GUJARAT ELECTRICITY REGULATORY COMMISSION

Tariff Order

Truing up for FY 2013-14 and

Determination of Tariff for FY 2015-16

For

Gujarat State Electricity Corporation Limited (GSECL)

Case No. 1460 of 2014

31st March, 2015

6th Floor, GIFT ONE, Road 5C, GIFT CITY
Gandhinagar-382335 (Gujarat), INDIA
Phone: +91-79-23602000 Fax: +91-79-23602054/55
E-mail: gerc@gercin.org : Website www.gercin.org

सत्यमेव जयते

GUJARAT ELECTRICITY REGULATORY COMMISSION (GERC)

GANDHINAGAR

Tariff Order

Truing up for FY 2013-14 and

Determination of Tariff for FY 2015-16

For

Gujarat State Electricity Corporation Limited (GSECL)

Case No. 1460 of 2014

31st March, 2015

CONTENTS

LIST OF TABLES

LIST OF ANNEXURES

ABBREVIATIONS

ABT	Availability Based Tariff
Act	Electricity Act, 2003
AOH	Annual Overhauling
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
BHEL	Bharat Heavy Electricals Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
COH	Capital Overhauling
CUF	Capacity Utilization Factor
CV	Calorific Value
DGVCL	Dakshin Gujarat Vij Company Limited
Discoms	Distribution Companies
ESP	Electro Static Precipitator
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GCV	Gross Calorific Value
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GFA	Gross Fixed Assets
GoG	Government of Gujarat
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
HSD	High Speed Diesel
IPP	Independent Power Producer
K.Cal	Kilo Calorie
kV/KV	Kilo Volt
kWh	Kilo Watt Hour
LE	Life Extension
LSHS	Low Sulphur Heavy stock
LTSA	Long Term Service Agreement
MAT	Minimum Alternate Tax
MGVCL	Madhya Gujarat Vij Company Limited
MoU	Memorandum of Understanding
MW	Mega Watt
MYT	Multi-Year Tariff
NCV	Net Calorific Value
O&M	Operations and Maintenance
OEM	Original Equipment Manufacturer
PGVCL	Paschim Gujarat Vij Company Limited
PAF	Plant Availability Factor
PG test	Performance Guarantee Test
PLF	Plant Load Factor
PPA	Power Purchase Agreement
Ps	Paise

R&M	Renovation and Modernization
RE	Revised Estimates
RLA	Residual Life Assessment
ROE	Return on Equity
Rs.	Rupees
RSD	Re-start Duration
Scm	Standard cubic meter
SHR	Station Heat Rate
SLDC	State Load Despatch Centre
TPS	Thermal Power Station
UGVCL	Uttar Gujarat Vij Company Limited
UI	Unscheduled Interchange
Wt. Av.	Weighted Average
WTPS	Wanakbori Thermal Power Station

Before the Gujarat Electricity Regulatory Commission at Gandhinagar

Case No. 1460 of 2014

Date of the Order: 31/03/2015

CORAM

Shri Pravinbhai Patel, Chairman

Dr. M.K. Iyer, Member

Shri K.M. Shringarpure, Member

ORDER

1. Background and Brief History

1.1 Background

The Gujarat State Electricity Corporation Limited (hereinafter referred to as "GSECL" or "petitioner") has filed its petition on 29th November, 2014 under section 62 of the Electricity Act, 2003 read with Gujarat Electricity Regulatory Commission GERC (MYT) Regulations, 2011, for the True-up of FY 2013-14 and determination of tariff for the FY 2015-16.

The Commission admitted the petition on 8th December, 2014.

1.2 Gujarat State Electricity Corporation Limited (GSECL)

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

i. Gujarat State Electricity Corporation Limited (GSECL) – A Generation Company
ii. Gujarat Energy Transmission Corporation Limited (GETCO) – A Transmission Company

Four Distribution Companies:

iii. Dakshin Gujarat Vij Company Limited (DGVCL)
iv. Madhya Gujarat Vij Company Limited (MGVCL)
v. Uttar Gujarat Vij Company Limited (UGVCL)
vi. Paschim Gujarat Vij Company Limited (PGVCL)and
vii. Gujarat Urja Vikas Nigam Limited (GUVNL) – A Holding Company and is also responsible for purchase of electricity from various sources and supply to Distribution Companies.

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

1.3 Commission's Order for the Second control period

Gujarat State Electricity Corporation Limited filed its petition under the Multi-Year Tariff framework for the control period FY 2011-12 to FY 2015-16, on 30th December, 2010 in accordance with the Gujarat Electricity Regulatory Commission (Multi-Year Tariff Framework) Regulations, 2007 notified by GERC. However, the Commission issued the new MYT Regulations notified as GERC (Multi-Year Tariff), 2011 on 22nd March, 2011.

As per Regulation 1.4 (a) of the GERC (Multi-Year Tariff) Regulations, 2011, which 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 considered the petition as per the new Regulation.

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 GSECL, the objections by various stakeholders, response of GSECL, issues raised during the public hearing and all other relevant material, issued the Multi-Year Tariff order on 11th April, 2011 for the control period comprising FY 2011-12, FY 2012-13, FY 2013-14, FY 2014-15 and FY 2015-16 based on the GERC (MYT) Regulations, 2011.

The Commission issued the orders for truing up for FY 2010-11 and determination of Tariff for FY 2012-13 on 2nd June, 2012.

The Commission issued the orders for truing up for FY 2011-12 and determination of Tariff for FY 2013-14 on 30th March, 2013.

The Commission issued the order for Truing up for FY 2012-13 and determination of Tariff for FY 2014-15 on 29th April, 2014.

1.4 Admission of the Current Petition and Public Hearing Process

GSECL submitted the current petition for "Truing up" of FY 2013-14 and determination of Tariff for FY 2015-16 on 29th November, 2014. The Commission admitted the petition (Case no. 1460 of 2014) on 8th December, 2014.

In accordance with section 64 of the Electricity Act, 2003, the Commission directed GSECL to publish its application in the abridged form to ensure public participation. The Public Notice was published in the following newspapers on 11th December, 2014 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	11/12/2014
2	Divya Bhaskar	Gujarat	11/12/2014

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

The interested parties / stakeholders were asked to file their objections / suggestions on the petition on or before 10th January, 2015.

Some of the consumers/consumer organisations requested for extension of last date for submission of objections. The Commission granted extension of time up to 25th January, 2015.

The Commission received objections / suggestions from 7 consumer / consumer organizations. The Commission examined the objections / suggestions received and scheduled the public hearing for GSECL on 10th February, 2015 at the Commission's Office at Gandhinagar and subsequently a communication was sent to the objectors to take part in the public hearing process for presenting their views in person before the Commission. The public hearing was conducted in Commission's Office in Gandhinagar as scheduled.

The names of the stakeholders who filed their objections and the objectors who participated in the public hearing for presenting their objections are given below:

Sl. No.	Name of Stakeholders	Participated in the Public Hearing
1	Consumer Education and Research Society (CERS)	Yes
2	Federation of Gujarat Industries (FGI)	Yes
3	Shri Amarsinh Chavda	No
4	Ahmedabad Textile Mills' Association (ATMA)	No
5	Gujarat Urja Vikas Nigam Ltd. (GUVNL)	Yes
6	Gujarat Wind Farms Ltd.	No
7	Utilities Users' Welfare Association (UUWA)	Yes

A short note on the main issues raised by the objectors in the submissions with respect to the petition along with the response of GSECL and the Commission's Views on the response are briefly given in chapter 3.

1.5 Contents of this Order

This order is divided into **six** chapters as under:

1. The **first** chapter provides a background of the petitioner, the petition and details of the public hearing process and the approach adopted for this order.

2. The **second** chapter outlines the summary of GSECL's petition.
3. The **third** chapter provides a brief account of the public hearing process, including the objections raised by various stakeholders, GSECL's response and the Commission's Views on the response.
4. The **fourth** chapter deals with the "Truing up" for FY 2013-14.
5. The **fifth** chapter deals with the Determination of tariff for the FY 2015-16.
6. The **sixth** chapter deals with the compliance of directives.

1.6 Approach of this Order

The GERC (Multi-Year Tariff) Regulations, 2011 provide for "Truing up" of the previous year, and determination of tariff for the ensuing year. The Commission had approved the ARR for the five years of the control period FY 2011-12 to FY 2015-16 in the MYT order dated 11th April, 2011.

The GSECL has approached the Commission with the present petition for "Truing up" of the FY 2013-14 and determination of tariff for the FY 2015-16.

In this order, the Commission has considered the "Truing up" for FY 2013-14 and the determination of Tariff for the FY 2015-16.

The Commission has undertaken "Truing up" of the FY 2013-14 including computation of gains and losses of the stations other than PPA based stations based on the submissions of the petitioner and the audited annual accounts. The Commission has not considered Ukai-6 Station eligible for gain/loss calculation of fixed costs as the capital cost was only provisionally approved for this station. The Commission has considered gain/loss on account of variable cost, as these variations are not related to actual fixed cost of the station, but are dependent on the performance parameters, fuel prices and GCV of the fuel.

While "Truing up" of FY 2013-14 and determination of Tariff for FY 2015-16 the Commission has been primarily guided by the following principles:

1. Controllable parameters have been considered at the level approved under the MYT order, unless the Commission considers there are valid reasons for revision of the same.
2. Uncontrollable parameters have been revised based on the actual performance observed.

3. The Truing up for the FY 2013-14 has been considered based on the GERC (MYT) Regulations, 2011. For the determination of the ARR for FY 2015-16, the Commission has considered the ARR for FY 2015-16 as approved in the MYT order dated 11th April, 2011.
4. For the Ukai-6 station, Dhuvaran CCPP-3 and Sikka 3&4 stations which were not covered in the MYT order, the ARR for FY 2015-16 have been considered based on the parameters as per the GERC (MYT) Regulations, 2011.

2. A Summary of GSECL's Petition

2.1 Actuals for FY 2013-14 submitted by GSECL

GSECL in its petition has submitted the actual values of operational parameters and costs for each of the generating stations owned and operated by it for FY 2013-14. The Operational Parameters pertain to plant availability, Plant Load Factor, Station Heat Rate (SHR), auxiliary consumption, specific oil consumption, transit loss of coal, gross and net generation. The costs cover both variable and fixed costs.

GSECL has also mentioned that for the PPA based stations, all the parameters are based on the provisions of PPAs. For the thermal power stations of GSECL where the availability factor is less than 80%, such availability factor is proposed to be the neutralization level for full fixed costs recovery as has been approved earlier by the Commission. In all other cases, a PAF of 80% is proposed as the normative level for full Fixed Cost recovery as per the GERC (MYT) Regulations.

GSECL has submitted the Operational Parameters and costs for the approval of the Commission. The approved parameters and costs would be the basis for billing GUVNL- the sole purchaser of power from GSECL.

2.2 A Summary of fixed and variable costs claimed by GSECL

The fixed costs as claimed by GSECL for FY 2015-16 are given in Table 2.1 and energy charges in Table 2.2 below:

Table 2.1: Proposed Fixed Cost for FY 2015-16

(Rs. Crore)

Sl. No.	Power Station	Net Fixed Charges
1	Ukai (1-5)	334.69
2	Gandhinagar (1-4)	265.31
3	Gandhinagar 5*	101.32
4	Wanakbori 1-6 TPS	469.58
5	Wanakbori 7*	98.62
6	Sikka TPS	120.80
7	KLTPS 1-3	218.77
8	KLTPS 4	118.94
9	Dhuvaran (Gas 1)*	52.00
10	Dhuvaran (Gas 2)	63.73
11	Utran Gas*	54.36
12	Utran Extension*	259.89
13	Ukai Hydro	24.92
14	Kadana Hydro	57.72
15	Ukai-6	579.64

Sl. No.	Power Station	Net Fixed Charges
16	Dhuvaran CCPP-3	349.06
17	Sikka 3&4	631.84
18	**Total**	**3801.18**

** PPA governed stations*

Table 2.2: Proposed Energy Charge for FY 2015-16

(Rs. kWh)

Sl. No.	Power station	Energy Charges
1	Ukai (1-5)	1.698
2	Gandhinagar (1-4)	2.375
3	Gandhinagar 5*	2.130
4	Wanakbori 1-6 TPS	2.108
5	Wanakbori 7*	2.022
6	Sikka TPS	2.752
7	KLTPS 1-3	1.181
8	KLTPS 4	1.109
9	Dhuvaran (Gas 1)*	2.411
10	Dhuvaran (Gas 2)	2.388
11	Utran Gas*	2.367
12	Utran Extension*	2.071
13	Ukai-6	1.683
14	Dhuvaran CCPP-3	2.285
15	Sikka 3&4	3.185

**PPA based stations*

2.3 Request of GSECL

GSECL respectfully prays to the Commission;

1. To admit this Petition for True-up of FY 2013-14 and Tariff Determination for FY 2015-16.
2. To approve the gains/ losses for the True-up for FY 2013-14 and allow sharing of such gains/ losses as prescribed in the GERC (MYT) Regulations, 2011.
3. To approve the operational and financial parameters of GSECL for FY 2013-14 considering the vintage and constraints of the old machines, and consider the same for recovery of full fixed cost.
4. To approve the station operating parameters viz. PAF, Auxiliary Consumption, Station Heat Rate, Transit loss, Specific Oil Consumption and actual fuel rate for each of the station of GSECL for FY 2013-14 for recovery of variable cost considering the vintage and constraints of the old machines as well as site specific constraints.
5. To approve reimbursement of Tax on Income earned through the sale of power for all power stations including PPA governed stations.

6. To approve Tariff determination for Ukai-6, Dhuvaran CCPP-3 and Sikka 3&4 plants for FY 2015-16.
7. To approve Tariff determination for GSECL plants for FY 2015-16.
8. To grant any other relief as the Commission may consider appropriate.
9. The petitioner craves leave of the Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
10. Pass any other order as the Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

3. Brief outline of Objections raised, response from GSECL and Commission's View

3.1 Public Response to Petition

In response to the public notice inviting objections/suggestions from stakeholders on the petition filed by GSECL for Truing up of FY 2013-14 and determination of Tariff for FY 2015-16 under GERC (MYT) Regulations, 2011, 7 Consumers / organisations filed their objections / suggestions. Details of consumers / organisations who have filed their objections are provided in the Table below:

Table 3.1: List of Objectors

Sl. No.	Name
1	Federation of Gujarat Industries
2	Consumer Education Research Society
3	Ahmedabad Textile Mills Association
4	Gujarat Wind Farms Limited
5	Shri. Amarsinh Chavda
6	Utility Users' Welfare Association
7	Gujarat Urja Vikas Nigam Limited

The Commission considered the objections/suggestions and the issues presented before the Commission and the response by GSECL on the same.

The details of the submissions made by the objector, response of the Petitioner and the views of the Commission are summarised in the following Section.

3.2 Objector 1: M/s Federation of Gujarat Industries

Objection 1: Tariff proposals not in accordance with Law - Not admissible

Stakeholder's objections/suggestions

M/s Federation of Gujarat Industries has stated that many power plants/units have been continuing in operation beyond their useful life (beyond 25 years) overlooking PLF, cost of generation, high O&M costs and capitalisation of R&M expenses, depreciation and return on equity unduly passed on for the benefit of the company. Hence the petition need not be admitted and the petitioner be directed to revise the same excluding all costs towards such plants/units.

Response of GSECL

The Petition has been submitted as per GERC (MYT) Regulations, 2011.

Commission's View

Noted.

Objection 2: Retirement of old machines having high fixed cost – detailed cost benefit analysis to be furnished.

The Federation of Gujarat Industries has stated that the fixed cost for Ukai TPS units 1 to 4 works out to Rs. 4.65 which is absurd and the old machines are continued to get undue advantage at the cost of consumer. Under all UMPP bids no such high cost is quoted for future machines. As the fixed cost is pooled, the real picture of machines operating after 25 years of life gets hidden. It is suggested that the actual fixed cost machine/unit-wise is checked based on the annual generation for the same to arrive at the fixed cost. Even the fixed cost of generation of Rs. 4.64/unit is far more than the average cost of power available from IEX/PXIL. The Commission may therefore direct the petitioner to furnish detailed cost benefit analysis for each of the old units beyond 25 years of operation to examine the need to continue such units in preference to purchase of power from other competitive sources.

Further the objector has also stated that all units, e.g. Dhuvaran TPS old 4x6 3x5 MW sets as well as 2x140 MW sets, 2x27 MW gas turbines, Utran stage-I GBCCP and Ukai units 1 to 4 and Gandhinagar units 1 to 4 need to be disposed of and the land be reclaimed to put up new big units with the latest technology, high efficiency and low heat rate. The amount realized from disposal of these units can be utilized for reducing the debt of the company and thereby reduce generation costs.

Response of GSECL

The fixed cost cannot be worked out on unit basis as the approved fixed cost is paid on the basis of approved / actual plant availability factor and power generated on the basis of schedule given by SLDC by following Merit Order Dispatch system under ABT Regime. The fixed cost for Ukai 1-5 is Rs. 1.16/unit and not for Ukai unit 1 to 4 and hence there is no question of fixed cost of Rs. 4.64/ unit for Ukai 1 to 4. Further the power stations undergo frequent Backing Down and Reserve Shutdown ordered by SLDC, which is beyond the control of the petitioner.

Regarding disposal of old plant and equipment the petitioner submits that Dhuvaran TPS old sets and Utran Stage I old machines are already disposed of long back.

Commission's View

The response of the petitioner is noted. However, GSECL may examine the retirement / extension of the plants that have completed 25 years.

Objection 3: Ensuring of Viability of R&M Schemes

M/s Federation of Gujarat Industries has stated that with the conspicuous rise in fuel cost in the last decade and precarious situation of gas availability, smaller machines say less than 500 MW with higher unit rates, may not be financially viable in spite of best R&M measures. Further in earlier decades the availability of generation was overemphasized which is not a valid reason for consideration under the changed scenario wherein the cost of generation is equally important. Since the utilities enjoy the benefit of all costs as pass through due to mutually interlinked financial interest, the Commission is requested to ensure financial viability of all capital R&M Schemes and capital expenditures.

Response of GSECL

The R&M schemes are carried out on the basis of RLA study and as approved by CEA after careful study of cost benefit analysis.

Commission's View

The response of the Petitioner is noted.

Objection 4: Impact of Tariff proposals

M/s Federation of Gujarat Industries has stated that the financial burden of all utilities like GSECL/GETCO/DISCOMs will be finally passed on to the consumers and the industrial consumers get singled out to bear the burden overlooking the directives under EA, 2003 and the tariff policies to reflect cost of supply to reduce cross subsidy progressively.

Response of GSECL

The Commission may take appropriate decision.

Commission's View

The Commission endeavours to reduce cross subsidy progressively.

Objection 5: Inordinate delays and excessive cost-overrun burden passed on to tariff

M/s Federation of Gujarat Industries has stated that:

(i) Dhuvaran GBCCPP and Sikka extension projects are proposed for capitalisation this year. As the projects are inordinately delayed, the capital cost has gone up leading to higher cost burden. It is therefore necessary that no cost-overrun amounts are approved due to attitude of the utilities indulging in getting undue benefits of escalating the CAPEX as a pass through.

(ii) Why Dhuvaran GBCCP-III was taken up in spite of the Non-availability of gas which was a known fact since 2004 i.e. more than a decade ago. No gas/fuel contract be approved without ensuring financial viability of gas based generation under present market scenario.

(iii) In the past, naptha based projects were paid fixed costs keeping them idle procuring cheaper power from market to achieve economy. The same principle may be followed for all such unviable projects.

(iv) Pass through provisions need not be exploited for such MOU route Cost plus based projects by allowing them to inject very costly power overlooking other cheaper sources of power.

Response of GSECL

EPC contract order is on firm basis and not on escalation basis. These gas based units were envisaged on the availability of huge quantity of gas from Reliance KG-6 basin and accordingly many gas based stations in the country are installed on the basis of projected gas availability. The Petitioner has no control on production of natural resources.

Commission's View

The response of the Petitioner is noted.

3.3 Objector 2: Consumer Education and Research Society

Objection 1: Poor Performance of Plants.

1. The plants at Gandhinagar 1-4 and Sikka TPS have been performing poorly since last two years and that Gandhinagar units 1-2 are 37 years old and units 3 and 4 are 23 years old and are not performing well. Though Sikka plants are also of similar age but are performing poorly due to lack of preventive maintenance and carelessness of the Petitioners and where the cost of generation is high due to poor performance, the burden is being transferred to consumers. The performance of KLTPS unit 4 is also a major concern for consumers though the plant is hardly 4 years old. It is also submitted that the CERS fails to understand improvement in station heat rate, when plant is operating at low plant factor and requested for details about drop in SHR under these abnormal conditions.

2. The Ukai unit No. 6 (500 MW) has been Commissioned on 08.06.2013 and has been performing badly with frequent break downs with PLF of 38.68% (85.00), Auxiliary consumption of 9.81% (6.0), SHR of 2734 Kcal/Kwh (2385) and specific oil consumption of 4.45 ml/kWh (1.0). The Commission approved 1% Auxiliary consumption against which the Petitioner has claimed 4.45% which is not acceptable. The newly commissioned unit uses 7.62% indigenous and 92.38% of washed coal. The Commission is requested not to transfer any burden on the consumers due to inefficiency of the petitioner.

Response of GSECL

1. The performance of these plants is improving and the PAF has also increased. The decrease in PLF is due to backing down and partial operation due to which the auxiliary consumption and SHR is always higher than normal and specific oil consumption i.e. ml/kWh has increased. Due to low demand of power, GTPS 1-4 receives the minimum dispatch / schedule dispatch. The units have been operated in efficient plants at maximum possible. The overall SHR is less due to the best practices adopted.

2. As the plant was newly commissioned, there were teething problems due to which the auxiliary consumption and specific oil consumption are higher. However, in the last six months the plant has shown marked improvement.

Commission's View

The response of the Petitioner is noted.

Objection 2: Controllable and uncontrollable factors.

M/s Consumers Education and Research Society has submitted that the Petitioner has no control on any of the parameters and therefore should hand over its plants to private generating companies, if it is not able to run the plants with economy and efficiency. The parameters like fuel expenses, capital expenditure, O&M expenses which are controllable, as per GERC Regulations, have been converted into uncontrollable factors by the petitioner. The Commission is therefore requested to appoint an independent Auditor to investigate into the functioning of the petitioner.

Response of GSECL

The Petitioner has considered the controllable and uncontrollable factors as per GERC (MYT) Regulations, 2011, as well as Tariff order dated 29.04.2011 and no relaxation has been sought for by the Petitioner.

Commission's View

The Response of the Petitioner is noted. The Commission considered the cost parameters as controllable / uncontrollable as per GERC (MYT) Regulations, 2011.

Objection 3: Inferior quality of coal from coal India Ltd

M/s Consumers Education and Research Society has stated that:

(i) The Petitioner signed Fuel Supply Agreement (FSA) with South Eastern Coal Fields (SECL) where it can supply any band or grade of coal.

(ii) The agreement signed with Western Coal Filed Ltd. (WCL) states that the company has to supply Grade-8 or Grade-9 of coal. It is observed that WCL is supplying Grade-14 coal at Utran Thermal Power Station.

