

GUJARAT ELECTRICITY REGULATORY COMMISSION



Tariff Order

Truing up for FY 2011-12 and
Determination of Tariff for FY 2013-14

For

**Gujarat State Electricity Corporation Limited
(GSECL)**

Case No. 1261 of 2012

30th March 2013

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**GUJARAT ELECTRICITY REGULATORY COMMISSION
(GERC)**

AHMEDABAD

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Gujarat State Electricity Corporation Limited
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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 |



Gujarat State Electricity Corporation Limited
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| | |
|---------|-----------------------------------|
| 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 Ahmedabad

Case No. 1261/2012

Date of the Order: 30/03/2013

CORAM

Dr. P. K. Mishra, Chairman
Shri Pravinbhai Patel, Member
Dr. M. K. Iyer, 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 30th November, 2012 under section 62 of the Electricity Act, 2003 read with Gujarat Electricity Regulatory Commission Regulations, 2011 for the True up of FY 2011-12 and determination of tariff for the FY 2013-14.

The Commission admitted the petition on 12th December, 2012.



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 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.



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

Regulation 1.4 (a) of the GERC (Multi-Year Tariff) Regulations, 2011 reads as under:
“These Regulations shall be applicable for determination of tariff in all cases covered under these Regulations from 1st April, 2011 and onwards.”

The Commission, in exercise of the powers vested in it under sections 61, 62 and 64 of the Electricity Act 2003 and all other powers enabling it in this behalf and after taking into consideration the submissions made by 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 MYT Regulations, 2011.

1.4 Admission of the Current Petition and Public Hearing Process

The GSECL submitted the current petition for „Truing up“ of FY 2011-12 and determination of Tariff for FY 2013-14 on 30th November, 2012. The Commission admitted the petition (Case 1261 of 2012) on 12th December, 2012.

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 10.01.2013 inviting objections / suggestions from its stakeholders on the ARR petition filed by it.

| Sr. No. | Name of the Newspaper | Language | Date of publication |
|----------------|------------------------------|-----------------|----------------------------|
| 1 | Indian Express (English) | English | 10.01.2013 |
| 2 | Gujarat Samachar (Gujarati) | Gujarati | 10.01.2013 |

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 09.02.2013.

The Commission received 4 objections / suggestions from consumer / consumer organizations. The Commission examined the objections / suggestions received and



scheduled the public hearing for GSECL on 1st March 2013 at the Commission's Office, Ahmedabad 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 Ahmedabad as scheduled.

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

| Sl. No. | Name of Organization | Participated in the Public Hearing |
|---------|---|------------------------------------|
| 1 | Consumer Education and Research Society | Yes |
| 2 | Utility Users' Welfare Association, Ahmedabad | Yes |
| 3 | Gujarat Urja Vikas Nigam Limited (GUVNL) | Yes |
| 4 | S J Patel, Advocate of Gujarat High Court | No |

A short note on the main issues raised by the objectors in the submissions in respect of 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 2011-12.
5. The **fifth** chapter deals with the Determination of tariff for the FY 2013-14.
6. The **sixth** chapter deals with the compliance of directives.

1.6 Approach of this Order

The 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 2011-12 and determination of tariff for the FY 2013-14.

In the order, the Commission has considered the „Truing-up“ for FY 2011-12 and the determination of Tariff for the FY 2013-14.

The Commission has undertaken „Truing up“ of the FY 2011-12 including computation of gains and losses based on the submissions of the petitioner and the audited annual accounts.

While „Truing up“ of FY 2011-12 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 2011-12 has been considered based on the GERC MYT Regulations, 2011. For the determination of the ARR for FY 2013-14, the Commission has considered the ARR for FY 2013-14 as approved in the MYT order dated 11th April, 2011.
4. For the Ukai-6 station, which was not covered in the MYT order, the ARR for FY 2013-14 is considered based on the parameters as per the MYT Regulations, 2011.
5. In the case of Dhuvaran CCPP-3 station, which was also not covered in the MYT order, the ARR is approved based on the parameters proposed by GSECL, which are within the norms.



2. A Summary of GSECL's Petition

2.1 Actuals for FY 2011-12 submitted by GSECL

GSECL in its petition submitted the actual values of operational parameters and costs for each of the generating stations owned and operated by it for FY 2011-12. 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 including O&M expenses.

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 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.

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 2013-14 are given in Table 2.1 and energy charges in Table 2.2 below:

Table 2.1: Proposed Fixed Cost for FY 2013-14

| (Rs. crore) | | |
|-------------|-------------------|-------------------|
| SI. No. | Power station | Net Fixed Charges |
| 1 | Ukai (1-5) | 319.92 |
| 2 | Gandhinagar (1-4) | 265.17 |
| 3 | Gandhinagar 5* | 99.27 |
| 4 | Wanakbori 1-6 TPS | 453.98 |
| 5 | Wanakbori 7* | 96.60 |
| 6 | Sikka TPS | 121.50 |
| 7 | KLTPS 1-3 | 222.20 |
| 8 | KLTPS 4 | 124.03 |
| 9 | Dhuvaran (Gas 1)* | 49.95 |
| 10 | Dhuvaran (Gas 2) | 65.37 |



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| Sl. No. | Power station | Net Fixed Charges |
|---------|-------------------|-------------------|
| 11 | Utran Gas* | 53.96 |
| 12 | Utran Extension* | 273.52 |
| 13 | Ukai Hydro | 24.86 |
| 14 | Kadana Hydro | 59.49 |
| 15 | Ukai-6** | 533.07 |
| 16 | Dhuvaran-CCPP-3** | 139.82 |
| | Total | 2902.71 |

* PPA based stations

** Provisionally approved

Table 2.2: Proposed Energy Charges for FY 2013-14

(Rs. / Kwh)

| Sl. No. | Power station | Energy Charges |
|---------|-------------------|----------------|
| 1 | Ukai (1-5) | 1.704 |
| 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 | 2.760 |
| 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** | 1.757 |
| 14 | Dhuvaran CCPP-3** | 2.266 |

* PPA based stations

** Provisionally approved

Government of Gujarat has imposed a Green Cess to be levied at 2 paise per unit of the electricity generated. GSECL has requested the Commission to consider the charges payable as Green Cess while determining the variable charges for FY 2013-14.

2.3 Request of GSECL

GSECL has requested the Commission.

1. To admit this Petition for True up for FY 2011-12 and ARR and Tariff determination of FY 2013-14.
2. To approve the gains/ losses for the True up for FY 2011-12 and allow sharing of such gains/ losses as prescribed in the MYT Regulations, 2011.
3. To approve the sharing of gains on account of efficiency parameters with the consumers.



4. To approve and permit the recovery of loss on fuel costs due to uncontrollable factors, from GUVNL.
5. To allow the adjustment related to the previous order dated 2nd June 2012 and recover the gap.
6. To allow the cost for Long Term Service Agreement (LTSA) incurred during FY 2008-09, FY 2009-10, FY 2010-11 and FY 2011-12 and to be recovered.
7. To approve the sharing of Gains/(Losses) on account of Fixed Charges as per MYT regulations, and be passed on to the consumers.
8. To approve the recovery of Green Cess paid by GSECL through Energy Charges for FY 2011-12 and to consider the Energy Charges for FY 2011-12 on par with the actual Energy Charges including Green Cess.
9. To approve the Variable Charges, Fixed Charges for FY 2013-14 and to approve the recovery of Green Cess levied by the Government through Energy Charges, and to approve the determination of Tariff for FY 2013-14, including Ukai-6 and Dhuvaran CCPP-3.
10. To approve the recovery of any differences in Energy Charges to be approved by the Commission for FY 2013-14 and the actual Energy Charges of GSECL for FY 2013-14, on account of increase in fuel cost, as per the Fuel Cost Adjustment (FCA) of the FPPPA Order issued by the Commission.
11. To approve the operational and financial parameters as proposed by GSECL considering the vintage and constraints of the old machines, and consider the same for recovery of full fixed cost and to reconsider PAF for WTPS (1-6) as 80%.
12. To approve the financial parameters and separate water charges at actual as proposed by GSECL
13. 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 recovery of variable cost considering the vintage and constraints of the old machines as well as site specific constraints.
14. To approve reimbursement of Tax on Income earned through the sale of power
15. To grant any other relief as the Commission may consider appropriate.
16. To allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
17. To 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 the Petition

In response to the Public Notice inviting objections/suggestions from stakeholders on the petition filed by GSECL for true up for FY 2011-12 and determination of tariff for FY 2013-14, four consumers / organizations, viz. (i) Consumer Education and Research Society (ii) Utility Users" Welfare Association, Ahmedabad, (iii) Gujarat Urja Vikas Nigam Limited (GUVNL) and (iv) Sri S.J. Patel, Advocate of Gujarat High Court, have filed their objections/suggestions in writing.

The Commission has considered the objections/suggestions raised by the above mentioned stakeholders and the response of GSECL on the same.

The details of the submissions made by the objectors, response of the Petitioner and the view of the Commission are summarized in the following sections.

3.2 Objector 1: Consumer Education and Research Society

Objection 1: Poor Capacity Addition

GSECL has not gone for any capacity addition in the last decade but has preferred to purchase power from external resources.

Capacity Addition during the last 9 years

| Sl. No. | Plant | Capacity (MW) | Date of Commissioning |
|---------|------------------|---------------|-----------------------|
| 1 | Dhuvaran Gas - 7 | 107 | 28.01.2004 |
| 2 | Dhuvaran Gas - 8 | 113 | 11.01.2007 |
| 3 | Wind Mills | 10 | 04.01.2009 |
| 4 | Utran Gas - 1 | 375 | 11.08.2009 |
| 5 | KLTPS – 4 | 75 | 20.12.2009 |
| 6 | Solar | 2 | 29.03.2012 |
| | Total | 682 | |

It is further submitted that during the last decade power plants of 534 MW capacity have been retired leading to a net addition of 148 MW only which is less than 3% of its generation capacity.



Response of GSECL:

The capacity enhancement cannot be clubbed with retirement of Dhuvaran Oil units for which reasons have been submitted in previous petitions. Capacity addition above 682 MW could not be carried out as envisaged earlier because of the delayed Environment and Forest Clearance in case of 2x250 MW Sikka Unit No. 3 and 4 and later on, due to issue raised by OEM M/s BHEL to revise agreed cost for these units because of the statutory delays. Further, in case of 500 MW Ukai Unit No. 6, there was a delay in commencement of work, mainly due to space constraint and site specific problems i.e. uneven land against normal plain land. As of now, considerable progress has been made in Sikka Units No. 3 and 4 and Ukai Unit No. 6 which are on the verge of completion. 375 MW Dhuvaran GBPS Unit No. 3 is progressing as per schedule and capacity enhancement for these plants will be in the foreseeable future.

Commission's View:

The Commission has taken note of the submission of the Petitioner. GSECL shall complete the works according to schedule.

Objection 2: Poor Plant Performance

GSECL has submitted that poor performance in some of its plants commissioned during last two years was due to teething problems. The poor performance of Sikka TPS and KLTPS for the last three years is also a matter of concern.

The KLTPS plant unit-4 has not generated full load for the last two years. The petitioner should be directed to recover this loss from BHEL, which has commissioned this unit.

The explanation of the petitioner about frequent failure of Non-Metallic Expansion Joint (NMEJ) is not acceptable.

Response of GSECL:

The plant wise compliance report for the stations is as under:

1. Sikka TPS:

The PAF of Sikka TPS during the year 2011-12 was almost in line with the approved PAF. The PLF was lower on account of low schedule given by State Load Dispatch Centre (SLDC), despite the availability of units for



generation. During the year, the loss in generation due to low schedule was 581 MUs. If we consider the loss, due to low schedule as deemed generation, the PLF achieved would be 73.88 % which is higher than the approved PLF. Moreover partial generation due to low schedule results in increase in Auxiliary Consumption as almost all the auxiliaries are required to be run at part load also. Hence, the actual Auxiliary Consumption was higher than the approved Auxiliary Consumption. However, the specific oil consumption and SHR were within the values approved by the Commission.

2. KLTPS 1-3

The major reason for low plant load factor is low generation level of 50-55 MW against 75 MW rated capacity in unit no 3 as two stages of blades of turbine rotor had been shaved off to resolve the problem of high vibrations/eccentricity of turbine. Also the B path of ESP was out of service due to severe damage to internals. Hence, out of available capacity of 215 MW (KLTPS 1 – 3), 190 MW capacity was available for generation. The ESP „B“ path has been repaired and put into service and the generation level of Unit No. 3 has been raised to 62-63 MW. The Plant load factor of KLTPS Units no 1 to 3 for the period April 12 – Jan 13 is 71.68 %. It is obvious that due to low load operation, auxiliary consumption in terms of percentage will be increased.

3. KLTPS 4

It is submitted that this unit with CFBC Boiler with 75 MW is first of its kind where many problems have been observed for the first time and hence, attending the same took considerable time. The load on KLTPS-4 was restricted to 60 MW due to following teething problems, for which corrective action(s) taken is also given.

1. The cooling water inlet pipes coating were found defective, since it was blocking the holes of condenser tubes, resulting in poor condenser vacuum and restriction of load. Complete recoating of the inlet pipe was carried out and condenser vacuum problems were almost resolved.
2. The material composition of drag link chains of both the lignite feeders was modified to enhance life of chain.
3. Frequent leakages of seal pot and combustor Non-metallic expansion joints were attended to by re-alignment of the connecting portion. As



recommended by the OEM, the “BURGMANN” make bellows were being utilized. Also spare bellows were also procured to meet emergencies and avoid generation loss.

4. The problem of Fluidized Bed Heat Exchanger (FBHE) is attended and kept in service continuously.

After attending above defects the rated load on the units was taken up. And sustained generation from unit was achieved with a Plant load factor of 85.89%, 72.50%, 79.73% and 69.36 % during the month of Dec 2011, Jan-2012, Feb-2012 & Mar-2012 respectively.

Frequent forced outages attributable to above problems resulted in high specific oil consumption as well as high heat rate of unit during the previous year. Further the design Auxiliary Consumption of the unit is more than 16%, whereas the Auxiliary Consumption approved by GERC is 12%.

As full load operation was achieved and sustained, the Performance Guarantee Test of unit was completed on 4th December 2012.

Commission’s View:

The Commission has taken note of the submission made by the Petitioner with regard to the performance of the Power Plants. However, GSECL should make efforts to improve the performance.

Objection 3: Low Plant Load Factor

Rampant purchase of power from Independent Power Producers (IPPs) by the Petitioner is objectionable. It has been observed that Petitioner operates its plant at less than 30% PLF and Purchases 60% of power requirement from IPPs.

One such instance is illustrated below:

Date: 18.09.2012 Time 12.30 Hrs

| Plant | Capacity (MW) | Actual (MW) | Actual (%) |
|-------------------|---------------|-------------|------------|
| Ukai – TPS | 850 | 308 | 36.2 |
| Wanakbori TPS | 1470 | 315 | 21.4 |
| Gandhinagar TPS | 870 | 174 | 20.0 |
| Sikka TPS | 240 | 72 | 30.0 |
| Kutch Lignite TPS | 290 | 135 | 46.6 |
| Utran Gas | 510 | 0 | 0 |
| Dhuvaran Gas | 219 | 175 | 81.3 |



Gujarat State Electricity Corporation Limited
Truing Up for FY 2011-12 and
Determination of Tariff for FY 2013-14

| Plant | Capacity (MW) | Actual (MW) | Actual (%) |
|--------------|---------------|-------------|-------------|
| Ukai Hydro | 305 | 2 | 0.7 |
| Kadana Hydro | 242 | 105 | 43.4 |
| Total | 4995 | 1289 | 25.8 |

The Petitioner should be directed to submit its explanation on the above issue.

Response of GSECL:

The generation from thermal Power Stations is done in line with the schedule given by SLDC. The actual generation (PLF) on 18.09.2012 was lower on account of low schedule given by SLDC despite availability of capacity for generation. The details of Actual generation, backing down, availability, PAF & PLF adding backing down (being deemed generation) in respect of GSECL Thermal Power Stations on 18.09.2012 are as under:

| Plant | Capacity (MW) | Avg. Gen (MW) | Avg. Backing down (MW) | Total Ability (MW) | PLF (%) | PLF adding Backing down (%) |
|--------------|---------------|---------------|------------------------|--------------------|--------------|-----------------------------|
| Ukai (TPS) | 850 | 369 | 317 | 686 | 43.41 | 80.71 |
| Gandhinagar | 870 | 180 | 625 | 805 | 20.69 | 92.53 |
| Wanakbori | 1470 | 369 | 674 | 1043 | 25.10 | 70.95 |
| Sikka | 240 | 80 | 122 | 202 | 33.33 | 84.17 |
| KLTPS | 290 | 151 | 0 | 151 | 52.07 | 52.07 |
| Dhuvaran | 219 | 175 | 21 | 196 | 79.91 | 89.50 |
| Utran | 510 | 0 | 453 | 453 | 0 | 88.82 |
| Total | 4449 | 1324 | 2212 | 3536 | 29.76 | 79.48 |

From the above, it can be seen that the availability for generation from GSECL Thermal Plants was 79.48%.

The generation from hydro power plants is governed by Irrigation Department, depending upon availability of water in reservoirs and discharge schedule for respective day. On 18.09.2012, total hydro capacity available was 487 MW out of 547MW i.e. 89.03% hydro generation capacity was also available. Hence the reason for low PLF was: low schedule given by SLDC.

Commission's View:

The response of the petitioner is noted. GSECL should endeavour to achieve the PLF approved and ensure normal operation of the plant on priority and take steps to generate maximum power and explore possibility of selling power to others.



Objection 4: Burden of Inferior Quality of Coal

There is a burden of Rs. 160.69 crore to be passed on to consumers due to negligence and inefficiency of the Petitioner.

The Petitioner has signed an agreement with the coal supplier to receive particular grade of coal with fixed gross calorific value. If coal supplier provides lower grade of coal with lower gross calorific value, this burden should be borne by the Petitioner and should not be passed on to consumers.

The Petitioner should provide the details of steps taken to recover the amounts for getting lower grade coal from supplier with a copy provided to the Respondent. The Commission is requested not to transfer this inefficiency of the Petitioner by approving this loss.

Response of GSECL:

GSECL, in its supplementary petition dated 9th January 2013, has requested the Commission to defer the claim of Rs. 160.69 crores. Further, it has approached the Competition Commission for claims against poor quality of coal.

Commission's View:

The above amount of Rs. 160.69 crore has already been collected by GUVNL/Discoms from the consumers through FPPPA charges. Hence, the claiming of this amount is not justified.

Objection 5: Abnormality of PAF and PLF:

The PLF, in the case of KLTPS 1-3 and KLTPS 4 is more than the PAF during 2011-12, which is impossible.

Response of GSECL:

It is submitted that the Declared Capacity of station is derived from the Net availability of power that can be dispatched to the grid which is worked out after deducting actual auxiliary power consumption. The PAF of station, as per Regulations, is the ratio of sum of DC (with actual auxiliary power consumption) to the sum of DC (considering the normative auxiliary power consumption) The actual Cumulative Availability in respect of KLTPS 1 – 3 for the year 2011-12 was 1005289.75 MWH, whereas the cumulative availability, considering normative



auxiliary consumption, was 1661933 MWH. Accordingly the Plant Availability factor was 60.49 % for the FY 11-12.

The Plant Load Factor is derived from Gross generation from the station and the auxiliary consumption is not considered while deriving the same. PLF is the ratio of actual gross generation to maximum possible generation during the respective period. The actual Gross generation of KLTPS 1 – 3 for the year 2011-12 was 1164.70 MUs, against the maximum possible generation of 1888.56 Mus. Considering the same, the Plant Load Factor comes to 61.67%. Thus the criteria for calculation of PAF & PLF are different, the PLF was higher than PAF.

Commission's View:

The response of GSECL is noted.

3.3 Objector 2: Utility Users' Welfare Association, Ahmedabad

Objection 1: Misconceiving the Provision of Sections 61, 62, 64 and 86 of Electricity Act 2003

The Petitioner, GSECL, has misconceived the above Provisions of E.A. 2003, as it provides for the determination of tariff for supply of power by generating company to distribution licensee. Here the petitioner, GSECL, is supplying power to GUVNL which is not a distribution licensee.

Response of GSECL:

Utility Users' Welfare Association has raised the same issue against the Petitioner's earlier Petition No. 1157 of 2011, and the Commission has expressed their views while approving the said Petition. Hence, the present objection is not maintainable.

Commission's View:

The response of the Petitioner is noted.

Objection 2: High Profits for the Company

The petitioner is a profit-making company and profits have increased 270% within three years which is beyond the reasonable limits despite grossly inflated expenditure. The petitioner has tried to get relaxation in the norms of controllable elements and tried to get normative values even when the value achieved was less than the norms prescribed in the Regulations.



Response of GSECL:

The Company has invested shareholders fund of about Rs. 3907 crore as equity against the installed capacity of 5008 MW. As per the terms of the PPA, the Company is supposed to earn 14% return on investment. It means the Company has to earn profit of about Rs. 546 crore. However, it can be seen from the following Table that the Company could not earn profit as per the norms laid down in the Regulations.

| Sl. No. | Year | Profit after Tax in (Rs. crore) |
|---------|--------------|------------------------------------|
| 1 | FY 2009-10 | 124.00 |
| 2 | FY 2010-11 | 142.00 |
| 3 | FY 2011-12 | 172.00 |
| | Total | 438.00 |

It is seen from the above that the realisation is less than the profit the Company is entitled to earn.

