59**
17	Actual Net generation	Z	MUs	652.39
18	Normative fuel cost for actual net generation	Z1=Z*N*10	Rs Crores	169.09

5. Determination of Generation Charges for FY 2012-13

This chapter deals with the determination of the fixed and variable charges for the FY 2012-13 for TPL. The Commission has considered the ARR approved in the MYT order dated September 6, 2011 for FY 2012-13 while determining the generation tariff for FY 2012-13.

5.1 Determination of Fixed Charges for FY 2012-13

The Table below summarizes the fixed charges as approved by the Commission for the FY 2012-13 in the MYT Order dated September 6, 2011. Detailed analysis of each expense head has already been provided in the MYT Order.

Table 5.1: Approved fixed charges for TPL-G (APP) for FY 2012-13

(Rs. Crore)

Particulars	FY 2012-13
O&M expenses	139.82
Water Charges	8.59
Depreciation	45.23
Interest on loan	26.05
Interest on working capital	13.02
Return on equity	58.70
Income Tax	26.45
Less: Non-tariff income	14.18
Net ARR	303.68

5.2 Determination of Variable Charges for FY 2012-13

The Table below gives the energy charges for FY 2012-13 approved in the MYT order dated September 6, 2011.

Table 5.2: Approved variable charges for TPL-G (APP) for FY 2012-13

Power stations	Approved Fuel cost for FY 2012-13 (Rs. Crore)	Fuel cost per unit gross (Rs/kWh)	Fuel cost per unit net (Rs/kWh)
Sabarmati			
C Station	108.85	2.58	2.85
D Station	191.08	2.13	2.34
E Station	143.94	2.25	2.47
F Station	151.74	2.32	2.54
Vatva Gas Station	178.56	2.49	2.57
Total	774.17	2.32	2.52

The Table below gives the ARR for FY 2012-13 as approved in the MYT order dated September 6, 2011.

Table 5.3: Approved ARR for TPL-G (APP) for FY 2012-13

(Rs. Crore)

Particulars	FY 2012-13
Variable Cost	774.17
O&M expenses	139.82
Water Charges	8.59
Depreciation	45.23
Interest on loan	26.05
Interest on working capital	13.02
Return on equity	58.70
Income Tax	26.45
Less: Non-tariff income	14.18
Net ARR	1077.84

Annexure 5.1

C – Station: Fuel cost approved for FY 2012-13

Sl. No.	Item	Derivation	Unit	FY 2012-13
1	Capacity	A	MW	60
2	PLF	B	%	80.18
3	Gross Generation	C	MUs	421.43
4	Auxiliary Consumption	E	%	9.50%
5	Auxiliary Consumption	D=C*E	MUs	40.04
6	Net Generation	Y=C-D	MUs	381.39
7	Station Heat Rate	F	KCal/KWH.	3,150.00
8	Sp. Oil Consumption	G	ml/kWh	2.00
9	Gross Calorific Value of Coal	H	kcal/kg	4,251
10	Calorific value of Oil	I	kcal/L	9,909
11	Overall Heat	J=C*F	G Cal	1327492.2
12	Heat from Oil	K=(C*G*I)/1000	G Cal	8352
13	Heat from Coal	L=J-K	G Cal	1319140
14	Transit loss of coal	M	%	1.20%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	100.00%
17	B) Imported Coal	X2	%	0.00%
18	Actual Oil Consumption	N=C*G	KL	843
19	Actual Coal Consumption	O=(L*1000)/H	MT	310313
20	A) Indigenous Coal	Q1=O*X1/(1-M)	MT	314081.93
21	B) Imported Coal	Q2=O*X2	MT	0.00
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs/MT	3385.00
24	b) Imported Coal	P2	Rs/MT	
25	Price of Oil	P3	Rs/Kl	30092
26	Coal cost			