Response of GSECL

The Fuel Supply Agreement with Coal India Ltd., and its subsidiaries is unilaterally drafted by the Coal India and agreement is signed through Coal Subsidiary Companies namely SECL & WCL. The Fuel Supply Agreement Clause No. 4.1 is clearly mentioned the quantity of the coal, their linkage quantity agreement and not specified the ‘grade’ of the coal. As per Clause 4 of quality of coal delivered or to be delivered as per FSA Schedule II. Schedule II indicates the all grade coal shall be provided. Further to inform that FSA gives assurance of the coal quantity only and there is no provision of the quality cleared under this FSA. The FSA is prepared at all India level and all SEBs, Power Generating Companies has to sign as it is.

In view of this, GSECL went to the Competition Commission of India regarding various changes required in FSA, especially for quality issue. Further, GSECL has raised quality issue with Competition Commission of India and it has given an order to pay penalty of Rs. 1773 Cr. to GOI. However, SECL went to appeal against this order and the matter is sub-judice. The terms and conditions of FSA with SECL and WCL are the same as the draft was prepared by CIL. Utran is a gas based power station and there is no FSA with WCL for Utran Power Station.

Commission’s View

The response of the Petitioner is noted. GSECL shall make all possible efforts to obtain better quality of coal.

Objection 4: Details of Actual coal transit loss

M/s Consumer Education and Research Society has stated that the Petitioner has not provided actual details of coal transit loss and that it has taken objection during the last two hearings. The petitioner may be directed to provide actual figures of transit loss.

Response of GSECL

GSECL is not seeking any relaxation from the standard norms fixed by the Commission.

Commission’s View

GERC has fixed the norm for GSECL stations and directed them to submit the actual transit loss.

Objection 5: Anomalies in coal prices

M/s Consumer Education and Research Society has stated that from the details provided by the Petitioner, it is observed that the cost of indigenous coal varies from

Rs. 2914 to Rs. 6128 /MT and washed coal from Rs. 3379 to Rs. 4993 /MT. The cost of imported coal is Rs. 3929 /MT for Sikka TPS and Rs. 9710 /MT for Gandhinagar TPS. The Society feels that these figures are not correct but manipulated to misguide the Commission and the consumers.

Response of GSECL

As per the provisions of FSA, SECL and WCL are supplying coal of grade `8` to `14`, which have a specified rate from different collieries located at different sites. Therefore, railway freight from the loading point to the power stations also varies. GSECL has to pay for loading, unloading, railway freight etc. On this basis, the weighted average rate is arrived at. The rates of imported coal are also not the same for all power stations and the different grades of coal cannot have the same rate. GSECL is importing two types of coal, the rate of Type-A having 5800 kcal/kg GCV being $ 107.05 / MT which is higher than Type-B having 4600 Kcal/Kg rate which is @ $ 68.91 / MT.

Sikka is close to the port and inland handling and transportation is less as compared to Gandhinagar having a distance of about 400 Km. The rate of imported coal is also affected by fluctuation in foreign currency rates applicable from time to time. The figures furnished are correct and audited by internal auditors, independent Chartered Accountants, the Statutory Auditors appointed by the CAG and supplementary audit by CAG. Hence there is no manipulation or misguidance

Commission's View

The response of the Petitioner is noted.

Objection 6: Difference in oil cost

M/s Consumer Education and Research Society has stated that the cost of oil for KLTPS units 1-3 is Rs. 50430 / kl and it is Rs. 71089 / kl for unit-4. Whereas the gross calorific value of oil is the same for KLTPS 1-3 and KLTPS-4.

Response of GSECL

The price of oil per kl regarding KLTPS-4 is Rs. 71089 which is higher as compared to other power stations as well as KLTPS 1-3 due to design constraints. The KLTPS unit 4 is designed to use only LDO and other power stations are designed for combination of LDO and FO. Hence, the rate of oil for KLTPS-4 is different from other stations.

Commission's View

The response of the Petitioner is noted.

Objection 7: High cost of generation for Sikka 3 & 4 units

M/s Consumer Education and Research Society has stated that the imported coal used for Sikka units 3-4 has increased variable charges to Rs. 3.185 per unit which is quite high. The petitioner has to furnish details as to why he has opted for use of 100% imported coal instead of mix of coal to reduce cost of generation.

Response of GSECL

The Sikka units 3&4 designed for operating on imported coal.

Commission's View

The response of the Petitioner is noted.

Objection 8: Damage to Dhuvaran – CCPP-I

M/s Consumers Education and Research Society has stated the Petitioner has spent Rs. 31.93 Cr on repair of extensive damage caused to compressor of gas turbine of Dhuvaran CCPP-1 and the incident took place on 02.05.2010, when the unit tripped during Hot Gas Path inspection without conducting inquiry. This amount was illegally collected from consumers. The Commission is requested to set up an "Investigating Authority" under section 128 of EA, 2003. Further the Society demanded details of amount spent, amount received from Insurance company, amount received from BHEL and action taken against the staff and officers.

Response of GSECL

GSECL spent Rs. 31.93 Crore on repair of extensive damage caused to compressor of gas turbine of Dhuvaran CCPP-1. As against claim, the Company has received the insurance amount amounting to Rs. 36.31 Crore from M/s. Chholamandalam Insurance Co. Therefore the Company also received the loss of profit during this claim. The Insurance Company paid the claim if it is a genuine accident only. If it is an operational mistake, then claim cannot be entertained for the same. As we have received the claim against damage of machine, material damage and loss of profit also, so there is no question of anybody's mistake.

Commission's View

The response of the Petitioner is noted.

Objection 9: Deteriorating plant performance

M/s Consumers Education and Research Society has stated that as per the information available in GSECL website and petition, it is seen that the PLF varies from 0.0% to 17.27% which indicates the performance of the petitioner and the running of the plants at low PLF puts heavy burden on electricity consumers of Gujarat. The Commission should therefore direct the petitioner to improve its performance within a time limit.

Response of GSECL

While the MYT Petition was filed, the projections were made according to prevailing status of power demand and supply. After FY 2011-12, as the State became power surplus, GSECL stations has undergone more and more BD/RSD, even though the Plant Availability Factor of the GSECL stations increased every year most of the time. It is known fact that as and when any machine operates on partial load, the overall performance viz. SHR, Aux. Consumption, Sp. Oil Consumption always increase, which is beyond the control of the Petitioner.

Commission's View

As stated by the Petitioner, though the plants were available, the GSECL was directed to back down the plant on merit order dispatch in supply scenario. The operating parameters get disturbed when the plant is not operating continuously at rated capacity.

3.4 Objector 3: Ahmedabad Textile Mills Association and Gujarat Wind Farms Limited

Objection 1: Difficulty in comprehending Commercial, Technical, operational and financial issues in petition.

Ahmedabad Textile Mills Association and Gujarat wind farms Ltd have stated that it is difficult to comprehend commercial, technical, operational and financial issues in the petition.

Response of GSECL

GSECL has submitted the petition in accordance with GERC (MYT) Regulations, 2011, and the Annexure is as per the specific format which is audited by statutory auditor and CAG's Office.

Commission's View

The Commission determines the tariff for GSECL as per the GERC (MYT) Regulations, 2011 and prudence check.

3.5 Objector 4: Shri. Amarsinh Chavda

Objection 1: Restarting of GSECL plant

Shri Amarsinh Chavda has stated that GSECL Plant, which was shut down, must be started and power to be given to the GUVNL and other licensees.

Response of GSECL

GSECL power stations undergo frequent backing down and reserve shut down as per instruction given by the SLDC, which is beyond the control of the Petitioner.

Commission's View

Noted.

Objection 2: Cost of generation by GSECL

Shri Amarsinh Chavda has stated that the GSECL cost is Rs. 3.40 / unit to Rs. 3.60 / unit which is much less than Rs. 4.44 / unit to Rs. 9.55 / unit of TPL generating cost but the Government owned stations are under shutdown.

Response of GSECL

The generation cost of GSECL power stations is calculated on the basis of operation parameters and fixed cost approved by the Commission. Further, the power plants are operated as per dispatch schedule issued by SLDC.

Commission's View

The response of Petitioner is noted.

Objection 3: Allowing GSECL to run Power Station

Shri Amarsinh Chavda has stated that GSECL should be allowed to run plants and sell the power to TPL. Else the areas of GUVNL and DISCOMs should be widened to give competition to TPL and remove monopolistic behaviour of DISCOMs.

Response of GSECL

The Commission may take appropriate decision in the matter.

Commission's View

The surplus power of GUVNL is being supplied to TPL.

3.6 Objector 5: M/s Utility Users' Welfare Association

Objection 1: Recovery of Fixed cost when plants run at 32.5% PLF

M/s Utility Users' Welfare Association has stated that:

1. GSECL has generated 15799 MUs gross generation and 14250 MUs net generation. It has operated at 32.5% PLF for FY 2013-14 with installed capacity of 5707.64 MW whereas it should generate at 80% PLF, 44061.12 MUs for recovery of fixed cost. How GSECL can be allowed to recover when plants run at 32.5% PLF.

2. GERC (Terms and conditions of Tariff) Regulations, 2005 and GERC (MYT) Regulations, 2007 contemplate that fixed cost recovery can be only allowed when plant achieves 80% PLF.

Response of GSECL

(1) GSECL power stations have been operating as per instructions given by SLDC and the plant availability factor for the thermal power stations was 84.51%.

(2) According to GERC (MYT) Regulations, 2011 fixed cost is to be recovered on the basis of actual PAF achieved as against normative approved PAF.

Commission's View

The response of the Petitioner is noted.

Objection 2: Direct Sale of Power by GSECL

M/s Utility Users' Welfare Association has stated that if GSECL is allowed to sell its power directly by making them independent, there will be optimum utilization of assets to create competition and benefit the consumers.

Response of GSECL

The Commission may take a decision as it deems fit.

Commission's View

GSECL is governed by the transfer scheme of the Government of Gujarat and the PPA with GUVNL.

Objection 3: Collection of fixed cost from consumers

M/s Utility Users' Welfare Association has stated that all generating units are getting their fixed cost from consumers under the guise of FPPPA and it is in gross violation of provisions of EA, 2003.

Response of GSECL

It is not correct that all generating units are getting their fixed cost from consumers under the guise of FPPPA. The FPPPA adjustment is only for hike in fuel price, Government levies and Railway freights duly approved by the Commission after prudent check. The Commission may take appropriate view

Commission's View

Since the plant is available and capable of generating required power based on system demand, the fixed charges have to be paid as per power purchase agreements and GERC (MYT) Regulations, 2011. FPPPA formula also covers the variation in fixed cost to ensure timely recovery.

Objection 4: Replacement of inefficient plants

M/s Utility Users' Welfare Association has stated that GSECL should replace inefficient plants like Sikka and others so that the cost per unit can still be reduced.

Response of GSECL

The appropriate authority may decide.

Commission's View

The Commission directs GSECL to examine the inefficiency, if any, of Sikka power station and intimate the Commission of the action taken in this regard within a period of 3 months.

Objection 5: Fixed cost of GSECL for FY 2013-14 and FY 2015-16

M/s Utility Users' Welfare Association has stated:

(1) For FY 2013-14, the fixed cost of GSECL is Rs. 1.90/unit (Rs. 2717.70 Cr) and variable cost is Rs. 2.60/unit (Rs. 3689.97 Cr) for net generation of 14,249.49 MUs which come to Rs. 4.50/ unit. For FY 2015-16, as per ARR, the cost per unit comes to Rs. 3.10/unit, with Rs. 0.98/unit as fixed cost and Rs. 2.12/ unit as variable cost.

(2) If GSECL units were allowed to operate in FY 2013-14, the generation fixed cost would have been less than Rs. 0.98/unit which is proposed for FY 2015-16 and power would be available at Rs. 3.58/unit which is lower than TPL-G (APP).

(3) Private generators like Essar, Tata and Adani have entered into PPA with GUVNL to get power for 25 years at fixed cost of Rs. 2.40/unit, Rs. 2.80/unit.

(4) The cost of generation per unit of GSECL for FY 2015-16 of Rs. 3.10/ unit is quite lower than ESSAR, Tata and Adani. The Commission is requested to divert generated power of GSECL to TPL or other consumers or distribution licensee.

(5) The cost of generation of GSECL comes to Rs. 3.40/ unit to 3.60/ unit with variable and fixed cost and is not getting the supply instructions under merit order dispatch system whereas the cost of generation of private generating units like TPL, Ahmedabad plant is Rs. 4.44/ unit and still they are operating.

Response of GSECL

The generation cost of GSECL has been mentioned for tariff determination of FY 2015-16 which is based on approved parameters, generation, fixed cost and approved rate of variable cost vide MYT order dated 11.04.2011.

Commission's View

As already stated earlier the availability of generating plant of GSECL is about 85.0% and capable of generating power at high PLF to meet the demand. The operation of the plant is regulated by SLDC based on the system demand and merit order dispatch.

3.7 Objector 6: Gujarat Urja Vikas Nigam Limited

Objection 1: True-up for FY 2013-14

1. The Petitioner has claimed actual O&M expenses of Rs. 855.56 Cr against approved O&M expenses of Rs. 782.25 Cr. The Petitioner include rebate of Rs. 116.07 Cr in the claim of Rs. 855.56 Cr.

2. GUVNL has availed rebate from invoices raised by GSECL for early payment as per PPA and this rebate cannot be considered as expenditure.

3. Rebate provides incentive to GUVNL for early payment. If rebate is included in true-up, it amounts to refunding the eligible rebate. Whenever GUVNL makes payment before due date GSECL gets a financial benefit of reduction in working capital requirement and also interest reduction on working capital borrowings. This is a financial adjustment and not an expenditure.

4. Based on the judgment of APTEL in Appeal No. 166 of 2012, the DERC concluded that there is no requirement for inclusion of rebate as an expenditure.

5. As per provision of PPA, there are only three components of tariff which are fixed cost, variable cost and incentive and rebate is not a part of tariff.

   Hence the Commission is required not to allow rebate of Rs. 116.07 Cr. in true-up for FY 2013-14.

Response of GSECL

GSECL has filed the petition for claiming gain/losses under true-up mechanism as per GERC (MYT) Regulations, 2011.

Commission's View

Appropriate view is taken by the Commission.

Objection 2: Claim of Fixed charges and Fuel charges

GUVNL has stated that the petitioner has claimed Rs. 199.82 Cr as fixed charges (Controllable and Uncontrollable) and Rs. 28.52 Cr as fuel charges (controllable). As per PPAs, which are approved by the Commission, fixed charges are to be allowed on normative basis and the norms prescribed provide incentive to generator to perform better by increasing efficiency. The claims based on actual O&M expenses should not be admitted. In case it is approved, it should be subject to availability factor of each power station for the respective financial year.

Response of GSECL

The power purchase agreements of GSECL power stations are approved by the Commission but the Commission has directed to file tariff petition every year while approving the PPA. Hence, GSECL has filed the petition for true-up of FY 2013-14 and Tariff determination for FY 2015-16. Further GSECL has not claimed for truing up of PPA based stations.

Commission's View

The Commission allows expenditures as per GERC (MYT) Regulations, 2011.

Objection 3: Truing up Gap of Fixed Cost

GUVNL has stated that the Commission may allow the petitions to restrict the approved true-up gap of fixed cost proportionate to actual availability.

Response of GSECL

GSECL filed the petition for true-up as per GERC (MYT) regulations, 2011 and recovery of truing up amount is based on actual availability as against approved availability by the Commission.

Commission's View

Truing up is being done as per GERC (MYT) Regulations, 2011.

4. Truing up for FY 2013-14

4.1 Generating Stations of GSECL

GSECL owns and operates the following generating stations, as on 1st April 2014:

- Four coal based thermal generating stations at Ukai, Gandhinagar, Wanakbori and Sikka;
- One lignite based thermal station at Panandhro (KLTPS)
- One thermal station, with gas fired units at Dhuvaran;
- One gas fired station at Utran;
- Two major hydel stations at Ukai and Kadana and two mini hydel stations at Panam and Ukai LBC.
- Windmills
- Two Solar Power stations each of 1 MW

The details of the stations existing as on 1st April, 2014, along with their capacities and dates of commissioning, are given in the Table below:

Table 4.1: Capacity, CoD and Age of GSECL generating Stations as on 1st April 2014

Units	Name of station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning	Age on 01.04.14 (Years)
Ukai (1-5)	Ukai	1	120	19/03/1976	38
		2	120	23/06/1976	38
		3	200	21/01/1979	35
		4	200	11/9/1979	35
		5	210	30/01/1985	29
		Sub Total	850		
Gandhinagar (1-4)	Gandhinagar	1	120	13/03/1977	37
		2	120	10/4/1977	37
		3	210	20/03/1990	24
Gandhinagar 5*		4	210	20/07/1991	23
		5	210	17/03/1998	16
		Sub Total	870		
Wanakbori 1-6 TPS	Wanakbori	1	210	23/03/1982	32
		2	210	15/01/1983	31
		3	210	15/03/1984	30
		4	210	9/3/1986	28
Wanakbori 7 TPS*		5	210	23/09/1986	28
		6	210	18/11/1987	26
		7	210	31/12/1998	15
		Sub Total	1470		
Sikka TPS	Sikka	1	120	26/03/1988	26

Units	Name of station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning	Age on 01.04.14 (Years)
		2	120	31/03/1993	21
		Sub Total	240		
KLTPS 1-3	KLTPS	1	70	29/03/1990	24
		2	70	25/03/1991	23
KLTPS 4		3	75	31/03/1997	17
		4	75	20/12/2009	4
		Sub Total	290		
Dhuvaran (Gas 1)*	Dhuvaran	7-Gas	106.617	28/01/2004	10
Dhuvaran (Gas 2)		8-Gas	112.45	1/11/2007	6
		Sub Total	219.067		
Utran (Gas)*	Utran	GT - 1	30	17/12/1992	21
		GT - 2	30	28/12/1992	21
		GT - 3	30	7/5/1993	21
		STG	45	17/7/1993	21
		Sub Total	135		
Utran Extension*	Utran Extension	GT – 1	375	8/11/2009	4
Sikka TPS 3 & 4	Sikka TPS	3	250	31/03/2015	To be commissioned in FY 2015-16
		4	250	31/03/2015	
		Sub Total	500		
Ukai TPS	Ukai TPS	6	500	08/06/2013	1
Dhuvaran Gas	Dhuvaran Gas	3	376	21/05/2014	To be commissioned in FY 2015-16
Sub Total of GSECL (Coal + Lignite)			**4720**		
Sub Total of GSECL (Gas)			**1105**		
Total GSECL (Thermal)			**5825**		
Ukai Hydro	Ukai Hydro	1	75	08/07/1974	40
		2	75	13/12/1974	39
		3	75	22/04/1975	39
		4	75	04/03/1976	38
		Sub Total	300		
	Ukai LBC	1	2.5	08/12/1987	26
		2	2.5	19/02/1988	26
		Sub Total	5		
Kadana Hydro	Kadana Hydro	1	60	31/03/1990	24
		2	60	02/09/1990	24
		3	60	03/01/1998	16
		4	60	27/05/1998	16
		Sub Total	240		
	Panam	1	1	24/03/1994	20
		2	1	31/03/1994	20
		Sub Total	2		
Sub Total GSECL (Hydro)			**547**		
	Wind Mills		10	04/01/2009	5

Units	Name of station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning	Age on 01.04.14 (Years)
Solar Plants	Plant at GTPS		1	27/03/2012	2
	Plant at Sanand		1	29/03/2012	2
Total GSECL as a whole			**6384**		

*PPA based stations

4.2 Operating Performance Parameters

The fuel cost of a generation station depends on: (i) performance parameters, such as PLF, Station Heat Rate, Auxiliary Consumption, Secondary Fuel Oil Consumption and Transit Loss of coals which are controllable, and (ii) cost parameters, such as Gross Calorific Value of the fuel, type of fuel and price of fuel, which are not within the control of the utility.

GSECL has submitted the actual operating performance on Plant Availability Factor (PAF), Plant Load Factor (PLF), Station Heat Rate, Coal transit loss, Auxiliary Consumption and Specific Oil Consumption etc. for FY 2013-14 for all the stations. The Commission has taken up the truing up of the annual performance parameters for FY 2013-14. The same is discussed in the following sections.

4.2.1 Plant Availability Factor (PAF)

Petitioner's Submission

GSECL has submitted the actuals of plant availability of different stations for FY 2013-14. The PAF (i) approved in the MYT Order dated 11th April, 2011; (ii) the actuals, as furnished by GSECL in the petition for the period, are given in the Table below:

Table 4.2: Plant Availability Factors for FY 2013-14

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	75.00	80.43
2	Gandhinagar (1-4)	79.00	87.62
3	Gandhinagar 5*	80.00	82.95
4	Wanakbori 1-6 TPS	85.00	91.48
5	Wanakbori 7 TPS*	80.00	89.60
6	Sikka TPS	75.00	87.21
7	KLTPS 1-3	75.00	75.81
8	KLTPS 4	80.00	59.72
9	Dhuvaran (Gas 1)*	80.00	98.51
10	Dhuvaran (Gas 2)	85.00	96.34
11	Utran (Gas)*	80.00	99.99
12	Utran extension *	80.00	99.69

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
13	Ukai 6	85.00	49.27
14	Ukai Hydro	80.00	94.10
15	Kadana Hydro	80.00	82.52

*PPA based stations

It is observed from the above Table that the stations KLTPS 4 and Ukai 6 have achieved much lower PAF than approved by the Commission in the Tariff Order dated 11th April, 2011.

GSECL has submitted the following in respect of PAF in general:

- Almost all units of Wanakbori power station are aged out and unit-6 also has completed its useful life during FY 2013-14. It is essential to carry on need based R&M more frequently because of failure of certain auxiliaries, boiler tubes etc, the PAF for Wanakbori station may be considered at 80% instead of keeping the same at par with new stations.
- For the thermal power stations of GSECL, where the availability factor is less than 80%, such availability factor is proposed to be the neutralisation level for full fixed costs recovery, as has been earlier approved by the Commission. In all other cases, a PAF of 80% is proposed as the normative level for full Fixed Cost recovery, as per Terms and conditions of tariff.
- **Hydro Stations Availability:** The neutralisation level for full fixed cost recovery by GSECL will be the availability of machines, irrespective of actual operations during peak hours, subject to a ceiling of 80% availability of machines, as approved by the Commission earlier.
- The operations of the hydro stations of GSECL are solely dependent on the instructions issued by Govt. of Gujarat (Irrigation Dept.) – which, in turn, are based primarily on the irrigation requirements of the state. Thus, GSECL has no control over the generation from these plants.
- GSECL has further submitted the following reasons for the deviation of PAF for FY 2013-14 for the Stations where PAF was low:
    - KLPTS 4: High auxiliary power consumption, boiler tube leakages;
    - Ukai 6: Unit under stabilisation.
- It is hence, requested that for KLTPS 4 and Ukai 6, the availability required may be relaxed and approved as proposed by GSECL.

Commission's Analysis

The Commission has analysed the submissions made by the petitioner regarding plant availability factor. The Commission has found that the PAF is much lower than the approved one in case of KLTPS 4 and Ukai 6.

The Plant Availability Factor is considered as controllable. Hence for Truing up purpose, the PAF, as approved in the MYT Order, has been considered.