Commission's View:

The Commission has allowed the expenditure and return, after prudence check and as per Regulations.

Objection 3: Maintainability of the Petition

The petition filed by GSECL is not maintainable as GERC has no jurisdiction to determine tariff for sale of energy by GSECL to GUVNL, who is not a distribution company. The Commission can determine generation tariff for sale of energy to a distribution company under section 61 and 62 of the Electricity Act, 2003. Since GUVNL is not a distribution company the Commission has no jurisdiction to determine tariff under section 62 of the Act. The Commission can determine the tariff based on competitive bidding process under section 63 of the Act.

Response of GSECL:

The issue was raised in Petition No. 1157/2011 filed by GSECL also. The Commission has noted at page 21 of the Tariff Order dated 02.06.2012 that, *"The Commission is of the view that the GUVNL is purchasing power from various sources on behalf of and as authorised by the four Distribution Companies and not as a trader"*. Hence the same objection is not maintainable and hence should be disposed accordingly.



Commission's view:

It is reiterated that GUVNL is purchasing power as authorised by the Distribution Companies and not as a trader.

Objection 4: Non-Achievement of benefits under MYT framework by GSECL, as required.

Though, the first MYT period from FY 2008-09 to FY 2010-11 is over and two years, i.e., FY 2011-12 and FY 2012-13, of the second MYT Control period is on the verge of Completion, the benefits like restating the performance benchmarks at improved levels, reduction in Tariff etc., have not been achieved by GSECL. GSECL has asked for increase in the basic tariff despite the fact that uncontrollable costs like fuel and Power Purchase Cost have already been recovered through FPPPA.

Response of GSECL:

The Hon'ble Commission may take a decision on the above, as it is the concept and belief of the objector regarding the MYT Regulations.

Commission's View:

As already stated, the Commission has fixed certain performance parameters in the MYT Regulations and the expenditure is allowed based on these Parameters only, after prudence check.

Objection 5: Parameters of PPA Governed Stations

It is mentioned in the Petition that parameters of PPA governed stations are only illustrative. However, these stations are being governed by the terms and conditions of the PPA.

Response of GSECL:

In respect of the old PPA Governed stations, the Petitioner has submitted the list of PPAs and approved parameters. These PPAs were approved prior to MYT regime. Accordingly, the terms and conditions of the PPA are binding and hence, the Gap as well as gain/loss calculations, are not applicable to these units.

Commission's View:

The Commission agrees with the response of GSECL.



Objection 6: Lack of Details for PPA Governed Stations

There are no separate details of the revenue of GSECL from PPA governed stations and other stations. There is also no mention about the terms and conditions of the PPA governed stations as to how the gain/loss should be passed on to the consumers.

Response of GSECL:

Though revenue of old PPA governed stations are shown, the gain/loss is not a pass thro" for these old PPA governed stations.

Commission's View:

Commission agrees with the response of GSECL.

Objection 7: Disincentive for not achieving 80% of PLF

- (1) The MYT Regulations, 2005 and 2011 envisage achieving PLF of 80% for full recovery of fixed cost which is of controllable nature. At the same time, Rs. 0.25/KWh is the incentive for more generation achieved by the generating company in cases where the PLF is more than 80%.
- (2) It should produce 31178 MUs at 80% PLF of its thermal generating capacities which is 4449 MW (3720 MW coal+ lignite and 729 MW gas). However, GSECL is able to generate only 27881 MUs. (total generated 28637 Mus – 756 MUs Hydro = 27881 MUs). It can be seen that generation of 3297 MUs achieved is less than the figure that should be achieved under the MYT Regulations, 2011. It is suggested that the disincentive at the rate of Rs. 0.25/KWh should be deducted from the truing up of FY 2011-12 because the whole MYT framework is based on the principle of enforcing the efficiency in the controllable elements of tariff in terms of incentives and disincentives. It is not justified to allow recovery of the fixed cost on pro rata basis. The amount of disincentives for thermal power stations would be 3297 MUs X Rs. 0.25/KWh = Rs. 82.43 crore and that should be deducted from the total loss derived as fixed cost which is Rs. 17. crore as shown in Table. 37, page. 47, para 4.18.4.

Response of GSECL:

- (1) No comment



- (2) The recovery of Fixed Cost on pro-rata basis is itself a disincentive to the generating utilities. GSECL units could not generate power due to Backing Down (BD) / Reserve Shutdown (RSD). If allowed, the units that could have generated without BD/RSD, i.e. PAF is 81.79% (for Thermal Power) and it is equivalent to units 31961 MUs. It is obvious that the units/stations of the Petitioner have tried their best to achieve more PAF to earn Fixed Costs in a legitimate and justified manner.

Commission's View:

Full fixed costs are allowed if the Plant Availability Factor (PAF) is achieved as per the MYT Regulations, 2011.

Objection 8: Transit Loss

The transit Loss has reached 0.8% as per Regulations but GSECL has failed to achieve normative value for other controllable parameters.

The coal Transit loss for Truing up for FY 2009-10 to FY 2010-11 was 1.4% and for FY 2011-12 transit loss has reached 0.80%, as per regulations.

Response of GSECL:

GSECL is entitled to avail charges for Transit Losses and other parameters either as approved or as per Regulations. Any improvement is gain and deterioration is loss to GSECL or any other Genco. And gain passed thro" to the end beneficiaries is itself proof that the Petitioner has not only achieved approved target, but some improvement has also been achieved to pass on the gain to the consumers.

Commission's View:

The gains and losses due to better performance or under performance are regulated as per the Regulations.

Objection 9: Lower Quality of Coal

GSECL must have the fuel Supply Agreement and as per the terms of FSA, if coal received is not having CV of the grade for which payment is made, the compensation for lower CV should be claimed from the supplier. But in no case consumers should be burdened for inefficiency of the generators.



Response of GSECL:

In respect to the Fuel Supply Agreement and terms of FSA, the Petitioner submits that in accordance with the FSA, a quantity is allotted to the Petitioner from the respective colliery for the respective year, and neither the grade nor the CV are laid down in the FSA.

Commission's View:

The response of the GSECL is noted.

Objection 10: No mention of generation from Solar and Wind Mills

There is no mention of generation figures of 2 MW windmills and 2 MW Solar plants set up by GSECL, either in Annual Report or in the petition.

Response of GSECL:

GSECL submits that Solar and Wind Tariff are separately approved and hence separately dealt with and not dealt thro" MYT Regulations, since their own Tariff Orders are applicable.

Commission's View:

The response of the GSECL is noted.

Objection 11: Difference between Audited Accounts of GSECL and GUVNL in respect of transaction of energy

It is mentioned in the Audited Annual Report of FY 2011-12 that GSECL has a revenue of Rs. 8442.79 crore (Rs. 8338.48 crore sale of Ele. Energy + Rs. 104.31 crore from UI) page no. 12 of A.R, whereas it is mentioned in the Audited Annual Accounts of GUVNL for FY 2011-12 that GUVNL has purchased the electricity worth Rs. 8332.45 crore from GSECL. There is a difference of Rs. 8338.48 crore Rs. 8332.45 crore = Rs. 6.03 crore without UI charges. The Petitioner, GSECL, and Respondent, GUVNL, should be directed to clarify the difference.

Response of GSECL:

The sale of Wind Power generation is not included in GUVNL power purchase.

Commission's View:

Commission has noted the response of the petitioner.



Objection 12: Difference between the Balance Sheets of GSECL and GUVNL in respect of dues.

It is obvious from the Balance Sheet of GSECL that Rs. 1727.47 cr. is due from its holding company GUVNL whereas there is Rs. 708.35 crores as credit in the books of GUVNL as per A.R. of GUVNL. There is a vast difference which needs to be clarified. GSECL is availing the benefits of working capital interest as per MYT Regulations and its funds are being enjoyed by its holding company GUVNL.

Response of GSECL:

Rs. 1727.47 Cr is the debtor account receivable from GUVNL and the amount payable to GUVNL is Rs. 1018.94 Crore. Hence GUVNL has shown a net receivable and payable amount of Rs. 708.35 crore. Further, in respect to Interest on Working Capital, the petitioner has calculated Interest on Working Capital strictly as per MYT Regulations, 2011, and the mechanism provided there-under.

Commission's View:

The submission of GSECL is noted.

Objection 13: No mention of Quantity of Generation and Sales in Annual Report

The Auditor in the A.R. of GSECL has not provided any information about the quantum of generation in terms of MUs and the units of energy sold.

Response of GSECL:

The Annual Report for FY 2011-12 is prepared as per Revised Schedule – VI issued by the Institute of Chartered Accountants of India and the said Schedule does not require and specify the quantitative aspect of generation.

Commission's View:

The response of GSECL is noted.

Objection 14: Validity of PPA between GSECL and GUVNL

GSECL is said to be the subsidiary company of GUVNL and GUVNL is the holding company. How can the PPA be said to be valid in the eyes of law particularly as per the provision of the Indian Contract Act, 1872.



Response of GSECL:

GSECL and GUVNL are both registered separately under The Companies Act, 1956 and hence both hold the status of separate entities. Even if GUVNL is a holding company, it can enter into an agreement and PPA between the Petitioner and GUVNL is valid. Hence, the objection is not maintainable.

Commission's View:

Commission agrees with the response of the petitioner.

Objection 15: GUVNL is redundant

If GUVNL has to carry out the business of generation, transmission, trading and distribution through the subsidiary companies like GETCO, GSECL, DISCOMS, the Commission is requested to make either only one company to reduce the burden of management overheads of other six companies and tariff up to that level can be reduced or to make them independent from the holding of GUVNL to create competition which will also result in the reduction of tariff which is the objective laid down in the Preamble and the main goal of the Electricity Act, 2003.

Response of GSECL:

No comment

Commission's View:

Government of Gujarat has restructured the erstwhile GEB under Gujarat Electricity Industry (Reorganisation and Regulation) Act, 2003 and the Generation, Transmission and Distribution business of the erstwhile GEB are transferred to six companies and Gujarat Urja Vikas Nigam Limited (GUVNL), which is the holding company, responsible for bulk purchase of power and supply the same to Distribution Companies.

Objection 16: No case for increase in Tariff as GSECL's profits are handsome

GSECL has earned the profit after tax of Rs. 17243.81 lakhs in FY 2011-12 and Rs. 14,353.98 lakhs in the FY 2010-11 as per profit and loss account of the Annual Report of 2011-12.

When GSECL is earning such a handsome profit, there should not be any question of increase in the tariff.



Response of GSECL:

The Petitioner has envisaged enhancement of capacity in the coming years, for which, the Petitioner would have to acquire equity for the same. Any profit of the Petitioner would serve the end beneficiary by making available new projects with higher efficiency. The Petitioner being a Government organization cannot earn profit at the cost of consumers.

Commission's View:

All the expenses including ROE are allowed after prudence check and as per Regulations and Performance norms.

3.4 Objector 3: Gujarat Urja Vikas Nigam Limited

Objection 1: Allowing Fixed Charges

The Petitioner has claimed Rs. 159.19 crore towards Fixed Charges. The PPAs have been signed for all the Power Stations of GSECL and the same have been duly approved by the Commission. As per the said PPAs, the O&M Expenditure is to be allowed on normative basis. If at all the gap towards fixed charges is admitted by Commission, the same should be subject to availability factor of each Power Station for the respective Financial Year.

Response by GSECL:

GSECL has compared the actual expenses as per audited accounts with the approved amount and submitted Gain/Loss calculations as per the mechanism provided vide MYT Regulations, 2011.

Commission's View:

Truing up is required to be done in accordance with Regulation 22 of GERC (MYT) Regulations, 2011 and keeping in view the PPAs signed.

Objection 2: All the stations of GSECL to be treated as PPA Governed

Since, the terms and conditions of all the PPAs are approved by the Commission, it is submitted that the Commission may treat all the Power Stations of GSECL as PPA Governed Stations for the purpose of truing up exercise as well as for tariff determination for FY 2013-14.



Response by GSECL:

The Commission may take suitable view on the content by the objector in respect to PPAs to be treated for Tariff Determination.

Commission's View:

The Commission has considered the true up based on PPA terms and conditions at the relevant time.

Objection 3: Rate of Depreciation

It is requested to consider the depreciation rate of 5.18% (average depreciation rate of all plants excluding Ukai TPS), instead of 8.89% as claimed by the Petitioner.

Response by GSECL

As per the Accounting Standard AS-6, if an integral part of existing asset (Capital Spares) is to be depreciated, the same should be depreciated over the remaining life of the existing asset. Accordingly, Depreciation of Capital Spares is worked out, and same is audited by statutory Auditor and Government. Auditor (CAG), and according to the Auditor's Report, it is as per generally accepted Accounting Practice in India and Accounting Standard AS-6. The same was not approved vide Tariff Order dated. 02.06.2012, against GSECL Petition No. 1157/11 which is unfortunate and loss to the company as the calculations and claim for capital spare was based on Accounting Standard AS-6.

Commission's View:

Depreciation is allowed in accordance with rates as per Regulations 40 of GERC MYT Regulations 2011.

Objection 4: Interest on Working Capital

The claim of Rs.52.11 crore for loss attributable towards Interest on Working Capital seems to be on the higher side. The Commission may scrutinize the same before approving the gains / losses due to uncontrollable factors towards Interest on Working Capital.

Response by GSECL:

Interest on working capital is computed on the basis of MYT Regulations, 2011.



Commission's View:

Interest on Working Capital is computed as per the normative parameters under Regulation 41 of GERC (MYT) Regulations, 2011.

Objection 5: Difference between Actual GCV received and the GCV considered

The Petitioner has submitted that there is a difference between Actual Calorific Value of coal received at Power Stations and Calorific Value of coal considered by the Commission for energy charges, translate to Rs.160.69 crore. Further, the Petitioner vide Amendment Petition dated 10.01.2013, has submitted that it has raised this issue with Coal India Ltd, MoP, CEA, Ministry of Coal, Competition Commission of India and the Arbitrator. The case, being under consideration of Competition Commission of India / Arbitrator, the Petitioner has in the Amendment Petition requested to defer the claim of Rs.160.69 crore. Accordingly, the Commission is requested not to admit Petitioner's claim of Rs.160.69 core under Para 2.2.14 and Para 6.1.5 of the Petition.

It is also pertinent to mention here that the amount of Rs. 160.69 crore includes the differential amount of Rs 29.26 crore relating to PPA Governed Stations viz., Gandhinagar 5 and Wanakbori 7, which in any case is not admissible.

Response by GSECL:

The Commission may take a suitable view in the light of the supplementary Petition filed by the Petitioner for the same.

However, the contention not to entertain Rs. 29.26 crore relating to (Old) PPA governed stations i.e., Gandhinagar TPS Unit No. 5 and Wanakbori TPS Unit No. 7, is not maintainable since the amount objected is not the amount of gain/loss. This amount is admissible under the FPPPA formula.

Commission's View:

The Commission has taken into consideration the supplementary petition.

Objection 6: Claims relating to Prior Period in respect of Short-term and Long-term interest cost

- (a) The Petitioner had claimed an additional interest cost of Rs. 24.05 crore towards Short Term Borrowings for financing project cost of KLTPS 4, which



has been disallowed by GERC during truing up for FY 2010-11. Therefore, the same may not be allowed.

- (b) Regarding the claim of Rs. 22.21 crore towards Income Tax, the Commission approved Rs. 35.18 crore against the provision of Rs. 58.02 crore during Truing-up for FY 2010-11 and also approved Rs. 13.86 towards gain on income tax excluding Rs. 8.35 crore relating PPA based stations. Therefore, the Petitioner may be allowed to recover the gap of Rs. 13.86 crore (and not Rs. 22.21 crore, as claimed by the Petitioner) towards Income Tax pertaining to previous tariff order.
- (c) Regarding Rs. 48.60 crore pertaining to pre-payment charges to SWAP of loan to reduce long term interest, as claimed by the petitioner, the Petitioner has not provided any calculations / documentary evidence in support of the plea for reduction in long term interest cost in the Petition. Therefore, it is not clear as to which loans have been swapped and how much interest has been saved and whether the pre-payment charges of Rs. 48.60 crore are justifiable. Hence, the Commission may not admit the claim.

Response by GSECL:

- (a) The Petitioner requested to allow the Interest on short term borrowing for KLTPS-4 as this loan is availed for Debt financing of the project. Even though, it is short-term loan in nature, it is a part of the total Capex. Hence, it should be treated as a term loan of the project. In any case, the Interest on Loan portion should be given in tariff, irrespective of whether the loan is for a short term or long term. It is requested to pass the Interest expenditure by considering normative loan.
- (b) GSECL had already requested, vide the Petition No. 1157/11 that Gain/loss calculations was not applied as the Petitioner had paid actual Income Tax. However, as the Gain/Loss calculations have been carried out, the Petitioner is entitled to recover the differential amount. The Commission is requested to kindly approve the differential amount.
- (c) The Petitioner has swapped the loan in the interest of end beneficiaries and hence, as the benefit of interest at lower rate will be passed through to the



consumers, the Petitioner should be entitled to avail the charges of swapping of loan based on actuals.

Commission's View:

The Commission has examined these issues in this order and appropriate decision is taken.

Objection 7: Claim towards Long Term Service Agreement for Dhuvaran Gas I & II stations for the year 2008-09, 2009-10, 2010-11 & 2011-12

LTSA is basically an expenditure for operation and maintenance of the Plant. Therefore, the same should be met from the normative O&M expenses approved by the Commission and cannot be claimed in truing up exercise or as a gap in fixed cost. The Commission has already disallowed such an expenditure during truing up of FY 2010-11. Hence, there is no point in raising such a claim again.

Response by GSECL:

PPA of Dhuvaran CCPP-I was approved by considering 2% of Capital Cost plus escalation on CPI/WPI Index, which cannot cover LTSA Expenses. Dhuvaran CCPP-II was approved on the basis of the previous norms of GERC Regulations, which also did not cover LTSA Expenses. Further it is submitted that there was no mechanism or component available to the Generator for recovery of the LTSA expenses in earlier Terms and Conditions of Tariff Regulations.

The Commission is requested to approve the LTSA Expenses of the past period as well as for the present Control Period, i.e., FY 2011-12 to FY 2015-16, since no mention of this was made in the MYT Order dated 11.04.2011.

Commission's View:

The expenses which were approved in the ARR for the relevant year will only be trued up with the audited figures after prudence check.

Objection 8: Levy of Green Cess as per Gujarat Green Cess, 2011.

The Commission has disallowed GUVNL's claim under the head Green Cess to be recovered under Q2 FY 2012-13 FPPPA mechanism till the High Court decides the appeal. Hence, the Commission may not allow the Petitioner's Claim towards Green Cess while determining the tariff of FY 2013-14.



Response by GSECL:

The Government of Gujarat has levied Green Cess as per Gujarat Green Cess Act, 2011 and Green Cess Rules, 2011. Against this, a petition was filed in the Hon. High Court of Gujarat for abolition of the said Act and Hon. High Court has issued a Stay Order in this Case.

As a Government undertaking, the Company was not a party in the said Petition. Therefore, we had paid the Green Cess as per the Gujarat Green Cess Act, 2011. Now the Hon. High Court has issued its judgment on this petition. Therefore, all necessary action will be taken as per the directives of the Government of Gujarat on the basis of judgment issued by the Hon. High Court. Therefore, GSECL is entitled to receive the amount from GUVNL to the extent of what is paid to GoG.

Commission's View:

The Commission has not considered „Green Cess“.

Objection 9: Determining tariff for FY 2013-14 for Ukai – 6 and Dhuvaran CCPP-3 station

Since Ukai-6 has not yet been commercially operationalized, the project cost has not been capitalised and no fixed cost has been paid during FY 2012-13. Thus FY 2013-14 shall become the first year of operation after achieving cost. The Commission may adopt a similar approach while determining tariff for FY 2013-14, as adopted in the Order dated 02.06.2012, i.e., the opening balance of the parameters for determining the Fixed Costs of Ukai 6 for FY 2013-14 must be considered as Nil.

In the same lines, the Commission may determine tariff for Dhuvaran CCPP 3 for FY 2013-14 (i.e., considering Nil (Zero) Opening Balance for parameters for determining Fixed Charges).

Response by GSECL:

When the Unit is on the verge of commissioning, certain expenditures would be incurred in this regard. As per the Accounting Practice and applicable Accounting Standard, issued by the Institute of Chartered Accountants of India, all the expenses related to new Units are required to be booked under the “Capital Works in Progress” up to the date of commissioning.



During the construction period, the Petitioner has to incur expenditure towards the EPC contract, interest during the construction, revenue expenditure of those persons working on the construction site, to be capitalized. All these expenditures are required to be met either from equity or availing loan as and when required. Therefore, loan / equity and Capital Works in Progress balance is the opening balance on the date of commissioning of the power unit.

Therefore, the petitioner is entitled to claim fixed charge on the capital expenditure incurred on the project as well as interest and ROE on the loan received and the capital employed.

Commission's View:

The generation tariffs for the new stations Ukai-6 and Dhuvaran CCPP-3 are considered as per the Regulations.