Sl. No.	Item	Derivation	Unit	FY 2012-13
27	A) Indigenous Coal	N1=Q1*P1/10^5	Rs Lakh	10631.67
28	B) Imported Coal	N2=Q2*P2/10^5	Rs Lakh	0
29	Total Coal Cost	N3=N1+N2	Rs Lakh	10632
30	Oil Cost	N4=P3*N/10^5	Rs Lakh	254
31	Total Fuel Cost	P=N3+N4	Rs Lakh	10885
32	Fuel Cost/Unit Gross	Q=P/(C*10)	Rs/kWh	2.58
33	Fuel Cost/Unit Net	R=P/(Y*10)	Rs/kWh	2.85
34	Cost of fuel/G.Cal	S=(P/J)*10^5	Rs/Gcal	820

Annexure 5.2

D - Station: Fuel cost approved for FY 2012-13

Sl. No.	Item	Derivation	Unit	FY 2012-13
1	Capacity	A	MW	120
2	PLF	B	%	85.41
3	Gross Generation	C	MUs	897.83
4	Auxiliary Consumption	E	%	9.00%
5	Auxiliary Consumption	D=C*E	MUs	80.80
6	Net Generation	Y=C-D	MUs	817.03
7	Station Heat Rate	F	KCal/KWH.	2,450.00
8	Sp. Oil Consumption	G	ml/kWh	1.00
9	Gross Calorific Value of Coal	H	kcal/kg	4,469.00
10	Calorific value of Oil	I	kcal/L	9,909
11	Overall Heat	J=C*F	G Cal	2199683.3
12	Heat from Oil	K=(C*G*I)/1000	G Cal	8897
13	Heat from Coal	L=J-K	G Cal	2190787
14	Transit loss of coal	M	%	1.20%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Imported Coal	X2	%	24.00%
18	Actual Oil Consumption	N=C*G	Kl	898
19	Actual Coal Consumption	O=(L*1000)/H	MT	490219
20	A) Indigenous Coal	Q1=O*X1/(1-M)	MT	377091.19
21	B) Imported Coal	Q2=O*X2	MT	117652.45
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs/MT	3385.00
24	C) Imported Coal	P2	Rs/MT	5162.00
25	Price of Oil	P3	Rs/Kl	30092

Sl. No.	Item	Derivation	Unit	FY 2012-13
26	Coal cost			
27	A) Indigenous Coal	N1=Q1*P1/10^5	Rs Lakh	12764.54
28	B) Imported Coal	N2=Q2*P2/10^5	Rs Lakh	6073
29	Total Coal Cost	N3=N1+N2	Rs Lakh	18838
30	Oil Cost	N4=P3*N/10^5	Rs Lakh	270
31	Total Fuel Cost	P=N3+N4	Rs Lakh	19108
32	Fuel Cost/Unit Gross	Q=P/(C*10)	Rs/kWh	2.13
33	Fuel Cost/Unit Net	R=P/(Y*10)	Rs/kWh	2.34
34	Cost of fuel/G.Cal	S=(P/J)*10^5	Rs/Gcal	869

Annexure 5.3

E – Station: Fuel cost approved for FY 2012-13

Sl. No.	Item	Derivation	Unit	FY 2012-13
1	Capacity	A	MW	113.73
2	PLF	B	%	64.25
3	Gross Generation	C	MUs	640.11
4	Auxiliary Consumption	E	%	9.00%
5	Auxiliary Consumption	D=C*E	MUs	57.61
6	Net Generation	Y=C-D	MUs	582.50
7	Station Heat Rate	F	KCal/KWH.	2,590.00
8	Sp. Oil Consumption	G	ml/kWh	1.00
9	Gross Calorific Value of Coal	H	kcal/kg	4,469.00
10	Calorific value of Oil	I	kcal/L	9,909
11	Overall Heat	J=C*F	G Cal	1657875.988
12	Heat from Oil	K=(C*G*I)/1000	G Cal	6343
13	Heat from Coal	L=J-K	G Cal	1651533
14	Transit loss of coal	M	%	1.20%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Imported Coal	X2	%	24.00%
18	Actual Oil Consumption	N=C*G	Kl	640
19	Actual Coal Consumption	O=(L*1000)/H	MT	369553
20	A) Indigenous Coal	Q1=O*X1/(1-M)	MT	284271.68
21	B) Imported Coal	Q2=O*X2	MT	88692.76
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs/MT	3385.00
24	C) Imported Coal	P2	Rs/MT	5162.00
25	Price of Oil	P3	Rs/kl	30092.00
26	Coal cost			