The PAF approved for Truing up purpose for FY 2013-14 for each station is given in the Table below:

Table 4.3: Plant Availability Factors approved for Truing up for FY 2013-14

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Approved for Truing up purpose for FY 2013-14
1	Ukai (1-5)	75.00	80.43	75.00
2	Gandhinagar (1-4)	79.00	87.62	79.00
3	Gandhinagar 5*	80.00	82.95	80.00
4	Wanakbori 1-6 TPS	85.00	91.48	85.00
5	Wanakbori 7 TPS*	80.00	89.60	80.00
6	Sikka TPS	75.00	87.21	75.00
7	KLTPS 1-3	75.00	75.81	75.00
8	KLTPS 4	80.00	59.72	80.00
9	Dhuvaran (Gas 1)*	80.00	98.51	80.00
10	Dhuvaran (Gas 2)	85.00	96.34	85.00
11	Utran (Gas)*	80.00	99.99	80.00
12	Utran extension *	80.00	99.69	80.00
13	Ukai 6	85.00	49.27	85.00
14	Ukai Hydro	80.00	94.10	80.00
15	Kadana Hydro	80.00	82.52	80.00

*PPA based stations

For the stations, where actual PAF is less than the approved one, the fixed charges are to be reduced proportionately.

4.2.2 Plant Load Factor (PLF)

Petitioner's Submission

GSECL has submitted the actuals of Plant Load Factor of different stations for FY 2013-14. The PLF (i) approved in the MYT Order 11th April, 2011, and (ii) the actuals, as furnished by GSECL in the petition for the period, are given in the Table below:

Table 4.4: Plant Load Factors for FY 2013-14

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	75.00	48.35
2	Gandhinagar (1-4)	79.00	12.19
3	Gandhinagar 5*	85.00	66.28
4	Wanakbori 1-6 TPS	85.00	35.93
5	Wanakbori 7 TPS*	85.00	57.26
6	Sikka TPS	71.00	28.56
7	KLTPS 1-3	75.00	76.10
8	KLTPS 4	75.00	57.27
9	Dhuvaran (Gas 1)*	80.00	4.80
10	Dhuvaran (Gas 2)	77.00	16.18
11	Utran (Gas)*	80.00	0.00
12	Utran extension *	80.00	0.25
13	Ukai 6	85.00	38.68
14	Ukai Hydro	13.00	31.41
15	Kadana Hydro	6.00	19.56

*PPA based stations

The reasons for deviation of PLFs from the approved ones are mentioned by the Petitioner as follows:

- Backing down in the case of Ukai 1-5, Gandhinagar 1-4, Gandhinagar 5, Wanakbori 1-6, Wanakbori 7, Sikka TPS, Dhuvaran Gas-1, Dhuvaran Gas-2, Utran Gas and Utran Extension.
- Forced outages due to boiler tube leakages (8 Nos.), in the case of KLTPS 4.
- As per irrigation requirement and availability of water in the case of Ukai Hydro and Kadana Hydro.
- Unit being under stabilisation in the case of Ukai-6.

Commission's Analysis

The Commission has analysed the submissions made by the petitioner. It is observed that the majority of the stations, viz., Ukai 1-5, Gandhinagar (1-4), Wanakbori 1-6, Wanakbori 7, Sikka TPS, KLTPS 4, Dhuvaran Gas 1, Dhuvaran Gas 2, Utran (Gas) and Utran Extension stations achieved lower PLF for the FY 2013-14 than that approved in the Tariff Order. The Commission has taken note of the above and considered the PLF during FY 2013-14 for Truing up purpose, as given in the Table below:

Table 4.5: PLF considered for FY 2013-14 for Truing up

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Considered for Truing up purpose for FY 2013-14
1	Ukai (1-5)	75.00	48.35	48.35
2	Gandhinagar (1-4)	79.00	12.19	12.19
3	Gandhinagar 5*	85.00	66.28	66.28
4	Wanakbori 1-6 TPS	85.00	35.93	35.93
5	Wanakbori 7 TPS*	85.00	57.26	57.26
6	Sikka TPS	71.00	28.56	28.56
7	KLTPS 1-3	75.00	76.10	76.10
8	KLTPS 4	75.00	57.27	57.27
9	Dhuvaran (Gas 1)*	80.00	4.80	4.80
10	Dhuvaran (Gas 2)	77.00	16.18	16.18
11	Utran (Gas)*	80.00	0.00	0.00
12	Utran extension *	80.00	0.25	0.25
13	Ukai 6	85.00	38.68	38.68
14	Ukai Hydro	13.00	31.41	31.41
15	Kadana Hydro	6.00	19.56	19.56

*PPA based stations

4.2.3 Auxiliary Consumption

Petitioner's Submission

GSECL has submitted the actuals of auxiliary consumption of different stations for FY 2013-14. The auxiliary consumption (i) approved in the MYT Order dated 11th April, 2011, and (ii) the actuals, as furnished by GSECL in the Petition for the period, are given in Table below:

Table 4.6: Auxiliary Consumption for FY 2013-14

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	9.00	9.75
2	Gandhinagar (1-4)	10.00	12.96
3	Gandhinagar 5*	9.00	10.07
4	Wanakbori 1-6 TPS	9.00	9.53
5	Wanakbori 7 TPS*	9.00	9.84
6	Sikka TPS	11.00	12.54
7	KLTPS 1-3	12.00	12.68
8	KLTPS 4	12.00	19.90
9	Dhuvaran (Gas 1)*	3.00	14.70
10	Dhuvaran (Gas 2)	3.00	6.99
11	Utran (Gas)*	4.00	0.00
12	Utran extension *	3.00	59.67
13	Ukai 6	6.00	9.81
13	Ukai Hydro	0.70	0.58
14	Kadana Hydro	1.19	1.92

*PPA based stations

GSECL has submitted that the old stations consume more auxiliary power consumption, when operated at part load capacities resulting in higher auxiliary consumption.

GSECL has further submitted that the consumption of gas booster compressors is to be considered as per actuals, as approved earlier by the Commission.

GSECL also brought out the following reasons in its petition for deviation of the auxiliary consumption for the stations, where auxiliary consumption was high during the FY 2013-14:

- Partial load operation due to backing down and energy, utilised to keep units (which are under RSD) available in the case of Ukai 1-5, Gandhinagar 1-4, Gandhinagar 5, Wanakbori 1-6, Wanakbori – 7, Sikka TPS, Dhuvaran Gas-1 and Dhuvaran Gas-2 stations.

- In the case of KLTPS 1-3 partial load operation of Unit No. 3 due to turbine problem.

- In the case of KLTPS 4, forced outages due to boiler tube leakages and partial operation due to damaged air nozzles.

- In the case of Utran Extension certain auxiliaries are required to run continuously to maintain the plant, though there is very low generation.

- Kadana (Hydro), low PLF as units run as per irrigation requirement and energy utilised to keep units available during lean period.

- Ukai 6, as the unit has been under stabilisation.

Commission's Analysis

It is observed that the actual auxiliary consumption is more than the approved one for all the stations, except for the Ukai Hydro station. In the case of Utran Gas, there was no generation at all and have no auxiliary consumption. The Commission has taken note of the submissions made by the petitioner with regard to the actual auxiliary consumption.

The Commission approves the auxiliary consumption for various stations, as approved in the MYT order for FY 2013-14, for truing up purpose, since this is a controllable parameter. In the case of Dhuvaran Gas (I) and Utran Gas stations where gas boosters are installed, the Commission has considered the auxiliary consumption of gas booster, as provided by GSECL separately, vide letter dated 03.01.2015, for the truing up of FY 2013-14, in addition to auxiliary consumption approved in the MYT Order.

The auxiliary consumption approved for different stations, for the purpose of Truing up for FY 2013-14, is as given in the Table below:

Table 4.7: Auxiliary Consumption approved for FY 2013-14 for Truing up

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Approved for Truing up purpose for FY 2013-14
1	Ukai (1-5)	9.00	9.75	9.00
2	Gandhinagar (1-4)	10.00	12.96	10.00
3	Gandhinagar 5*	9.00	10.07	9.00
4	Wanakbori 1-6 TPS	9.00	9.53	9.00
5	Wanakbori 7 TPS*	9.00	9.84	9.00
6	Sikka TPS	11.00	12.54	11.00
7	KLTPS 1-3	12.00	12.68	12.00
8	KLTPS 4	12.00	19.90	12.00
9	Dhuvaran (Gas 1)*	3.00	14.70	3.43**
10	Dhuvaran (Gas 2)	3.00	6.99	3.00
11	Utran (Gas)*	4.00	0.00	4.00**
12	Utran extension*	3.00	59.67	3.00
13	Ukai 6	6.00	9.81	6.00
14	Ukai Hydro	0.70	0.58	0.70
15	Kadana Hydro	1.19	1.92	1.19

* PPA based stations
** Includes actual gas boosters consumption in percentage

4.2.4 Station Heat Rate (SHR)

Petitioner's Submission

GSECL has furnished the actual SHR attained for different stations during FY 2013-14.

The station heat rate (i) approved by the Commission in the MYT Order of 11th April, 2011 and (ii) the actuals as furnished by GSECL in the petition for the period are given in the Table below:

Table 4.8: Station Heat Rate for FY 2013-14

(Kcal/kWh)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	2,760	2,741
2	Gandhinagar (1-4)	2,782	2,610
3	Gandhinagar 5*	2,460	2,496
4	Wanakbori 1-6 TPS	2,625	2,673
5	Wanakbori 7 TPS*	2,460	2,476
6	Sikka TPS	3,030	3,009
7	KLTPS 1-3	3,300	3,231
8	KLTPS 4	3,000	3,012
9	Dhuvaran (Gas 1)*	1,950	2,094
10	Dhuvaran (Gas 2)	1,950	2,007
11	Utran (Gas)*	2,150	-
12	Utran extension *	1,850	2,264
13	Ukai 6	2,385	2,734

*PPA based stations

In the True-up Petition, GSECL has stated the following reasons for exceeding the Station Heat Rate for certain stations during FY 2013-14.

- Partial operation due to Backing down in the case of Gandhinagar-5, Wanakbori 1-6, Wanakbori 7, Dhuvaran Gas-1, Dhuvaran Gas-2, and Utran Extension.
- Partial operation (air nozzles problem), in the case of KLTPS 4.
- In the case of Ukai 6, the unit has been under stabilisation, also most of the time, unit run at partial load due to lower demand/SLDC instructions.

Commission's Analysis

The Commission observes that for PPA governed stations, the SHR is approved as per the respective PPA terms. In the case of Wanakbori 1-6, KLTPS 4, Dhuvaran (Gas 1), Dhuvaran (Gas 2) Utran Extension and Ukai 6 the actual heat rate is higher than the one considered in the Tariff Order for FY 2013-14. In the case of Ukai 1-5, Gandhinagar 1-4, Sikka TPS and KLTPS 1-3 the actual heat rate is less than the one approved in the MYT Order. The Commission has noted the reasons submitted by the petitioner for these stations and found that the main reason put forward is partial operation due to backing down except in the case of KLTPS-4 and Ukai 6. The higher heat rate in KLTPS-4 is due to partial operation due to air nozzles problem and in the case of Ukai 6, it is due to partial load due to lower demand also the unit being under stabilisation.

For the purpose of truing up for FY 2013-14, the Commission approves the SHR, as approved in the MYT Order dated 11th April, 2011 for FY 2013-14, as given in the Table below:

Table 4.9: Station Heat Rate approved for FY 2013-14 for Truing up

(Kcal/kWh)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Approved for Truing up purpose for FY 2013-14
1	Ukai (1-5)	2,760	2,741	2,760
2	Gandhinagar (1-4)	2,782	2,610	2,782
3	Gandhinagar 5*	2,460	2,496	2,460
4	Wanakbori 1-6 TPS	2,625	2,673	2,625
5	Wanakbori 7 TPS*	2,460	2,476	2,460
6	Sikka TPS	3,030	3,009	3,030
7	KLTPS 1-3	3,300	3,231	3,300
8	KLTPS 4	3,000	3,012	3,000
9	Dhuvaran (Gas 1)*	1,950	2,094	1,950
10	Dhuvaran (Gas 2)	1,950	2,007	1,950
11	Utran (Gas)*	2,150	-	2,150
12	Utran extension *	1,850	2,264	1,850
13	Ukai 6	2,385	2,734	2,385

*PPA based stations

4.2.5 Secondary Fuel Oil Consumption (Specific Oil Consumption)

Petitioner's Submission

GSECL has furnished the actuals of secondary fuel oil consumption for different stations during the FY 2013-14. The secondary fuel oil consumption (i) approved by the Commission in the MYT Order dated 11th April, 2011 and (ii) the actuals as furnished by GSECL in the petition for the period are given in the Table below:

Table 4.10: Secondary Fuel Oil Consumption FY 2013-14

(ml/kWh)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	2.00	0.95
2	Gandhinagar (1-4)	1.50	1.68
3	Gandhinagar 5*	3.50	0.79
4	Wanakbori 1-6 TPS	1.00	1.43
5	Wanakbori 7 TPS*	3.50	0.57
6	Sikka TPS	4.00	3.22
7	KLTPS 1-3	3.00	2.67
8	KLTPS 4	3.00	2.52
9	Ukai 6	1.00	4.45

*PPA based stations

GSECL, in its Petition, has mentioned the reasons for higher specific oil consumption for FY 2013-14 for the following stations:

- Gandhinagar 1-4, Wanakbori 1-6 due to taking units back after RSD as per system requirement.
- Ukai 6: Unit under stabilisation
- It has also been submitted by GSECL that the Specific Oil Consumption is calculated in terms of percentage of total calorific requirement (heat requirement) of the power generating unit and has relation with the size of the generating unit. For the lower size Units, the Specific Oil Consumption remains higher as compared to larger size power generating units, because certain amount of Specific Oil consumption remains fixed, irrespective of the size of the generating unit. Since most of the units of GSECL power stations are smaller in size, specific oil consumption of these plants is generally high.

The CEA and various other agencies have outlined different norms for Specific Oil Consumption for units of 210 MW and lower capacity. CEA also recognises the fact that Specific Oil Consumption is directly affected by the PLF of the power plant. Lower the PLF, higher the Specific Oil Consumption, and vice versa. Since the GSECL stations are also running at low load, additional oil support is required in such cases to sustain the flame. Also, because of higher number of starts/stops, due to RSD, specific oil consumption increases.

Commission's Analysis

For PPA governed stations, the secondary fuel oil consumption is approved, as per the respective PPAs.

In the case of Ukai 1-5, Sikka TPS, KLTPS 1-3 and KLTPS 4 the actual secondary fuel oil consumption is less than what was approved by the Commission in the Tariff Order for FY 2013-14.

In the case of Gandhinagar 1-4, Wanakbori 1-6 and Ukai 6 the secondary fuel oil consumption was higher than what was approved in the MYT order for FY 2013-14, due to backing down of units. In the case of Gandhinagar, Wanakbori and unit being under stabilisation in the case of Ukai 6. However, the Commission has considered the specific oil consumption, as approved in the MYT order for FY 2013-14, for all Non-PPA stations.

Accordingly, the secondary fuel oil consumption, approved for FY 2013-14 for various stations, is as given in the Table below:

Table 4.11: Secondary Fuel Oil Consumption approved for FY 2013-14

(ml/kWh)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Approved for Truing up purpose for FY 2013-14
1	Ukai (1-5)	2.00	0.95	2.00
2	Gandhinagar (1-4)	1.50	1.68	1.50
3	Gandhinagar 5*	3.50	0.79	3.50
4	Wanakbori 1-6 TPS	1.00	1.43	1.00
5	Wanakbori -7 TPS*	3.50	0.57	3.50
6	Sikka TPS	4.00	3.22	4.00
7	KLTPS 1-3	3.00	2.67	3.00
8	KLTPS - 4	3.00	2.52	3.00
9	Ukai 6	1.00	4.45	1.00

*PPA based stations

4.2.6 Transit Loss

Petitioner's Submission

GSECL furnished the actuals for transit loss of coal for different stations for the FY 2013-14.

The transit loss (i) approved by the Commission in the MYT Order 11th April, 2011 and (ii) the actuals as furnished by GSECL in the petition for the period are given in the Table below:

Table 4.12: Transit Loss for FY 2013-14

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14
1	Ukai (1-5)	0.80	0.80
2	Gandhinagar (1-4)	0.80	0.80
3	Gandhinagar 5*	0.80	0.80
4	Wanakbori 1-6 TPS	0.80	0.80
5	Wanakbori -7 TPS*	0.80	0.80
6	Sikka TPS	0.80	0.80
7	KLTPS 1-3	0.20	0.20
8	KLTPS -4	0.20	0.20
9	Ukai 6	0.80	0.80

*PPA based stations

Commission's Analysis

The transit loss of coal, as submitted in the petition, is the same as approved in the MYT Order for FY 2013-14. Hence, the same is approved, as given in the Table below:

Table 4.13: Transit Loss approved for FY 2013-14 for Truing up

(%)

Sl. No.	Power Station	Approved for FY 2013-14 in the MYT Order dated 11th April, 2011	Actuals for FY 2013-14	Approved for Truing up purpose for FY 2013-14
1	Ukai (1-5)	0.80	0.80	0.80
2	Gandhinagar (1-4)	0.80	0.80	0.80
3	Gandhinagar 5*	0.80	0.80	0.80
4	Wanakbori 1-6 TPS	0.80	0.80	0.80
5	Wanakbori - 7 TPS*	0.80	0.80	0.80
6	Sikka TPS	0.80	0.80	0.80
7	KLTPS 1-3	0.20	0.20	0.20
8	KLTPS - 4	0.20	0.20	0.20
9	Ukai 6	0.80	0.80	0.80

*PPA based stations

The transit loss is to be considered only in the case of indigenous coal, washed coal and Lignite, but not on imported coal, as mentioned in the MYT Order dated 11th April, 2011.

4.2.7 A Summary of Performance Parameters Approved for FY 2013-14

The performance parameters approved for different stations for the FY 2013-14, after analysis in the preceding paras for the purpose of Truing up for the FY 2013-14, are listed in the Table below:

Table 4.14: Performance Parameters approved for Truing up purpose for FY 2013-14

Sl. No.	Power Station	PAF	PLF	Auxiliary consumption	SHR	Specific Oil Consumption
		%	%	%	Kcal/kWh	ml/kWh
1	Ukai (1-5)	75.00	48.35	9.00	2760	2.00
2	Gandhinagar (1-4)	79.00	12.19	10.00	2782	1.50
3	Gandhinagar 5*	80.00	66.28	9.00	2460	3.50
4	Wanakbori 1-6 TPS	85.00	35.93	9.00	2625	1.00
5	Wanakbori - 7 TPS*	80.00	57.26	9.00	2460	3.50
6	Sikka TPS	75.00	28.56	11.00	3030	4.00
7	KLTPS 1-3	75.00	76.10	12.00	3300	3.00
8	KLTPS - 4*	80.00	57.27	12.00	3000	3.00
9	Dhuvaran (Gas - 1)*	80.00	4.80	3.00	1950	-
10	Dhuvaran (Gas - 2)	85.00	16.18	3.00	1950	-
11	Utran (Gas)*	80.00	0.00	4.00	2150	-
12	Utran extension *	80.00	0.25	3.00	1850	-
13	Ukai 6	85.00	38.68	6.00	2385	1.00
14	Ukai Hydro	80.00	31.41	0.70	-	-
15	Kadana Hydro	80.00	19.56	1.19	-	-

* PPA governed stations

4.3 Gross and Net Generation

The gross and net generation of different generating stations, as per actuals, as furnished by GSECL and as approved for truing up purpose for the FY 2013-14, are given in the Table below:

Table 4.15: The Gross and Net Generation for FY 2013-14 for Truing up purpose

Sl. No	Power Station	As per actuals submitted by GSECL				As approved by the Commission			
		Gross Generation (MU)	Auxiliary Consumption (%)	Auxiliary Consumption (MU)	Net Generation (MU)	Gross Generation (MU)	Auxiliary Consumption (%)	Auxiliary Consumption (MU)	Net Generation (MU)
1	2	3	4	5	6	7	8	9	10
1	Ukai (1-5)	3600.3	9.75	350.88	3249.42	3600.3	9.00	324.03	3276.27
2	Gandhinagar (1-4)	704.83	12.96	91.34	613.50	704.83	10.00	70.48	634.35
3	Gandhinagar 5*	1219.35	10.07	122.84	1096.52	1219.35	9.00	109.74	1109.61
4	Wanakbori 1-6 TPS	3966.35	9.53	378.03	3588.32	3966.35	9.00	356.97	3609.38
5	Wanakbori - 7*	1053.43	9.84	103.66	949.77	1053.43	9.00	94.81	958.62
6	Sikka TPS	600.44	12.54	75.31	525.14	600.44	11.00	66.05	534.39
7	KLTPS 1-3	1433.35	12.68	181.80	1251.56	1433.35	12.00	172.00	1261.35
8	KLTPS – 4	376.29	19.9	74.89	301.4	376.29	12.00	45.15	331.14
9	Dhuvaran (Gas -1)*	44.8	14.7	6.58	38.21	44.80	3.43	1.54	43.26
10	Dhuvaran (Gas- 2)	159.41	6.99	11.14	148.26	159.41	3.00	4.78	154.62
11	Utran Gas*	0	0	0	0	0.00	4.00	0.00	0.00
12	Utran Extension*	8.3	59.67	4.96	3.35	8.30	3.00	0.25	8.05
13	Ukai 6	1378.45	9.81	135.29	1243.16	1378.45	6.00	82.71	1295.74
14	Ukai Hydro	839.11	0.58	4.83	834.28	839.11	0.70	5.87	833.24
15	Kadana Hydro	414.57	1.92	7.96	406.61	414.57	1.19	4.93	409.64
	Total	**15798.98**		**1549.49**	**14249.49**	**15798.98**		**1339.32**	**14459.66**

*PPA governed stations

4.4 Cost Parameters

The cost parameters include: GCV of fuel, mix of fuel and price of fuel. GSECL generating stations run on coal, lignite, oil and gas as base fuels. For some coal-based stations, a mix of indigenous, washed and imported coal is used.