Objection 10: Restructuring of Loans for Ukai-6

The Petitioner while proposing tariff for FY 2013-14 in respect of Ukai-6, has considered very high rates of Interest on Loan (11.76%) and Interest on working capital (14.75%). The said rates are very high as compared to the current market rates. Therefore, the Petitioner may be directed to restructure the loans so as to present a more realistic picture.

Response by GSECL:

GSECL has availed the term loan from Power Finance Corporation Limited of India (PFC) for Ukai Unit No. 6 and the rate of interest is in accordance of the circular issued by PFC. The Interest rate is the weighted average and calculated on the basis of actual disbursement to PFC. The rate of interest of M/s PFC was found to be reasonable at the time of availing the said term loan. There was also a clause in the agreement in respect of resetting of interest after every three years. Therefore, we had availed the loan from M/s PFC at a lower / cheaper rate of interest.

Further, we have switched over the high cost loan by availing loan at a cheaper rate of interest for 375 MW Utran Unit No. 2. The same will be adopted after COD, provided the premium on re-structuring of the loan is approved by the Commission for Utran Project.



Further, in respect to Interest on Working Capital, it is submitted that the same is as per the MYT Regulations, 2011.

Commission's View:

The response of GSECL is noted.

3.5 Objector 4: S.J. Patel, Advocate of Gujarat High Court

Objection 1: Rebates & Interest charged on delayed payment between GSECL and GUVNL

GSECL has given a rebate / discount of Rs. 9856.06 lakhs and charged interest amounting to Rs. 681.25 lakhs on delayed payments to its Holding Company Gujarat Urja Vikas Nigam Ltd. (GUVNL) on receipt of debit note / journal entry from GUVNL. GSECL has not charged the interest on delayed payments received from GUVNL accurately. Also, the amount of rebate is given to GUVNL after considering the indirect payments given by GUVNL as against the rebate to be given only on direct payments received from GUVNL. However, the impact of the same could not be ascertained.

Also, the amount of delayed payments to be received from GUVNL could not be ascertained.

The Commission may verify the details of interest, payable loan, utilisation of fund etc.

Response by GSECL:

GSECL has issued energy bills from time to time as per the approved PPA as well as GERC Order as applicable. During the year under review, the Company has paid the rebate on prompt payment of Rs. 95.56 crore, delayed payment of Rs. 6.81 crore and Interest on Delayed Payment Charges Rs. 6.81 crore. All the details have already been made available in our Petition as well as Annual Accounts.

Detailed calculations regarding loan and rate of interest are submitted for the perusal and approval of the Commission. The Commission may take a suitable view in the matter.



Commission's View:

The response of GSECL is noted.

Objection 2: Fuel Cost Adjustment vis-à-vis quality of coal received

During the year, GUVNL did not admit the claim of Fuel Cost Adjustment in full, based on the quality of coal received at Coal Based Power Stations. GUVNL has admitted the fuel cost adjustment based on last three years weighted average GCV, as against the actual gross calorific value (GCV) as per the norms of GERC. The difference has not been recognised by the Company. Hence, the impact of the same could not be ascertained.

The Commission is requested to scrutinise the following issues. Whether GUVNL can change the method without approval of GERC? Whether GUVNL can collect the money which is not payable to GSECL from the public as FCA? Who is responsible for this unauthorized and wrongfully collected money from the public? Can GUVNL exercise the power of GERC without permission?

Response by GSECL:

The Petitioner has submitted the FPPPA bill as per the Order of the GERC. The content of last para has no relevance for the Petitioner.

Commission's Views:

FPPPA is collected by Discoms / GUVNL as per the formula approved by the Commission.



4. Truing up for FY 2011-12

4.1 Generating Stations of GSECL

GSECL owns and operates the following generating stations:

- 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 windmills.
- Two Solar Power stations each of 1 MW

The details of the stations existing as on 1st April, 2012 along with their capacities and dates of commissioning are given in Table 4.1 below:

Table 4.1: Capacity, CoD and Age of GSECL generating Stations as on 1st April 2012

| Units | Name of station | Unit No. | Capacity of the Unit (MW) | Date of Commissioning | Age on 01.04.12 (Years) |
|-------------------|-----------------|-----------|---------------------------|-----------------------|-------------------------|
| Ukai (1-5) | Ukai | 1 | 120 | 29/03/1976 | 36 |
| | | 2 | 120 | 23/06/1976 | 36 |
| | | 3 | 200 | 21/01/1979 | 33 |
| | | 4 | 200 | 11/9/1979 | 33 |
| | | 5 | 210 | 30/01/1985 | 27 |
| | | Sub Total | 850 | | |
| Gandhinagar (1-4) | Gandhinagar | 1 | 120 | 13/03/1977 | 35 |
| | | 2 | 120 | 10/4/1977 | 35 |
| | | 3 | 210 | 20/03/1990 | 22 |
| Gandhinagar 5* | | 4 | 210 | 20/07/1991 | 21 |
| | | 5 | 210 | 17/03/1998 | 14 |
| | | Sub Total | 870 | | |
| Wanakbori 1-6 TPS | Wanakbori | 1 | 210 | 23/03/1982 | 30 |
| | | 2 | 210 | 15/01/1983 | 29 |
| | | 3 | 210 | 15/03/1984 | 28 |
| | | 4 | 210 | 9/3/1986 | 26 |
| | | 5 | 210 | 23/09/1986 | 26 |
| | | 6 | 210 | 18/11/1987 | 24 |



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| Units | Name of station | Unit No. | Capacity of the Unit (MW) | Date of Commissioning | Age on 01.04.12 (Years) |
|-------------------------------------|-----------------|-----------|---------------------------|-----------------------|-------------------------|
| | | 7 | 210 | 31/12/1998 | 13 |
| | | Sub Total | 1470 | | |
| Sikka TPS | Sikka | 1 | 120 | 26/03/1988 | 24 |
| | | 2 | 120 | 31/03/1993 | 19 |
| | | Sub Total | 240 | | |
| KLTPS 1-3 | KLTPS | 1 | 70 | 29/03/1990 | 22 |
| | | 2 | 70 | 25/03/1991 | 21 |
| KLTPS 4 | | 3 | 75 | 31/03/1997 | 15 |
| | | 4 | 75 | 20/12/2009 | 3 |
| | | Sub Total | 290 | | |
| Dhuvaran (Gas 1)* | Dhuvaran | 7-Gas | 106.617 | 28/01/2004 | 8 |
| Dhuvaran (Gas 2) | | 8-Gas | 112.45 | 1/11/2007 | 4 |
| | | Sub Total | 219.067 | | |
| Utran (Gas)* | Utran | GT - 1 | 30 | 17/12/1992 | 19 |
| | | GT - 2 | 30 | 28/12/1992 | 19 |
| | | GT - 3 | 30 | 7/5/1993 | 19 |
| | | STG | 45 | 17/7/1993 | 19 |
| | | Sub Total | 135 | | |
| Utran Extension* | Utran Extension | GT - 1 | 375 | 8/11/2009 | 3 |
| Sub total of GSECL (Coal + Lignite) | | | 3720 | | |
| Sub total of GSECL (Gas) | | | 729 | | |
| Total GSECL (Thermal) | | | 4449 | | |
| Ukai Hydro | Ukai Hydro | 1 | 75 | 8/7/1976 | 38 |
| | | 2 | 75 | 13/12/1974 | 37 |
| | | 3 | 75 | 22/04/1975 | 37 |
| | | 4 | 75 | 4/3/1976 | 36 |
| | | Sub Total | 300 | | |
| | Ukai LBC | 1 | 2.5 | 8/12/1987 | 24 |
| | | 2 | 2.5 | 19/02/1988 | 24 |
| | | Sub Total | 5 | | |
| Kadana Hydro | Kadana Hydro | 1 | 60 | 31/03/1990 | 22 |
| | | 2 | 60 | 2/9/1990 | 22 |
| | | 3 | 60 | 3/1/1998 | 14 |
| | | 4 | 60 | 27/5/1998 | 14 |
| | | Sub Total | 240 | | |
| | Panam | 1 | 1 | 24/03/1994 | 18 |
| | | 2 | 1 | 31/03/1994 | 18 |
| | | Sub Total | 2 | | |
| Sub Total GSECL (Hydro) | | | 547 | | |
| | Wind Mills | | 10 | 1/4/2009 | 3 |



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| Units | Name of station | Unit No. | Capacity of the Unit (MW) | Date of Commissioning | Age on 01.04.12 (Years) |
|-------------------------------|-----------------|----------|---------------------------|-----------------------|-------------------------|
| Solar Plants | Plant at GTPS | | 1 | 27/03/2012 | < 1 |
| | Plant at Sanand | | 1 | 29/03/2012 | < 1 |
| Total GSECL as a whole | | | 5008 | | |

*PPA based stations

4.2 Operating Performance Parameters

The fuel cost of a generation station depends on (i) the performance parameters, such as PLF, Station Heat Rate, Auxiliary Consumption, Secondary Fuel Oil Consumption and Transit Loss of coal (in case of coal station) which are controllable and (ii) cost parameters such as Gross Calorific Value of fuel, type of fuel and price of fuel, which are uncontrollable by 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 (AC) and Specific Oil Consumption etc. for FY 2011-12 for all the stations. The Commission has taken up the truing up of the annual performance parameters for FY 2011-12, which 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 2011-12. 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 Table 4.2 below:

Table 4.2: Plant Availability Factors for FY 2011-12

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 (%) |
|---------|-------------------|---|----------------------------|
| 1 | Ukai (1-5) | 75.00 | 78.96 |
| 2 | Gandhinagar (1-4) | 79.00 | 81.87 |
| 3 | Gandhinagar 5* | 80.00 | 89.90 |
| 4 | Wanakbori 1-6 TPS | 85.00 | 84.66 |
| 5 | Wanakbori 7 TPS* | 80.00 | 88.85 |
| 6 | Sikka TPS | 75.00 | 74.43 |
| 7 | KLTPS 1-3 | 75.00 | 60.49 |
| 8 | KLTPS 4 | 80.00 | 49.78 |
| 9 | Dhuvaran (Gas 1)* | 80.00 | 84.30 |



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| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
|---------|-------------------|---|------------------------|
| 10 | Dhuvaran (Gas 2) | 85.00 | 58.45 |
| 11 | Utran (Gas)* | 80.00 | 95.96 |
| 12 | Utran extension * | 80.00 | 94.49 |
| 13 | Ukai Hydro | 80.00 | 89.49 |
| 14 | Kadana Hydro | 80.00 | 88.68 |

*PPA based stations

It is observed from the above Table that the stations – Wanakbori 1-6 and Sikka TPS have achieved marginally lower PAF than approved by the Commission in Tariff order dated 11th April, 2011.

In the case of KLTPS 1-3, KLTPS –4 and Dhuvaran Gas-2, the PAFs achieved are much lower than that approved.

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

- To consider PAF for fixed cost recovery for Wanakbori Station at 80% instead of keeping the same at par with new stations as these are aged out machines. Even 80% PAF has to be appreciated.
- 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 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.
- For Hydro stations, the neutralization level for full fixed cost recovery will be availability of machines, irrespective of actual operations during peak hours subject to a ceiling of 80% availability of machines.
- GSECL has hydro based power stations at Ukai and Kadana. GSECL submits that 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.
- For the PPA governed stations of GSECL (viz. Gandhinagar 5, Wanakbori 7, Dhuvaran Gas 1 and Utran), GSECL had proposed 80% availability factor as per PPA and provisions of the terms & conditions of the regulation.



GSECL has further submitted the reasons for the deviation of PAF for FY 2011 12 as given below for the stations where the PAF was low.

- Wanakbori 1-6: Forced outage of (1) WTPS Unit no 1 from 09.11.11 to 26.11.11 due to Generator transformer problem and from 25.02.12 to 31.03.12 due to damage to IP & LP turbine (2) WTPS Unit no. 4 due to stator earth fault from 04.08.11 to 28.08.11
- Sikka TPS: Vacuum problems due to silting of CW intake Channel
- KLTPS 1-3: Bottom ash channel problems, Lignite feeding problems due to wet lignite (excessive rain), Load restricted to 50-55 MW in Unit no 3 as blades of 2 stages of turbine are shaved off
- KLTPS 4: Frequent leakages of Non Metallic Expansion Joint (NMEJ) Lignite feeding problems due to wet lignite (excessive rain)
- Dhuvaran Gas-2: Planned outage schedule 15 days has been extended to 134 days due to damage to compressor rotor

Commission's Analysis

The Commission has analyzed the submissions made by the petitioner regarding plant availability factor. The Commission has found that the PAF is marginally lower than the approved one in case of Wanakbori 1-6, Sikka TPS and substantially lower in the case of KLTPS 1-3, KLTPS-4 and Dhuvaran-2.

The Plant Availability Factor is considered as controllable, hence for Truing up purpose the PAF as approved in the MYT order is considered.

The PAF approved for Truing up purpose for FY 2011-12 for each station is given in Table 4.3 below:

Table 4.3: Plant Availability Factors approved for Truing up for FY 2011-12

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 1 | Ukai (1-5) | 75.00 | 78.96 | 75.00 |
| 2 | Gandhinagar (1-4) | 79.00 | 81.87 | 79.00 |
| 3 | Gandhinagar 5* | 80.00 | 89.90 | 80.00 |
| 4 | Wanakbori 1-6 TPS | 85.00 | 84.66 | 85.00 |
| 5 | Wanakbori 7 TPS* | 80.00 | 88.85 | 80.00 |
| 6 | Sikka TPS | 75.00 | 74.43 | 75.00 |
| 7 | KLTPS 1-3 | 75.00 | 60.49 | 75.00 |

(%)



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| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 8 | KLTPS 4 | 80.00 | 49.78 | 80.00 |
| 9 | Dhuvaran (Gas 1)* | 80.00 | 84.30 | 80.00 |
| 10 | Dhuvaran (Gas 2) | 85.00 | 58.45 | 85.00 |
| 11 | Utran (Gas)* | 80.00 | 95.96 | 80.00 |
| 12 | Utran extension * | 80.00 | 94.49 | 80.00 |
| 13 | Ukai Hydro | 80.00 | 89.49 | 80.00 |
| 14 | Kadana Hydro | 80.00 | 88.68 | 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 2011-12. 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 Table 4.4 below:

Table 4.4: Plant Load Factors for FY 2011-12

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 (%) |
|---------|-------------------|---|----------------------------|
| 1 | Ukai (1-5) | 75.00 | 75.23 |
| 2 | Gandhinagar (1-4) | 79.00 | 66.86 |
| 3 | Gandhinagar 5* | 85.00 | 87.35 |
| 4 | Wanakbori 1-6 TPS | 85.00 | 78.77 |
| 5 | Wanakbori 7 TPS* | 85.00 | 84.72 |
| 6 | Sikka TPS | 68.00 | 46.34 |
| 7 | KLTPS 1-3 | 66.00 | 61.67 |
| 8 | KLTPS 4 | 75.00 | 54.41 |
| 9 | Dhuvaran (Gas 1)* | 80.00 | 59.19 |
| 10 | Dhuvaran (Gas 2) | 80.00 | 46.00 |
| 11 | Utran (Gas)* | 80.00 | 47.37 |
| 12 | Utran extension * | 80.00 | 73.74 |
| 13 | Ukai Hydro | 13.00 | 17.98 |
| 14 | Kadana Hydro | 6.00 | 12.91 |

*PPA based stations

The Petitioner has mentioned the following reasons for deviation of PLFs from, the approved ones.

- GTPS 1-4: Backing down



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- Wanakbori 1-6: Backing down, Forced outage of (1) WTPS Unit No. 1 from 09.11.2011 to 26.11.2011 due to Generator Transformer problem and from 25.02.2012 to 31.03.2012 due to damage to IP & LP turbine (2) WTPS unit No. 4 due to stator earth fault from 04.08.2011 to 28.08.2011.
- Wanakbori 7: Backing down
- Sikka TPS: Backing down
- KLTPS 1-3: Bottom ash channel problems, Lignite feeding problems due to wet lignite (excessive rain), Load restricted to 50-55 MW in Unit no.3 as blades of 2 stages of turbine are shaved off.
- KLTPS 4: Frequent leakages on Non Metallic Expansion Joint (NMEJ), Lignite feeding problems due to wet lignite (excessive rain)
- Dhuvaran Gas – 1: Backing down
- Dhuvaran Gas – 2: Backing down, Planned outage schedules 15 days has been extended to 134 days due to damage to compressor rotor.
- Utran Gas: Backing down.
- Utran Extension: Backing down.

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, Sikka TPS, KLTPS 1-3, KLTPS 4, Dhuvaran gas 1, Dhuvaran gas 2, Utran (Gas) and Utran Extension stations achieved lower PLF for the FY 2011-12 than approved in the Tariff order. The Commission has taken note of the above and considered the PLF for FY 2011-12 for Truing up purpose as given in the Table 4.5 below:

Table 4.5: PLF considered for FY 2011-12 for Truing up

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Considered for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 1 | Ukai (1-5) | 75.00 | 75.23 | 75.23 |
| 2 | Gandhinagar (1-4) | 79.00 | 66.86 | 66.86 |
| 3 | Gandhinagar 5* | 85.00 | 87.35 | 87.35 |
| 4 | Wanakbori 1-6 TPS | 85.00 | 78.77 | 78.77 |
| 5 | Wanakbori 7 TPS* | 85.00 | 84.72 | 84.72 |
| 6 | Sikka TPS | 68.00 | 46.34 | 46.34 |
| 7 | KLTPS 1-3 | 66.00 | 61.67 | 61.67 |



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| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Considered for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 8 | KLTPS 4 | 75.00 | 54.41 | 54.41 |
| 9 | Dhuvaran (Gas 1)* | 80.00 | 59.19 | 59.19 |
| 10 | Dhuvaran (Gas 2) | 80.00 | 46.00 | 46.00 |
| 11 | Utran (Gas)* | 80.00 | 47.37 | 47.37 |
| 12 | Utran extension * | 80.00 | 73.74 | 73.74 |
| 13 | Ukai Hydro | 13.00 | 17.98 | 17.98 |
| 14 | Kadana Hydro | 6.00 | 12.91 | 12.91 |

*PPA based stations

4.2.3 Auxiliary Consumption

Petitioner's Submission

GSECL has submitted the actuals of auxiliary consumption of different stations for FY 2011-12. 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 4.6 below:

Table 4.6: Auxiliary Consumption for FY 2011-12

| (%) | | | |
|---------|-------------------|---|------------------------|
| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
| 1 | Ukai (1-5) | 9.00 | 9.34 |
| 2 | Gandhinagar (1-4) | 10.00 | 10.39 |
| 3 | Gandhinagar 5* | 9.00 | 9.12 |
| 4 | Wanakbori 1-6 TPS | 9.00 | 8.85 |
| 5 | Wanakbori 7 TPS* | 9.00 | 8.87 |
| 6 | Sikka TPS | 11.00 | 12.85 |
| 7 | KLTPS 1-3 | 12.00 | 14.65 |
| 8 | KLTPS 4 | 12.00 | 21.21 |
| 9 | Dhuvaran (Gas 1)* | 3.00 | 5.59 |
| 10 | Dhuvaran (Gas 2) | 3.00 | 4.51 |
| 11 | Utran (Gas)* | 4.00 | 5.90 |
| 12 | Utran extension * | 3.00 | 2.36 |
| 13 | Ukai Hydro | 0.70 | 0.55 |
| 14 | Kadana Hydro | 1.19 | 1.02 |

*PPA based stations

GSECL has further submitted that the consumption of gas booster compressors at Dhuvaran Gas 1 and Utran Gas measured through exclusive energy meter is to be considered as per actuals as approved earlier by the Commission.



GSECL also stated the following reasons in its petition for deviation of the auxiliary consumption for the stations where auxiliary consumption is high during the FY 2011-12.

- Ukai 1-5: Backing down, Partial Operations due to frequent coal feeding due to wet and muddy coal received from mines.
- Gandhinagar 1-4: Backing down
- Gandhinagar 5: Backing down
- Sikka: Backing down, Vacuum problem due to silting of CW Channel.
- KLTPS 1-3: Forced outages due to Bottom ash channel problems, Lignite feeding problems due to wet lignite and excessive rain, Load restricted to 50-55 MW in unit no.3 as blades of 2 stages of turbine are shaved off.
- KLTPS 4: Unit design auxiliary consumption is more than 16% as compared to approved 12%. Forced outages on account of frequent leakages of NMEJ, Lignite feeding problems due to wet lignite (excessive rain)
- Dhuvaran Gas 1: Backing down
- Dhuvaran Gas 2: Backing down
- Utran Gas: Backing down
- Ukai Hydro, Kadana Hydro: These units are kept available with minimum auxiliaries running, but operated as per instructions from irrigation department.