Sl. No.	Item	Derivation	Unit	FY 2012-13
27	A) Indigenous Coal	N1=Q1*P1/10^5	Rs Lakh	9622.60
28	B) Imported Coal	N2=Q2*P2/10^5	Rs Lakh	4578
29	Total Coal Cost	N3=N1+N2	Rs Lakh	14201
30	Oil Cost	N4=P3*N/10^5	Rs Lakh	193
31	Total Fuel Cost	P=N3+N4	Rs Lakh	14394
32	Fuel Cost/Unit Gross	Q=P/(C*10)	Rs/kWh	2.25
33	Fuel Cost/Unit Net	R=P/(Y*10)	Rs/kWh	2.47
34	Cost of fuel/G.Cal	S=(P/J)*10^5	Rs/Gcal	868

Annexure 5.4

F - Station: Fuel cost approved for FY 2012-13

Sl. No.	Item	Derivation	Unit	FY 2012-13
1	Capacity	A	MW	113.73
2	PLF	B	%	65.77
3	Gross Generation	C	MUs	655.25
4	Auxiliary Consumption	E	%	9.00%
5	Auxiliary Consumption	D=C*E	MUs	58.97
6	Net Generation	Y=C-D	MUs	596.28
7	Station Heat Rate	F	KCal/KWH.	2,668.00
8	Sp. Oil Consumption	G	ml/kWh	1.00
9	Gross Calorific Value of Coal	H	kcal/kg	4,469.00
10	Calorific value of Oil	I	kcal/kl	9,909
11	Overall Heat	J=C*F	G Cal	1748206.83
12	Heat from Oil	K=(C*G*I)/1000	G Cal	6493
13	Heat from Coal	L=J-K	G Cal	1741714
14	Transit loss of coal	M	%	1.20%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Imported Coal	X2	%	24.00%
18	Actual Oil Consumption	N=C*G	KL	655
19	Actual Coal Consumption	O=(L*1000)/H	MT	389732
20	A) Indigenous Coal	Q1=O*X1/(1-M)	MT	299794.13
21	B) Imported Coal	Q2=O*X2	MT	93535.77
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs/MT	3385.00
24	C) Imported Coal	P2	Rs/MT	5162.00
25	Price of Oil	P3	Rs/Kl	30092.00
26	Coal cost			

Sl. No.	Item	Derivation	Unit	FY 2012-13
27	A) Indigenous Coal	N1=Q1*P1/10^5	Rs Lakh	10148.03
28	B) Imported Coal	N2=Q2*P2/10^5	Rs Lakh	4828
29	Total Coal Cost	N3=N1+N2	Rs Lakh	14976
30	Oil Cost	N4=P3*N/10^5	Rs Lakh	197
31	Total Fuel Cost	P=N3+N4	Rs Lakh	15174
32	Fuel Cost/Unit Gross	Q=P/(C*10)	Rs/kWh	2.32
33	Fuel Cost/Unit Net	R=P/(Y*10)	Rs/kWh	2.54
34	Cost of fuel/G.Cal	S=(P/J)*10^5	Rs/Gcal	868