GSECL has submitted the details of actual Wt. Av. GCV, mix of coal and Wt. Av. price of fuel for different stations, as discussed below:

4.4.1 Wt. Av. Gross Calorific Value (GCV) of fuels

GSECL has furnished the actuals of Wt. Av. Gross Calorific Values of different fuels (as fed into the boiler in the case of usage of mix of coal) for FY 2013-14, as given in the Table below:

Table 4.16: Weighted Average Gross Calorific Value (GCV) of Fuels for Different Stations for FY 2013-14

Sl. No.	Power Stations	Weighted Average GCV of lignite or mix of coal (Kcal /kg)	Weighted average of GCV of secondary Fuel (Kcal /litre)	Weighted Average GCV of Gas (Kcal/SCM)
1	Ukai (1-5)	3811	10427	-
2	Gandhinagar (1-4)	4058	10496	-
3	Gandhinagar - 5*	3973	10496	-
4	Wanakbori 1-6 TPS	3884	10669	-
5	Wanakbori -7 TPS*	3881	10689	-
6	Sikka TPS	4281	10283	-
7	KLTPS 1-3	2886	10283	-
8	KLTPS - 4	2886	10283	-
9	Dhuvaran (Gas -1)*	-	-	9790
10	Dhuvaran (Gas -2)	-	-	9758
11	Utran (Gas)*	-	-	9865
12	Utran extension *	-	-	9635
13	Ukai 6	3907	10417	-

* PPA Governed Stations

4.4.2 Mix of Coal

GSECL has furnished the actuals of percentage of the mix of different types of coal used for the stations during the FY 2013-14, as given in the Table below:

Table 4.17: The Mix of Different Types of Coal for FY 2013-14

Sl. No.	Power Stations	Indigenous Coal (%)	Washed Coal (%)	Imported Coal (%)
1	Ukai (1-5)	19.02	80.98	0.00
2	Gandhinagar (1-4)	20.45	72.59	6.96
3	Gandhinagar – 5*	14.29	84.31	1.39
4	Wanakbori 1-6	10.24	89.76	0.00
5	Wanakbori - 7*	11.02	88.98	0.00

Sl. No.	Power Stations	Indigenous Coal (%)	Washed Coal (%)	Imported Coal (%)
6	Sikka	19.94	64.32	15.74
7	Ukai 6	7.62	92.38	0.00

*PPA governed stations

4.4.3 Wt. Av. Prices of Fuel

GSECL has furnished the actuals of weighted average price per unit of different fuels for different stations, for FY 2013-14, as per the Table below:

Table 4.18: Weighted Average Price / Unit of Fuels for FY 2013-14

Sl. No.	Power Stations	Wt. Av. cost of indigenous coal (Rs./Mt)	Wt. Av. Cost of washed coal (Rs./Mt)	Wt. Av. Cost of imported coal (Rs./Mt)	Wt. Av. Cost of lignite (Rs./Mt)	Wt. Av. Cost of Gas (Rs./ SCM)	Wt. Av. cost of Oil (Rs./Kl)
1	Ukai (1-5)	2914	3379	-	-	-	46042
2	Gandhinagar (1-4)	5789	4434	9710	-	-	42849
3	Gandhinagar- 5*	4733	4018	9536	-	-	39202
4	Wanakbori 1-6 TPS	4637	3872	-	-	-	46320
5	Wanakbori 7 TPS *	4617	3672	-	-	-	46194
6	Sikka TPS	6128	4993	3929	-	-	51058
7	KLTPS 1-3	-	-	-	889	-	50430
8	KLTPS - 4	-	-	-	951	-	71089
9	Dhuvaran (Gas -1)*	-	-	-	-	18.39	-
10	Dhuvaran (Gas-2)	-	-	-	-	18.47	-
11	Utran (Gas)*	-	-	-	-	261.99**	-
12	Utran extension *	-	-	-	-	242.65**	-
13	Ukai 6	2790	3286	-	-	-	45939

*PPA governed stations

**Higher weighted average cost due to fixed gas transportation cost of Rs. 39.23 Crore

The Commission, after due validation, approves the weighted average GCVs of fuels, percentage of mix of coal and prices of fuel (actuals), as furnished by GSECL, for truing up purpose for FY 2013-14 as these are uncontrollable items.

4.5 Fuel Cost

Based on the performance and cost parameters, the approved fuel costs for each of the stations for the year FY 2013-14 for truing up purpose, along with the actuals furnished by GSECL are given in Table below.

Table 4.19: Fuel Cost of different stations for FY 2013-14 for Truing up

Sl. No	Power Station	As per Actuals furnished by GSECL				As Approved by the Commission			
		Gross Generation (MUs)	Net Generation (MUs)	Fuel cost (Rs. Cr)	Fuel Cost per unit Net (Rs./kWh)	Gross Generation (MUs)	Net Generation (MUs)	Fuel cost (Rs. Cr)	Fuel Cost per unit Net (Rs./kWh)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Ukai 1-5	3600.30	3249.42	871.44	2.68	3600.30	3276.27	891.34	2.72
2	Gandhinagar 1-4	704.83	613.50	235.34	3.84	704.83	634.35	250.26	3.94
3	Gandhinagar -5*	1219.35	1096.52	326.77	2.98	1219.35	1109.61	331.35	2.99
4	Wanakbori 1-6 TPS	3966.35	3588.32	1107.04	3.09	3966.35	3609.38	1081.61	2.33
5	Wanakbori -7*	1053.43	949.77	258.05	2.72	1053.43	958.62	267.36	2.79
6	Sikka TPS	600.44	525.14	222.24	4.23	600.44	534.39	225.53	4.22
7	KLTPS 1-3	1433.35	1251.56	160.96	1.29	1433.35	1261.35	166.29	1.32
8	KLTPS -4	376.29	301.40	43.83	1.45	376.29	331.14	44.91	1.35
9	Dhuvaran Gas -1*	44.80	38.21	17.62	4.61	44.80	43.26	16.41	3.78
10	Dhuvaran Gas -2	159.41	148.26	60.56	4.08	159.41	154.62	58.85	3.81
11	Utran Gas*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Utran Extension*	8.30	3.35	47.36	141.37	8.30	8.05	38.69	48.03
13	Ukai 6	1378.45	1243.16	338.76	2.72	1378.45	1295.74	280.72	2.17
	Total	**14545.30**	**13008.60**	**3689.97**		**14545.30**	**13216.79**	**3653.31**	

*PPA governed stations

The detailed calculations for each station for arriving at the above costs are given in Annexure 4.1 to 4.13

4.5.1 Variation between Actual Fuel Costs and Approved Fuel Costs

The comparison between the fuel costs of all stations taken together, as per annual accounts for FY 2013-14 and the cost approved for truing up purpose, is given in the Table below:

Table 4.20: Cost of different fuels as per Audited Annual Accounts and as approved for Truing up for FY 2013-14

(Rs. Crore)

Item	Cost as per Annual Accounts	Cost as approved
Total Fuel Cost	3689.96	3653.31

The station-wise fuel costs are not provided in the audited annual accounts. The Commission has taken note of the submission made by GSECL, but for truing up purpose, the Commission has considered the fuel cost as computed, based on the approved performance parameters.

4.5.2 Gains and Losses in Fuel costs due to controllable factors

Petitioner's Submission

GSECL has submitted that it has derived fuel expenses, considering performance parameters, such as auxiliary consumption, station heat rate, specific oil consumption and transit loss, as approved in Tariff Order dated 30th March, 2013 for truing up for FY 2011-12 and Annual Tariff determination for FY 2013-14 and considering the actual fuel-related parameters, such as GCV of fuel and price of fuels, etc., recorded by GSECL. The fuel expenses, so derived, have been compared with the fuel expenses actually incurred with actual performance parameters of GSECL for identification of gains/losses on account of efficiency of these performance parameters.

Commission's Analysis

The Commission has compared the fuel expenses, so derived by the GSECL, with the fuel expenses arrived with the now approved operational performance parameters and for actual net generation for identification of Gains / (Losses) on account of variation in these parameters and approves the Gains / (Losses) station-wise for Non-PPA stations, as given in the Table below:

Table 4.21: Approved Gains / (Losses) from Fuel Expenses for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Actual Fuel Cost	Fuel cost arrived with approved parameter for actual net generation for FY 13-14	Deviation +/(-)	Gains / (Losses) due to controllable factor (5-3)
1	**2**	**3**	**4**	**5**	**6**
A	**Non-PPA based Stations**				
1	Ukai (1-5)	871.44	884.03	12.59	12.59
2	Gandhinagar (1-4)	235.34	242.03	6.69	6.69
3	Wanakbori 1-6 TPS	1107.04	1075.3	(31.74)	(31.74)
4	Sikka TPS	222.24	221.62	(0.62)	(0.62)
5	KLTPS 1-3	160.96	164.99	4.03	4.03
6	KLTPS 4	43.83	40.87	(2.96)	(2.96)
7	Dhuvaran (Gas 2)	60.56	56.43	(4.13)	(4.13)
8	Ukai 6	338.76	269.33	(69.43)	(69.43)
9	Kadana Hydro	0	0	0.00	0.00
10	Ukai Hydro	0	0	0.00	0.00
	Sub Total (A)	**3040.17**	**2954.60**	**(85.57)**	**(85.57)**
B	**PPA based Stations**				
11	Gandhinagar 5*	-	-	-	-
12	Wanakbori 7*	-	-	-	-
13	Dhuvaran (Gas 1)*	-	-	-	-
14	Utran Gas*	-	-	-	-
15	Utran Extension*	-	-	-	-
	Sub Total (B)	**-**	**-**	**-**	**-**
	Total (A+B)	**3040.17**	**2954.60**	**(85.57)**	**(85.57)**

4.6 Fixed Charges

4.6.1 Operations & Maintenance (O&M) Expenses

GSECL has claimed Rs. 855.56 Crore towards actual O&M expenses for generating stations other than PPA governed stations, in the Truing up for FY 2013-14 against Rs. 782.25 Crore approved for FY 2013-14 in the MYT Order for FY 2013-14. The O&M charges approved for the year 2013-14 in the MYT Order and now claimed by GSECL are as given in Table below:

Table 4.22: O&M expenses claimed by GSECL in Truing up for FY 2013-14

(Rs. Crore)

Particulars	Approved for FY 2013-14 in MYT Order	Claimed in truing up for FY 2013-14
O&M expenses	782.25	855.56

Petitioner's Submission

GSECL has submitted that the O&M expenses have been classified as "Controllable" under the GERC (MYT) Regulations except the effect of factors like inflation and pay revision and it has categorized employee expenses and insurance expenses as uncontrollable and; R&M, and Administration & General expenses as controllable. GSECL has indicated a net loss of Rs. 66.70 Crore towards loss due to controllable factors. The station wise O&M expenses claimed by GSECL in the Truing up for FY 2013-14 and the controllable Gains/(Losses) are given in the Table below:

Table 4.23: Gains/(Losses) from O&M expenses claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	O&M Expenses (Approved)	O&M Expenses (Actual)	Gains/(Losses) due to controllable factors	Gains/(Losses) due to uncontrollable factors
1	Ukai (1-5)	144.04	201.59	(57.55)	
2	Gandhinagar (1-4)	102.01	108.50	(6.49)	
3	Gandhinagar 5*	27.00	25.80		
4	Wanakbori 1-6 TPS	147.39	168.65	(21.26)	
5	Wanakbori 7 TPS*	27.00	16.17		
6	Sikka TPS	51.67	68.94	(17.27)	
7	KLTPS 1-3	81.00	102.86	(21.86)	
8	KLTPS 4	18.14	7.99	10.15	
9	Dhuvaran Gas 1*	15.00	24.65		
10	Dhuvaran Gas 2	19.95	24.62	(4.67)	
11	Utran Gas*	14.00	26.23		
12	Utran Extension*	48.00	44.77		
13	Ukai 6	59.46	6.34	53.11	
14	Ukai Hydro	12.83	9.86	2.97	
15	Kadana Hydro	14.76	18.59	(3.83)	
	Total	**782.25**	**855.56**	**(66.70)**	

* PPA based stations

Commission's Analysis:

The actual O&M expenses station wise are given in the Appendix A of the petition. The actual O&M expenses as given in the format aggregate to Rs. 855.56 Crore including the PPA governed stations. The approved figure in the MYT was Rs. 722.79 Crore and an amount of Rs. 73.07 Crore for Ukai-6 was provisionally approved by the Commission as per order dated 30th March 2013. Whereas actual O&M Expenses excluding Ukai 6 is Rs. 849.22 Crore.

GSECL has claimed the variation in O&M Expenses under controllable factor in accordance with the provisions under Regulation 23 of GERC (MYT) Regulations, 2011. The approved O&M expenses and gains and losses are given in the Table below:

Table 4.24: Approved O&M Expenses & Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / (Losses) due to controllable factor	Gains / (Losses) due to uncontrollable factor
1	2	3	4	5	6	7	8
A	**Non-PPA based Stations**						
1	Ukai (1-5)	144.04	201.59	201.59	(57.55)	(57.55)	
2	Gandhinagar (1-4)	102.01	108.50	108.50	(6.49)	(6.49)	
3	Wanakbori 1-6 TPS	147.39	168.65	168.65	(21.26)	(21.26)	
4	Sikka TPS	51.67	68.94	68.94	(17.27)	(17.27)	
5	KLTPS 1-3	81.00	102.86	102.86	(21.86)	(21.86)	
6	KLTPS 4	18.14	7.99	7.99	10.15	10.15	
7	Dhuvaran (Gas 2)	19.95	24.62	24.62	(4.67)	(4.67)	
8	Ukai Hydro	12.83	9.86	9.86	2.97	2.97	
9	Kadana Hydro	14.76	18.59	18.59	(3.83)	(3.83)	
	Sub Total (A)	**591.79**	**711.60**	**711.60**	**(119.81)**	**(119.81)**	
B	**PPA based Stations**						
10	Gandhinagar 5*	27.00	25.80	25.80			
11	Wanakbori 7*	27.00	16.17	16.17			
12	Dhuvaran (Gas 1)*	15.00	24.65	24.65			
13	Utran Gas*	14.00	26.23	26.23			
14	Utran Extension*	48.00	44.77	44.77			
	Sub Total (B)	**131.00**	**137.62**	**137.62**			
	Total (A+B)	**722.79**	**849.22**	**849.22**	**(119.81)**	**(119.81)**	

* PPA based stations

4.6.2 Depreciation for FY 2013-14

GSECL has claimed Rs. 797.40 Crore towards actual depreciation in the truing up for FY 2013-14 against Rs. 647.52 Crore approved for the year in MYT Order dated 11th April, 2011. The depreciation approved for the FY 2013-14 in MYT Order and now claimed by GSECL is as given in the Table below:

Table 4.25: Depreciation claimed for FY 2013-14

(Rs. Crore)

Particulars	Approved for FY 2013-14 in MYT Order	Claimed in Truing up for FY 2013-14
Depreciation	647.52	797.40

Petitioner's Submission

GSECL has submitted the actual depreciation for FY 2013-14 is Rs. 797.40 Crore against the approved depreciation of Rs. 647.52 Crore based on the opening gross fixed assets as per the audited annual accounts and considering the capital addition during the year. GSECL has also submitted that depreciation of Ukai TPS (1-5) charged in the books of accounts is on the higher side due to depreciation of capital spares over the balance useful life of the plant. In respect of Gandhinagar TPS Units (1-4) higher depreciation is charged for phasing out of units 1 & 2 by March, 2016. The station wise depreciation claimed by GSECL in the Truing up for FY 2013-14 and the uncontrollable Gains/(Losses) are as given in the Table below:

Table 4.26: Depreciation and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Depreciation (Approved)	Depreciation (Actual)	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	Ukai (1-5)	70.50	112.42		(41.92)
2	Gandhinagar (1-4)	66.38	110.64		(44.26)
3	Gandhinagar 5*	32.70	33.77		
4	Wanakbori 1-6 TPS	100.47	100.70		(0.23)
5	Wanakbori 7 TPS*	31.75	32.22		
6	Sikka TPS	30.40	33.52		(3.12)
7	KLTPS 1-3	60.02	62.19		(2.17)
8	KLTPS 4	35.17	35.48		(0.31)
9	Dhuvaran Gas 1*	16.50	16.85		
10	Dhuvaran Gas 2	21.64	22.53		(0.89)
11	Utran Gas*	20.50	24.28		
12	Utran Extension*	79.56	66.10		
13	Ukai 6	59.51	123.01		(63.51)
14	Ukai Hydro	7.35	8.62		(1.27)
15	Kadana Hydro	15.07	15.07		-
	Total	**647.52**	**797.40**	**-**	**(157.67)**

* PPA based stations

Commission's Analysis

The Commission has analysed the depreciation claimed by GSECL. The depreciation claimed by GSECL for the stations Ukai (1-5) and Gandhinagar (1-4) is on higher side when compared to the depreciation approved for these stations for the year in MYT Order. The depreciation claimed on all other stations is within the average rate of depreciation of 5.28%. GSECL has submitted that (i) for Ukai (1-5) capital spares have been depreciated on the basis of balance useful life of the asset and (ii) Higher depreciation is charged for GTPS units 1 & 2 for phasing out of these units by March, 2015. The Commission has computed the depreciation of all the stations taking into consideration the closing GFA for FY 2012-13 and addition of assets capitalised during FY 2013-14 adopting the actual weighted average rate of depreciation of FY 2011-12 as considered in the truing up for FY 2011-12 in the Tariff order dated 30th March 2013.

Gains/(Losses)

The Commission is of the view that the amount of depreciation is dependent on the quantum of capitalization, rate of depreciation and disposal of existing assets if any. The Commission is therefore of the view that the parameters which impact depreciation should be treated as uncontrollable. GSECL has not claimed any Gains/(Losses) in respect of PPA governed stations.

The Commission, accordingly, approves the depreciation and Gains/(Losses) on account of depreciation station wise in the Truing up for FY 2013-14 as detailed in the Table below:

Table 4.27: Approved Depreciation Charges & Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor (5-3)
1	2	3	4	5	6	7	8
A	Non-PPA based Stations						
1	Ukai (1-5)	70.50	112.42	70.34	0.16		0.16
2	Gandhinagar (1-4)	66.38	110.64	75.25	(8.87)		(8.87)
3	Wanakbori 1-6 TPS	100.47	100.70	82.63	17.84		17.84
4	Sikka TPS	30.40	33.52	31.77	(1.37)		(1.37)
5	KLTPS 1-3	60.02	62.19	61.42	(1.40)		(1.40)
6	KLTPS 4	35.17	35.48	35.69	(0.52)		(0.52)
7	Dhuvaran (Gas 2)	21.64	22.53	20.08	1.56		1.56
8	Ukai Hydro	7.35	8.62	6.75	0.60		0.60
9	Kadana Hydro	15.07	15.07	15.20	(0.13)		(0.13)
	Sub Total (A)	**407.00**	**501.17**	**399.13**	**7.87**		**7.87**
B	PPA based Stations						
10	Gandhinagar 5*	32.70	33.77	33.83			
11	Wanakbori 7*	31.75	32.22	32.22			
12	Dhuvaran (Gas 1)*	16.50	16.85	20.18			
13	Utran Gas*	20.50	24.28	23.34			
14	Utran Extension*	79.56	66.10	65.94			
	Sub Total (B)	181.01	173.22	175.49			
	Total (A+B)	**588.01**	**674.39**	**574.62**	**7.87**		**7.87**

*PPA based stations

4.6.3 Interest and Finance charges for FY 2013-14

GSECL has claimed Rs. 427.28 Crore towards interest and finance charges in the Truing up FY 2013-14 against Rs. 458.69 Crore approved for the year in MYT Order dated 11th April, 2011. The interest and finance charges approved for FY 2013-14 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table below:

Table 4.28: Interest and Finance charges claimed in Truing up for FY 2013-14

(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT Order	Claimed in Truing up for FY 2013-14
Interest and Finance charges	458.69	427.28

Petitioner's Submission

GSECL has submitted that the interest and finance charges have been classified as "uncontrollable" expenses in the MYT Order dated 11th April, 2011 and accordingly it has considered the Gains/(Losses) on account of Interest and Finance charges into "uncontrollable" factors.

GSECL has further submitted that it has done loan swapping for Ukai 6 power plant and paid pre-payment charges of Rs. 49.95 Crore. the decision of swapping of loan is taken after working out cost benefit analysis and there was cost of Rs. 49.86 Crore and against that there was benefit of Rs. 243.06 Crore which was resulting into net benefit of Rs. 193.20 Crore, working of the same is given as an Annexure-A of the Petition.

Accordingly, GSECL has submitted a net gain of Rs. 13.78 Crore during FY 2013-14 for interest and Finance charges which are on account of "uncontrollable" factors which is due to change in interest rate.

The station wise Interest and Finance charges claimed by GSECL in the Truing up for FY 2013-14 and the uncontrollable Gains/(Losses) as furnished by GSECL are given in the Table below:

Table 4.29: Interest and Finance charges and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Interest & Finance charges (Approved)	Interest & Finance charges (Actual)	Gains/(Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	Ukai (1-5)	70.54	20.43	-	50.11
2	Gandhinagar (1-4)	24.29	18.44	-	5.85
3	Gandhinagar 5*	-	-		
4	Wanakbori 1-6 TPS	80.68	13.40	-	67.28
5	Wanakbori 7 TPS*	-	-		

Sl. No.	Power Station	Interest & Finance charges (Approved)	Interest & Finance charges (Actual)	Gains/(Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
6	Sikka TPS	10.78	2.35	-	8.43
7	KLTPS 1-3	28.16	10.02	-	18.14
8	KLTPS 4	34.38	34.11	-	0.27
9	Dhuvaran Gas 1*	4.91	1.24		
10	Dhuvaran Gas 2	7.60	19.59	-	(11.99)
11	Utran Gas*	6.04	0.20		
12	Utran Extension*	86.75	78.63		
13	Ukai 6	95.00	227.28	-	(132.28)
14	Ukai Hydro	3.94	0.88	-	3.06
15	Kadana Hydro	5.62	0.71	-	4.91
	Total	**458.69**	**427.28**	**-**	**13.78**

*PPA based stations

Commission's Analysis

The actual Interest and Finance charges station-wise are given in the Appendix A of the petition. The actual Interest and Finance charges aggregate to Rs. 427.28 Crore including the PPA governed stations and Ukai 6 station against Rs. 458.69 Crore approved for FY 2013-14 in the MYT Order. The capitalization achieved for GSECL stations is Rs. 3246.90 Crore including Ukai-6 during FY 2013-14. GSECL has taken into consideration the capitalisation achieved during FY 2013-14 and the normative borrowings. It has taken the repayment equal to the depreciation in its computation of interest and finance charges. The Commission has recomputed the allowable interest charges in the truing up for FY 2013-14 considering the 70% of actual capitalisation as normative loan and repayment of loan equivalent to depreciation approved for FY 2013-14 in accordance with the GERC (MYT) Regulations, 2011.

Regulation 39.5 of GERC (MYT) Regulations, 2011, specified that the weighted average rate of interest is to be calculated on the basis of the actual loan portfolio at the beginning of each year to the generating company. GSECL has submitted the weighted average rate of interest rate at 10.56% as on 01.04.2013 as applicable rate of interest on each loan portfolio for FY 2013-14. The Commission has worked out weighted average rate of interest at the beginning of FY 2013-14 as 10.43% based on the loan portfolio wise details submitted by GSECL vide their letter no. GSECL/GERC Cell/TrueUp 13.14/15 dated 03.01.2015. The Commission has worked out the normative interest station wise applying 10.43% on the normative loan taking into consideration the closing loan of FY 2012-13 as opening loan for FY 2013-14 and normative addition of loan during FY 2013-14.