Commission's Analysis

It is observed that the actual auxiliary consumption is more than the approved one for almost all stations, except for Wanakbori 1-6, Wanakbori 7, Utran Extension and the Hydro stations. 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 2011-12 for truing up purpose as it is a controllable parameter. In the case of Dhuvaran and Utran stations where gas boosters are installed, the Commission has considered the auxiliary consumption of gas booster as provided by GSECL separately vide letter dated 06.02.2013, for the truing up of FY 2011-12, 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 2011-12 are as given in Table 4.7 below:



Table 4.7: Auxiliary Consumption approved for FY 2011-12 for Truing up

(%)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 1 | Ukai (1-5) | 9.00 | 9.34 | 9.00 |
| 2 | Gandhinagar (1-4) | 10.00 | 10.39 | 10.00 |
| 3 | Gandhinagar 5* | 9.00 | 9.12 | 9.00 |
| 4 | Wanakbori 1-6 TPS | 9.00 | 8.85 | 9.00 |
| 5 | Wanakbori 7 TPS* | 9.00 | 8.87 | 9.00 |
| 6 | Sikka TPS | 11.00 | 12.85 | 11.00 |
| 7 | KLTPS 1-3 | 12.00 | 14.65 | 12.00 |
| 8 | KLTPS 4 | 12.00 | 21.21 | 12.00 |
| 9 | Dhuvaran (Gas 1)* | 3.00 | 5.59 | 3.00+0.33** |
| 10 | Dhuvaran (Gas 2) | 3.00 | 4.51 | 3.00 |
| 11 | Utran (Gas)* | 4.00 | 5.90 | 4.00+1.29** |
| 12 | Utran extension * | 3.00 | 2.36 | 3.00 |
| 13 | Ukai Hydro | 0.70 | 0.55 | 0.70 |
| 14 | Kadana Hydro | 1.19 | 1.02 | 1.19 |

* PPA based stations

** indicates 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 2011-12.

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 Table 4.8 below:

Table 4.8: Station Heat Rate for FY 2011-12

(Kcal/Kwh)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
|---------|-------------------|---|------------------------|
| 1 | Ukai (1-5) | 2770 | 2764 |
| 2 | Gandhinagar (1-4) | 2782 | 2718 |
| 3 | Gandhinagar 5* | 2460 | 2476 |
| 4 | Wanakbori 1-6 TPS | 2625 | 2626 |
| 5 | Wanakbori 7 TPS* | 2460 | 2435 |
| 6 | Sikka TPS | 3040 | 3014 |
| 7 | KLTPS 1-3 | 3300 | 3593 |
| 8 | KLTPS 4 | 3000 | 3297 |
| 9 | Dhuvaran (Gas 1)* | 1950 | 1953 |



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| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
|---------|-------------------|---|------------------------|
| 10 | Dhuvaran (Gas 2) | 1950 | 1928 |
| 11 | Utran (Gas)* | 2150 | 2218 |
| 12 | Utran extension * | 1850 | 1705 |

*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 2011-12.

- Gandhinagar 5: Backing down
- Wanakbori 1-6: Backing down
- KLTPS 1-3: Forced outages due to Bottom ash channel problems, Lignite feeding problems due to wet lignite (excessive rain), Load restricted to 50-55 MW in Unit no. 3 as blades of 2 stages of turbine are shaved off
- KLTPS 4: Forced outages on account of frequent leakages of NMEJ, Lignite feeding problems due to wet lignite (excessive rain)
- Dhuvaran Gas 1: Backing down
- Utran Gas: Backing down.

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 the actual heat rate is marginally higher than the one considered in the Tariff order for FY 2011-12. In the case of Gandhinagar 1-4, Sikka TPS and Dhuvaran Gas-2, the actual heat rate is less than the one approved in the MYT Order. For the other stations such as KLTPS 1-3 and KLTPS-4, the actual heat rates are more than the approved ones. The Commission has noted the reasons submitted by the petitioner for these stations and found that the main reason put forward is backing down except in the case of KLTPS 1-3 and 4. The higher heat rate in KLTPS 1-3 and KLTPS-4 is due to forced outages on account of various reasons.

For the purpose of truing up for FY 2011-12, the Commission approves the SHR as approved in the MYT Tariff order dated 11th April, 2011 for FY 2011-12 as given in the Table 4.9 below:



Table 4.9: Station Heat Rate approved for FY 2011-12 for Truing up

(Kcal/Kwh)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|------------------------|---|
| 1 | Ukai (1-5) | 2770 | 2764 | 2770 |
| 2 | Gandhinagar (1-4) | 2782 | 2718 | 2782 |
| 3 | Gandhinagar 5* | 2460 | 2476 | 2460 |
| 4 | Wanakbori 1-6 TPS | 2625 | 2626 | 2625 |
| 5 | Wanakbori 7 TPS* | 2460 | 2435 | 2460 |
| 6 | Sikka TPS | 3040 | 3014 | 3040 |
| 7 | KLTPS 1-3 | 3300 | 3593 | 3300 |
| 8 | KLTPS 4 | 3000 | 3297 | 3000 |
| 9 | Dhuvaran (Gas 1)* | 1950 | 1953 | 1950 |
| 10 | Dhuvaran (Gas 2) | 1950 | 1928 | 1950 |
| 11 | Utran (Gas)* | 2150 | 2218 | 2150 |
| 12 | Utran extension * | 1850 | 1705 | 1850 |

*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 2011-12. 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 Table 4.10 below:

Table 4.10: Secondary Fuel Oil Consumption FY 2011-12

(ml/Kwh)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
|---------|-------------------|---|------------------------|
| 1 | Ukai (1-5) | 2.00 | 1.16 |
| 2 | Gandhinagar (1-4) | 1.50 | 1.21 |
| 3 | Gandhinagar 5* | 3.50 | 0.40 |
| 4 | Wanakbori 1-6 TPS | 1.00 | 0.61 |
| 5 | Wanakbori 7 TPS* | 3.50 | 0.42 |
| 6 | Sikka TPS | 4.00 | 3.57 |
| 7 | KLTPS 1-3 | 3.00 | 6.06 |
| 8 | KLTPS 4 | 3.00 | 3.69 |

*PPA based stations

GSECL in its Petition has stated the reasons for higher specific oil consumption for FY 2011-12 for the following stations.

- KLTPS 1-3: Forced outages due to Bottom ash channel problems, Lignite feeding problems due to wet lignite (excessive rain)



- KLTPS 4: Forced outages on account of frequent leakages if NMEJ, Lignite feeding problems due to wet lignite (excessive rain).
- It is also submitted GSECL that the Specific Oil Consumption is calculated in terms of percentage of total calorific 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.

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, Gandhinagar 1-4, Wanakbori 1-6 and Sikka TPS, the actual secondary fuel oil consumption is less than what was approved by the Commission in the Tariff order FY 2011-12.

In the case of KLTPS 1-3 and KLTPS 4 stations, the secondary fuel oil consumption is higher than what was approved in the MYT order for FY 2011-12 due to forced outage of units. However, the Commission has considered the specific oil consumption as approved in the MYT order FY 2011-12 for all non-PPA stations.

Accordingly, the secondary fuel oil consumption approved for FY 2011-12 for various stations is as given in Table 4.11 below:

Table 4.11: Secondary Fuel Oil Consumption approved for FY 2011-12

| (ml/Kwh) | | | | |
|----------|-------------------|---|------------------------|---|
| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
| 1 | Ukai (1-5) | 2.00 | 1.16 | 2.00 |
| 2 | Gandhinagar (1-4) | 1.50 | 1.21 | 1.50 |
| 3 | Gandhinagar 5* | 3.50 | 0.40 | 3.50 |
| 4 | Wanakbori 1-6 TPS | 1.00 | 0.61 | 1.00 |
| 5 | Wanakbori 7 TPS* | 3.50 | 0.42 | 3.50 |
| 6 | Sikka TPS | 4.00 | 3.57 | 4.00 |
| 7 | KLTPS 1-3 | 3.00 | 6.06 | 3.00 |
| 8 | KLTPS 4 | 3.00 | 3.69 | 3.00 |

*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 2011-12.

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 4.12 below:

Table 4.12: Transit Loss for FY 2011-12

(%)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actuals for FY 2011-12 |
|---------|-------------------|---|------------------------|
| 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 |

*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 2011-12. Hence, the same is approved as given in Table 4.13.

Table 4.13: Transit Loss approved for FY 2011-12 for Truing up

(%)

| Sl. No. | Power Station | Approved for FY 2011-12 in the MYT Order dated 11 th April, 2011 | Actual as submitted in petition for FY 2011-12 | Approved for Truing up purpose for FY 2011-12 |
|---------|-------------------|---|--|---|
| 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 |

*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 2011-12

The performance parameters approved for different stations for the FY 2011-12 after the analysis in the preceding paras for the purpose of Truing up for the FY 2011-12 are listed in the Table 4.14 below:

Table 4.14: Performance Parameters approved for Truing up purpose for the FY 2011-12

| Sl. No | Power Station | PAF | PLF | Auxiliary consumption | SHR | Specific Oil Consumption |
|--------|-------------------|-------|-------|-----------------------|----------|--------------------------|
| | | % | % | % | Kcal/Kwh | ml/Kwh |
| 1 | Ukai (1-5) | 75.00 | 75.23 | 9.00 | 2770 | 2.00 |
| 2 | Gandhinagar (1-4) | 79.00 | 66.86 | 10.00 | 2782 | 1.50 |
| 3 | Gandhinagar 5* | 80.00 | 87.35 | 9.00 | 2460 | 3.50 |
| 4 | Wanakbori 1-6 TPS | 85.00 | 78.77 | 9.00 | 2625 | 1.00 |
| 5 | Wanakbori 7 TPS* | 80.00 | 84.72 | 9.00 | 2460 | 3.50 |
| 6 | Sikka TPS | 75.00 | 46.34 | 11.00 | 3040 | 4.00 |
| 7 | KLTPS 1-3 | 75.00 | 61.67 | 12.00 | 3300 | 3.00 |
| 8 | KLTPS 4* | 80.00 | 54.41 | 12.00 | 3000 | 3.00 |
| 9 | Dhuvaran (Gas 1)* | 80.00 | 59.19 | 3.00 | 1950 | - |
| 10 | Dhuvaran (Gas 2) | 85.00 | 46.00 | 3.00 | 1950 | - |
| 11 | Utran (Gas)* | 80.00 | 47.37 | 4.00 | 2150 | - |
| 12 | Utran extension * | 80.00 | 73.74 | 3.00 | 1850 | - |
| 13 | Ukai Hydro | 80.00 | 17.98 | 0.70 | - | - |
| 14 | Kadana Hydro | 80.00 | 12.91 | 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 2011-12, are given in Table 4.15 below:

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Table 4.15: The gross and Net Generation for FY 2011-12 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) | 5617 | 9.34 | 524 | 5092 | 5617 | 9.00 | 506 | 5111 |
| 2 | Gandhinagar (1-4) | 3876 | 10.39 | 403 | 3473 | 3876 | 10.00 | 388 | 3488 |
| 3 | Gandhinagar 5* | 1611 | 9.12 | 147 | 1464 | 1611 | 9.00 | 145 | 1466 |
| 4 | Wanakbori 1-6 TPS | 8718 | 8.85 | 772 | 7946 | 8718 | 9.00 | 785 | 7933 |
| 5 | Wanakbori 7* | 1563 | 8.87 | 139 | 1424 | 1563 | 9.00 | 141 | 1422 |
| 6 | Sikka TPS | 977 | 12.85 | 125 | 851 | 977 | 11.00 | 107 | 870 |
| 7 | KLTPS 1-3 | 1165 | 14.65 | 171 | 994 | 1165 | 12.00 | 140 | 1025 |
| 8 | KLTPS 4 | 358 | 21.21 | 76 | 282 | 358 | 12.00 | 43 | 315 |
| 9 | Dhuvaran (Gas 1)* | 554 | 5.59 | 31 | 523 | 554 | 3.00 | 18 | 536 |
| 10 | Dhuvaran (Gas 2) | 454 | 4.51 | 21 | 434 | 454 | 3.00 | 14 | 440 |
| 11 | Utran Gas* | 562 | 5.90 | 33 | 529 | 562 | 4.00 | 30 | 532 |
| 12 | Utran Extension* | 2426 | 2.36 | 57 | 2369 | 2426 | 3.00 | 73 | 2353 |
| 13 | Ukai Hydro | 482 | 0.55 | 3 | 479 | 482 | 0.70 | 3 | 479 |
| 14 | Kadana Hydro | 274 | 1.02 | 3 | 272 | 274 | 1.19 | 3 | 271 |
| | Total | 28637 | | 2505 | 26132 | 28637 | | 2396 | 26241 |

*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 fuel. For some coal based stations, a mix of indigenous, washed and imported coal is used.

GSECL 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 2011-12 as given in the Table 4.16 below:

Table 4.16: Weighted Average Gross Calorific Value (GCV) of fuels for different stations for FY 2011-12

| 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) | 3834 | 10456 | - |
| 2 | Gandhinagar (1-4) | 3934 | 10466 | - |
| 3 | Gandhinagar 5* | 3784 | 10466 | - |
| 4 | Wanakbori 1-6 TPS | 3645 | 10486 | - |
| 5 | Wanakbori 7 TPS* | 3647 | 10486 | - |
| 6 | Sikka TPS | 3497 | 10240 | - |
| 7 | KLTPS 1-3 | 2852 | 10435 | - |
| 8 | KLTPS 4 | 2852 | 10435 | - |
| 9 | Dhuvaran (Gas 1)* | - | - | 9600 |
| 10 | Dhuvaran (Gas 2) | - | - | 9582 |
| 11 | Utran (Gas)* | - | - | 9415 |
| 12 | Utran extension * | - | - | 9415 |

* 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 2011-12 as given in Table 4.17 below:

Table 4.17: The Mix of Different Types of Coal for FY 2011-12

| Sl. No. | Power Stations | Indigenous Coal (%) | Washed Coal (%) | Imported Coal (%) |
|---------|-------------------|---------------------|-----------------|-------------------|
| 1 | Ukai (1-5) | 22.95 | 74.32 | 2.73 |
| 2 | Gandhinagar (1-4) | 22.83 | 62.08 | 15.09 |



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| Sl. No. | Power Stations | Indigenous Coal (%) | Washed Coal (%) | Imported Coal (%) |
|---------|----------------|---------------------|-----------------|-------------------|
| 3 | Gandhinagar 5 | 14.49 | 78.62 | 6.89 |
| 4 | Wanakbori 1-6 | 27.74 | 71.23 | 1.03 |
| 5 | Wanakbori 7* | 28.81 | 70.61 | 0.58 |
| 6 | Sikka | 35.61 | 64.40 | 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 2011-12, as per Table 4.18 below:

Table 4.18: Weighted Average Price / Unit of Fuels for FY 2011-12

| 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) | 2526.00 | 2507.00 | 8565.00 | - | - | 36974.15 |
| 2 | Gandhinagar (1-4) | 4399.43 | 2756.45 | 7557.05 | - | - | 32411.74 |
| 3 | Gandhinagar 5* | 4394.50 | 2752.50 | 8095.00 | - | - | 32411.74 |
| 4 | Wanakbori 1-6 TPS | 4102.00 | 2754.20 | 8053.00 | - | - | 35600.52 |
| 5 | Wanakbori 7 TPS * | 4100 | 2674.00 | 7948.00 | - | - | 30487.80 |
| 6 | Sikka TPS | 5436.50 | 3018.00 | 0.00 | - | - | 48794.49 |
| 7 | KLTPS 1-3 | - | - | - | 1052.37 | - | 45312.94 |
| 8 | KLTPS 4 | - | - | - | 1045.82 | - | 45420.14 |
| 9 | Dhuvaran (Gas 1)* | - | - | - | - | 12.52 | - |
| 10 | Dhuvaran (Gas 2) | - | - | - | - | 11.65 | - |
| 11 | Utran (Gas)* | - | - | - | - | 13.03 | - |
| 12 | Utran extension * | - | - | - | - | 12.14 | - |

*PPA governed stations

The Commission 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 2011-12 as they 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 2011-12 for truing up purpose along with the actuals furnished by GSECL are given in Table 4.19 below.



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Table 4.19: Fuel Cost of different stations for FY 2011-12 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 | 5617 | 5092 | 1111 | 2.182 | 5617 | 5111 | 1128 | 2.206 |
| 2 | Gandhinagar 1-4 | 3876 | 3473 | 1049 | 3.020 | 3876 | 3488 | 1076 | 3.084 |
| 3 | Gandhinagar 5* | 1611 | 1464 | 358 | 2.446 | 1611 | 1466 | 367 | 2.504 |
| 4 | Wanakbori 1-6 TPS | 8718 | 7946 | 2029 | 2.554 | 8718 | 7933 | 2037 | 2.568 |
| 5 | Wanakbori 7* | 1563 | 1424 | 329 | 2.313 | 1563 | 1422 | 343 | 2.411 |
| 6 | Sikka TPS | 977 | 851 | 342 | 4.016 | 977 | 870 | 347 | 3.985 |
| 7 | KLTPS 1-3 | 1165 | 994 | 184 | 1.849 | 1165 | 1025 | 156 | 1.525 |
| 8 | KLTPS 4 | 358 | 282 | 50 | 1.755 | 358 | 315 | 44 | 1.392 |
| 9 | Dhuvaran Gas 1* | 554 | 523 | 141 | 2.702 | 554 | 536 | 141 | 2.631 |
| 10 | Dhuvaran Gas 2 | 454 | 434 | 106 | 2.449 | 454 | 440 | 108 | 2.455 |
| 11 | Utran Gas* | 562 | 529 | 172 | 3.249 | 562 | 532 | 167 | 3.143 |
| 12 | Utran Extension* | 2426 | 2369 | 533 | 2.250 | 2426 | 2353 | 579 | 2.461 |
| | Total | 27881 | 25382 | 6404 | | 27881 | 25491 | 6493 | |

*PPA governed stations

The detailed calculations for each station for arriving at the above costs are given in Annexures 4.1 to 4.12



4.5.1 Variation between Actual Fuel Costs and Approved Fuel Costs

The comparison between the fuel costs of all stations put together as per annual accounts for FY 2011-12 and the cost approved for truing up purpose is given in Table 4.20 below.

Table 4.20: Cost of different fuels as per Audited Annual Accounts and as approved for Truing up for FY 2011-12

| (Rs. crore) | | |
|-----------------|-----------------------------|------------------|
| Item | Cost as per Annual Accounts | Cost as approved |
| Total Fuel Cost | 6405.00 | 6493.00 |

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 performance parameters.

4.5.2 Green Cess

It is submitted by GSECL, that Green Cess at the rate of 2 Ps./unit on gross generation from thermal stations is paid to the government from 1st August, 2011, which amounts to Rs. 37.10 crore as shown in the Table 4.21 below:

Table 4.21: Variable energy cost including Green Cess projected by GSECL for FY 2011-12

| Sl. No. | Power Station | As per Actuals furnished by GSECL | | | | | | |
|---------|-------------------|-----------------------------------|----------------------|--------------------|---------------------|---|---|---|
| | | Gross Generation (MUs) | Net Generation (MUs) | Fuel cost (Rs. Cr) | Green Cess (Rs. Cr) | Fuel Cost including Green cess (Rs. Cr) | Fuel Cost per unit Net excluding Green Cess | Fuel Cost per unit Net including Green Cess |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Ukai (1-5) | 5617 | 5092 | 1111 | 7.713 | 1118.713 | 2.182 | 2.197 |
| 2 | Gandhinagar (1-4) | 3876 | 3473 | 1049 | 5.064 | 1054.064 | 3.020 | 3.034 |
| 3 | Gandhinagar 5* | 1611 | 1464 | 358 | 2.340 | 360.340 | 2.446 | 2.462 |
| 4 | Wanakbori 1-6 TPS | 8718 | 7946 | 2029 | 11.696 | 2040.696 | 2.554 | 2.568 |
| 5 | Wanakbori 7* | 1563 | 1424 | 329 | 1.946 | 330.946 | 2.313 | 2.327 |
| 6 | Sikka TPS | 977 | 851 | 342 | 1.187 | 343.187 | 4.016 | 4.03 |
| 7 | KLTPS 1-3 | 1165 | 994 | 184 | 1.673 | 185.673 | 1.849 | 1.866 |
| 8 | KLTPS 4 | 358 | 282 | 50 | 0.509 | 50.509 | 1.755 | 1.773 |
| 9 | Dhuvaran (Gas 1)* | 554 | 523 | 141 | 0.735 | 141.735 | 2.702 | 2.716 |
| 10 | Dhuvaran (Gas 2) | 454 | 434 | 106 | 0.414 | 106.414 | 2.449 | 2.458 |
| 11 | Utran Gas* | 562 | 529 | 172 | 0.743 | 172.743 | 3.249 | 3.263 |
| 12 | Utran Extension* | 2426 | 2369 | 533 | 3.075 | 536.075 | 2.250 | 2.263 |
| | Total | 27881 | 25382 | 6404 | 37.10 | 6441.10 | | |

*PPA governed stations



However, the Green Cess is not taken into consideration in view of the judgment pronounced by Hon'ble High Court against Green Cess. Therefore, the fuel cost per unit approved by the Commission remains same as shown in the table 4.19.