Annexure 5.5

Vatva – CCPP: Fuel cost approved for FY 2012-13

S.No	Particulars	Deviation	Unit	FY 2012-13
1	Capacity	A	MW	100
2	PLF	B	%	81.88%
3	Generation (gross)	C=A*8760*B /1000	MU	717.27
4	Auxilary Consumption	D	%	3.00%
5	Auxilary Consumption	E	MU	21.52
6	Net Generation	F	MU	695.75
7	Heat Rate	G	kcal/kwh	2165
8	Total Heat	H=(C*G)	M kcal	1552886.952
9	Specific Gas Consumption	I	kcal/MMBtu	252
10	Actual Gas Consumption	J=(H/I)	MMBtu	6162.25
11	Cost of Gas per MMBtu	K	Rs./MMBtu	289.76
12	Total Cost of Gas	L=(J*K)/100	Rs. lakhs	17855.74
13	Fuel cost / unit gross	M=L/C*10	Rs/kWH	2.49
14	Fuel cost / unit net	N=L/F*10	Rs/Kcal	2.57
15	Cost of fuel/G.Cal	S=(P/J)*10^5	Rs/Gcal	1149.84

6. Directives

6.1 Compliance of earlier Directives

The Commission, in its Tariff Order dated 6th September, 2011, had issued various directives to TPL. TPL has submitted a compliance report on the directives issued by the Commission. The comments of the Commission on the submission/compliance of the TPL are given below.

The Commission has also given fresh directives to the TPL wherever required:

Directive 1: Capital Expenditure

TPL is directed to submit cost benefit analysis of capital expenditure schemes for FY 2010-11 and also for the FY 2011-12 to FY 2015-16 by November 2011.

Compliance

TPL has submitted the cost-benefit analysis for FY 2011-12 to FY 2015-16.

Commission's comments

TPL was directed to submit the cost benefit analysis for various capex schemes. In response, TPL submitted details of expenses, status of various capex schemes and the cost benefit analysis.

Directive 2: Separate Books of Account

TPL should submit separate audited accounts for Generation, Ahmedabad Distribution and Surat Distribution as part of the annual submission to the Commission. Clause 5.2 of MYT Regulations provide that the Generating Company or Licensee shall file '**separate**' accounting statements with the petition for ARR or the annual review of performance. Accounting Statement has been defined under clause 2.1 (a) of the MYT Regulations so as to consist of Balance Sheet, Profit and Loss account and the Cash Flow Statement along with all necessary schedules.

Compliance

TPL has submitted the segregated audited annual accounts for Ahmedabad distribution, Surat distribution and Ahmedabad generation.

Commission's comments

The action taken is noted.

Directive 3: Secondary Fuel Oil consumption

TPL is directed to indicate the secondary fuel oil consumption in terms of **ml/kWh** and the price of secondary fuel oil in terms of **Rs./kl.**

Compliance

It is submitted by TPL that as per GERC (Multi-Year Tariff) Regulations, 2011, oil consumption will be submitted in terms of ml/kWh from FY 2011-12.

Commission's comments

The action taken is noted.

6.2 New Directive

The Commission directs TPL to submit separate details of fixed costs for Sabarmati station and Vatva station for the ensuing years ARR, i.e. FY 2013-14 and onwards.

COMMISSION'S ORDER

The Commission approves the Aggregate Revenue Requirement for FY 2012-13 for TPL-G (APP) as shown in the table below:

Approved ARR for TPL-G (APP) for FY 2012-13

(Rs. crore)

Particulars	FY 2012-13
Variable cost	774.17
O&M expenses	139.82
Water Charges	8.59
Depreciation	45.23
Interest on loan	26.05
Interest on working capital	13.02
Return on equity	58.70
Income Tax	26.45
Less: Non-tariff income	14.18
Net ARR	**1077.84**

This order shall come into force with effect from the 1st June 2012.

Sd/-	Sd/-	Sd/-
DR. M.K. IYER Member	**SHRI PRAVINBHAI PATEL** Member	**DR. P.K. MISHRA** Chairman

Place: Ahmedabad

Date: 2nd June 2012