The parameters, which impact interest and finance charges, such as capital expenditure and capitalization are uncontrollable. The Commission accordingly approves the Gains/(Losses) on account of interest and finance charges in the Truing up as detailed in the Table below:

Table 4.30: Approved Interest & Finance Charges & Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor (5-3)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
A	**Non-PPA based Stations**						
1	Ukai (1-5)	70.54	20.43	31.55	38.99		38.99
2	Gandhinagar (1-4)	24.29	18.44	32.85	(8.56)		(8.56)
3	Wanakbori 1-6 TPS	80.68	13.40	29.16	51.52		51.52
4	Sikka TPS	10.78	2.35	8.94	1.84		1.84
5	KLTPS 1-3	28.16	10.02	19.66	8.50		8.50
6	KLTPS 4	34.38	34.11	34.55	(0.17)		(0.17)
7	Dhuvaran (Gas 2)	7.60	19.59	5.86	1.74		1.74
8	Ukai Hydro	3.94	0.88	2.40	1.54		1.54
9	Kadana Hydro	5.62	0.71	3.86	1.76		1.76
	Sub Total (A)	**265.99**	**119.93**	**168.82**	**97.17**		**97.17**
B	**PPA based Stations**						
10	Gandhinagar 5*	0.00	0.00	0.00			
11	Wanakbori 7*	0.00	0.00	0.00			
12	Dhuvaran (Gas 1)*	4.91	1.24	0.00			
13	Utran Gas*	6.04	0.20	0.00			
14	Utran Extension*	86.75	78.63	82.03			
	Sub Total (B)	**97.70**	**80.07**	**82.03**			
	Total (A+B)	**363.69**	**200.00**	**250.85**	**97.17**		**97.17**

*PPA based stations

4.6.4 Return on Equity for FY 2013-14

GSECL has claimed Rs. 502.78 Crore towards return on equity in the Truing up for FY 2013-14 against Rs. 445.14 Crore approved for the year in the MYT Order dated 11th April, 2011 for all the generating stations as detailed in the Table below:

Table 4.31: Return on Equity claimed for FY 2013-14

(Rs. Crore)

Particulars	Approved for FY 2013-14 in MYT Order	Claimed in Truing up for FY 2013-14
Return on equity	445.14	502.78

Petitioner's Submission

GSECL has submitted that comparison of the actual value for Return on equity computed on the basis of opening equity for FY 2013-14 and addition to equity during the year on account of funding of capital expenditure against approved, resulted in uncontrollable loss of Rs. 57.14 Crore. The station wise return on equity claimed by GSECL in the Truing up for FY 2013-14 and the uncontrollable Gains/(Losses) are given in the Table below:

Table 4.32: Return on equity and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Return on Equity (Approved)	Return on Equity (Actual)	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	Ukai (1-5)	31.36	24.59	-	6.77
2	Gandhinagar (1-4)	30.66	35.39	-	(4.73)
3	Gandhinagar 5*	26.78	26.82		
4	Wanakbori 1-6 TPS	65.80	58.77	-	7.03
5	Wanakbori 7 TPS*	26.00	26.03		
6	Sikka TPS	20.44	21.90	-	(1.46)
7	KLTPS 1-3	43.68	44.91	-	(1.23)
8	KLTPS 4	28.42	28.66	-	(0.24)
9	Dhuvaran Gas 1*	12.87	12.36		
10	Dhuvaran Gas 2	15.40	14.90	-	0.50
11	Utran Gas*	10.40	10.83		
12	Utran Extension*	56.70	57.21		
13	Ukai 6	40.51	103.71	-	(63.20)
14	Ukai Hydro	8.12	8.53	-	(0.41)
15	Kadana Hydro	28.00	28.19	-	(0.19)
	Total	**445.14**	**502.78**	**-**	**(57.14)**

*PPA based stations

Commission's Analysis

The Commission has observed that GSECL has compared the actual return on equity claimed against the return on equity approved for the generating stations other than PPA governed stations. The actual return on equity FY 2013-14 is Rs. 502.78 Crore against Rs. 445.14 Crore approved in the MYT Order for all the stations. The overall increase in the return on equity is Rs. 57.64 Crore. This is on account of increased capitalization during FY 2013-14. The Commission has computed the RoE taking into consideration the opening equity and addition / deletion of equity during FY 2013-14.

Gains/(Losses)

The Commission is of the view that the return on equity depends on the 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, treated as uncontrollable.

The Commission, accordingly approves the return on equity and Gains/(Losses) on account of return on equity in the Truing up for FY 2013-14 station wise as detailed in the Table below:

Table 4.33: Approved Return on Equity Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor (5-3)
1	2	3	4	5	6	7	8
A	Non-PPA based Stations						
1	Ukai (1-5)	31.36	24.59	24.30	7.06		7.06
2	Gandhinagar (1-4)	30.66	35.39	33.15	(2.49)		(2.49)
3	Wanakbori 1-6 TPS	65.80	58.77	58.38	7.42		7.42
4	Sikka TPS	20.44	21.90	21.86	(1.42)		(1.42)
5	KLTPS 1-3	43.68	44.91	44.86	(1.18)		(1.18)
6	KLTPS 4	28.42	28.66	28.72	(0.30)		(0.30)
7	Dhuvaran (Gas 2)	15.40	14.90	13.88	1.52		1.52
8	Ukai Hydro	8.12	8.53	8.52	(0.40)		(0.40)
9	Kadana Hydro	28.00	28.19	28.21	(0.21)		(0.21)
	Sub Total (A)	**271.88**	**265.84**	**261.88**	**10.00**		10.00
B	PPA based Stations						
10	Gandhinagar 5*	26.78	26.82	28.64			
11	Wanakbori 7*	26.00	26.03	26.01			
12	Dhuvaran (Gas 1)*	12.87	12.36	11.45			
13	Utran Gas*	10.40	10.83	10.84			
14	Utran Extension*	56.70	57.21	57.26			
	Sub Total (B)	**132.75**	**133.25**	**134.19**			
	Total (A+B)	**404.63**	**399.09**	**396.07**	**10.00**		**10.00**

*PPA Stations

4.6.5 Interest on Working Capital for FY 2013-14

Petitioner's Submission

GSECL has claimed Rs. 172.63 Crore towards interest on working capital in the Truing up for FY 2013-14. The interest on working capital approved for FY 2013-14 in the MYT Order dated 31st March, 2011, and claimed by GSECL in the Truing up are given in the Table below:

Table 4.34: Interest on Working Capital claimed by GSECL in Truing up for FY 2013-14
(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT Order	Claimed in Truing up for FY 2013-14
Interest on Working Capital	193.19	172.63

The gains and losses submitted by GSECL in its petition for truing up for FY 2013-14 are as given in the Table below:

Table 4.35: Gains / (Losses) from Interest on Working Capital claimed for FY 2013-14
(Rs. Crore)

Sl. No.	Power Station	Interest on WC (Approved)	Interest on WC (Actual)	Gains/(Losses) due to Controllable factors	Gains/(Losses) due to uncontrollable factors
1	Ukai (1-5)	27.29	35.31		(8.02)
2	Gandhinagar (1-4)	28.62	13.98		14.64
3	Gandhinagar 5*	9.30	12.26		
4	Wanakbori 1-6 TPS	51.84	42.63		9.21
5	Wanakbori 7 TPS*	8.86	9.93		
6	Sikka TPS	9.32	10.14		(0.82)
7	KLTPS 1-3	12.01	9.89		2.12
8	KLTPS 4	9.11	3.56		5.55
9	Dhuvaran Gas 1*	2.78	1.77		
10	Dhuvaran Gas 2	3.05	3.29		(0.24)
11	Utran Gas*	3.26	1.65		
12	Utran Extension*	9.87	6.69		
13	Ukai 6	16.25	18.56		(2.31)
14	Ukai Hydro	0.53	0.70		(0.17)
15	Kadana Hydro	1.10	2.28		(1.18)
	Total	**193.19**	**172.63**	**-**	**18.78**

*PPA based stations

Commission's Analysis

The Commission has examined the interest on working capital claimed by GSECL for FY 2013-14. The Commission has observed that GSECL has worked out the interest on working capital considering 14.45% the SBAR as on 1.4.2013.

Regulation 41.2 (b) specifies that interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of the Financial year in which the petition is filed. The Commission while Truing up for FY 2013-14 had decided to consider the rate (SBAR) prevailing as on 1st April of the financial year for which Truing up is being done. The SBAR as on 1st April 2013 is 14.45%. The Commission, accordingly, takes into consideration the SBAR of 14.45% in computation of Interest on Working Capital for FY 2013-14.

The Commission has computed the Working Capital and interest thereon, as detailed in Table below:

Gains / (Losses)

The Commission is of the view that interest on working capital being normative should be considered as uncontrollable.

The Commission, accordingly, approves interest on working capital and Gains / (Losses) on account of interest on working capital in the truing up for FY 2013-14 station-wise as detailed in the Table below:

Table 4.36: Approved Interest on Working Capital Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor (5-3)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
A	**Non-PPA based Stations**						
1	Ukai (1-5)	27.29	35.31	35.57	(8.28)		(8.28)
2	Gandhinagar (1-4)	28.62	13.98	14.11	14.51		14.51
3	Wanakbori 1-6 TPS	51.84	42.63	41.66	10.18		10.18
4	Sikka TPS	9.32	10.14	10.28	(0.96)		(0.96)
5	KLTPS 1-3	12.01	9.89	10.98	1.03		1.03
6	KLTPS 4	9.11	3.56	3.83	5.28		5.28
7	Dhuvaran (Gas 2)	3.05	3.29	2.51	0.54		0.54
8	Ukai Hydro	0.53	0.70	0.66	(0.13)		(0.13)
9	Kadana Hydro	1.10	2.28	1.51	(0.41)		(0.41)
	Sub Total (A)	**142.87**	**121.78**	**121.12**	**21.75**		**21.75**
B	**PPA based Stations**						
10	Gandhinagar 5*	9.30	12.26	12.50			
11	Wanakbori 7*	8.86	9.93	10.30			
12	Dhuvaran (Gas 1)*	2.78	1.77	1.90			
13	Utran Gas*	3.26	1.65	1.62			
14	Utran Extension*	9.87	6.69	6.52			
	Sub Total (B)	**34.07**	**32.30**	**32.84**			
	Total (A+B)	**176.94**	**154.08**	**153.96**	**21.75**		**21.75**

*PPA Stations

4.6.6 SLDC charges for FY 2013-14

GSECL has claimed Rs. 2.93 Crore towards SLDC charges in the Truing up FY 2013-14 against Rs. 2.89 Crore approved for the year in MYT Order dated 11th April, 2011. The SLDC charges approved for FY 2013-14 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table below:

Table 4.37: SLDC charges claimed in Truing up for FY 2013-14

(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT Order	Claimed in Truing up for FY 2013-14
SLDC charges	2.89	2.93

Petitioner's Submission

GSECL has submitted it has considered the Gains/(Losses) on account of SLDC charges as "uncontrollable" factors. The station wise SLDC charges claimed by GSECL in the Truing up for FY 2013-14 and the uncontrollable Gains/(Losses) are given in the Table below:

Table 4.38: SLDC charges and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	SLDC (Approved)	SLDC (Actual)	Gains/(Losses) due to controllable Factors	Gains/(Losses) due to uncontrollable Factors
1	Ukai (1-5)	0.46	0.50	-	(0.04)
2	Gandhinagar (1-4)	0.36	0.35	-	0.01
3	Gandhinagar 5*	0.11	0.11		
4	Wanakbori 1-6 TPS	0.68	0.63	-	0.05
5	Wanakbori 7 TPS*	0.11	0.10		
6	Sikka TPS	0.13	0.14	-	(0.01)
7	KLTPS 1-3	0.12	0.14	-	(0.02)
8	KLTPS 4	0.04	0.05	-	(0.01)
9	Dhuvaran Gas 1*	0.06	0.08		
10	Dhuvaran Gas 2	0.06	0.08	-	(0.02)
11	Utran Gas*	0.07	0.08		
12	Utran Extension*	0.20	0.22		
13	Ukai 6	0.20	0.20	-	(0.00)
14	Ukai Hydro	0.16	0.12	-	0.04
15	Kadana Hydro	0.13	0.13	-	(0.00)
	Total	**2.89**	**2.93**	**-**	**(0.00)**

*PPA based stations

Commission's Analysis

The actual SLDC charges station wise are given in the Appendix-A of the petition. The actual SLDC charges aggregate to Rs. 2.93 Crore including the PPA governed stations against Rs. 2.89 Crore approved for FY 2013-14 in the MYT Order. The Commission approves the SLDC charges as claimed by GSECL.

Gains / (Losses):

The parameters, which impact SLDC charges, are uncontrollable. The Commission accordingly approves the Gains/(Losses) on account of SLDC charges in the Truing up as detailed in the Table below:

Table 4.39: Approved SLDC charges Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor (5-3)
1	2	3	4	5	6	7	8
A	**Non-PPA based Stations**						
1	Ukai (1-5)	0.46	0.50	0.50	(0.04)		(0.04)
2	Gandhinagar (1-4)	0.36	0.35	0.35	0.01		0.01
3	Wanakbori 1-6 TPS	0.68	0.63	0.63	0.05		0.05
4	Sikka TPS	0.13	0.14	0.14	(0.01)		(0.01)
5	KLTPS 1-3	0.12	0.14	0.14	(0.02)		(0.02)
6	KLTPS 4	0.04	0.05	0.05	(0.01)		(0.01)
7	Dhuvaran (Gas 2)	0.06	0.08	0.08	(0.02)		(0.02)
8	Ukai Hydro	0.16	0.12	0.12	0.04		0.04
9	Kadana Hydro	0.13	0.13	0.13	0.00		0.00
	Sub Total (A)	**2.14**	**2.14**	**2.14**	**0.00**		**0.00**
B	**PPA based Stations**						
10	Gandhinagar 5*	0.11	0.11	0.11			
11	Wanakbori 7*	0.11	0.10	0.10			
12	Dhuvaran (Gas 1)*	0.06	0.08	0.08			
13	Utran Gas*	0.07	0.08	0.08			
14	Utran Extension*	0.20	0.22	0.22			
	Sub Total (B)	0.55	0.59	0.59			
	Total (A+B)	**2.69**	**2.73**	**2.73**	**0.00**		**0.00**

4.6.7 Water charges for FY 2013-14

GSECL has claimed Rs. 49.91 Crore towards water charges in the Truing up for FY 2013-14 against Rs. 94.56 Crore approved in the MYT Order. The water charges approved for FY 2013-14 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table below:

Table 4.40: Water charges claimed in Truing up for FY 2013-14

(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14
Water Charges	94.56	49.91

Petitioner's Submission

GSECL has submitted it has considered the Gains/(Losses) on account of water charges into "uncontrollable" factors. The station wise water charges claimed by

GSECL in the Truing up for FY 2013-14 and the uncontrollable Gains/(Losses) are given in the Table below:

Table 4.41: Water charges and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Water Charges (Approved)	Water Charges (Actual)	Gains/ (Losses) Due to controllable factors	Gains/(Losses) due to uncontrollable factors
1	Ukai (1-5)	-	-	-	-
2	Gandhinagar (1-4)	30.47	4.11	-	26.36
3	Gandhinagar 5*	7.62	7.10		
4	Wanakbori 1-6 TPS	40.57	27.02	-	13.55
5	Wanakbori 7 TPS*	7.12	6.94		
6	Sikka TPS	3.89	2.62	-	1.27
7	KLTPS 1-3	0.60	0.56	-	0.04
8	KLTPS 4	-	0.15	-	(0.15)
9	Dhuvaran Gas 1*	-	0.20		
10	Dhuvaran Gas 2	-	0.70	-	(0.70)
11	Utran Gas*	2.70	0.18		
12	Utran Extension*	1.59	0.33		
13	Ukai 6	-	-	-	-
14	Ukai Hydro	-	-	-	-
15	Kadana Hydro	-	-	-	-
	Total	**94.56**	**49.91**	**-**	**40.37**

*PPA based stations

Commission's Analysis

The actual water charges station wise are given in the Appendix A of the petition. The actual water charges aggregate to Rs. 49.91 Crore for GSECL stations against Rs. 94.56 Crore approved for FY 2013-14 in the MYT Order. The water charges as per audited accounts are 49.91 Crore. The Commission approves the water charges as claimed by GSECL as they are as per audited annual accounts.

Gains / (Losses):

As provided in the GERC (MYT) Regulations, 2011, as well as in MYT Order, the Commission is of the opinion that the water charges should be considered at the level of actuals. Accordingly, the Commission approves the Gains/(Losses) on account of water charges as uncontrollable in the Truing up as detailed in the Table below:

Table 4.42: Approved Water Charges Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor
1	2	3	4	5	6	7	8
A	**Non-PPA based Stations**						
1	Ukai (1-5)	0.00	0.00	0.00	0.00		0.00
2	Gandhinagar (1-4)	30.47	4.11	4.11	26.36		26.36
3	Wanakbori 1-6 TPS	40.57	27.02	27.02	13.55		13.55
4	Sikka TPS	3.89	2.62	2.62	1.27		1.27
5	KLTPS 1-3	0.60	0.56	0.56	0.04		0.04
6	KLTPS 4	0.00	0.15	0.15	(0.15)		(0.15)
7	Dhuvaran (Gas 2)	0.00	0.70	0.70	(0.70)		(0.70)
8	Ukai Hydro	0.00	0.00	0.00	0.00		0.00
9	Kadana Hydro	0.00	0.00	0.00	0.00		0.00
	Sub Total (A)	**75.53**	**35.16**	**35.16**	**40.37**		**40.37**
B	**PPA based Stations**						
10	Gandhinagar 5*	7.62	7.10	7.10			
11	Wanakbori 7*	7.12	6.94	6.94			
12	Dhuvaran (Gas 1)*	0.00	0.20	0.20			
13	Utran Gas*	2.70	0.18	0.18			
14	Utran Extension*	1.59	0.33	0.33			
	Sub Total (B)	**19.03**	**14.75**	**14.75**			
	Total (A+B)	**94.56**	**49.91**	**49.91**	**40.37**		**40.37**

4.6.8 Income Tax for FY 2013-14

GSECL has claimed Rs. 40.90 Crore towards Income Tax in the Truing up FY 2013-14 against Rs. 25.00 Crore approved for the year in MYT Order dated 11th April, 2011. The Income Tax approved for FY 2013-14 in the MYT Order and claimed by GSECL are given in the Table below:

Table 4.43: Income Tax claimed in Truing up for FY 2013-14

(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14
Income Tax	25.00	40.90

Petitioner's Submission

GSECL has submitted that it has paid a total tax of Rs. 40.90 Crore as against which the approved tax was only Rs. 25.00 Crore leading to a loss of Rs. 15.90 Crore which is uncontrollable. The station wise details are given in the Table below:

Table 4.44: Income Tax and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Tax (Approved)	Tax (Actual)	Gains/(Losses) due to controllable factors	Gains/(Losses) due to uncontrollable factors
1	Ukai (1-5)	1.00	6.33	-	(5.33)
2	Gandhinagar (1-4)	2.00	4.91	-	(2.91)
3	Gandhinagar 5*	2.00	1.56	-	0.44
4	Wanakbori 1-6 TPS	4.00	9.38	-	(5.38)
5	Wanakbori 7 TPS*	2.00	1.56	-	0.44
6	Sikka TPS	2.00	1.79	-	0.21
7	KLTPS 1-3	3.00	1.60	-	1.40
8	KLTPS 4	1.00	0.56	-	0.44
9	Dhuvaran Gas 1*	1.00	0.79	-	0.21
10	Dhuvaran Gas 2	1.00	0.84	-	0.16
11	Utran Gas*	1.00	1.00	-	(0.00)
12	Utran Extension*	2.00	2.79	-	(0.79)
13	Ukai 6	-	3.72	-	(3.72)
14	Ukai Hydro	1.00	2.27	-	(1.27)
15	Kadana Hydro	2.00	1.80	-	0.20
	Total	**25.00**	**40.90**	**-**	**(15.90)**

*PPA based stations

Commission's Analysis

The Income Tax paid has been verified from the audited annual accounts for FY 2013-14 and found to be correct. The Commission approves the Income Tax excluding income tax paid on Ukai 6 income.

Gains / (Losses):

The variation in Income Tax is uncontrollable under the provisions of Regulation 23 of GERC (MYT) Regulations 2011. The Commission, accordingly, approves the Gains/(Losses) on account of Income Tax in the Truing up as detailed in the Table below:

Table 4.45: Approved Income tax Gains / (Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
A	**Non-PPA based Stations**						
1	Ukai (1-5)	1.00	6.33	6.33	(5.33)		(5.33)
2	Gandhinagar (1-4)	2.00	4.91	4.91	(2.91)		(2.91)
3	Wanakbori 1-6 TPS	4.00	9.38	9.38	(5.38)		(5.38)
4	Sikka TPS	2.00	1.79	1.79	0.21		0.21
5	KLTPS 1-3	3.00	1.60	1.60	1.40		1.40
6	KLTPS 4	1.00	0.56	0.56	0.44		0.44
7	Dhuvaran (Gas 2)	1.00	0.84	0.84	0.16		0.16

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor
8	Ukai Hydro	1.00	2.27	2.27	(1.27)		(1.27)
9	Kadana Hydro	2.00	1.80	1.80	0.20		0.20
	Sub Total (A)	**17.00**	**29.48**	**29.48**	**(12.48)**		**(12.48)**
B	**PPA based Stations**						
10	Gandhinagar 5*	2.00	1.56	1.56			
11	Wanakbori 7*	2.00	1.56	1.56			
12	Dhuvaran (Gas 1)*	1.00	0.79	0.79			
13	Utran Gas*	1.00	1.00	1.00			
14	Utran Extension*	2.00	2.79	2.79			
	Sub Total (B)	**8.00**	**7.70**	**7.70**			
	Total (A+B)	**25.00**	**37.18**	**37.18**	**(12.48)**		**(12.48)**

4.6.9 Non-Tariff Income for FY 2013-14

GSECL has claimed Rs. 131.69 Crore towards non-tariff income in the Truing up FY 2013-14 against Rs. 148.50 Crore approved for the year in MYT Order dated 11th April, 2011. The non-tariff incomes approved for FY 2013-14 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table below:

Table 4.46: Non-Tariff income claimed in Truing up for FY 2013-14

(Rs. Crore)

Particular	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14
Non-Tariff income	148.50	131.69

Petitioner's Submission

The petitioner has submitted that the station wise non-tariff income claimed by GSECL in the Truing up for FY 2013-14 and the Gains/(Losses) as given in the Table below:

Table 4.47: Non-tariff income and Gains/(Losses) claimed for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Non- Tariff Income (Approved)	Non-Tariff Income (Actual)	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	Ukai (1-5)	25.27	24.34	-	(0.93)
2	Gandhinagar (1-4)	19.62	11.85	-	(7.77)
3	Gandhinagar 5*	6.24	13.03		
4	Wanakbori 1-6 TPS	37.45	32.11	-	(5.34)
5	Wanakbori 7 TPS*	6.24	7.49		
6	Sikka TPS	7.13	5.63	-	(1.50)
7	KLTPS 1-3	6.39	2.16	-	(4.23)
8	KLTPS 4	2.23	0.01	-	(2.22)

Sl. No.	Power Station	Non- Tariff Income (Approved)	Non-Tariff Income (Actual)	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
9	Dhuvaran Gas 1*	3.18	11.60		
10	Dhuvaran Gas 2	3.33	11.60	-	8.27
11	Utran Gas*	4.01	1.41		
12	Utran Extension*	11.15	2.77		
13	Ukai 6	-	7.33	-	7.33
14	Ukai Hydro	9.07	-	-	(9.07)
15	Kadana Hydro	7.19	0.35	-	(6.84)
	Total	**148.50**	**131.69**	**-**	**(22.30)**

*PPA based stations

Commission's Analysis

The actual non-tariff income as per audited accounts is Rs. 134.49 Crore. The actual non-tariff income given in Appendix-A of the Petition aggregate to Rs. 131.69 Crore including the PPA governed stations against Rs. 148.50 Crore approved for FY 2013-14 in the MYT Order. The Commission approves the non-tariff income as shown by GSECL except Ukai 6 Station.