4.5.3 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 31st March 2010 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 Table 4.22 below:

Table 4.22: Approved Gains / (Losses) from Fuel Expenses for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Actual Fuel Cost | Fuel cost arrived with approved parameters for actual net generation for FY 2011-12 | Gains/ (losses) due to controllable factors |
|---------|-------------------|------------------|---|---|
| 1 | Ukai (1-5) | 1111.34 | 1123.52 | 12.18 |
| 2 | Gandhinagar (1-4) | 1048.82 | 1071.07 | 22.25 |
| 3 | Wanakbori 1-6 TPS | 2029.11 | 2040.53 | 11.42 |
| 4 | Sikka | 341.95 | 339.12 | (2.83) |
| 5 | KLTPS 1-3 | 183.79 | 151.59 | (32.20) |
| 6 | KLTPS 4 | 49.57 | 39.25 | (10.32) |
| 7 | Dhuvaran (Gas 2) | 106.24 | 106.16 | (0.08) |
| | Total | 4870.82 | 4871.24 | 0.42 |



4.6 Fixed Charges

4.6.1 Operation & Maintenance (O&M) Expenses

GSECL has claimed Rs 550.36 crore towards actual O&M expenses for generating stations other than PPA governed stations, in the Truing up for FY 2011-12 against Rs 529.47 crore approved for FY 2011-12 in the MYT Order for FY 2011-12. The O&M charges approved for the year 2011-12 in the MYT Order and now claimed by GSECL are as given in Table 4.23 below:

Table 4.23: O&M expenses claimed by GSECL in Truing up for FY 2011-12

(Rs. crore)

| Particulars | Approved for FY 2011-12 in MYT Order | Claimed in truing up for FY 2011-12 |
|--------------|--------------------------------------|-------------------------------------|
| O&M expenses | 529.47 | 550.36 |

Petitioner's Submission

GSECL has submitted that the O&M expenses have been classified as "Controllable" under the 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 Administrative & General expenses as controllable based on the classification considered by the Commission in the previous order. GSECL has indicated a net loss of Rs. 20.89 crore comprising Rs.7.06 crore towards loss due to controllable factors and Rs.13.83 crore loss due to uncontrollable factors. The station wise O&M expenses claimed by GSECL in the Truing up for FY 2011-12 and the controllable and uncontrollable Gains/(Losses) are given in the Table 4.24 below.

Table 4.24: Gains/(Losses) from O&M expenses claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | O&M (Actual) | O&M (Approved) | Gain/ (Losses) | Gains/(Losses) due to controllable factors | Gains/(Losses) due to uncontrollable factors |
|---------|-------------------|--------------|----------------|----------------|--|--|
| 1 | Ukai (1-5) | 134.24 | 128.87 | (5.37) | (1.67) | (3.70) |
| 2 | Gandhinagar (1-4) | 96.52 | 91.27 | (5.25) | (1.30) | (3.95) |
| 3 | Gandhinagar 5* | - | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 145.50 | 131.88 | (13.62) | (5.06) | (8.56) |
| 5 | Wanakbori 7 TPS* | - | - | - | - | - |
| 6 | Sikka TPS | 48.80 | 46.23 | (2.57) | (0.76) | (1.81) |
| 7 | KLTPS 1-3 | 53.90 | 72.47 | 18.57 | 7.84 | 10.73 |
| 8 | KLTPS 4 | 19.39 | 16.22 | (3.17) | (1.38) | (1.79) |
| 9 | Dhuvaran Gas 1* | - | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 24.30 | 17.85 | (6.45) | (3.76) | (2.69) |
| 11 | Utran Gas* | - | - | - | - | - |



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| Sl. No. | Power Station | O&M (Actual) | O&M (Approved) | Gain/ (Losses) | Gains/(Losses) due to controllable factors | Gains/(Losses) due to uncontrollable factors |
|---------|------------------|---------------|----------------|----------------|--|--|
| 12 | Utran Extension* | - | - | - | - | - |
| 13 | Ukai Hydro | 12.63 | 11.48 | (1.15) | (0.35) | (0.80) |
| 14 | Kadana Hydro | 15.09 | 13.20 | (1.89) | (0.63) | (1.26) |
| | Total | 550.36 | 529.47 | (20.89) | (7.06) | (13.83) |

* 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. 720.41 crore including the PPA governed stations against Rs.657.48 crore approved in the MYT Order. GSECL has claimed the variation in Employee cost and Insurance cost as uncontrollable. However, the Commission has considered this variation as controllable 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 4.25 below:

Table 4.25: Approved O&M Expenses & Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/ (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 128.87 | 134.24 | 134.24 | (5.37) | (5.37) | |
| 2 | Gandhinagar (1-4) | 91.27 | 96.52 | 96.52 | (5.25) | (5.25) | |
| 3 | Gandhinagar 5* | 25.00 | 24.59 | 24.59 | 0.41 | | |
| 4 | Wanakbori 1-6 TPS | 131.88 | 145.50 | 145.50 | (13.62) | (13.62) | |
| 5 | Wanakbori 7* | 25.00 | 13.97 | 13.97 | 11.03 | | |
| 6 | Sikka TPS | 46.23 | 48.80 | 48.80 | (2.57) | (2.57) | |
| 7 | KLTPS 1-3 | 72.47 | 53.90 | 53.90 | 18.57 | 18.57 | |
| 8 | KLTPS 4 | 16.22 | 19.39 | 19.39 | (3.17) | (3.17) | |
| 9 | Dhuvaran (Gas 1)* | 20.00 | 23.77 | 23.77 | (3.77) | | |
| 10 | Dhuvaran (Gas 2) | 17.85 | 24.30 | 24.30 | (6.45) | (6.45) | |
| 11 | Utran Gas* | 13.00 | 25.87 | 25.87 | (12.87) | | |
| 12 | Utran Extension* | 45.00 | 81.84 | 81.84 | (36.84) | | |
| 13 | Ukai Hydro | 11.48 | 12.63 | 12.63 | (1.15) | (1.15) | |
| 14 | Kadana Hydro | 13.20 | 15.09 | 15.09 | (1.89) | (1.89) | |
| | Total | 657.47 | 720.41 | 720.41 | (62.94) | (20.90) | |

* PPA based stations

4.6.2 Depreciation for FY 2011-12

GSECL has claimed Rs 440.59 crore towards actual depreciation in the truing up for FY 2011-12 against Rs.356.61 crore approved for the year in MYT Order dated 11th



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April, 2011 for the generating stations other than PPA governed stations. The depreciation approved for the FY 2011-12 in MYT Order and now claimed by GSECL is as given in the Table 4.26, below:

Table 4.26: Depreciation claimed for FY 2011-12

(Rs. crore)

| Particulars | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|--------------|--------------------------------------|-------------------------------------|
| Depreciation | 356.61 | 440.59 |

Petitioner's Submission

GSECL has submitted the actual depreciation for FY 2011-12 is Rs.616.47 crore against the approved depreciation of Rs 536.77 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, as per the Accounting Standards. It has also mentioned that the depreciation claimed by GSECL is also inclusive of the net prior period depreciation charges. The station wise depreciation claimed by GSECL in the Truing up for FY 2011-12 and the uncontrollable Gains/(Losses) are as given in the Table 4.27 below

Table 4.27: Depreciation and Gains/(Losses) claimed for FY 2011-12

(Rs. Crore)

| Sl. No. | Power Station | Depreciation (Actual) | Depreciation (Approved) | Gains/ (Losses) due to controllable factors | Gains/ (Losses) due to uncontrollable factors |
|---------|-------------------|-----------------------|-------------------------|---|---|
| 1 | Ukai (1-5) | 112.93 | 49.16 | - | (63.77) |
| 2 | Gandhinagar (1-4) | 78.11 | 66.38 | - | (11.73) |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 81.66 | 73.53 | - | (8.13) |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 30.16 | 30.04 | - | (0.12) |
| 7 | KLTPS 1-3 | 59.56 | 58.51 | - | (1.05) |
| 8 | KLTPS 4 | 35.49 | 35.17 | - | (0.32) |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 21.51 | 21.64 | - | 0.13 |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 6.12 | 7.11 | - | 0.99 |
| 14 | Kadana Hydro | 15.05 | 15.07 | - | 0.02 |
| | Total | 440.59 | 356.61 | - | (83.98) |

* 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), Gandhinagar (1-4) and Wanakbori (1-6) 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%. With reference to query from the Commission, GSECL, vide letter no. GERC cell /13-14/1261-12/ dated 18.01.2013, submitted that (i) Capital spares have been depreciated as per Accounting Standard (AS) 6 in respect of Ukai 1-5, (ii) Capital Expenditure is Rs. 56 crore more than approved and weighted average rate of depreciation varied from 5.15% to 5.66% and hence there is difference compared to approved depreciation in respect of Gandhinagar 1-4 and (iii) In respect of Wanakbori 1-6 the capital expenditure is more than approved by Rs. 7.0 crore and weighted average rate of depreciation varied from 5.04% to 5.44%, hence there is difference compared to approved depreciation.

However, the Commission observes that the capital spares also formed part of the GFA of the Generating stations and the depreciation method is consistently followed by GSECL in the previous years. Depreciation of capital spares over the balance useful life of the plant in isolation is not acceptable. It should be in accordance with the provisions of Regulation 40.4 of MYT Regulations.

With regard to increase in weighted average rate of depreciation from 5.15% to 5.66% in respect of Gandhinagar 1-4 and from 5.04% to 5.44% in respect of Wanakbori 1-6 on account of increase in capital expenditure, the Commission observes that increase in capitalization results in increase in the quantum of depreciation but not abnormal increase in the average rate of depreciation. As such the increase in depreciation claimed in the Truing up for FY 2011-12 for the above three stations is not justified. The Commission has computed the depreciation of these stations adopting the weighted average rate of depreciation as considered in the MYT Order dated 11th April 2011 in the Truing-up for FY 2011-12.

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



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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 2011-12 as detailed in the Table 4.28 below:

Table 4.28: Approved Depreciation Charges & Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 49.16 | 112.93 | 65.36 | (16.20) | | (16.20) |
| 2 | Gandhinagar (1-4) | 66.38 | 78.11 | 71.02 | (4.64) | | (4.64) |
| 3 | Gandhinagar 5* | 32.70 | 33.85 | 33.80 | (1.10) | | 0.00 |
| 4 | Wanakbori 1-6 TPS | 73.53 | 81.66 | 75.55 | (2.02) | | (2.02) |
| 5 | Wanakbori 7* | 31.75 | 32.22 | 32.21 | (0.46) | | 0.00 |
| 6 | Sikka TPS | 30.04 | 30.16 | 30.14 | (0.10) | | (0.10) |
| 7 | KLTPS 1-3 | 58.51 | 59.56 | 59.55 | (1.04) | | (1.04) |
| 8 | KLTPS 4 | 35.17 | 35.49 | 35.48 | (0.31) | | (0.31) |
| 9 | Dhuvaran (Gas 1)* | 16.50 | 21.51 | 21.50 | (5.00) | | 0.00 |
| 10 | Dhuvaran (Gas 2) | 21.64 | 21.51 | 21.50 | 0.14 | | 0.14 |
| 11 | Utran Gas* | 19.65 | 22.99 | 22.98 | (3.33) | | 0.00 |
| 12 | Utran Extension* | 79.56 | 65.69 | 65.66 | 13.90 | | 0.00 |
| 13 | Ukai Hydro | 7.11 | 6.12 | 6.10 | 1.01 | | 1.01 |
| 14 | Kadana Hydro | 15.07 | 15.05 | 15.04 | 0.03 | | 0.03 |
| | Total | 536.77 | 616.85 | 555.90 | (19.13) | | (23.13) |

*PPA based stations

4.6.3 Interest and Finance charges for FY 2011-12

GSECL has claimed Rs 256.39 crore towards interest and finance charges in the Truing up FY 2011-12 against Rs.255.84 crore approved for the year in MYT Order dated 11th April, 2011. The interest and finance charges approved for FY 2011-12 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table 4.29 below:

Table 4.29: Interest and Finance charges claimed in Truing up for FY 2011-12

(Rs. Crore)

| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|------------------------------|--------------------------------------|-------------------------------------|
| Interest and Finance charges | 255.84 | 256.39 |



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. The station wise Interest and Finance charges claimed by GSECL in the Truing up for FY 2011-12 and the uncontrollable Gains/(Losses) as furnished by GSECL are given in the Table 4.30 below:

Table 4.30: Interest and Finance charges and Gains/(Losses) claimed for FY 2011-12
(Rs. crore)

| Sl. No. | Power Station | Interest & Finance charges (Actual) | Interest & Finance charges (Approved) | Gains/(Losses) due to controllable factors | Gains/(Losses) due to uncontrollable factors |
|---------|-------------------|-------------------------------------|---------------------------------------|--|--|
| 1 | Ukai (1-5) | 47.90 | 46.72 | - | (1.18) |
| 2 | Gandhinagar (1-4) | 35.64 | 36.18 | - | 0.54 |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 47.62 | 49.81 | - | 2.19 |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 13.66 | 17.15 | - | 3.49 |
| 7 | KLTPS 1-3 | 42.81 | 38.43 | - | (4.38) |
| 8 | KLTPS 4 | 45.88 | 41.58 | - | (4.30) |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 13.13 | 11.67 | - | (1.46) |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 2.66 | 5.17 | - | 2.51 |
| 14 | Kadana Hydro | 7.10 | 9.13 | - | 2.03 |
| | Total | 256.39 | 255.84 | - | (0.55) |

*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. 353.87 crore including the PPA governed stations against Rs. 374.80 crore approved for FY 2011-12 in the MYT Order. The net capitalization achieved is Rs. 217.26 crore against capital expenditure of Rs. 1474.62 crore incurred during FY 2011-12. GSECL has not taken into consideration the capitalisation achieved during FY 2011-12 and the normative borrowings. Further, it has not 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 2011-12 considering the 70% of actual capitalisation as normative loan and repayment of loan



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equivalent to depreciation approved for FY 2011-12 in accordance with the MYT Regulations, 2011.

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 4.31 below:

Table 4.31: Approved Interest & Finance Charges & Gains / (Losses) for FY 2011-12

| (Rs. crore) | | | | | | | |
|-------------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|---|---|
| Sl. No | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/(Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 46.72 | 47.90 | 54.58 | (7.86) | - | (7.86) |
| 2 | Gandhinagar (1-4) | 36.18 | 35.64 | 42.14 | (5.96) | - | (5.96) |
| 3 | Gandhinagar 5* | 0.00 | 0.00 | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 49.81 | 47.62 | 60.47 | (10.66) | - | (10.66) |
| 5 | Wanakbori 7* | 0.00 | 0.00 | - | - | - | - |
| 6 | Sikka TPS | 17.15 | 13.66 | 17.96 | (0.81) | - | (0.81) |
| 7 | KLTPS 1-3 | 38.43 | 42.81 | 54.17 | (15.74) | - | (15.74) |
| 8 | KLTPS 4 | 41.58 | 45.88 | 46.39 | (4.81) | - | (4.81) |
| 9 | Dhuvaran (Gas 1)* | 6.07 | 5.43 | 4.75 | 1.32 | - | - |
| 10 | Dhuvaran (Gas 2) | 11.67 | 13.13 | 12.42 | (0.75) | - | (0.75) |
| 11 | Utran Gas* | 5.84 | 3.61 | 3.70 | 2.14 | - | - |
| 12 | Utran Extension* | 107.05 | 88.43 | 90.43 | 16.62 | - | - |
| 13 | Ukai Hydro | 5.17 | 2.66 | 3.52 | 1.65 | - | 1.65 |
| 14 | Kadana Hydro | 9.13 | 7.10 | 9.10 | 0.03 | - | 0.03 |
| | Total | 374.80 | 353.87 | 399.63 | (24.83) | - | (44.91) |

*PPA based stations

4.6.4 Return on Equity for FY 2011-12

GSECL has claimed Rs.247.88 crore towards return on equity in the Truing up for FY 2011-12 against Rs.246.47 crore approved for the year in the MYT Order dated 11th April, 2011 for the generating stations other than PPA governed stations as detailed in the Table 4.32 below:

Table 4.32: Return on Equity claimed for FY 2011-12

| (Rs. Crore) | | |
|------------------|--------------------------------------|-------------------------------------|
| Particulars | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
| Return on equity | 246.67 | 247.88 |



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 2011-12 and addition to equity during the year on account of funding of capital expenditure against approved, resulted in uncontrollable loss of Rs.1.14 crore. The station wise return on equity claimed by GSECL in the Truing up for FY 2011-12 and the uncontrollable Gains/(Losses) are given in the Table 4.33, below:

Table 4.33: Return on equity and Gains/(Losses) claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Return on Equity (Actual) | Return on Equity (Approved) | Gains/ (Losses) due to controllable factors | Gains/ (Losses) due to uncontrollable factors |
|---------|-------------------|---------------------------|-----------------------------|---|---|
| 1 | Ukai (1-5) | 20.31 | 19.88 | - | (0.43) |
| 2 | Gandhinagar (1-4) | 31.68 | 30.66 | - | (1.02) |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 52.48 | 52.57 | - | 0.09 |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 20.47 | 20.30 | - | (0.17) |
| 7 | KLTPS 1-3 | 43.30 | 43.19 | - | (0.11) |
| 8 | KLTPS 4 | 28.50 | 28.42 | - | (0.08) |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 15.13 | 15.40 | - | 0.27 |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 7.99 | 8.05 | - | 0.06 |
| 14 | Kadana Hydro | 28.02 | 28.00 | - | (0.02) |
| | Total | 247.88 | 246.47 | - | (1.41) |

*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 2011-12 is Rs 376.81 crore against Rs 379.22 crore approved in the MYT Order for all the stations. The overall decrease in the return on equity is Rs 2.41 crore. This is on account of lesser or nil capitalization during FY 2011-12. The Commission approves the return on equity as claimed by GSECL in the Truing up.



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 2011-12 station wise as detailed in the Table 4.34 below:

Table 4.34: Approved Return on Equity Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/(Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|--------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 19.88 | 20.31 | 20.31 | (0.43) | - | (0.43) |
| 2 | Gandhinagar (1-4) | 30.66 | 31.68 | 31.68 | (1.02) | - | (1.02) |
| 3 | Gandhinagar 5* | 26.78 | 26.80 | 26.80 | (0.02) | - | - |
| 4 | Wanakbori 1-6 TPS | 52.57 | 52.48 | 52.48 | 0.09 | - | 0.09 |
| 5 | Wanakbori 7* | 26.00 | 26.01 | 26.01 | (0.01) | - | - |
| 6 | Sikka TPS | 20.30 | 20.47 | 20.47 | (0.17) | - | (0.17) |
| 7 | KLTPS 1-3 | 43.19 | 43.30 | 43.30 | (0.11) | - | (0.11) |
| 8 | KLTPS 4 | 28.42 | 28.50 | 28.50 | (0.08) | - | (0.08) |
| 9 | Dhuvaran (Gas 1)* | 12.87 | 12.61 | 12.61 | 0.26 | - | - |
| 10 | Dhuvaran (Gas 2) | 15.40 | 15.13 | 15.13 | 0.27 | - | 0.27 |
| 11 | Utran Gas* | 10.40 | 10.60 | 10.60 | (0.20) | - | - |
| 12 | Utran Extension* | 56.70 | 52.91 | 52.91 | 3.79 | - | - |
| 13 | Ukai Hydro | 8.05 | 7.99 | 7.99 | 0.06 | - | 0.06 |
| 14 | Kadana Hydro | 28.00 | 28.02 | 28.02 | (0.02) | - | (0.02) |
| | Total | 379.22 | 376.81 | 376.81 | 2.41 | - | (1.41) |

*PPA based stations

4.6.5 Interest on Working Capital for FY 2011-12

Petitioner's Submission

GSECL has claimed Rs. 191.31 crore towards interest on working capital in the Truing up for FY 2011-12. The interest on working capital approved for FY 2011-12 in the MYT Order dated 31st March, 2011, and claimed by GSECL in the Truing up are given in the Table 4.35 below:

Table 4.35: Interest on Working Capital claimed by GSECL in Truing up for FY 2011-12

(Rs. crore)

| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|-----------------------------|--------------------------------------|-------------------------------------|
| Interest on Working Capital | 139.20 | 191.31 |



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The gains and losses submitted by GSECL in its petition for truing up for FY 2011-12 are as given in the Table 4.36 below:

Table 4.36: Gains / (Losses) from Interest on Working Capital claimed for FY 2011-12
(Rs. crore)

| Sl. No. | Power Station | Interest on WC (Actual) | Interest on WC (Approved) | Gains/(Losses) due to controllable factors | Gains/(Losses) due to uncontrollable factors |
|---------|-------------------|-------------------------|---------------------------|--|--|
| 1 | Ukai (1-5) | 43.15 | 25.82 | - | (17.33) |
| 2 | Gandhinagar (1-4) | 39.61 | 28.66 | - | (10.95) |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 73.11 | 50.18 | - | (22.93) |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 13.99 | 9.07 | - | (4.92) |
| 7 | KLTPS 1-3 | 10.20 | 11.58 | - | 1.38 |
| 8 | KLTPS 4 | 4.28 | 9.15 | - | 4.87 |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 4.70 | 3.12 | - | (1.58) |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 0.73 | 0.52 | - | (0.21) |
| 14 | Kadana Hydro | 1.54 | 1.10 | - | (0.44) |
| | Total | 191.31 | 139.20 | | (52.11) |

*PPA based stations

Commission's Analysis

The Commission has examined the interest on working capital claimed by GSECL for FY 2011-12. The Commission has observed that GSECL has worked out the interest on working capital considering 14.75% the SBAR as on 1.4.2012.

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. GSECL has submitted with reference to a query from the Commission that being Truing up petition for FY 2011-12 the same is calculated as per the MYT Regulations, 2011. The Commission had taken into consideration the rate of Interest at 11.75% prevailing at the time the MYT Petition was filed. The Commission does not see any justification in GSECL claiming the rate of 14.75% prevailing as on 01.04.2012 in Truing up for FY 2011-12. The Commission decides 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 2011 is 13%. The Commission, accordingly,



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takes into consideration the SBAR of 13% in computation of Interest in Working Capital for FY 2011-12.