Gains / (Losses):

The parameters, which impact non-tariff income, are considered uncontrollable. The Commission accordingly approves the Gains/(Losses) on account of non-tariff income in the Truing up as detailed in the Table below:

Table 4.48: Approved Non-Tariff Income Gains/(Losses) for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
A	**Non-PPA based Stations**						
1	Ukai (1-5)	25.27	24.34	24.34	(0.93)		(0.93)
2	Gandhinagar (1-4)	19.62	11.85	11.85	(7.77)		(7.77)
3	Wanakbori 1-6 TPS	37.45	32.11	32.11	(5.34)		(5.34)
4	Sikka TPS	7.13	5.63	5.63	(1.50)		(1.50)
5	KLTPS 1-3	6.39	2.16	2.16	(4.23)		(4.23)
6	KLTPS 4	2.23	0.01	0.01	(2.22)		(2.22)
7	Dhuvaran (Gas 2)	3.33	11.60	11.60	8.27		8.27
8	Ukai Hydro	9.07	0.00	0.00	(9.07)		(9.07)
9	Kadana Hydro	7.19	0.35	0.35	(6.84)		(6.84)
	Sub Total (A)	**117.68**	**88.05**	**88.05**	**(29.63)**		(29.63)
B	**PPA based Stations**						

Sl. No	Power Station	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)	Gains / Losses due to controllable factor	Gains / (Losses) due to uncontrollable factor
1	2	3	4	5	6	7	8
10	Gandhinagar 5*	6.24	13.03	13.03			
11	Wanakbori 7*	6.24	7.49	7.49			
12	Dhuvaran (Gas 1)*	3.18	11.60	11.60			
13	Utran Gas*	4.01	1.41	1.41			
14	Utran Extension*	11.15	2.77	2.77			
	Sub Total (B)	**30.82**	**36.30**	**36.30**			
	Total (A+B)	**148.50**	**124.35**	**124.35**	**(29.63)**		**(29.63)**

4.7 Approved Fixed Charges

The Commission reviewed the performance of GSECL under Regulation 22 of GERC (MYT) Regulations 2011 with reference to the audited annual accounts for FY 2013-14.

The Commission has discussed and approved various components of fixed charges for approval of trued up ARR in the above paragraphs.

The fixed charges approved for FY 2013-14 in the MYT Order for FY 2011-16 dated 31st March 2011, claimed by GSECL in Truing up and approved in the truing up are given in the Table below:

Table 4.49: Fixed Charges Approved in the Truing up for FY 2013-14

(Rs. Crore)

Sl. No	Fixed Charges	Approved for FY 2013-14 in MYT order	Claimed in truing up of FY 2013-14	Approved in Truing up for FY 2013-14	Deviation +/(-)
1	2	4	3	5	6
1	Depreciation	588.01	674.39	574.62	13.39
2	Interest & Finance Charges	363.69	200.00	250.85	112.84
3	Return on Equity	404.63	399.09	396.07	8.56
4	Interest on Working Capital	176.94	154.08	153.96	22.98
5	O&M Expenses	722.79	849.22	849.22	(126.43)
6	Water Expenses	94.56	49.91	49.91	44.65
7	SLDC Charges	2.69	2.73	2.73	(0.04)
8	Income Tax	25.00	37.18	37.18	(12.18)
9	**Total Fixed Charges**	**2378.31**	**2366.60**	**2314.56**	**63.75**
10	Less: Non-Tariff Income	148.50	124.35	124.35	24.15
11	**Net Fixed Charges**	**2229.81**	**2242.25**	**2190.21**	**39.60**

The Fixed charges approved station wise are given in Table below:

Table 4.50: Approved Station-wise Fixed Charges for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Water Charges	SLDC Charges	Income Tax	Total Fixed Cost	Less Non-Tariff Income	Net Fixed Charges
A	**Non-PPA based Stations**											
1	Ukai (1-5)	70.34	31.55	24.30	35.57	201.59	0.00	0.50	6.33	**370.19**	24.34	**345.85**
2	Gandhinagar (1-4)	75.25	32.85	33.15	14.11	108.50	4.11	0.35	4.91	**273.24**	11.85	**261.39**
3	Wanakbori 1-6 TPS	82.63	29.16	58.38	41.66	168.65	27.02	0.63	9.38	**417.51**	32.11	**385.40**
4	Sikka TPS	31.77	8.94	21.86	10.28	68.94	2.62	0.14	1.79	**146.34**	5.63	**140.71**
5	KLTPS 1-3	61.42	19.66	44.86	10.98	102.86	0.56	0.14	1.60	**242.07**	2.16	**239.91**
6	KLTPS 4	35.69	34.55	28.72	3.83	7.99	0.15	0.05	0.56	**111.53**	0.01	**111.52**
7	Dhuvaran (Gas 2)	20.08	5.86	13.88	2.51	24.62	0.70	0.08	0.84	**68.57**	11.60	**56.97**
8	Ukai Hydro	6.75	2.40	8.52	0.66	9.86	0.00	0.12	2.27	**30.58**	0.00	**30.58**
9	Kadana Hydro	15.20	3.86	28.21	1.51	18.59	0.00	0.13	1.80	**69.30**	0.35	**68.95**
	Sub Total (A)	**399.13**	**168.82**	**261.88**	**121.12**	**711.60**	**35.16**	**2.14**	**29.48**	**1729.33**	**88.05**	**1641.28**
B	**PPA based Stations**											
10	Gandhinagar 5*	33.83	0.00	28.64	12.50	25.80	7.10	0.11	1.56	**109.53**	13.03	**96.50**
11	Wanakbori 7*	32.22	0.00	26.01	10.30	16.17	6.94	0.10	1.56	**93.30**	7.49	**85.81**
12	Dhuvaran (Gas 1)*	20.18	0.00	11.45	1.90	24.65	0.20	0.08	0.79	**59.24**	11.60	**47.64**
13	Utran Gas*	23.34	0.00	10.84	1.63	26.23	0.18	0.08	1.00	**63.29**	1.41	**61.88**
14	Utran Extension*	65.94	82.03	57.26	6.52	44.77	0.33	0.22	2.79	**259.85**	2.77	**257.08**
	Sub Total (B)	**175.49**	**82.03**	**134.19**	**32.84**	**137.62**	**14.75**	**0.59**	**7.70**	**585.21**	**36.30**	**548.91**
	Total (A+B)	**574.62**	**250.85**	**396.07**	**153.96**	**849.22**	**49.91**	**2.73**	**37.18**	**2314.54**	**124.35**	**2190.19**

4.8 Sharing of Gains / (Losses) for FY 2013-14

The Commission has analysed the Gains / (Losses) on account of Controllable and Uncontrollable factors.

The relevant Regulations are extracted below

Regulation 24. Mechanism for pass through of gains or losses on account of uncontrollable factors

24.1 The approved aggregate gain or loss to the Generating Company or Transmission Licensee or Distribution Licensee on account of uncontrollable factors shall be passed through as an adjustment in the Tariff of the Generating Company or Transmission Licensee or Distribution Licensee over such period as may be specified in the Order of the Commission passed under these Regulations.

24.2 The Generating Company or Transmission Licensee or Distribution Licensee shall submit such details of the variation between expenses incurred and revenue earned and figures approved by the Commission, in the prescribed format to the Commission, along with detailed computations and supporting documents as may be required for verification by the Commission.

24.3 Nothing contained in this Regulation 24 shall apply in respect of any gain or loss arising out of variations in the price of fuel and power purchase which shall be dealt with as specified by the Commission from time to time.

Regulation 25. Mechanism for sharing of gains or losses on account of controllable factors

25.1 The approved aggregate gain to the Generating Company or Transmission Licensee or Distribution 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 22.6;*
- *b. The balance amount, which will amount to two-thirds of such gain, may be utilized at the discretion of the Generating Company or Transmission Licensee or Distribution Licensee.*

25.2 The approved aggregate loss to the Generating Company or Transmission Licensee or Distribution 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 22.6; and

(b)The balance amount, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company or Transmission Licensee or Distribution Licensee."

The Gains / (Losses) due to controllable factors in respect of O&M charges and fuel charges approved to be passed through to their beneficiaries are given in the Table below:

Table 4.51: Approved Gains / (Losses) due to Controllable Factors for FY 2013-14

(Rs. Crore)

Sl. No.	Power Station	Approved for FY 2013-14			Gains / (Losses) to be passed through 1/3	Gains / (Losses) on account of company 2/3
		O&M Charges	Fuel Charges	Total		
A	**Non-PPA based Stations**					
1	Ukai (1-5)	(57.55)	12.59	(44.96)	(14.99)	(29.97)
2	Gandhinagar (1-4)	(6.49)	6.69	0.20	0.07	0.13
3	Wanakbori 1-6 TPS	(21.26)	(31.74)	(53.00)	(17.67)	(35.33)
4	Sikka TPS	(17.27)	(0.62)	(17.89)	(5.96)	(11.93)
5	KLTPS 1-3	(21.86)	4.03	(17.83)	(5.94)	(11.89)
6	KLTPS 4	10.15	(2.96)	7.19	2.40	4.79
7	Dhuvaran (Gas 2)	(4.67)	(4.13)	(8.80)	(2.93)	(5.87)
8	Ukai 6	0.00	(69.43)	(69.43)	(23.14)	(46.29)
9	Ukai Hydro	2.97	0.00	2.97	0.99	1.98
10	Kadana Hydro	(3.83)	0.00	(3.83)	(1.28)	(2.55)
	Sub Total (A)	**(119.81)**	**(85.57)**	**(205.38)**	**(68.46)**	**(136.92)**
B	**PPA based Stations**					
10	Gandhinagar 5*	0.00	0.00	0.00	0.00	0.00
11	Wanakbori 7*	0.00	0.00	0.00	0.00	0.00
12	Dhuvaran (Gas 1)*	0.00	0.00	0.00	0.00	0.00
13	Utran Gas*	0.00	0.00	0.00	0.00	0.00
14	Utran Extension*	0.00	0.00	0.00	0.00	0.00
	Sub Total (B)	**0.00**	**0.00**	0.00	0.00	0.00
	Total (A+B)	**(119.81)**	**(85.57)**	**(205.38)**	**(68.46)**	**(136.92)**

*PPA based stations

The Gains / (Losses) due to uncontrollable factors in respect of depreciation, interest & finance charges, return on equity, interest on working capital, SLDC, water charges, income tax and non-tariff income approved to be passed through to their beneficiaries are given in the Table below:

Table 4.52: Approved Gains / (Losses) due to Uncontrollable Factors for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Approved for FY 2013-14								Total Gains / (Losses)
		Depreciation	Interest & Finance	Return on Equity	Interest on Working Capital	SLDC	Water Charges	Income Tax	Non - Tariff Income	
A	**Non-PPA based Stations**									
1	Ukai (1-5)	0.16	38.99	7.06	(8.28)	(0.04)	0.00	(5.33)	(0.93)	**31.62**
2	Gandhinagar (1-4)	(8.87)	(8.56)	(2.49)	14.51	0.01	26.36	(2.91)	(7.77)	**10.27**
3	Wanakbori 1-6 TPS	17.84	51.52	7.42	10.18	0.05	13.55	(5.38)	(5.34)	**89.84**
4	Sikka TPS	(1.37)	1.84	(1.42)	(0.96)	(0.01)	1.27	0.21	(1.50)	**(1.94)**
5	KLTPS 1-3	(1.40)	8.50	(1.18)	1.03	(0.02)	0.04	1.40	(4.23)	**4.15**
6	KLTPS 4	(0.52)	(0.17)	(0.30)	5.28	(0.01)	(0.15)	0.44	(2.22)	**2.36**
7	Dhuvaran (Gas 2)	1.56	1.74	1.52	0.54	(0.02)	(0.70)	0.16	8.27	**13.07**
8	Ukai Hydro	0.60	1.54	(0.40)	(0.13)	0.04	0.00	(1.27)	(9.07)	**(8.69)**
9	Kadana Hydro	(0.13)	1.76	(0.21)	(0.41)	0.00	0.00	0.20	(6.84)	**(5.63)**
	Sub Total (A)	**7.87**	**97.17**	**10.00**	**21.75**	**0.00**	**40.37**	**(12.48)**	**(29.63)**	**135.05**
B	**PPA based Stations**									
10	Gandhinagar 5*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11	Wanakbori 7*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12	Dhuvaran (Gas 1)*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
13	Utran Gas*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14	Utran Extension*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
	Sub Total (B)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Total (A+B)	**7.87**	**97.17**	**10.00**	**21.75**	**0.00**	**40.37**	**(12.48)**	**(29.63)**	**135.05**

*PPA based stations

The consolidated Gains / (Losses) approved in the Truing up for FY 2013-14 are given in the Table below:

Table 4.53: Total Consolidated Gains / (Losses) Approved for FY 2013-14

(Rs. Crore)

Sl. No	Power Station	Gains / (Losses) to be passed through 1/3	Gains / (Losses) of Uncontrollable factors to be passed through	Total Gains / (Losses)
A	**Non-PPA based Stations**			
1	Ukai (1-5)	(14.99)	31.62	16.64
2	Gandhinagar (1-4)	0.07	10.27	10.34
3	Wanakbori 1-6 TPS	(17.67)	89.84	72.17
4	Sikka TPS	(5.96)	(1.94)	(7.90)
5	KLTPS 1-3	(5.94)	4.15	(1.80)
6	KLTPS 4	2.40	2.36	4.75
7	Dhuvaran (Gas 2)	(2.93)	13.07	10.13
8	Ukai 6	(23.14)	0.00	(23.14)
9	Ukai Hydro	0.99	(8.69)	(7.70)
10	Kadana Hydro	(1.28)	(5.63)	(6.90)
	Sub Total (A)	**(68.46)**	**135.05**	**66.59**
B	**PPA based Stations**			
11	Gandhinagar 5*	0.00	0.00	0.00
12	Wanakbori 7*	0.00	0.00	0.00
13	Dhuvaran (Gas 1)*	0.00	0.00	0.00
14	Utran Gas*	0.00	0.00	0.00
15	Utran Extension*	0.00	0.00	0.00
	Sub Total (B)	**0.00**	**0.00**	**0.00**
	Total (A+B)	**(68.46)**	**135.05**	**66.59**

*PPA based stations

The Commission thus approves the net gain of Rs. 66.59 Crore in the Truing up for FY 2013-14.

Annexure 4.1

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Ukai TPS 1 to 5

Sl.No.	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	3600.30
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	324.03
4	Net Generation	Y=A - B	MUs	3276.27
5	Station Heat Rate	D	KCal/kWh.	2,760
6	Sp. Oil Consumption	E	ml/kWh	2.00
7	Gross Calorific Value of Coal	F	kcal/kg	3,811
8	Calorific value of Oil	G	kcal/l	10,427
9	Overall Heat	H=A x D	G Cal	9936817
10	Heat from Oil	I=(A x E x G)/1000	G Cal	75084
11	Heat from Coal	J=H-I	G Cal	9861733
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	19.02%
15	B) Washed Coal	X2	%	80.98%
16	C) Imported Coal	X3	%	0.00%
17	Actual Oil Consumption	L=A x E	kl	7201
18	Actual Coal Consumption	M=(J X 1000)/F	MT	2587383
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	496160
20	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	2112089
21	C) Imported Coal	Q3=M* X X3	MT	0.00
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	2914
24	B) Washed Coal	P2	Rs./MT	3379
25	C) Imported Coal	P3	Rs./MT	0
26	Price of Oil	P4	Rs./kl	46042
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	14458
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	71360
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	0
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	85818
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	3315
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	89134
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.48
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	2.72
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	897
37*	Actual Net Generation	S	MUs	3249
38*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	884.03

* Required for computation of Gains / Losses

Annexure 4.2

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Gandhinagar 1-4

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	704.83
2	Auxiliary Consumption	C	%	10.00%
3	Auxiliary Consumption	B	MUs	70.48
4	Net Generation	Y=A - B	MUs	634.35
5	Station Heat Rate	D	KCal/kWh.	2,782
6	Sp. Oil Consumption	E	ml/kWh	1.50
7	Gross Calorific Value of Coal	F	kcal/kg	4,058
8	Calorific value of Oil	G	kcal/l	10,496
9	Overall Heat	H=A x D	G Cal	1960843
10	Heat from Oil	I=(A x E x G)/1000	G Cal	11097
11	Heat from Coal	J=H-I	G Cal	1949746
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	20.45%
15	B) Washed Coal	X2	%	72.59%
16	C) Imported Coal	X3	%	6.96%
17	Actual Oil Consumption	L=A x E	kl	1057
18	Actual Coal Consumption	M=(J X 1000)/F	MT	480484
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	99048
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	351590
21	C) Imported Coal	Q3=M* X X3	MT	33451
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	5789
24	B) Washed Coal	P2	Rs./MT	4434
25	C) Imported Coal	P3	Rs./MT	9710
26	Price of Oil	P4	Rs./kl	42849
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	5734
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	15591
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	3248
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	24573
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	453
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	25026
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	3.55
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	3.95
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	1276
37*	Actual Net Generation	S	MUs	613
38*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	242.03

* Required for computation of Gains / Losses

Annexure 4.3

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Gandhinagar 5*

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	1219.35
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	109.74
4	Net Generation	Y=A - B	MUs	1109.61
5	Station Heat Rate	D	KCal/kWh.	2,460
6	Sp. Oil Consumption	E	ml/kWh	3.50
7	Gross Calorific Value of Coal	F	kcal/kg	3,973
8	Calorific value of Oil	G	kcal/l	10,496
9	Overall Heat	H=A x D	G Cal	2999608
10	Heat from Oil	I=(A x E x G)/1000	G Cal	44793
11	Heat from Coal	J=H-I	G Cal	2954815
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	14.29%
15	B) Washed Coal	X2	%	84.31%
16	C) Imported Coal	X3	%	1.39%
17	Actual Oil Consumption	L=A x E	kl	4268
18	Actual Coal Consumption	M=(J X 1000)/F	MT	743785
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	107167
20	B) Washed Coal	Q2=M* x X2/(1-k)	MT	632164
21	C) Imported Coal	Q3=M* X X3	MT	10368
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	4733
24	B) Washed Coal	P2	Rs./MT	4018
25	C) Imported Coal	P3	Rs./MT	9536
26	Price of Oil	P4	Rs./kl	39202
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	5072
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	25401
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	989
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	31462
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	1673
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	33135
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.72
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	2.99
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	1097

Annexure 4.4

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Wanakbori 1-6

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	3966.35
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	356.97
4	Net Generation	Y=A - B	MUs	3609.38
5	Station Heat Rate	D	KCal/kWh.	2,625
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross Calorific Value of Coal	F	kcal/kg	3,884
8	Calorific value of Oil	G	kcal/l	10,669
9	Overall Heat	H=A x D	G Cal	10411661
10	Heat from Oil	I=(A x E x G)/1000	G Cal	42319
11	Heat from Coal	J=H-I	G Cal	10369342
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	10.24%
15	B) Washed Coal	X2	%	89.76%
16	C) Imported Coal	X3	%	0.00%
17	Actual Oil Consumption	L=A x E	kl	3966
18	Actual Coal Consumption	M=(J X 1000)/F	MT	2669858
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	275467
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	2415922
21	C) Imported Coal	Q3=M* X X3	MT	0
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	4637
24	B) Washed Coal	P2	Rs./MT	3872
25	C) Imported Coal	P3	Rs./MT	0
26	Price of Oil	P4	Rs./kl	46320
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	12773
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	93551
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	0
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	106324
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	1837
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	108161
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.73
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	3.00
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	1039
37*	Actual Net Generation	S	MUs	3588
38*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	1075.30

* Required for computation of Gains / Losses

Annexure 4.5

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Wanakbori 7

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	1053.43
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	94.81
4	Net Generation	Y=A - B	MUs	958.62
5	Station Heat Rate	D	KCal/kWh.	2,460
6	Sp. Oil Consumption	E	ml/kWh	3.50
7	Gross Calorific Value of Coal	F	kcal/kg	3,881
8	Calorific value of Oil	G	kcal/l	10,689
9	Overall Heat	H=A x D	G Cal	2591448
10	Heat from Oil	I=(A x E x G)/1000	G Cal	39411
11	Heat from Coal	J=H-I	G Cal	2552037
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	11.02%
15	B) Washed Coal	X2	%	88.98%
16	C) Imported Coal	X3	%	0.00%
17	Actual Oil Consumption	L=A x E	kl	3687
18	Actual Coal Consumption	M=(J X 1000)/F	MT	657602
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	73068
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	589838
21	C) Imported Coal	Q3=M* X X3	MT	0
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	4617
24	B) Washed Coal	P2	Rs./MT	3672
25	C) Imported Coal	P3	Rs./MT	0
26	Price of Oil	P4	Rs./kl	46194
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	3373
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	21660
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	0
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	25033
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	1703
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	26736
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.54
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	2.79
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	1032

Annexure 4.6

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Sikka TPS

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	600.44
2	Auxiliary Consumption	C	%	11.00%
3	Auxiliary Consumption	B	MUs	66.05
4	Net Generation	Y=A - B	MUs	534.40
5	Station Heat Rate	D	KCal/kWh.	3,030
6	Sp. Oil Consumption	E	ml/kWh	4.00
7	Gross Calorific Value of Coal	F	kcal/kg	4,281
8	Calorific value of Oil	G	kcal/l	10,283
9	Overall Heat	H=A x D	G Cal	1819345
10	Heat from Oil	I=(A x E x G)/1000	G Cal	24697
11	Heat from Coal	J=H-I	G Cal	1794648
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	19.94%
15	B) Washed Coal	X2	%	64.32%
16	C) Imported Coal	X3	%	15.74%
17	Actual Oil Consumption	L=A x E	kl	2402
18	Actual Coal Consumption	M=(J X 1000)/F	MT	419202
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	84264
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	271822
21	C) Imported Coal	Q3=M* X X3	MT	65965
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	6128
24	B) Washed Coal	P2	Rs./MT	4993
25	C) Imported Coal	P3	Rs./MT	3929
26	Price of Oil	P4	Rs./kl	51058
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	5164
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	13571
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	2592
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	21327
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	1226
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	22553
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	3.76
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	4.22
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	1240
37*	Actual Net Generation	S	MUs	525
38*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	221.62

* Required for computation of Gains / Losses

Annexure 4.7

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - KLTPS 1-3

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	1433.35
2	Auxiliary Consumption	C	%	12.00%
3	Auxiliary Consumption	B	MUs	172.00
4	Net Generation	Y=A - B	MUs	1261.35
5	Station Heat Rate	D	KCal/kWh.	3,300
6	Sp. Oil Consumption	E	ml/kWh	3.00
7	Gross Calorific Value of Lignite	F	kcal/kg	2,886
8	Calorific value of Oil	G	kcal/l	10,283
9	Overall Heat	H=A x D	G Cal	4730062
10	Heat from Oil	I=(A x E x G)/1000	G Cal	44216
11	Heat from Lignite	J=H-I	G Cal	4685846
12	Transit losses	K	%	0.20%
13	Actual Oil Consumption	L=A x E	kl	4300
14	Actual Lignite Coal Consumption	M=(J X 1000)/F	MT	1623668
15	Coal Consumption including Transit Loss	N=M/(1-K)	MT	1626922
16	Price of Lignite	P1	Rs./MT	889
17	Price of Oil	P2	Rs./kl	50430
18	Cost of Lignite	N1=M x P1	Rs. Lakh	14460
19	Oil Cost	N2=P2 x L/10^5	Rs. Lakh	2169
20	Total Fuel Cost	O=N1 + N2	Rs. Lakh	16629
21	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	1.16
22	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	1.32
23	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	351
24*	Actual Net Generation	S	MUs	1252
25*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	164.99

* Required for computation of Gains / Losses

Annexure 4.8

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - KLTPS 4

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	376.29
2	Auxiliary Consumption	C	%	12.00%
3	Auxiliary Consumption	B	MUs	45.15
4	Net Generation	Y=A - B	MUs	331.14
5	Station Heat Rate	D	KCal/kWh.	3,000
6	Sp. Oil Consumption	E	ml/kWh	3.00
7	Gross Calorific Value of Lignite	F	kcal/kg	2,886
8	Calorific value of Oil	G	kcal/l	10,283
9	Overall Heat	H=A x D	G Cal	1128870
10	Heat from Oil	I=(A x E x G)/1000	G Cal	11608
11	Heat from Lignite	J=H-I	G Cal	1117262
12	Transit losses	K	%	0.20%
13	Actual Oil Consumption	L=A x E	kl	1129
14	Actual Lignite Coal Consumption	M=(J X 1000)/F	MT	387137
15	Coal Consumption including Transit Loss	N=M/(1-K)	MT	387913
16	Price of Lignite	P1	Rs./MT	951
17	Price of Oil	P2	Rs./kl	71089
18	Cost of Lignite	N1=M x P1	Rs. Lakh	3688
19	Oil Cost	N2=P2 x L/10^5	Rs. Lakh	802
20	Total Fuel Cost	O=N1 + N2	Rs. Lakh	4491
21	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	1.19
22	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	1.36
23	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	397
24*	Actual Net Generation	S	MUs	301
25*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	40.87

* Required for computation of Gains / Losses

Annexure 4.9

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Gas) - Dhuvaran Gas 1

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	44.80
2	Auxiliary Consumption	C	%	3.43%
3	Auxiliary Consumption	B	MUs	1.54
4	Net Generation	Y=A - B	MUs	43.26
5	Station Heat Rate	D	KCal/kWh.	1,950
6	Calorific value of Gas	F	kcal/scm	9,790
7	Overall Heat from Gas	H=A x D	G Cal	87352
8	Actual Gas Consumption	M=(H x 1000)/F	M. scm	8.92
9	Price of Gas	P1	Rs./scm	18.39
10	Cost of Gas	N5=P1 x M/10^5	Rs. Lakh	1641
11	Total Fuel Cost	N5	Rs. Lakh	1641
12	Fuel Cost/Unit Gross	P=N5/(A*10)	Rs./kWh	3.66
13	Fuel Cost/Unit Net	Q=N5/(Y*10)	Rs./kWh	3.79
14	Cost of fuel/G.Cal	R=(N5/H)*10^5	Rs./Gcal	1878

Annexure 4.10

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Gas) - Dhuvaran Gas 2

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	159.41
2	Auxiliary Consumption	C	%	3.00%
3	Auxiliary Consumption	B	MUs	4.78
4	Net Generation	Y=A - B	MUs	154.62
5	Station Heat Rate	D	KCal/kWh.	1,950
6	Calorific value of Gas	F	kcal/scm	9,758
7	Overall Heat from Gas	H=A x D	G Cal	310840
8	Actual Gas Consumption	M=(H x 1000)/F	M. scm	31.86856
9	Price of Gas	P1	Rs./scm	18.47
10	Cost of Gas	N5=P1 x M/10^2	Rs. Lakh	5885
11	Total Fuel Cost	N5	Rs. Lakh	5885
12	Fuel Cost/Unit Gross	P=N5/(A*10)	Rs./kWh	3.69
13	Fuel Cost/Unit Net	Q=N5/(Y*10)	Rs./kWh	3.81
14	Cost of fuel/KCal	R=(N5/H)*10^5	Rs./Gcal	1893
15*	Actual Net Generation	S	MUs	148
16*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	56.43

* Required for computation of Gains / Losses

Annexure 4.11

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Gas) - Utran Gas

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	0
2	Auxiliary Consumption	C	%	4.000%
3	Auxiliary Consumption	B	MUs	0
4	Net Generation	Y=A - B	MUs	0
5	Station Heat Rate	D	KCal/kWh.	2,150
6	Calorific value of Gas	F	kcal/scm	9,865
7	Overall Heat from Gas	H=A x D	G Cal	0
8	Actual Gas Consumption	M=(H x 1000)/F	M. scm	0
9	Price of Gas	P1	Rs./scm	261.99
10	Cost of Gas	N5=P1 x M/10^5	Rs. Lakh	0
11	Total Fuel Cost	N5	Rs. Lakh	0
12	Fuel Cost/Unit Gross	P=N5/(A*10)	Rs./kWh	0.00
13	Fuel Cost/Unit Net	Q=N5/(Y*10)	Rs./kWh	0.00
14	Cost of fuel/G.Cal	R=(N5/H)*10^5	Rs./Gcal	0

Annexure 4.12

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Gas) - Utran Extension

Sl.No	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	8.30
2	Auxiliary Consumption	C	%	3.00%
3	Auxiliary Consumption	B	MUs	0.25
4	Net Generation	Y=A - B	MUs	8.05
5	Capacity		MW	375
6	Station Heat Rate	D	KCal/kWh.	1,850
7	Calorific value of Gas	F	kcal/scm	9,635
8	Overall Heat from Gas	H=A x D	G Cal	15362
9	Actual Gas Consumption	M=(H x1000)/F	M. scm	1.594
10	Price of Gas	P1	Rs./scm	242.65
11	Cost of Gas	N5=P1 x M/10^5	Rs. Lakh	3869
12	Total Fuel Cost	N5	Rs. Lakh	3869
13	Fuel Cost/Unit Gross	P=N5/(A*10)	Rs./kWh	46.59
14	Fuel Cost/Unit Net	Q=N5/(Y*10)	Rs./kWh	48.03
15	Cost of fuel/G.Cal	R=(N5/H)*10^5	Rs./Gcal	25184

Annexure 4.13

Approved Fuel costs for FY 2013-14 for True-up
Fuel costs (Coal, Lignite & Secondary Oil) - Ukai 6

Sl.No.	Item	Derivation	Unit	2013-14
1	Gross Generation	A	MUs	1378.45
2	Auxiliary Consumption	C	%	6.00%
3	Auxiliary Consumption	B	MUs	82.71
4	Net Generation	Y=A - B	MUs	1295.74
5	Station Heat Rate	D	KCal/kWh.	2,385
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross Calorific Value of Coal	F	kcal/kg	3,907
8	Calorific value of Oil	G	kcal/l	10,417
9	Overall Heat	H=A x D	G Cal	3287599
10	Heat from Oil	I=(A x E x G)/1000	G Cal	14359
11	Heat from Coal	J=H-I	G Cal	3273240
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	7.62%
15	B) Washed Coal	X2	%	92.38%
16	C) Imported Coal	X3	%	0.0%
17	Actual Oil Consumption	L=A x E	kl	1378
18	Actual Coal Consumption	M=(J X 1000)/F	MT	837894
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	64328
20	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	780324
21	C) Imported Coal	Q3=M* X X3	MT	0.00
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	2790
24	B) Washed Coal	P2	Rs./MT	3286
25	C) Imported Coal	P3	Rs./MT	0
26	Price of Oil	P4	Rs./kl	45939
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	1795
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	25644
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	0
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	27439
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	633
33	Total Fuel Cost	O=N4 + N5	Rs. Lakh	28072
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.04
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	2.17
36	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs./Gcal	854
37*	Actual Net Generation	S	MUs	1243
38*	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	269.33

* Required for computation of Gains / Losses

5. Determination of Generation Charges for FY 2015-16

5.1 Introduction

This Chapter deals with the determination of the Generation Charges (Fixed charges and Variable charges) for FY 2015-16 for GSECL.

The fixed charges and variable charges approved for FY 2015-16 in the MYT order are as given below:

Table 5.1: Fixed and variable charges approved for FY 2015-16 for the existing stations in the MYT order

Sl. No	Power Station	Approved Net Fixed Charges for FY 2015-16 (Rs. Crore)	Approved Energy Charges for FY 2015-16 (Rs./kWh)
1	Ukai (1-5)	334.68	1.698
2	Gandhinagar (1-4)	265.31	2.375
3	Gandhinagar 5*	101.32	2.130
4	Wanakbori 1-6 TPS	469.57	2.108
5	Wanakbori 7*	98.62	2.022
6	Sikka TPS	120.81	2.752
7	KLTPS 1-3	218.77	1.181
8	KLTPS 4	118.94	1.109
9	Dhuvaran (Gas 1)*	52.00	2.411
10	Dhuvaran (Gas 2)	63.73	2.388
11	Utran Gas*	54.35	2.367
12	Utran Extension*	259.89	2.071
13	Ukai Hydro	24.93	0.00
14	Kadana Hydro	57.72	0.00
	Total	**2240.64**	

The Commission has considered the ARR approved in the MYT order dated 11th April, 2011 for FY 2015-16, while determining the generation tariff for FY 2015-16 for existing stations.

5.2 Generation charges for new power stations Ukai-6, Dhuvaran CCPP-3 & Sikka 3&4

5.2.1 Fixed Charges for Ukai-6, Dhuvaran CCPP-3 and Sikka 3 & 4

GSECL has submitted the fixed charges in respect of Ukai-6, Dhuvaran – 3 and Sikka- 3&4 for FY 2015-16 as detailed in the Table Below:

Table 5.2: Proposed Fixed Charges for Ukai-6, Dhuvaran 3 and Sikka 3&4 for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Depreciation	160.23	83.16	159.14
2	Interest on Loan	179.62	102.66	213.17
3	Return on Equity	127.46	66.15	126.59
4	Interest on Working Capital	31.26	19.18	46.51
5	O&M Cost	77.14	77.74	86.21
6	SLDC Charges	0.22	0.16	0.22
7	MAT	3.72	-	-
8	**Total**	**579.64**	**349.06**	**631.84**

Petitioner's Submission

GSECL has submitted the COD for the above new generating stations as detailed below:

Name of the Station	Capacity MW	COD	Capital Cost (Rs. Crore)
Ukai-6	500	8th June, 2013	3034.75
Dhuvaran CCPP-3	376	21st May, 2014	1575.00
Sikka- 3&4	500	31st March, 2015	3014.00

GSECL has submitted that the above plants will be fully operational during FY 2015-16 and accordingly the variable charges and fixed charges are projected for FY 2015-16.

Commission's Analysis

The Commission had approved the generation tariff for Ukai-6 for FY 2013-14 based on the submission made by GSECL that the Ukai-6 generating station of 500 MW was commissioned on 8th June, 2013 and the unit will be operational for the whole period.

Similarly the Commission had approved the generation tariff in respect of Dhuvaran CCPP-3 unit of 375 MW based on the submission made by GSECL that the project was scheduled to be Commissioned on 9th September, 2013. The COD of Dhuvaran CCPP-3 unit is now given as 21st May, 2014.

The CoD of Sikka 3 & 4 is given as 31st March, 2015 against 31st March, 2014 approved in the Tariff Order dated 29th April, 2014.

The Commission now considers the revised COD for the above new generating stations. The determination of fixed charges and variable charges for these power stations are discussed below.

Depreciation

GSECL has proposed the depreciation charges for FY 2015-16 as detailed in the Table below:

Table 5.3: Proposed Depreciation for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	GFA in Beginning of Year	Rs. Cr.	3,034.75	1,575.00	3,014.00
2	Capital Addition	Rs. Cr.	-	-	-
3	Deduction	Rs. Cr.	-	-	-
4	Closing GFA	Rs. Cr.	3,034.75	1,575.00	3,014.00
5	Rate of Depreciation	%	5.28%	5.28%	5.28%
6	**Depreciation**	**Rs. Cr.**	**160.23**	**83.16**	**159.14**

Petitioner' submission

GSECL has submitted that the opening Gross Fixed Assets for FY 2015-16 have been arrived on the basis of actual value from date of Commission and so on for the control period. The capital addition to the fixed assets has been considered based on the works which are likely to be capitalized during the year. The depreciation is claimed at 5.28% as approved in the Tariff Order dated 30th March, 2013 for True-up for FY 2011-12 and ARR and Tariff for FY 2013-14.

Commission's Analysis

The Commission had provisionally considered capitalization of Rs. 2770 Crore during FY 2013-14 in respect of Ukai-6 in the Tariff Order dated 30th March, 2013 while determining the tariff provisionally for FY 2013-14. GSECL has now reported the GFA at Rs. 3034.75 Crore based on the actual capitalization towards GFA as per audited accounts for FY 2013-14. For Dhuvaran 3 and Sikka 3 & 4 GSECL has furnished the COD as 21st May, 2014 and 31st March, 2015 respectively. GSECL has applied the rate of depreciation of 5.28% as per the GERC (MYT) Regulations, 2011. The depreciation for these three stations has been computed as detailed in the Table below:

Table 5.4: Provisionally Approved Depreciation for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	GFA in Beginning of Year	Rs. Cr.	3034.75	1575.00	3014.00
2	Capital Addition	Rs. Cr.	-	-	-
3	Deduction	Rs. Cr.	-	-	-
4	Closing GFA	Rs. Cr.	3034.75	1575.00	3014.00
5	Rate of Depreciation	%	5.28%	5.28%	5.28%
6	**Depreciation**	**Rs. Cr.**	**160.23**	**83.16**	**159.14**

The Commission provisionally approves the depreciation for the new projects as detailed in the above table for FY 2015-16.

Interest and Finance Charges

GSECL has proposed the interest and finance charges for FY 2015-16 as detailed in the Table below:

Table 5.5: Proposed Interest and Finance Charges for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Opening Loans	1,841.08	1,019.34	2,109.80
2	Loan additions during the year	-	-	-
3	Repayment during the year	160.23	83.16	159.14
4	Closing loans	1,680.84	936.18	1,950.66
5	Average Loans	1,760.96	977.76	2,030.23
6	Wt. Avg. Rate of Interest on Loan	10.20%	10.50%	10.50%
7	Interest on Loan	179.62	102.66	213.17
8	Guarantee Charges	-	-	-
9	**Total Interest & Finance Charges**	**179.62**	**102.66**	**213.17**

Petitioner's Submission

GSECL has submitted that funding of new capital expenditure in the control period has been assumed to be undertaken at a normative debt equity ratio of 70:30 in accordance with the GERC (MYT) Regulations, 2011 and the loan addition have been estimated accordingly. Repayment of loan has been considered equivalent to depreciation considered for the year in accordance with the GERC (MYT) Regulations, 2011. Interest rate for various power projects has been considered as weighted average interest rate approved by the Commission.

Commission's Analysis

GSECL has adopted the interest rate of 10.20% in respect of Ukai-6, and 10.50% in respect of Dhuvaran CCPP-3 as well as Sikka 3&4 as approved in the Tariff Order dated 30th March, 2013.

The interest and finance charges provisionally approved for FY 2015-16 are given in the Table below:

Table 5.6: Provisionally Approved Interest and Finance Charges for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Opening Loans	1841.08	1,019.34	2,109.80
2	Loan additions during the year	-	-	-
3	Repayment during the year	160.23	83.16	159.14

Sl. No.	Particulars	Ukai-6	Dhuvaran-3	Sikka 3 &4
4	Closing loans	1680.85	936.18	1,950.66
5	Average Loans	1760.96	977.76	2,030.23
6	Wt. Avg. Rate of Interest on Loan	10.20%	10.50%	10.50%
7	Interest on Loan	179.62	102.66	213.17
8	Guarantee Charges	-	-	-
9	**Total Interest & Finance Charges**	**179.62**	**102.66**	**213.17**

Return on Equity

GSECL has proposed the ROE @ 14% for FY 2015-16 as detailed in the Table below:

Table 5.7: Proposed Return on Equity for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Opening Equity	Rs. Cr.	910.43	472.50	904.20
2	Additions during the year	Rs. Cr.	-	-	-
3	Closing Equity	Rs. Cr.	910.43	472.50	904.20
4	Average Equity	Rs. Cr.	910.43	472.50	904.20
5	Rate of Return on Equity	%	14%	14%	14%
6	**Return on Equity**	Rs. Cr.	**127.46**	**66.15**	**126.59**

Petitioner's Submission

GSECL has submitted that the Return on Equity for FY 2015-16 has been computed on normative basis @ 14% for all new projects in line with GERC (Terms and Conditions of Tariff) Regulations. The additions to the equity expected during the based on the normative equity contribution towards capital expenditure.

Commission's Analysis

The opening equity claimed for the three new generating stations for FY 2015-16 is 30% of the capital cost considered for the respective projects. The rate of return claimed is 14% as per the GERC (MYT) Regulations, 2011. The ROE approved for their new projects for FY 2015-16 is given in the Table below:

Table 5.8: Provisionally Approved Return on Equity for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Opening Equity	Rs. Cr.	910.43	472.50	904.20
2	Additions during the year	Rs. Cr.	-	-	-
3	Closing Equity	Rs. Cr.	910.43	472.50	904.20
4	Average Equity	Rs. Cr.	910.43	472.50	904.20
5	Rate of Return on Equity	%	14.00%	14.00%	14.00%
6	**Return on Equity**	Rs. Cr.	**127.46**	**66.15**	**126.59**

Interest on Working Capital

GSECL has projected the interest on working capital for FY 2015-16 for the new generating stations as detailed in the Table below:

Table 5.9: Proposed Interest on Working Capital for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran Gas-3	Sikka 3 &4
1	Coal Cost (1 ½ months)	Rs. Cr.	72.41	77.58	133.34
2	Sec Fuel Cost (2 Months)	Rs. Cr.	1.60	-	2.07
3	O&M Expenses (1 month)	Rs. Cr.	6.43	6.48	7.18
4	Maintenance Spares	Rs. Cr.	34.10	16.70	30.14
5	Receivable (1 Month)	Rs. Cr.	97.37	29.28	142.58
6	Total Working Capital	Rs. Cr.	211.91	130.03	315.32
7	Rate of Interest	%	14.75%	14.75%	14.75%
8	**Interest on Working Capital**	**Rs. Cr.**	**31.26**	**19.18**	**46.51**

Petitioner's Submission

GSECL has submitted that the interest on working capital is worked out based on the norms specified under the GERC Tariff Regulations.

Maintenance spares requirement is calculated at 1% of opening GFA escalated at the rate of 6%. The rate of interest is adopted at 14.45% being the SBAR as on 1st April, 2014.

Commission's Analysis

The Commission has computed the working capital and interest on working capital as detailed in the Table below in accordance with the provisions under GERC (MYT) Regulations 2011.

Table 5.10: Provisionally approved Interest on Working Capital for FY 2015-16

(Rs. Crore)

Sl. No.	Particulars	Unit	Ukai-6	Dhuvaran-3	Sikka 3 &4
1	Coal Cost (1 ½ months)	Rs. Cr.	72.40	-	133.34
2	Sec Fuel Cost (2 Months)	Rs. Cr.	1.60	-	2.07
3	Gas (1 Month)	Rs. Cr.	-	51.71	-
4	O&M Expenses (1 month)	Rs. Cr.	6.43	6.48	7.18
5	Maintenance Spares	Rs. Cr.	30.35	15.75	30.14
6	Receivable (1 Month)	Rs. Cr.	47.59	28.73	51.48
7	Total Working Capital	Rs. Cr.	158.57	102.67	224.21
8	Rate of Interest	%	14.45%	14.45%	14.45%
9	**Interest on Working Capital**	**Rs. Cr.**	**22.91**	**14.84**	**32.40**

Operations and Maintenance Expenses (O&M)

GSECL has projected the O&M Expenses for FY 2015-16 for the new generating stations as detailed in the Table below:

Table 5.11: Proposed O&M Cost for FY 2015-16

(Rs. Crore)

Sl. No.	Station	Capacity (MW)	O&M Charges (FY 2015-16) (Rs./Lakh/MW)	O&M Cost (FY 2015-16)
1	Ukai-6	500.00	15.43	77.14
2	Dhuvaran (Gas 3)	376.10	20.67	77.74
3	Sikka 3&4	500.00	17.24	86.21

Petitioner's Submission

GSECL has submitted that the O&M Expenses consisting of Employee Cost, Administration and General Expenses and Repairs and Maintenance expenses are computed on the basis of GERC (MYT) Regulations, 2011.

Commission's Analysis

The Commission has computed the O&M Expenses for the three new generating stations for FY 2015-16 as per the norms specified under Regulations 56(a) for the coal based generating units of Ukai – 6 and Sikka 3&4 and as per Regulation 56(c) for Dhuvaran CCPP as detailed in the Table below:

Table 5.12: Provisionally Approved O&M expenses for FY 2015-16

(Rs. Crore)

Sl. No.	Station	Capacity (MW)	O&M Charges (FY 2015-16) (Rs./Lakh/MW)	O&M Cost (FY 2015-16)
1	Ukai-6	500.00	15.43	77.14
2	Dhuvaran (Gas 3)	376.10	20.67	77.74
3	Sikka 3&4	500.00	17.24	86.21

The Commission provisionally approves the O&M Expenses for the new generating stations for FY 2015-16 as detailed above.

SLDC Fees and Charges

GSECL has projected the SLDC fees and charges in respect of the new generating stations for FY 2015-16 as detailed in the Table below:

Table 5.13: Proposed SLDC Charges for FY 2015-16

(Rs. Crore)

Sl. No.	Station	SLDC Charges (FY 2015-16)
1	Ukai-6	0.22
2	Dhuvaran (Gas 3)	0.16
3	Sikka 3&4	0.22

Petitioner's Submission

GSECL has submitted that the SLDC fees and charges are payable with reference to the direction of the Commission to GETCO to file separate ARR for SLDC as per Regulations 5 of 2005 for "Levy and Collection of fees and charges for SLDC effective from the date of notification."

Commission's Analysis

The SLDC fees and charges are payable to SLDC. The Commission approves these charges for the new generating stations as projected by GSECL for FY 2015-16.

Table 5.14: Provisionally Approved SLDC Charges for FY 2015-16

(Rs. Crore)

Sl. No.	Station	SLDC Charges (FY 2015-16)
1	Ukai-6	0.22
2	Dhuvaran (Gas 3)	0.16
3	Sikka 3&4	0.22

MAT

GSECL has projected the tax for FY 2015-16 same as paid in actual for FY 2013-14 as detailed in the Table below:

Table 5.15: Proposed MAT for FY 2015-16

(Rs. Crore)

Sl. No.	Station	MAT (FY 2015-16)
1	Ukai-6	3.72
2	Dhuvaran (Gas 3)	-
3	Sikka 3&4	-

Petitioner's Submission

GSECL has submitted that the norms of the GERC and CERC and all other SERCs allow the tax on income that is earned by GSECL through the generation business as per the Regulations. GSECL has requested the Commission to reimburse the tax on income as per the provision of the Regulations.