The Commission has computed the Working Capital and interest thereon, as detailed in Table 4.37 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 at Rs.215.54 Crore. The Gains / (Losses) on account of interest on working capital in the truing up for FY 2011-12 station-wise as detailed in the Table 4.37 below:

Table 4.37: Approved Interest on Working Capital Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation +/- | Gains/(Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 25.82 | 43.15 | 36.36 | (10.54) | | (10.54) |
| 2 | Gandhinagar (1-4) | 28.66 | 39.61 | 34.69 | (6.03) | | (6.03) |
| 3 | Gandhinagar 5* | 9.27 | 13.62 | 12.01 | (2.74) | | 0.00 |
| 4 | Wanakbori 1-6 TPS | 50.18 | 73.11 | 62.73 | (12.55) | | (12.55) |
| 5 | Wanakbori 7* | 8.84 | 12.47 | 11.15 | (2.31) | | 0.00 |
| 6 | Sikka TPS | 9.07 | 13.99 | 11.94 | (2.87) | | (2.87) |
| 7 | KLTPS 1-3 | 11.58 | 10.20 | 8.65 | 2.93 | | 2.93 |
| 8 | KLTPS 4 | 9.15 | 4.28 | 3.72 | 5.43 | | 5.43 |
| 9 | Dhuvaran (Gas 1)* | 2.85 | 5.48 | 4.66 | (1.81) | | 0.00 |
| 10 | Dhuvaran (Gas 2) | 3.12 | 4.70 | 4.02 | (0.90) | | (0.90) |
| 11 | Utran Gas* | 3.22 | 6.18 | 5.16 | (1.94) | | 0.00 |
| 12 | Utran Extension* | 10.03 | 19.98 | 18.56 | (8.53) | | 0.00 |
| 13 | Ukai Hydro | 0.52 | 0.73 | 0.58 | (0.06) | | (0.06) |
| 14 | Kadana Hydro | 1.10 | 1.54 | 1.31 | (0.21) | | (0.21) |
| | Total | 173.41 | 249.04 | 215.54 | (42.13) | | (24.80) |

* PPA governed stations

4.6.6 SLDC charges for FY 2011-12

GSECL has claimed Rs 2.23 crore towards SLDC charges in the Truing up FY 2011-12 against Rs.2.14 crore approved for the year in MYT Order dated 11th April, 2011.



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The SLDC charges approved for FY 2011-12 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table 4.38 below:

Table 4.38: SLDC charges claimed in Truing up for FY 2011-12

(Rs. crore)

| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|--------------|--------------------------------------|-------------------------------------|
| SLDC charges | 2.14 | 2.23 |

Petitioner's Submission

GSECL has submitted it has considered the Gains/(Losses) on account of SLDC charges into "uncontrollable" factors. The station wise SLDC charges claimed by GSECL in the Truing up for FY 2011-12 and the uncontrollable Gains/(Losses) are given in the Table 4.39 below:

Table 4.39: SLDC charges and Gains/(Losses) claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | SLDC (Actual) | SLDC (Approved) | Gains/(Losses) due to controllable factors | Gains/(Losses) due to uncontrollable factor |
|---------|-------------------|---------------|-----------------|--|---|
| 1 | Ukai (1-5) | 0.69 | 0.46 | - | (0.23) |
| 2 | Gandhinagar (1-4) | 0.36 | 0.36 | - | (0.00) |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 0.81 | 0.68 | - | (0.13) |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | - | 0.13 | - | 0.13 |
| 7 | KLTPS 1-3 | 0.21 | 0.12 | - | (0.09) |
| 8 | KLTPS 4 | - | 0.04 | - | 0.04 |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | - | 0.06 | - | 0.06 |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 0.01 | 0.16 | - | 0.15 |
| 14 | Kadana Hydro | 0.14 | 0.13 | - | (0.01) |
| | Total | 2.23 | 2.14 | - | (0.09) |

*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.2.64 crore including the PPA governed stations against Rs. 2.69 crore approved for FY 2011-12 in the MYT Order. The Commission approves the SLDC charges as claimed by GSECL.



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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 4.40 below:

Table 4.40: Approved SLDC charges Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/ (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|--------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 0.46 | 0.69 | 0.69 | (0.23) | - | (0.23) |
| 2 | Gandhinagar (1-4) | 0.36 | 0.36 | 0.36 | 0.00 | - | 0.00 |
| 3 | Gandhinagar 5* | 0.11 | 0.00 | - | 0.11 | - | |
| 4 | Wanakbori 1-6 TPS | 0.68 | 0.81 | 0.81 | (0.13) | - | (0.13) |
| 5 | Wanakbori 7* | 0.11 | 0.00 | - | 0.11 | - | |
| 6 | Sikka TPS | 0.13 | 0.00 | - | 0.13 | - | 0.13 |
| 7 | KLTPS 1-3 | 0.12 | 0.21 | 0.21 | (0.09) | - | (0.09) |
| 8 | KLTPS 4 | 0.04 | 0.00 | - | 0.04 | - | 0.04 |
| 9 | Dhuvaran (Gas 1)* | 0.06 | 0.15 | 0.15 | (0.09) | - | |
| 10 | Dhuvaran (Gas 2) | 0.06 | 0.00 | - | 0.06 | - | 0.06 |
| 11 | Utran Gas* | 0.07 | 0.27 | 0.27 | (0.20) | - | |
| 12 | Utran Extension* | 0.20 | 0.00 | - | 0.20 | - | |
| 13 | Ukai Hydro | 0.16 | 0.01 | 0.01 | 0.15 | - | 0.15 |
| 14 | Kadana Hydro | 0.13 | 0.14 | 0.14 | (0.01) | - | (0.01) |
| | Total | 2.69 | 2.64 | 2.64 | 0.05 | - | (0.08) |

*PPA based stations

4.6.7 Water charges for FY 2011-12

GSECL has claimed Rs. 78.67 crore towards water charges in the Truing up FY 2011-12 against Rs.75.53 crore approved for the year in MYT Order dated 11th April, 2011. The water charges approved for FY 2011-12 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table 4.41 below

Table 4.41: Water charges claimed in Truing up for FY 2011-12

(Rs. Crore)

| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|---------------|--------------------------------------|-------------------------------------|
| Water Charges | 75.53 | 78.67 |

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



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GSECL in the Truing up for FY 2011-12 and the uncontrollable Gains/(Losses) are given in the Table 4.42 below:

Table 4.42: Water charges and Gains/(Losses) claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Water Charges (Actual) | Water Charges (Approved) | Gains/ (Losses) Due to controllable factors | Gains/(Losses) due to uncontrollable factors |
|---------|-------------------|------------------------|--------------------------|---|--|
| 1 | Ukai (1-5) | - | - | - | - |
| 2 | Gandhinagar (1-4) | 31.53 | 30.47 | - | (1.06) |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 43.94 | 40.57 | - | (3.37) |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 2.51 | 3.89 | - | 1.38 |
| 7 | KLTPS 1-3 | 0.69 | 0.60 | - | (0.09) |
| 8 | KLTPS 4 | - | - | - | - |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | - | - | - | - |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | - | - | - | - |
| 14 | Kadana Hydro | - | - | - | - |
| | Total | 78.67 | 75.53 | - | (3.14) |

*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.93.44 crore includes the PPA governed stations against Rs. 94.56 crore approved for FY 2011-12 in the MYT Order. The Commission approved the water charges as claimed by GSECL as they are as per audited annual accounts.

Gains / (Losses):

As provided in the 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 4.43 below:



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Table 4.43: Approved Water Charges Gains / (Losses) for FY 2011-12

| (Rs. crore) | | | | | | | |
|-------------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|---|---|
| Sl. No. | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/ Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 0.00 | 0.00 | - | - | | - |
| 2 | Gandhinagar (1-4) | 30.47 | 31.53 | 31.53 | (1.06) | | (1.06) |
| 3 | Gandhinagar 5* | 7.62 | 0.00 | - | 7.62 | | - |
| 4 | Wanakbori 1-6 TPS | 40.57 | 43.94 | 43.94 | (3.37) | | (3.37) |
| 5 | Wanakbori 7* | 7.12 | 7.62 | 7.62 | (0.50) | | - |
| 6 | Sikka TPS | 3.89 | 2.51 | 2.51 | 1.38 | | 1.38 |
| 7 | KLTPS 1-3 | 0.60 | 0.69 | 0.69 | (0.09) | | (0.09) |
| 8 | KLTPS 4 | 0.00 | 0.00 | - | - | | - |
| 9 | Dhuvaran (Gas 1)* | 0.00 | 1.22 | 1.22 | (1.22) | | - |
| 10 | Dhuvaran (Gas 2) | 0.00 | 0.00 | - | - | | - |
| 11 | Utran Gas* | 2.70 | 2.40 | 2.40 | 0.30 | | - |
| 12 | Utran Extension* | 1.59 | 3.53 | 3.53 | (1.94) | | - |
| 13 | Ukai Hydro | 0.00 | 0.00 | - | - | | - |
| 14 | Kadana Hydro | 0.00 | 0.00 | - | - | | - |
| | Total | 94.56 | 93.44 | 93.44 | 1.12 | | (3.14) |

*PPA based stations

4.6.8 Income Tax for FY 2011-12

GSECL has claimed Rs. 43.13 crore towards Income Tax in the Truing up FY 2011-12 against Rs.25.00 crore approved for the year in MYT Order dated 11th April, 2011. The Income Tax approved for FY 2011-12 in the MYT Order and claimed by GSECL are given in the Table 4.44 below:

Table 4.44: Income Tax claimed in Truing up for FY 2011-12

| (Rs. crore) | | |
|-------------|--------------------------------------|-------------------------------------|
| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
| Income Tax | 25.00 | 43.13 |

Petitioner's Submission

GSECL has submitted that it has paid a total tax of Rs. 43.13 crore as against which the approved tax was only Rs 25.00 crore leading to a loss of Rs 18.13 crore which is uncontrollable. The station wise details are given in the Table 4.45 below:



Table 4.45: Income Tax and Gains/(Losses) claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Tax (Actual) | Tax (Approved) | Gains/(Losses) due to controllable factor | Gains/(Losses) due to uncontrollable factors |
|---------|-------------------|--------------|----------------|---|--|
| 1 | Ukai (1-5) | 2.33 | 1.00 | - | (1.33) |
| 2 | Gandhinagar (1-4) | 3.63 | 2.00 | - | (1.63) |
| 3 | Gandhinagar 5* | 3.07 | 2.00 | - | (1.07) |
| 4 | Wanakbori 1-6 TPS | 6.01 | 4.00 | - | (2.01) |
| 5 | Wanakbori 7 TPS* | 2.98 | 2.00 | - | (0.98) |
| 6 | Sikka TPS | 2.34 | 2.00 | - | (0.34) |
| 7 | KLTPS 1-3 | 4.96 | 3.00 | - | (1.96) |
| 8 | KLTPS 4 | 3.26 | 1.00 | - | (2.26) |
| 9 | Dhuvaran Gas 1* | 1.44 | 1.00 | - | (0.44) |
| 10 | Dhuvaran Gas 2 | 1.73 | 1.00 | - | (0.73) |
| 11 | Utran Gas* | 1.21 | 1.00 | - | (0.21) |
| 12 | Utran Extension* | 6.06 | 2.00 | - | (4.06) |
| 13 | Ukai Hydro | 0.91 | 1.00 | - | 0.09 |
| 14 | Kadana Hydro | 3.21 | 2.00 | - | (1.21) |
| | Total | 43.13 | 25.00 | - | (18.13) |

*PPA based stations

Commission's Analysis

The Income Tax paid has been verified from the audited annual accounts for FY 2011-12 and found as Rs. 43.13 crore. The Commission approves the Income Tax as claimed by GSECL.

Gains / (Losses):

The variation in Income Tax is uncontrollable under the provisions of Regulation 23 of MYT Regulations 2011. The Commission, accordingly, approves the Gains/(Losses) on account of Income Tax in the Truing up as detailed in the Table 4.46 below:



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Table 4.46: Approved Income tax Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/ (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|--------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 1.00 | 2.33 | 2.33 | (1.33) | - | (1.33) |
| 2 | Gandhinagar (1-4) | 2.00 | 3.63 | 3.63 | (1.63) | - | (1.63) |
| 3 | Gandhinagar 5* | 2.00 | 3.07 | 3.07 | (1.07) | - | |
| 4 | Wanakbori 1-6 TPS | 4.00 | 6.01 | 6.01 | (2.01) | - | (2.01) |
| 5 | Wanakbori 7* | 2.00 | 2.98 | 2.98 | (0.98) | - | |
| 6 | Sikka TPS | 2.00 | 2.34 | 2.34 | (0.34) | - | (0.34) |
| 7 | KLTPS 1-3 | 3.00 | 4.96 | 4.96 | (1.96) | - | (1.96) |
| 8 | KLTPS 4 | 1.00 | 3.26 | 3.26 | (2.26) | - | (2.26) |
| 9 | Dhuvaran (Gas 1)* | 1.00 | 1.44 | 1.44 | (0.44) | - | |
| 10 | Dhuvaran (Gas 2) | 1.00 | 1.73 | 1.73 | (0.73) | - | (0.73) |
| 11 | Utran Gas* | 1.00 | 1.21 | 1.21 | (0.21) | - | |
| 12 | Utran Extension* | 2.00 | 6.06 | 6.06 | (4.06) | - | |
| 13 | Ukai Hydro | 1.00 | 0.91 | 0.91 | 0.09 | - | 0.09 |
| 14 | Kadana Hydro | 2.00 | 3.21 | 3.21 | (1.21) | - | (1.21) |
| | Total | 25.00 | 43.14 | | (18.14) | - | (11.38) |

*PPA based stations

4.6.9 Non – Tariff Income for FY 2011-12

GSECL has claimed Rs. 166.90 crore towards non-tariff income in the Truing up FY 2011-12 against Rs.117.68 crore approved for the year in MYT Order dated 11th April, 2011. The non-tariff income approved for FY 2011-12 in the MYT Order and claimed by GSECL as furnished by GSECL are given in the Table 4.47 below:

Table 4.47: Non-Tariff income claimed in Truing up for FY 2011-12

(Rs. Crore)

| Particular | Approved for FY 2011-12 in MYT Order | Claimed in Truing up for FY 2011-12 |
|-------------------|--------------------------------------|-------------------------------------|
| Non-tariff income | 117.68 | 166.90 |

Petitioner's Submission

GSECL has submitted that it has not proposed any methodology in case of sharing of Gains / (Losses) on account of uncontrollable elements and requested to permit passing on the gains and losses to the licensees in entirety in case of uncontrollable parameters. The station wise non-tariff income claimed by GSECL in the Truing up for FY 2011-12 and the Gains/(Losses) are given in the Table 4.48 below:



Table 4.48: Non-tariff income and Gains/(Losses) claimed for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Non- Tariff Income (Actual) | Non-Tariff Income (Approved) | Gains/ (Losses) due to controllable factors | Gains/ (Losses) due to uncontrollable factors |
|---------|-------------------|-----------------------------|------------------------------|---|---|
| 1 | Ukai (1-5) | 38.33 | 25.27 | 13.06 | - |
| 2 | Gandhinagar (1-4) | 48.36 | 19.62 | 28.74 | - |
| 3 | Gandhinagar 5* | - | - | - | - |
| 4 | Wanakbori 1-6 TPS | 55.98 | 37.45 | 18.53 | - |
| 5 | Wanakbori 7 TPS* | - | - | - | - |
| 6 | Sikka TPS | 8.58 | 7.13 | 1.45 | - |
| 7 | KLTPS 1-3 | 3.54 | 6.39 | (2.85) | - |
| 8 | KLTPS 4 | 1.24 | 2.23 | (0.99) | - |
| 9 | Dhuvaran Gas 1* | - | - | - | - |
| 10 | Dhuvaran Gas 2 | 1.85 | 3.33 | (1.48) | - |
| 11 | Utran Gas* | - | - | - | - |
| 12 | Utran Extension* | - | - | - | - |
| 13 | Ukai Hydro | 5.03 | 9.07 | (4.04) | - |
| 14 | Kadana Hydro | 3.99 | 7.19 | (3.20) | - |
| | Total | 166.90 | 117.68 | 49.22 | - |

*PPA based stations

Commission's Analysis

The actual non-tariff income station-wise is given in the Appendix-A of the petition. The actual non-tariff income aggregate to Rs.183.97 crore including the PPA governed stations against Rs.148.50 crore approved for FY 2011-12 in the MYT Order. In regard to the mechanism for sharing of Gains / (Losses) pointed at GSECL is required to refer to Regulations, 24.1 which provides the mechanism for sharing of Gains / (Losses) on account of uncontrollable factors. The Commission approves the non-tariff income as shown by GSECL.

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 4.49 below:



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Table 4.49: Approved Non- Tariff income Gains / (Losses) for FY 2011-12

(Rs. crore)

| Sl. No. | Power Station | Approved for FY 2011-12 in MYT Order | Claimed in Truing-up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) | Gains/ (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---------|-------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Ukai (1-5) | 25.27 | 38.33 | 38.33 | (13.06) | - | (13.06) |
| 2 | Gandhinagar (1-4) | 19.62 | 48.36 | 48.36 | (28.74) | - | (28.74) |
| 3 | Gandhinagar 5* | 6.24 | 3.46 | 3.46 | 2.78 | - | |
| 4 | Wanakbori 1-6 TPS | 37.45 | 55.98 | 55.98 | (18.53) | - | (18.53) |
| 5 | Wanakbori 7* | 6.24 | 3.46 | 3.46 | 2.78 | - | |
| 6 | Sikka TPS | 7.13 | 8.58 | 8.58 | (1.45) | - | (1.45) |
| 7 | KLTPS 1-3 | 6.39 | 3.54 | 3.54 | 2.85 | - | 2.85 |
| 8 | KLTPS 4 | 2.23 | 1.24 | 1.24 | 0.99 | - | 0.99 |
| 9 | Dhuvaran (Gas 1)* | 3.18 | 1.76 | 1.76 | 1.42 | - | |
| 10 | Dhuvaran (Gas 2) | 3.33 | 1.85 | 1.85 | 1.48 | - | 1.48 |
| 11 | Utran Gas* | 4.01 | 2.22 | 2.22 | 1.79 | - | |
| 12 | Utran Extension* | 11.15 | 6.17 | 6.17 | 4.98 | - | |
| 13 | Ukai Hydro | 9.07 | 5.03 | 5.03 | 4.04 | - | 4.04 |
| 14 | Kadana Hydro | 7.19 | 3.99 | 3.99 | 3.20 | - | 3.20 |
| | Total | 148.50 | 183.97 | 183.97 | (35.47) | - | (49.22) |

*PPA based stations

4.7 Approved Fixed Charges

The Commission reviewed the performance of GSECL under Regulations 22 of MYT Regulations 2011 with reference to the audited annual accounts for FY 2011-12.

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 2011-12 in the MYT Order for FY 2011-16 dated 31st March 2011, claimed by GSECL in Truing up are given in the Table 4.50 below.



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Table 4.50: Fixed Charges Approved in the Truing up for FY 2011-12

| Sl. No. | Fixed Charges | Approved for FY 2011-12 in MYT Order | Actual Claimed in Truing up for FY 2011-12 | Approved in Truing up for FY 2011-12 | Deviation + / (-) |
|---------|-----------------------------|--------------------------------------|--|--------------------------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Depreciation | 536.77 | 616.85 | 555.89 | (19.12) |
| 2 | Interest & Finance Charges | 374.81 | 353.87 | 399.63 | (24.82) |
| 3 | Return on Equity | 379.22 | 376.81 | 376.81 | 2.41 |
| 4 | Interest on Working Capital | 173.40 | 249.04 | 215.54 | (42.14) |
| 5 | O&M Expenses | 657.48 | 720.41 | 720.41 | (62.93) |
| 6 | Water Expenses | 94.56 | 93.44 | 93.44 | 1.12 |
| 7 | Income Tax | 25.00 | 43.14 | 43.14 | (18.14) |
| 8 | SLDC Charges | 2.69 | 2.64 | 2.64 | 0.05 |
| 9 | Total Fixed Charges | 2243.93 | 2456.20 | 2407.50 | (163.57) |
| 10 | Less: Non-Tariff Income | 148.50 | 183.97 | 183.97 | 35.47 |
| 11 | Net Fixed Charges | 2095.43 | 2272.23 | 2223.53 | (128.10) |

*PPA based stations

The Fixed charges approved station wise are given in Table 4.51 below:



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Table 4.51: Approved Station-wise Fixed Charges for FY 2011-12

| Sl. No | Power Station | Ukai (1-5) | Gandhi-nagar (1-4) | Gandhi-nagar 5 | Wanakbori 1-6 TPS | Wana-kbori 7 | Sikka TPS | KLTPS 1-3 | KLTPS 4 | Dhuvaran (Gas 1) | Dhuvaran (Gas 2) | Utran Gas | Utran Extension | Ukai Hydro | Kadana Hydro | Total |
|-----------|-----------------------------|---------------|--------------------|----------------|-------------------|--------------|---------------|---------------|---------------|------------------|------------------|--------------|-----------------|--------------|--------------|----------------|
| 1 | Depreciation | 65.36 | 71.02 | 33.80 | 75.55 | 32.21 | 30.14 | 59.55 | 35.48 | 21.50 | 21.50 | 22.98 | 65.66 | 6.10 | 15.04 | 555.89 |
| 2 | Interest & Finance Charges | 54.58 | 42.14 | 0.00 | 60.47 | 0.00 | 17.96 | 54.17 | 46.39 | 4.75 | 12.42 | 3.70 | 90.43 | 3.52 | 9.10 | 399.63 |
| 3 | Return on Equity | 20.31 | 31.68 | 26.80 | 52.48 | 26.01 | 20.47 | 43.30 | 28.50 | 12.61 | 15.13 | 10.60 | 52.91 | 7.99 | 28.02 | 376.81 |
| 4 | Interest on Working Capital | 36.36 | 34.69 | 12.01 | 62.73 | 11.15 | 11.94 | 8.65 | 3.72 | 4.66 | 4.02 | 5.16 | 18.56 | 0.58 | 1.31 | 215.54 |
| 5 | O&M Expenses | 134.24 | 96.52 | 24.59 | 145.50 | 13.97 | 48.80 | 53.90 | 19.39 | 23.77 | 24.30 | 25.87 | 81.84 | 12.63 | 15.09 | 720.41 |
| 6 | Water Charges | 0.00 | 31.53 | 0.00 | 43.94 | 7.62 | 2.51 | 0.69 | 0.00 | 1.22 | 0.00 | 2.40 | 3.53 | 0.00 | 0.00 | 93.44 |
| 7 | SLDC Charges | 0.69 | 0.36 | 0.00 | 0.81 | 0.00 | 0.00 | 0.21 | 0.00 | 0.15 | 0.00 | 0.27 | 0.00 | 0.01 | 0.14 | 2.64 |
| 8 | Income Tax | 2.33 | 3.63 | 3.07 | 6.01 | 2.98 | 2.34 | 4.96 | 3.26 | 1.44 | 1.73 | 1.21 | 6.06 | 0.91 | 3.21 | 43.14 |
| 9 | Total Fixed Cost | 313.87 | 311.57 | 100.27 | 447.49 | 93.94 | 134.16 | 225.43 | 136.74 | 70.10 | 79.10 | 72.19 | 318.99 | 31.74 | 71.91 | 2407.50 |
| 10 | Less Non-Tariff Income | 38.33 | 48.36 | 3.46 | 55.98 | 3.46 | 8.58 | 3.54 | 1.24 | 1.76 | 1.85 | 2.22 | 6.17 | 5.03 | 3.99 | 183.97 |
| 11 | Net Fixed ARR | 275.54 | 263.21 | 96.81 | 391.51 | 90.48 | 125.58 | 221.89 | 135.50 | 68.34 | 77.25 | 69.97 | 312.82 | 26.71 | 67.92 | 2223.53 |



4.8 Sharing of Gains / (Losses) for FY 2011-12

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;*



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- 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 4.52 below:

Table 4.52: Approved Gains / (Losses) due to Controllable Factors for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Gains/(Losses) due to controllable factor | | | Gains / (Losses) to be passed through 1/3 | Gains / (Losses) on account of company 2/3 |
|--------|-------------------|---|--------------|----------------|---|--|
| | | O & M Charges | Fuel Charges | Total | | |
| 1 | Ukai (1-5) | (5.37) | 12.18 | 6.81 | 2.27 | 4.54 |
| 2 | Gandhinagar (1-4) | (5.25) | 22.25 | 17.00 | 5.67 | 11.33 |
| 3 | Gandhinagar 5* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Wanakbori 1-6 TPS | (13.62) | 11.42 | (2.20) | (0.73) | (1.47) |
| 5 | Wanakbori 7* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Sikka TPS | (2.57) | (2.83) | (5.40) | (1.80) | (3.60) |
| 7 | KLTPS 1-3 | 18.57 | (32.20) | (13.63) | (4.54) | (9.09) |
| 8 | KLTPS 4 | (3.17) | (10.32) | (13.49) | (4.50) | (8.99) |
| 9 | Dhuvaran (Gas 1)* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | Dhuvaran (Gas 2) | (6.45) | (0.08) | (6.53) | (2.18) | (4.35) |
| 11 | Utran Gas* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | Utran Extension* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | Ukai Hydro | (1.15) | 0.00 | (1.15) | (0.38) | (0.77) |
| 14 | Kadana Hydro | (1.89) | 0.00 | (1.89) | (0.63) | (1.26) |
| | Total | (20.90) | 0.42 | (20.48) | (6.83) | (13.65) |

*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



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charges, income tax and non-tariff income approved to be passed through to their beneficiaries are given in the Table 4.53 below:

Table 4.53: Approved Gains / (Losses) due to Uncontrollable Factors for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Gain / (loss) due to uncontrollable factor | | | | | | | | Total Gains / (Losses) |
|--------|-------------------|--|--------------------|------------------|-----------------------------|---------------|---------------|----------------|---------------------|------------------------|
| | | Depreciation | Interest & Finance | Return on Equity | Interest on Working Capital | SLDC | Water Charges | Income Tax | Non - Tariff Income | |
| 1 | Ukai (1-5) | (16.20) | (7.86) | (0.43) | (10.54) | (0.23) | 0.00 | (1.33) | 13.06 | (23.53) |
| 2 | Gandhinagar (1-4) | (4.64) | (5.96) | (1.02) | (6.03) | 0.00 | (1.06) | (1.63) | 28.74 | 8.40 |
| 3 | Gandhinagar 5* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Wanakbori 1-6 TPS | (2.02) | (10.66) | 0.09 | (12.55) | (0.13) | (3.37) | (2.01) | 18.53 | (12.12) |
| 5 | Wanakbori 7* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Sikka TPS | (0.10) | (0.81) | (0.17) | (2.87) | 0.13 | 1.38 | (0.34) | 1.45 | (1.33) |
| 7 | KLTPS 1-3 | (1.04) | (15.74) | (0.11) | 2.93 | (0.09) | (0.09) | (1.96) | (2.85) | (18.95) |
| 8 | KLTPS 4 | (0.31) | (4.81) | (0.08) | 5.43 | 0.04 | 0.00 | (2.26) | (0.99) | (2.98) |
| 9 | Dhuvaran (Gas 1)* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | Dhuvaran (Gas 2) | 0.14 | (0.75) | 0.27 | (0.90) | 0.06 | 0.00 | (0.73) | (1.48) | (3.39) |
| 11 | Utran Gas* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | Utran Extension* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | Ukai Hydro | 1.01 | 1.65 | 0.06 | (0.06) | 0.15 | 0.00 | 0.09 | (4.04) | (1.14) |
| 14 | Kadana Hydro | 0.03 | 0.03 | (0.02) | (0.21) | (0.01) | 0.00 | (1.21) | (3.20) | (4.59) |
| | Total | (23.13) | (44.91) | (1.41) | (24.80) | (0.08) | (3.14) | (11.38) | 49.22 | (59.63) |

*PPA based stations

The consolidated Gains / (Losses) approved in the Truing-up for FY 2011-12 are given in the Table 4.54 below:

Table 4.54: Total Consolidated Gains / (Losses) Approved for FY 2011-12

(Rs. crore)

| Sl. No | Power Station | Gain / (loss) of Controllable factors to be passed through | Gain / (loss) of Uncontrollable factors to be passed through | Total Gain/(loss) due to controllable factor and Uncontrollable factor |
|----------|-------------------|--|--|--|
| 1 | 2 | 3 | 4 | 5=3+4 |
| 1 | Ukai (1-5) | 2.27 | (23.53) | (21.26) |
| 2 | Gandhinagar (1-4) | 5.67 | 8.40 | 14.07 |
| 3 | Gandhinagar 5* | 0.00 | 0.00 | 0.00 |
| 4 | Wanakbori 1-6 TPS | (0.73) | (12.12) | (12.85) |
| 5 | Wanakbori 7* | 0.00 | 0.00 | 0.00 |
| 6 | Sikka TPS | (1.80) | (1.33) | (3.13) |



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| Sl. No | Power Station | Gain / (loss) of Controllable factors to be passed through | Gain / (loss) of Uncontrollable factors to be passed through | Total Gain/(loss) due to controllable factor and Uncontrollable factor |
|--------|-------------------|--|--|--|
| 7 | KLTPS 1-3 | (4.54) | (18.95) | (23.49) |
| 8 | KLTPS 4 | (4.50) | (2.98) | (7.48) |
| 9 | Dhuvaran (Gas 1)* | 0.00 | 0.00 | 0.00 |
| 10 | Dhuvaran (Gas 2) | (2.18) | (3.39) | (5.57) |
| 11 | Utran Gas* | 0.00 | 0.00 | 0.00 |
| 12 | Utran Extension* | 0.00 | 0.00 | 0.00 |
| 13 | Ukai Hydro | (0.38) | (1.14) | (1.52) |
| 14 | Kadana Hydro | (0.63) | (4.59) | (5.22) |
| | Total | (6.83) | (59.63) | (66.46) |

*PPA based stations

The Commission thus approves the net loss of Rs. 66.46 crore in the Truing-up for FY 2011-12 and allow GSECL to recover the same in 12 equal monthly instalments from GUVNL.

Further, the Commission directs GSECL to recover the approved gain/loss on account of fixed charges on pro-rata basis for the actual PAF vis-a-vis the approved PAF.

4.9 Miscellaneous Recovery of Rs. 94.86 crores for previous years

Petitioner's Submission

GSECL has submitted that it had requested to recover a total of Rs. 94.86 Crores towards gaps pertaining to the previous order dated 2nd June, 2012 on Truing up for FY 2010-11, on account of Income Tax of Rs. 22.21 Crores, actual interest cost incurred for KLTPS 4 of Rs. 24.05 Crores and the pre-payment charges of Rs.48.60 Crores paid to REC for swapping of loan with commercial banks at cheaper rate, to reduce the interest cost for the loan period for Utran Extension.

Commission's Analysis

Regarding gap of Rs. 22.21 crores on account of Income Tax for FY 2010-11, the same was computed in accordance with the MYT Regulations, 2011 by considering the deviation between amount approved in tariff order and audited figures. Now, if



GSECL has not recovered the Income Tax as approved in the tariff order, then the final recovery of the Income Tax expenses from the beneficiary should be adjusted in line with the amount approved in the truing up exercise for FY 2010-11.

For the Interest cost of Rs. 24.05 crores for KLTPS-4, the Commission had analysed this claim of GSECL in tariff order dated 2nd June, 2012 and not considered the same as this amount is related to „Interest during construction“.

In case of claim of pre-payment charges of Rs. 48.60 crores paid to REC for swapping of loan, the Commission has not considered the same as GSECL has not provided information, about net saving due to swapping of loan, in the petition.



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Annexure 4.1: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Ukai TPS 1 to 5

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|---|--------------------------------|-----------|-----------|
| 1 | Gross Generation | A | MUs | 5617 |
| 2 | Auxiliary Consumption | C | % | 9.00% |
| 3 | Auxiliary Consumption | B | MUs | 506 |
| 4 | Net Generation | $Y=A - B$ | MUs | 5111 |
| 5 | Station Heat Rate | D | KCal/KWH. | 2,770 |
| 6 | Sp. Oil Consumption | E | ml/kWh | 2.00 |
| 7 | Gross Calorific Value of Coal | F | kcal/kg | 3,834 |
| 8 | Calorific value of Oil | G | kcal/l | 10,456 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 15559090 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 117463 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 15441627 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 22.95% |
| 15 | B) Washed Coal | X2 | % | 74.32% |
| 16 | C) Imported Coal | X3 | % | 2.73% |
| 17 | Actual Oil Consumption | $L=A \times E$ | Kl | 11234 |
| 18 | Actual Coal Consumption | $M=(J \times 1000)/F$ | MT | 4027550 |
| 19 | A) Indigenous Coal | $Q1=M^* \times X1/(1-K)$ | MT | 931777 |
| 20 | B) Washed Coal | $Q2=M^* \times X2 / (1-K)$ | MT | 3017415 |
| 21 | C) Imported Coal | $Q3=M^* \times X3$ | MT | 109952.12 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 2526 |
| 24 | B) Washed Coal | P2 | Rs/MT | 2507.00 |
| 25 | C) Imported Coal | P3 | Rs/MT | 8565 |
| 26 | Price of Oil | P4 | Rs/kl | 36974.15 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 23537 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 75647 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 9417 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 108601 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | Rs Lakh | 4154 |
| 33 | Total Fuel Cost | $O=N4 + N5$ | Rs Lakh | 112754 |
| 34 | Fuel Cost/Unit Gross | $P=O/(A \times 10)$ | Rs/kWh | 2.01 |
| 35 | Fuel Cost/Unit Net | $Q=O/(Y \times 10)$ | Rs/kWh | 2.206 |
| 36 | Cost of fuel/G.Cal | $R=(O/H) \times 10^5$ | Rs/Gcal | 725 |
| 37* | Actual net generation | S | MUs | 5093 |
| 38* | Normative fuel cost for actual generation | $T=S \times Q/10$ | Rs. crore | 1123.52 |

* Required for computation of gain/loss.



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Annexure 4.2: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Gandhinagar 1-4

| Sl.No | Item | Derivation | Unit | 2011-12 |
|-------|---|----------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 3876 |
| 2 | Auxiliary Consumption | C | % | 10.00% |
| 3 | Auxiliary Consumption | B | MUs | 388 |
| 4 | Net Generation | $Y = A - B$ | MUs | 3488 |
| 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 | 3,934 |
| 8 | Calorific value of Oil | G | kcal/l | 10,466 |
| 9 | Overall Heat | $H = A \times D$ | G Cal | 10783032 |
| 10 | Heat from Oil | $I = (A \times E \times G)/1000$ | G Cal | 60849 |
| 11 | Heat from Coal | $J = H - I$ | G Cal | 10722183 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 22.83% |
| 15 | B) Washed Coal | X2 | % | 62.08% |
| 16 | C) Imported Coal | X3 | % | 15.09% |
| 17 | Actual Oil Consumption | $L = A \times E$ | kl | 5814 |
| 18 | Actual Coal Consumption | $M = (J \times 1000)/F$ | MT | 2725517 |
| 19 | A) Indigenous Coal | $Q1 = M \times X1/(1-K)$ | MT | 627253 |
| 20 | B) Washed Coal | $Q2 = M \times X2/(1-K)$ | MT | 1705646 |
| 21 | C) Imported Coal | $Q3 = M \times X3$ | MT | 411280 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 4399.43 |
| 24 | B) Washed Coal | P2 | Rs/MT | 2756.45 |
| 25 | C) Imported Coal | P3 | Rs/MT | 7557.05 |
| 26 | Price of Oil | P4 | Rs/kl | 32411.74 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1 = Q1 \times P1$ | Rs Lakh | 27596 |
| 29 | B) Washed Coal | $N2 = Q2 \times P2$ | Rs Lakh | 47015 |
| 30 | C) Imported Coal | $N3 = Q3 \times P3$ | Rs Lakh | 31081 |
| 31 | Total Coal Cost | $N4 = N1 + N2 + N3$ | Rs Lakh | 105692 |
| 32 | Oil Cost | $N5 = P4 \times L/10^5$ | Rs Lakh | 1884 |
| 33 | Total Fuel Cost | $O = N4 + N5$ | Rs Lakh | 107576 |
| 34 | Fuel Cost/Unit Gross | $P = O/(A \times 10)$ | Rs/kWh | 2.78 |
| 35 | Fuel Cost/Unit Net | $Q = O/(Y \times 10)$ | Rs/kWh | 3.084 |
| 36 | Cost of fuel/G.Cal | $R = (O/H) \times 10^5$ | Rs/Gcal | 998 |
| 37* | Actual net generation | S | MUs | 3473 |
| 38* | Normative fuel cost for actual generation | $T = S \times Q/10$ | Rs. crore | 1071.07 |

* Required for computation of gain/loss.



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Annexure 4.3: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Gandhinagar 5

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|-------------------------------|--------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 1611 |
| 2 | Auxiliary Consumption | C | % | 9.00% |
| 3 | Auxiliary Consumption | B | MUs | 145 |
| 4 | Net Generation | $Y=A - B$ | MUs | 1466 |
| 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 | 3,784 |
| 8 | Calorific value of Oil | G | kcal/l | 10,466 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 3963060 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 59013 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 3904047 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 14.49% |
| 15 | B) Washed Coal | X2 | % | 78.62% |
| 16 | C) Imported Coal | X3 | % | 6.89% |
| 17 | Actual Oil Consumption | $L=A \times E$ | kl | 5639 |
| 18 | Actual Coal Consumption | $M=(J \times 1000)/F$ | MT | 1031725 |
| 19 | A) Indigenous Coal | $Q1=M \times X1/(1-K)$ | MT | 150703 |
| 20 | B) Washed Coal | $Q2=M \times X2/(1-k)$ | MT | 817684 |
| 21 | C) Imported Coal | $Q3=M \times X3$ | MT | 71086 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 4394.50 |
| 24 | B) Washed Coal | P2 | Rs/MT | 2752.50 |
| 25 | C) Imported Coal | P3 | Rs/MT | 8095.00 |
| 26 | Price of Oil | P4 | Rs/kl | 32411.74 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 6623 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 22507 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 5754 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 34884 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | Rs Lakh | 1828 |
| 33 | Total Fuel Cost | $O=N4 + N5$ | Rs Lakh | 36711 |
| 34 | Fuel Cost/Unit Gross | $P=O/(A \times 10)$ | Rs/kWh | 2.28 |
| 35 | Fuel Cost/Unit Net | $Q=O/(Y \times 10)$ | Rs/kWh | 2.50 |
| 36 | Cost of fuel/G.Cal | $R=(O/H) \times 10^5$ | Rs/Gcal | 926 |



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Annexure 4.4: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Wanakbori 1-6

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|---|--------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 8718 |
| 2 | Auxiliary Consumption | C | % | 9.00% |
| 3 | Auxiliary Consumption | B | MUs | 785 |
| 4 | Net Generation | $Y=A - B$ | MUs | 7933 |
| 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 | 3,645 |
| 8 | Calorific value of Oil | G | kcal/l | 10,486 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 22884750 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 91417 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 22793333 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 27.74% |
| 15 | B) Washed Coal | X2 | % | 71.23% |
| 16 | C) Imported Coal | X3 | % | 1.03% |
| 17 | Actual Oil Consumption | $L=A \times E$ | kl | 8718 |
| 18 | Actual Coal Consumption | $M=(J \times 1000)/F$ | MT | 6253315 |
| 19 | A) Indigenous Coal | $Q1=M^* \times X1/(1-K)$ | MT | 1748659 |
| 20 | B) Washed Coal | $Q2=M^* \times X2/(1-K)$ | MT | 4490158 |
| 21 | C) Imported Coal | $Q3=M^* \times X3$ | MT | 64409 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 4102.00 |
| 24 | B) Washed Coal | P2 | Rs/MT | 2754.20 |
| 25 | C) Imported Coal | P3 | Rs/MT | 8053.00 |
| 26 | Price of Oil | P4 | Rs/kl | 35600.52 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 71730 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 123668 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 5187 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 200585 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | Rs Lakh | 3104 |
| 33 | Total Fuel Cost | $O=N4 + N5$ | Rs Lakh | 203688 |
| 34 | Fuel Cost/Unit Gross | $P=O/(A*10)$ | Rs/kWh | 2.34 |
| 35 | Fuel Cost/Unit Net | $Q=O/(Y*10)$ | Rs/kWh | 2.568 |
| 36 | Cost of fuel/G.Cal | $R=(O/H)*10^5$ | Rs/Gcal | 890 |
| 37* | Actual net generation | S | MUs | 7946 |
| 38* | Normative fuel cost for actual generation | $T=S*Q/10$ | Rs. crore | 2040.53 |

* Required for computation of gain/loss.