Commission's Analysis

Regulations 42.1 provides for approval of income tax payable for each year of the control period, if any based on the actual income tax paid as per the latest audited annual accounts available. The actual Tax in respect of Ukai 6 as per audited accounts for FY 2013-14 is Rs. 3.72 Crore. The Commission provisionally approves the Tax at Rs. 3.72 Crore for FY 2015-16. The other two generating stations are yet to be commissioned and therefore GSECL has not proposed any Tax for FY 2015-16.

The Commission provisionally approves on the basis of above analysis, the fixed charges for Ukai – 6, Dhuvaran CCPP-3 and Sikka 3 &4 for FY 2015-16 as detailed in the Table below:

Table 5.16: Provisionally Approved Fixed Charges for FY 2015-16

(Rs. Crore)

Sl. No	Station	Ukai 6	Dhuvaran CCPP-3	Sikka 3&4
1	Depreciation	160.23	83.16	159.14
2	Interest & Finance Charges	179.62	102.66	213.17
3	Return on Equity	127.46	66.15	126.59
4	Interest on Working Capital	22.91	14.84	32.40
5	O&M Expenses	77.14	77.74	86.21
6	SLDC Charges	0.22	0.16	0.22
7	Income Tax	3.72	-	-
8	**Net Fixed ARR**	**571.30**	**344.71**	**617.73**

5.2.2 Variable Charges for Ukai-6

Petitioner's Submission

GSECL has projected the performance parameters as per norms and cost parameters, as approved by the Commission in the Tariff Order dated 29th April, 2014 for the year 2014-15 for arriving at the energy charges for FY 2015-16, for the Ukai -6 station.

The different parameters projected are given in the Table below:

Table 5.17: Parameters Projected for Ukai-6 for FY 2015-16

Sl. No	Parameters	Unit	Value
1	Plant Availability Factor	%	85
2	Plant Load Factor	%	85
3	Auxiliary Consumption	%	6.00
4	Station Heat Rate	Kcal / kWh	2385
5	Sp. Oil Consumption	ml / kWh	1.00
6	Gross Calorific Value of Coal	Kcal / kg	4200
7	Gross Calorific Value of Oil	Kcal / l	10469
8	Transit Losses	%	0.8
9	Price of Coal	Rs. / MT	2730
10	Price of Oil	Rs./ KL	25775

Based on the above, GSECL arrived at the energy charges of Rs. 1.683/ kWh net.

Commission's Analysis

The Commission approves the fuel cost for Ukai-6 Station for FY 2015-16, as projected by GSECL as it is in conformity with the parameters approved for FY 2014-

15, in the Tariff order dated 29th April, 2014. The fuel cost works out to Rs. 588.85 Crore for a gross generation at 3723 MU and a net generation at 3500 MU. The net energy charge works out to Rs. 1.683 / kWh.

The detailed calculations for arriving at the costs are given in Annexure 5.1.

5.2.3 Variable Charges for Dhuvaran CCPP-3

Petitioner's Submission

GSECL has projected the performance parameters as per norms and cost parameters, as approved by the Commission in the Tariff Order dated 29th April, 2014 for the year 2014-15 for arriving at the energy charges for FY 2015-16, for the Dhuvaran CCPP-3 station.

The different parameters projected are given in the Table below:

Table 5.18: Parameters Projected for Dhuvaran CCPP-3 for FY 2015-16

Sl. No	Parameters	Unit	Value
1	Plant Availability Factor	%	85
2	Plant Load Factor	%	85
3	Auxiliary Consumption	%	3
4	Station heat rate	Kcal / kWh	1850
5	Calorific value of gas	Kcal/ kWh	9700
6	Price of gas	Rs. / scm	11.62

With the above parameters GSECL projected the fuel cost at Rs. 621 Crore for a net generation of 2716 MU, at Rs. 2.285/unit net.

Commission's Analysis

The Commission approves the fuel cost of Dhuvaran CCPP-3, for FY 2015-16, as projected by GSECL, as it is in conformity with the parameters approved for FY 2014-15 in the Tariff Order dated 29th April, 2014.

Based on the above, the fuel costs work out to Rs. 620.53 Crore for this station for a Gross energy generation of 2800 MU and a Net generation of 2716 MU, with the energy charge at Rs. 2.285 / unit net.

The details of calculations for arriving at the fuel costs are given in Annexure 5.2

5.2.4 Variable Charges for Sikka Units 3 & 4

Petitioner's Submission

GSECL has projected the performance parameters as per norms and cost parameters, as approved by the Commission in the Tariff Order dated 29th April, 2014 for the year 2014-15 for arriving at the energy charges for FY 2015-16, for the Sikka Units 3&4.

The different parameters projected are given in the Table below:

Table 5.19: Parameters Projected by GSECL for Sikka 3&4 for FY 2015-16

Sl. No	Parameters	Unit	Value
1	Plant Availability Factor	%	85
2	Plant Load Factor	%	85
3	Auxiliary Consumption	%	9.00
4	Station Heat Rate	Kcal / kWh	2398
5	Sp. Oil Consumption	ml / kWh	1.00
6	Gross Calorific Value of Coal	Kcal / kg	5500
7	Gross Calorific Value of Oil	Kcal / l	10269
8	Transit Losses	%	0.80%*
9	Price of Coal (imported)	Rs. / MT	6600
10	Price of Oil	Rs./ KL	33352

***** For indigenous and washed coal and 0% for imported coal.

Based on the above, GSECL arrived at the energy charges at Rs. 3.185 / kWh net.

Commission's Analysis

The Commission approves the Fuel Cost for Sikka Units 3&4 for FY 2015-16, as projected by GSECL as it is in conformity with the parameters approved for FY 2014-15 in the Tariff Order dated 29th April, 2014. The Fuel Cost works out to Rs. 1079.16 Crore for a Gross Generation of 3723 MU, and Net Generation at 3388 MU. The Net Energy charges work out to Rs. 3.185 /kWh.

The detailed calculations for arriving at the costs are given in Annexure 5.3.

5.2.5 Approved Fixed and Energy Charges for all the stations of GSECL for FY 2015-16

The approved fixed and energy charges for all the stations of GSECL for FY 2015-16 are as given in the Table below:

Table 5.20: Approved Charges for FY 2015-16

Sl. No	Power Station	Approved Fixed Charges for FY 2015-16 (Rs. Crore)	Approved Energy Charges for FY 2015-16 (Rs. /kWh)
1	Ukai (1-5)	334.68	1.698
2	Gandhinagar (1-4)	265.31	2.375
3	Gandhinagar 5*	101.32	2.130
4	Wanakbori 1-6 TPS	469.57	2.108
5	Wanakbori -7*	98.62	2.022
6	Sikka TPS	120.81	2.752
7	KLTPS 1-3	218.77	1.181
8	KLTPS 4	118.94	1.109
9	Dhuvaran (Gas -1)*	52.00	2.411
10	Dhuvaran (Gas- 2)	63.73	2.388
11	Utran Gas*	54.35	2.367
12	Utran Extension*	259.89	2.071
13	Ukai Hydro	24.93	0.00
14	Kadana Hydro	57.72	0.00
15	Ukai-6#	571.30	1.683
16	Dhuvaran CCPP-3#	344.71	2.285
17	Sikka 3&4#	617.73	3.185

* PPA based stations.
# New stations for which fixed and energy charges are provisionally approved.

Annexure 5.1

Approved Fuel costs for Ukai -6 for FY 2015-16

Sl.No.	Item	Derivation	Unit	2015-16
1	Gross Generation	A	MUs	3723
2	Auxiliary Consumption	C	%	6.00%
3	Auxiliary Consumption	B	MUs	223
4	Net Generation	Y=A - B	MUs	3500
5	Station Heat Rate	D	KCal/kWh.	2,385
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross Calorific Value of Coal	F	kcal/kg	4,200
8	Calorific value of Oil	G	kcal/l	10,469
9	Overall Heat	H=A x D	G Cal	8879355
10	Heat from Oil	I=(A x E x G)/1000	G Cal	38976
11	Heat from Coal	J=H-I	G Cal	8840379
12	Transit losses	K	%	0.8%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	0.00%
15	B) Washed Coal	X2	%	100.00%
16	C) Imported Coal	X3	%	0.0%
17	Actual Oil Consumption	L=A x E	kl	3723
18	Actual Coal Consumption	M=(J X 1000)/F	MT	2104852
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	0
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	2121827
21	C) Imported Coal	Q3=M* X X3	MT	0.00
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	0
24	B) Washed Coal	P2	Rs./MT	2730.00
25	C) Imported Coal	P3	Rs./MT	0
26	Price of Oil	P4	Rs./kl	25775
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	0
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	57926
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	0
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	57926
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	960
33	Total Fuel Cost	O = N4 + N5	Rs. Lakh	58885
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	1.582
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	1.683

Annexure 5.2

Approved Fuel costs for Dhuvaran ccpp-3 for FY 2015-16

Sl.No	Item	Derivation	Unit	2015-16
1	Gross Generation	A	MUs	2800
2	Auxiliary Consumption	C	%	3.00%
3	Auxiliary Consumption	B	MUs	84
4	Net Generation	Y=A - B	MUs	2716
5	Station Heat Rate	D	KCal/kWh.	1,850
6	Calorific value of Gas	F	kcal/scm	9,700
7	Overall Heat from Gas	H=A x D	G Cal	5180000
8	Actual Gas Consumption	M=(H x 1000)/F	M. scm	534021
9	Price of Gas	P1	Rs./scm	11.62
10	Cost of Gas	N5=P1 x M/10^2	Rs. Lakh	62053
11	Total Fuel Cost	N5	Rs. Lakh	62053
12	Fuel Cost/Unit Gross	P=N/(A*10)	Rs./kWh	2.216
13	Fuel Cost/Unit Net	Q=N/(Y*10)	Rs./kWh	2.285

Annexure 5.3

Approved Fuel costs for Sikka 3&4 for FY 2015-16

Sl.No.	Item	Derivation	Unit	2015-16
1	Gross Generation	A	MUs	3723
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	335
4	Net Generation	Y=A - B	MUs	3388
5	Station Heat Rate	D	KCal/kWh.	2,398
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross Calorific Value of Coal	F	kcal/kg	5,500
8	Calorific value of Oil	G	kcal/l	10,269
9	Overall Heat	H=A x D	G Cal	8927754
10	Heat from Oil	I=(A x E x G)/1000	G Cal	38231
11	Heat from Coal	J=H-I	G Cal	8889523
12	Transit losses	K	%	0.8%
13	Coal Blend			
14	A) Indigenous Coal	X1	%	0.00%
15	B) Washed Coal	X2	%	0.00%
16	C) Imported Coal	X3	%	100.0%
17	Actual Oil Consumption	L=A x E	kl	3723
18	Actual Coal Consumption	M=(J X 1000)/F	MT	1616277
19	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	0
20	B) Washed Coal	Q2=M* x X2/(1-K)	MT	0
21	C) Imported Coal	Q3=M* X X3	MT	1616277
22	Price of Coal			
23	A) Indigenous Coal	P1	Rs./MT	0
24	B) Washed Coal	P2	Rs./MT	0.00
25	C) Imported Coal	P3	Rs./MT	6600
26	Price of Oil	P4	Rs./kl	33352
27	Coal cost			
28	A) Indigenous Coal	N1=Q1 X P1	Rs. Lakh	0
29	B) Washed Coal	N2=Q2 X P2	Rs. Lakh	0
30	C) Imported Coal	N3=Q3 X P3	Rs. Lakh	106674
31	Total Coal Cost	N4=N1+N2+N3	Rs. Lakh	106674
32	Oil Cost	N5=P4 x L/10^5	Rs. Lakh	1242
33	Total Fuel Cost	O = N4 + N5	Rs. Lakh	107916
34	Fuel Cost/Unit Gross	P=O/(A*10)	Rs./kWh	2.899
35	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs./kWh	3.185

6. Compliance of Directives

6.1 Compliance of Directives issued by the Commission

The Commission in its Tariff order dated 2nd June, 2012 had issued certain directives to GSECL relating to the compliance of the already issued directives

The Commission also issued some new directives to GSECL in the Tariff order dated 2nd June, 2012.

The Commission, while discussing the compliance of the above directives, recorded its comments on the compliance and in the process, further action required was indicated in the Tariff Order dated 30th March, 2013. The response to these comments and further action are submitted by GSECL on which certain comments were made by the Commission in the Tariff Order dated 29th April, 2014. The compliance of the petitioner on these directives and comments are discussed here under:

Directive 1: Renovation and Modernization (R&M) of Thermal Plant

Quarterly progress report on the R&M of Ukai TPS units 1 & 2 shall be submitted to the Commission.

The current status of the study by M/s JCOAL shall be submitted to the Commission on a quarterly basis and once the full report is received from M/s JCOAL, GSECL should analyse the cost effectiveness of the proposed R&M and submit the same for the approval of the Commission.

The final report from JCOAL may be expedited.

Compliance:

M/s JCOAL has submitted its preliminary report earlier. As informed by CEA, and discussions on 30.05.2012, M/s JCOAL has discontinued the work.

Commission's comments:

GSECL is directed to provide its comments on what it proposes next in view of the discontinuation of work by JCOAL.

Compliance as per present Petition:

- GSECL has initiated action for R&M activity of Unit Nos. 1 to 6 of Wanakbori TPS. As a part of this R&M activity, C&I up-gradation of unit nos. 2, 3, 4 & 5 of Wanakbori is completed. Work for remaining Units will be taken on hand in due course.
- ESP retrofitting/ rehabilitation for reduction of stack emission for environment improvement is under consideration.

Commission's comments:

GSECL may submit its further plan for R&M of Ukai Unit 1 & 2. Further, GSECL may also submit a quarterly progress report of the R&M activities being undertaken for Wanakbori 1-6.

Directive 2: Quality of Coal

The GSECL to make all efforts for replacing the balance main line coal with washed coal. The matter may be perused and report submitted to the Commission.

Compliance:

For implementation of recommendations of the Inter-Ministerial Task Force, GSECL has taken up the matter with various levels of Central Government**.** Further, SECL has informed that swapping of 1-2 MTPA quantity of Korba field to Korea-Rewa field with MPPGCL not feasible and not implemented, as MPPGCL is also requesting for change of their programme from Korea-Rewa to Korba field. However, GSECL has taken up the matter with Ministry of Coal, Coal India Limited for implementation of same. GSECL has represented strongly for implementation of the recommendation of the Task Force, in the meeting taken by Additional Secretary, Ministry of Power to discuss the issues related to Implementation of the recommendation of the Task Force.

Commission's comments:

GSECL is directed to report the latest position in replacing the main-line coal with washed coal.

Compliance as per present Petition:

GSECL is already getting replacement of 100% main line coal with washery circuit.

Commission's comments:

The compliance is noted.

Directive 3: Business Plan

GSECL should develop competency in all fields of planning and operations, and should come up as an efficient state owned generating company which is ready to compete with private generating companies. GSECL is directed to design a road map for the same and apprise the Commission of the action taken.

The action taken report may be submitted by 30th June, 2013.

Compliance:

The action to be taken to design a road map to get preparedness to compete with private generation companies is under process and on the finalization of the same GSECL will submit within stipulated time.

Commission's comments:

This may be expedited and the report submitted by 30th September, 2014.

Compliance as per present Petition:

GSECL submits that actions to be taken to design road map to get preparedness to compete with Pvt. Generation companies are attached as Annexure-B of the petition.

Commission's comments:

The actions planned by GSECL to compete with private generation companies are attached herewith as Annexure A. However, GSECL may submit its preparedness for facing competition indicating the action taken / proposed to be taken to bring down the overall cost of generation.

Directive 4: KLTPS Unit- 4

GSECL shall submit progress in PG test along with final results of the test to the Commission in respect of KLTPS-4.

The work may be expedited and informed to the Commission early.

Compliance:

The PG test of Turbine and Boiler was carried out on 02 & 03-12-2012. The PG test report is submitted by M/s. BHEL for which result is under discussion, and hence not yet finalized. On finalization of the PG Test Report, the same will be intimated to the Commission in due course.

Commission's comments:

GSECL is directed to submit PG test results by September 2014.

Compliance as per present Petition:

Progress in PG test along with final results of the test in respect of KLTPS-4, the PG test of Turbine and Boiler was carried out on 02/03-12-2012 at full load i.e., 77 MW on the Unit.

As desired, the PG test results (as submitted by them is attached) are as under:

- Average Turbine Heat Rate: 2242.03 Kcal/kWhr.
- Boiler Efficiency: 72.88%

The relevant documents of PG test reports are attached as Annexure-C of the petition.

Commission's comments:

Compliance of the report is noted. PG test report is attached herewith as Annexure-B.

Directive 5: Cost Audit of Generating Stations

GSECL is directed to do a comprehensive cost audit and identify the area where efficiency is improved and cost is reduced. This may be taken up in a phased manner, power station wise. Action taken should be reported.

The comprehensive cost Audit report may be submitted early.

Compliance:

Cost audit report was submitted by GSECL. However the Commission has desired the same in different manner which is under process.

Commission's comments:

The cost audit as desired by the Commission shall be submitted by June 2014.

Compliance as per present Petition:

GSECL has submitted the compliance vide Letter No: GSECL/GERC Cell/Comp.Dir.TO 29.04.2014/1042 Dated 04.06.2014.

Commission's comments:

The compliance is noted.

6.2 New Directives issued in Tariff Order dated 2nd June, 2012

Directive 1:

GSECL is directed to submit to the Commission a progress report on the implementation of the recommendations made in fuel audit report for FY 2010-11 of Power Stations of GSECL.

Compliance:

It is submitted as Annexure-D of the petition.

Commission's comments:

The compliance is noted.

6.3 New Directives

Directive 1:

GSECL is directed to examine the inefficiency, if any, of Sikka power station and intimate the Commission of the action taken in this regard within a period of 3 months.

COMMISSION'S ORDER

The Commission approves the station-wise fixed charges and energy charges for the FY 2015-16 as shown in the Table below:

Approved Charges for FY 2015-16

Sl. No	Power Station	Approved Fixed Charges for FY 2015-16 (Rs. Crore)	Approved Energy Charges for FY 2015-16 (Rs. /kWh)
1	Ukai (1-5)	334.68	1.698
2	Gandhinagar (1-4)	265.31	2.375
3	Gandhinagar 5*	101.32	2.130
4	Wanakbori 1-6 TPS	469.57	2.108
5	Wanakbori -7*	98.62	2.022
6	Sikka TPS	120.81	2.752
7	KLTPS 1-3	218.77	1.181
8	KLTPS 4	118.94	1.109
9	Dhuvaran (Gas -1)*	52.00	2.411
10	Dhuvaran (Gas- 2)	63.73	2.388
11	Utran Gas*	54.35	2.367
12	Utran Extension*	259.89	2.071
13	Ukai Hydro	24.93	0.00
14	Kadana Hydro	57.72	0.00
15	Ukai-6#	571.30	1.683
16	Dhuvaran CCPP-3#	344.71	2.285
17	Sikka 3&4#	617.73	3.185

* PPA based stations.
# New stations for which fixed and energy charges are provisionally approved.

The net gain of Rs. 66.59 Crore approved in the Truing up for FY 2013-14 is to be passed on to the Discoms in 12 equal monthly instalments through GUVNL.

This order shall come into force with effect from 1st April, 2015.

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

Place: Gandhinagar
Date: 31/03/2015

Annexure-A

Actions planned by GSECL to compete with private generation companies

Activity	Justification/Details	Scope of Work	Benefit	Target Completion	Present Status
R&M of Unit 4 Ukai (200 MW) & Unit 3 WTPS (210 MW) Turbine retrofitting	Ukai & Wanakbori LMZ Turbines have already operated for more than 25 years. These units are of LMZ (USSR) technology designed for 10 deg.C cooling water temperature with best available blade design and technology in 1959 .The design is now nearly 50 years old. Lot of advancement in design and improvements in blade efficiencies has taken place all over the world by Turbine manufacturers. Turbine manufacturers like Siemens. Doosan, GE, Alstom, Toshiba, GEC and Chinese have undertaken the modernization and simultaneously uprating the TG sets in cost effective manner.	The scope of Work includes • Replacement of complete HP and IP turbine modules keeping it on the same foundation. • Replacement of flow path elements like rotors and guide blades of LP Turbine with state of art technologies keeping outer casing in tack with required minor repairing works. • All other thermal cycle equipment like LP heater, HP Heaters De-aerator, BFP, CEP, Lub-oil system will remain the same.	• Extended Life of 25 is considered after Retrofitting • Present Turbine Heat rate: 2269 Kcal/kwh and Expected Turbine heat Rate after Retrofitting is Less than 2000 Kcal/kwh .	2 Years	Tender for UTPS -4 & WTPS-3 are under process. Based on results of the retroffitting of UTPS-4 & WTPS 3, R&M of other 210 MW Units will be planned.
Expansion by implementing new Units	1x800 MW Coal based unit at WTPS	--	Being Sper critical design Units, performance Parameters will be much better than the existing M/cs of GSECL of 120 MW and 200/210 MW. Ultimate benefits will pass on to the consumers of the State.	48 Months	Order for EPC awarded to M/s.BHEL.
	3 x 660 MW or 2 x 800 MW Coal based Unit at Dhuvaran.	--		2018-19	Process for obtaning various clearances is under progress.
	2 X 800 MW Coal Based Units in Dholera SIR /Alternate site at Pachchham, Dist. Ahmedabad:	--		2017-18	Process for getting NOC for land acquisition and various clearences is under progress
	2 X 800 MW Coal Based Units near Village Mojap, Dist. Jamnagar	--		2017-18	Process for getting NOC for land acquisition and various clearences is under progress

Annexure-B

PG test report:

18. *Heat rate after correction due to deviations in parameters & ageing effect*

SL No.	Parameter Description	Units	NTPC	
			Test 1	Test 2
1	Heat rate calculated	Kcal/Kwhr	2250.19	2230.27
2	[redacted] Parameter correction	Kcal/Kwhr	2252.31	2231.763
3	Ageing correction	%	2.406	2.406
4	Heat rate after Ageing correction	Kcal/Kwhr	2198.12	2178.07

Heat rate results of Test 1 & Test 2 are found to be within agreed uncertainty limit of ±1.3 % for test results

2. *Correction of Boiler Efficiency to design conditions*

S.No	Parameter	Unit	Design value	Test value	Deviation in boiler efficiency %
a)	Higher Heating value	Kcal/Kg	2621	3867.33	7.89276
b)	Hydrogen in fuel	%	2.19	2.69	-1.14437
c)	Moisture in Fuel	%	34.7	37.91	-1.53
d)	Ash content in Fuel	%	23.5	8.51	2.48
e)	Ambient temperature & RH	%	36 ^{0}C & 60 %	23.63 ^{0}C & 32 %	-0.644
f)	Boiler Feed water temperature	^{0}C	237.3	231.12	0.075
g)	Excess air	%	20	20.1434	-0.03
h)	Total deviation	%	0		7.099391

Boiler efficiency from 100 % TMCR test data: 79.98 %

Corrected Boiler efficiency to design conditions =
Calculated efficiency – Total Deviation

= 79.98 - 7.099391
= 72.88 %