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Annexure 4.5: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Wanakbori 7

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|-------------------------------|--------------------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 1563 |
| 2 | Auxiliary Consumption | C | % | 9.00% |
| 3 | Auxiliary Consumption | B | MUs | 141 |
| 4 | Net Generation | $Y=A - B$ | MUs | 1422 |
| 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 | 3,647 |
| 8 | Calorific value of Oil | G | kcal/l | 10,486 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 3844980 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 57364 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 3787616 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 28.81% |
| 15 | B) Washed Coal | X2 | % | 70.61% |
| 16 | C) Imported Coal | X3 | % | 0.58% |
| 17 | Actual Oil Consumption | $L=A \times E$ | kl | 5471 |
| 18 | Actual Coal Consumption | $M=(J \times 1000)/F$ | MT | 1038557 |
| 19 | A) Indigenous Coal | $Q1=M^* \times X1/(1-K)$ | MT | 301621 |
| 20 | B) Washed Coal | $Q2=M^* \times X2/(1-K)$ | MT | 739239 |
| 21 | C) Imported Coal | $Q3=M^* \times X3$ | MT | 6024 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 4100 |
| 24 | B) Washed Coal | P2 | Rs/MT | 2674 |
| 25 | C) Imported Coal | P3 | Rs/MT | 7948 |
| 26 | Price of Oil | P4 | Rs/kl | 30487.8 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 12366 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 19767 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 479 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 32612 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | Rs Lakh | 1668 |
| 33 | Total Fuel Cost | $O=N4 + N5$ | Rs Lakh | 34280 |
| 34 | Fuel Cost/Unit Gross | $P=O/(A*10)$ | Rs/kWh | 2.19 |
| 35 | Fuel Cost/Unit Net | $Q=O/(Y*10)$ | Rs/kWh | 2.41 |
| 36 | Cost of fuel/G.Cal | $R=(O/H)*10^5$ | Rs/Gcal | 892 |



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Annexure 4.6: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - Sikka TPS

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|---|--------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 977 |
| 2 | Auxiliary Consumption | C | % | 11.00% |
| 3 | Auxiliary Consumption | B | MUs | 107 |
| 4 | Net Generation | $Y=A - B$ | MUs | 870 |
| 5 | Station Heat Rate | D | KCal/KWH. | 3,040 |
| 6 | Sp. Oil Consumption | E | ml/kWh | 4.00 |
| 7 | Gross Calorific Value of Coal | F | kcal/kg | 3,497 |
| 8 | Calorific value of Oil | G | kcal/l | 10,240 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 2970080 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 40018 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 2930062 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | Coal Blend | | | |
| 14 | A) Indigenous Coal | X1 | % | 35.60% |
| 15 | B) Washed Coal | X2 | % | 64.40% |
| 16 | C) Imported Coal | X3 | % | 0.00% |
| 17 | Actual Oil Consumption | $L=A \times E$ | kl | 3908 |
| 18 | Actual Coal Consumption | $M=(J \times 1000)/F$ | MT | 837879 |
| 19 | A) Indigenous Coal | $Q1=M^* \times X1/(1-K)$ | MT | 300690 |
| 20 | B) Washed Coal | $Q2=M^* \times X2/(1-K)$ | MT | 543945 |
| 21 | C) Imported Coal | $Q3=M^* \times X3$ | MT | 0 |
| 22 | Price of Coal | | | |
| 23 | A) Indigenous Coal | P1 | Rs/MT | 5436.50 |
| 24 | B) Washed Coal | P2 | Rs/MT | 3018.00 |
| 25 | C) Imported Coal | P3 | Rs/MT | 0.00 |
| 26 | Price of Oil | P4 | Rs/kl | 48794.49 |
| 27 | Coal cost | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 16347 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 16416 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 0 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 32763 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | Rs Lakh | 1907 |
| 33 | Total Fuel Cost | $O=N4 + N5$ | Rs Lakh | 34670 |
| 34 | Fuel Cost/Unit Gross | $P=O/(A^*10)$ | Rs/kWh | 3.55 |
| 35 | Fuel Cost/Unit Net | $Q=O/(Y^*10)$ | Rs/kWh | 3.985 |
| 36 | Cost of fuel/G.Cal | $R=(O/H)^*10^5$ | Rs/Gcal | 1167 |
| 37* | Actual net generation | S | MUs | 851 |
| 38* | Normative fuel cost for actual generation | $T=S^*Q/10$ | Rs. crore | 339.12 |

* Required for computation of gain/loss.



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Annexure 4.7: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - KLTPS 1-3

| Sl.No | Item | Derivation | Unit | 2011-12 |
|-------|---|--------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 1165 |
| 2 | Auxiliary Consumption | C | % | 12.00% |
| 3 | Auxiliary Consumption | B | MUs | 140 |
| 4 | Net Generation | $Y=A - B$ | MUs | 1025 |
| 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 | 2,852 |
| 8 | Calorific value of Oil | G | kcal/l | 10,435 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 3844500 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 36470 |
| 11 | Heat from Lignite | $J=H-I$ | G Cal | 3808030 |
| 12 | Transit losses | K | % | 0.20% |
| 13 | Actual Oil Consumption | $L=A \times E$ | Kl | 3495 |
| 14 | Actual Lignite Coal Consumption | $M=(J \times 1000)/F$ | MT | 1335214 |
| 15 | Coal Consumption including Transit Loss | $N=M/(1-K)$ | MT | 1337890 |
| 16 | Price of Lignite | P1 | Rs/MT | 1052.37 |
| 17 | Price of Oil | P2 | Rs/kl | 45312.94 |
| 18 | Cost of Lignite | $N1=M \times P1$ | Rs Lakh | 14051 |
| 19 | Oil Cost | $N2=P2 \times L/10^5$ | Rs Lakh | 1584 |
| 20 | Total Fuel Cost | $O=N1 + N2$ | Rs Lakh | 15635 |
| 21 | Fuel Cost/Unit Gross | $P=O/(A \times 10)$ | Rs/kWh | 1.34 |
| 22 | Fuel Cost/Unit Net | $Q=O/(Y \times 10)$ | Rs/kWh | 1.525 |
| 23 | Cost of fuel/G.Cal | $R=(O/H) \times 10^5$ | Rs/Gcal | 407 |
| 24* | Actual net generation | S | MUs | 994 |
| 25* | Normative fuel cost for actual generation | $T=S \times Q/10$ | Rs. crore | 151.59 |

* Required for computation of gain/loss.



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Annexure 4.8: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Coal, Lignite & Secondary Oil) - KLTPS 4

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|---|--------------------------------|-----------|----------|
| 1 | Gross Generation | A | MUs | 358 |
| 2 | Auxiliary Consumption | C | % | 12.00% |
| 3 | Auxiliary Consumption | B | MUs | 43 |
| 4 | Net Generation | $Y=A - B$ | MUs | 315 |
| 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 | 2,852 |
| 8 | Calorific value of Oil | G | kcal/l | 10,435 |
| 9 | Overall Heat | $H=A \times D$ | G Cal | 1074000 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 11207 |
| 11 | Heat from Lignite | $J=H-I$ | G Cal | 1062793 |
| 12 | Transit losses | K | % | 0.20% |
| 13 | Actual Oil Consumption | $L=A \times E$ | kl | 1074 |
| 14 | Actual Lignite Coal Consumption | $M=(J \times 1000)/F$ | MT | 372648 |
| 15 | Coal Consumption including Transit Loss | $N=M/(1-K)$ | MT | 373395 |
| 16 | Price of Lignite | P1 | Rs/MT | 1045.82 |
| 17 | Price of Oil | P2 | Rs/kl | 45420.14 |
| 18 | Cost of Lignite | $N1=M \times P1$ | Rs Lakh | 3897 |
| 19 | Oil Cost | $N2=P2 \times L/10^5$ | Rs Lakh | 488 |
| 20 | Total Fuel Cost | $O=N1 + N2$ | Rs Lakh | 4385 |
| 21 | Fuel Cost/Unit Gross | $P=O/(A \times 10)$ | Rs/kWh | 1.22 |
| 22 | Fuel Cost/Unit Net | $Q=O/(Y \times 10)$ | Rs/kWh | 1.392 |
| 23 | Cost of fuel/G.Cal | $R=(O/H) \times 10^5$ | Rs/Gcal | 408 |
| 24* | Actual net generation | S | MUs | 282 |
| 25* | Normative fuel cost for actual generation | $T=S \times Q/10$ | Rs. crore | 39.25 |

* Required for computation of gain/loss.



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Annexure 4.9: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Gas) - Dhuvaran Gas 1

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|------------------------|-----------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 554 |
| 2 | Auxiliary Consumption | C | % | 3.33% |
| 3 | Auxiliary Consumption | B | MUs | 18 |
| 4 | Net Generation | $Y=A - B$ | MUs | 536 |
| 5 | Station Heat Rate | D | KCal/KWH. | 1,950 |
| 6 | Calorific value of Gas | F | kcal/scm | 9,600 |
| 7 | Overall Heat from Gas | $H=A \times D$ | G Cal | 1080300 |
| 8 | Actual Gas Consumption | $M=(H \times 1000)/F$ | M. scm | 112531 |
| 9 | Price of Gas | P1 | Rs/scm | 12.52 |
| 10 | Cost of Gas | $N5=P1 \times M/10^5$ | Rs Lakh | 14089 |
| 11 | Total Fuel Cost | N5 | Rs Lakh | 14089 |
| 12 | Fuel Cost/Unit Gross | $P=N5/(A*10)$ | Rs/kWh | 2.54 |
| 13 | Fuel Cost/Unit Net | $Q=N5/(Y*10)$ | Rs/kWh | 2.63 |
| 14 | Cost of fuel/G.Cal | $R=(N5/H)*10^5$ | Rs/Gcal | 1304 |



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Annexure 4.10: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Gas) - Dhuvaran Gas 2

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|---|----------------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 454 |
| 2 | Auxiliary Consumption | C | % | 3.00% |
| 3 | Auxiliary Consumption | B | MUs | 14 |
| 4 | Net Generation | $Y = A - B$ | MUs | 440 |
| 5 | Station Heat Rate | D | KCal/KWH. | 1,950 |
| 6 | Calorific value of Gas | F | kcal/scm | 9,582 |
| 7 | Overall Heat from Gas | $H = A \times D$ | G Cal | 885300 |
| 8 | Actual Gas Consumption | $M = (H \times 1000) / F$ | M. scm | 92392 |
| 9 | Price of Gas | P1 | Rs/scm | 11.65 |
| 10 | Cost of Gas | $N5 = P1 \times M / 10^2$ | Rs Lakh | 10764 |
| 11 | Total Fuel Cost | N5 | Rs Lakh | 10764 |
| 12 | Fuel Cost/Unit Gross | $P = N5 / (A \times 10)$ | Rs/kWh | 2.37 |
| 13 | Fuel Cost/Unit Net | $Q = N5 / (Y \times 10)$ | Rs/kWh | 2.446 |
| 14 | Cost of fuel/KCal | $R = (N5 / H) \times 10^5$ | Rs/Gcal | 1216 |
| 15* | Actual net generation | S | MUs | 434 |
| 16* | Normative fuel cost for actual generation | $T = S \times Q / 10$ | Rs. crore | 106.16 |

* Required for computation of gain/loss.



Annexure 4.11: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Gas) - Utran Gas

| Sl.No. | Item | Derivation | Unit | 2011-12 |
|--------|------------------------|----------------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 562 |
| 2 | Auxiliary Consumption | C | % | 5.29% |
| 3 | Auxiliary Consumption | B | MUs | 30 |
| 4 | Net Generation | $Y = A - B$ | MUs | 532 |
| 5 | Station Heat Rate | D | KCal/KWH. | 2,150 |
| 6 | Calorific value of Gas | F | kcal/scm | 9,415 |
| 7 | Overall Heat from Gas | $H = A \times D$ | G Cal | 1208300 |
| 8 | Actual Gas Consumption | $M = (H \times 1000) / F$ | M. scm | 128338 |
| 9 | Price of Gas | P1 | Rs/scm | 13.03 |
| 10 | Cost of Gas | $N5 = P1 \times M / 10^5$ | Rs Lakh | 16722 |
| 11 | Total Fuel Cost | N5 | Rs Lakh | 16722 |
| 12 | Fuel Cost/Unit Gross | $P = N5 / (A \times 10)$ | Rs/kWh | 2.98 |
| 13 | Fuel Cost/Unit Net | $Q = N5 / (Y \times 10)$ | Rs/kWh | 3.14 |
| 14 | Cost of fuel/G.Cal | $R = (N5 / H) \times 10^5$ | Rs/Gcal | 1384 |



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Annexure 4.12: Approved Fuel costs for FY 2011-12 for True-up

Fuel costs (Gas) - Utran Extension

| Sl.No | Item | Derivation | Unit | 2011-12 |
|-------|------------------------|------------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 2426 |
| 2 | Auxiliary Consumption | C | % | 3.00% |
| 3 | Auxiliary Consumption | B | MUs | 73 |
| 4 | Net Generation | $Y=A - B$ | MUs | 2353 |
| 5 | Capacity | | MW | 375 |
| 6 | Station Heat Rate | D | KCal/KWH. | 1,850 |
| 7 | Calorific value of Gas | F | kcal/scm | 9,415 |
| 8 | Overall Heat from Gas | $H=A \times D$ | G Cal | 4488100 |
| 9 | Actual Gas Consumption | $M=(H \times 1000)/F$ | M. scm | 476697 |
| 10 | Price of Gas | P1 | Rs/scm | 12.14 |
| 11 | Cost of Gas | $N5=P1 \times M/10^5$ | Rs Lakh | 57871 |
| 12 | Total Fuel Cost | N5 | Rs Lakh | 57871 |
| 13 | Fuel Cost/Unit Gross | $P=N5/(A \times 10)$ | Rs/kWh | 2.39 |
| 14 | Fuel Cost/Unit Net | $Q=N5/(Y \times 10)$ | Rs/kWh | 2.46 |
| 15 | Cost of fuel/G.Cal | $R=(N5/H) \times 10^5$ | Rs/Gcal | 1289 |



5. Determination of Generation Charges for FY 2013-14

5.1 Introduction

This Chapter deals with the determination of the Generation Charges (Fixed charges and Variable charges) for FY 2013-14 for GSECL.

The fixed charges and variable charges approved for FY 2013-14 in the MYT order are as given below:

Table 5.1: Fixed and variable charges approved for FY 2013-14 for the existing stations in the MYT order

| Sl. No | Power Station | Approved Net Fixed Charges for FY 2013-14 (Rs. crore) | Approved Energy Fixed Charges for FY 2013-14 (Rs. /kWh) |
|--------|-------------------|---|---|
| 1 | Ukai (1-5) | 319.92 | 1.704 |
| 2 | Gandhinagar (1-4) | 265.17 | 2.375 |
| 3 | Gandhinagar 5* | 99.27 | 2.130 |
| 4 | Wanakbori 1-6 TPS | 453.98 | 2.108 |
| 5 | Wanakbori 7* | 96.60 | 2.022 |
| 6 | Sikka TPS | 121.50 | 2.760 |
| 7 | KLTPS 1-3 | 222.20 | 1.181 |
| 8 | KLTPS 4 | 124.03 | 1.109 |
| 9 | Dhuvaran (Gas 1)* | 49.94 | 2.411 |
| 10 | Dhuvaran (Gas 2) | 65.37 | 2.388 |
| 11 | Utran Gas* | 53.96 | 2.367 |
| 12 | Utran Extension* | 273.52 | 2.071 |
| 13 | Ukai Hydro | 24.86 | - |
| 14 | Kadana Hydro | 59.49 | - |
| | Total | 2229.81 | |

The Commission has considered the ARR approved in the MYT order dated 11th April, 2011 for FY 2013-14, while determining the generation tariff for FY 2013-14 for existing stations.



5.2 Generation charges for new power stations viz., Ukai-6 and Dhuvaran CCPP-3

Ukai-6 power station is expected to start the commercial operation during FY 2013-14. Dhuvaran CCPP-3 is expected to be commissioned during FY 2013-14. The determination of fixed charges and variable charges for these power stations are discussed below:

5.2.1 Tariff for Ukai-6 Generating station for FY 2013-14

5.2.2 Fixed Charges

Petitioner's Submission

GSECL has submitted that Ukai-6 generating station of 500 MW was synchronized successfully on 1st October, 2012 and the unit will be operational for the whole period of FY 2013-14. GSECL has accordingly projected the variable charges and fixed charges for Ukai-6 for FY 2013-14. The fixed charges proposed for Ukai-6 are as given in the Table 5.2 below:

Table 5.2: Proposed fixed charges for Ukai – 6 for FY 2013-14

| (Rs. crore) | | |
|----------------|-----------------------------|---------------|
| Sl. No. | Particulars | Amount |
| 1 | O&M Expenses | 73.07 |
| 2 | Depreciation | 135.59 |
| 3 | Interest & Finance Charges | 236.05 |
| 4 | Return on Equity | 91.16 |
| 5 | Interest on Working Capital | 31.18 |
| 6 | Tax (MAT) | 18.24 |
| 7 | SLDC Charges | 0.27 |
| | Total | 585.56 |

The fixed charges are discussed as under components wise.

Operations & Maintenance (O&M) Charges

Petitioner's Submission

GSECL has projected the O&M Charges for FY 2013-14 at Rs. 73.07 crore by considering escalation of 5.72% over the approved, normalized O&M expenses of Rs. 69.12 crore for FY 2012-13.



Commission's Analysis

GSECL claim of Rs. 73.07 crore towards O&M charges for Ukai-6 for FY 2013-14 is in accordance with the MYT Regulations, 2011 and the Commission approves the O&M charges at Rs. 73.07 crore.

Capitalization and Funding

GSECL has submitted the expected project cost at the end of FY 2013-14 as Rs. 2770 crore thus increasing the cost of the project by Rs. 404 crore during FY 2013-14.

Commission's Analysis

The Commission had provisionally approved the project cost of Ukai-6 at Rs. 2366 crore and the debt at Rs. 1775 crore and equity at Rs. 591 crore in the tariff order for FY 2012-13. As the generating station has not become operational during FY 2012-13, the Commission now provisionally considers the capitalization of Rs. 2770.00 crore during FY 2013-14. Out of Rs. 2770.00 crores, the Commission considered Rs. 711.30 crores funded through equity and Rs. 2058.70 crores funded through debt, as submitted by GSECL, as it is in accordance with the provisions of MYT Regulations, 2011 (Regulation 34.1).

Depreciation

Petitioner's Submission

GSECL has claimed Rs. 135.59 crore towards depreciation for FY 2013-14 at 5.28% rate of depreciation on closing GFA of Rs. 2770 crore as detailed in the Table 5.3 below:

Table 5.3: Depreciation claimed for Ukai-6 for FY 2013-14

| (Rs. crore) | | |
|---------------|--------------------------|---------------|
| Sl. No | Particulars | Amount |
| 1 | GFA in Beginning of Year | 2,366 |
| 2 | Capital Addition | 404 |
| 3 | Deduction | 0 |
| 4 | Closing GFA | 2,770 |
| 5 | Rate of Depreciation | 5.28% |
| 6 | Depreciation | 135.59 |

Commission's Analysis

The opening GFA for FY 2013-14 is nil as the generating station Ukai-6, though it was synchronized on 1st October, 2012, has not yet become operational in the FY



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2012-13 and the entire capital cost Rs. 2770 crore is proposed to be capitalized in FY 2013-14. The Commission has computed the depreciation as detailed in the Table 5.4 below:

Table 5.4: Approved depreciation of Ukai-6 for FY 2013-14

| (Rs. crore) | | |
|-------------|---------------------------|---------|
| Sl. No. | Particulars | Amount |
| 1 | Opening GFA | 0 |
| 2 | Capitalization | 2770.00 |
| 3 | Deduction | 0 |
| 4 | Closing GFA | 2770.00 |
| 5 | Average GFA | 1385.00 |
| 6 | Rate of Depreciation | 5.28% |
| 7 | Depreciation for the year | 73.13 |

The Commission provisionally approves the depreciation at Rs. 73.13 crore for FY 2013-14.

Interest & Finance charges

Petitioner's Submission

GSECL has claimed Rs. 236.05 crore towards interest & finance charges based on the actual loan availed and the repayment schedule for Ukai – 6 for FY 2013-14. GSECL has also submitted that PFC has sanctioned additional term loan of Rs. 284 crore and the same is considered for tariff. The details are as given in the Table 5.5 below:

Table 5.5: Interest & Finance charges claimed for Ukai – 6 for FY 2013-14

| (Rs. crore) | | |
|-------------|---|---------------|
| Sl. No. | Particulars | Amount |
| 1 | Opening Loans | 2058.70 |
| 2 | Loan Additions during the Year | 0 |
| 3 | Repayment during the Year | 102.94 |
| 4 | Closing Loans | 1955.77 |
| 5 | Average Loans | 2007.23 |
| 6 | Interest on Loan | 236.05 |
| 7 | Guarantee Charges | 0 |
| 8 | Total Interest & Financial Charges | 236.05 |



Commission's Analysis

The Commission has observed that GSECL has claimed the interest & finance charges based on actual loan portfolio and repayment as per schedules. The Commission has recomputed interest and finance charges taking into consideration the proposed loan of Rs. 2058.70 crore for FY 2013-14 and considering the repayment equivalent to the depreciation approved for the year. The rate of interest claimed by GSECL worked out to 11.76% and this is considered for computation of interest. The details are given in the Table 5.6 below:

Table 5.6: Approved Interest & Finance charges for Ukai-6 for FY 2013-14

| (Rs. crore) | | |
|-------------|---------------------------|---------|
| Sl. No. | Particulars | Amount |
| 1 | Opening Loans | 0.00 |
| 2 | Additions during the Year | 2058.70 |
| 3 | Repayment | 73.13 |
| 4 | Closing loan | 1985.57 |
| 5 | Average loan | 992.79 |
| 6 | Rate of interest | 11.76% |
| 7 | Interest for the year | 116.75 |

The Commission provisionally approves interest and finance charges of Rs. 116.75 crore for FY 2013-14

Return on Equity

Petitioner's Submission

GSECL has claimed Rs. 91.16 crore as return on equity at 14% on the average equity as detailed in the Table 5.7 below:

Table 5.7: Return on Equity claimed for Ukai-6 for FY 2013-14

| (Rs. crore) | | |
|-------------|---------------------------|--------------|
| Sl. No. | Particulars | Amount |
| 1 | Opening Equity | 591.00 |
| 2 | Additions during the year | 120.30 |
| 3 | Closing Equity | 711.30 |
| 4 | Average Equity | 651.15 |
| 5 | Rate of Return on Equity | 14% |
| 6 | Return on Equity | 91.16 |



Commission's Analysis

The Commission has computed the return on equity taking into consideration the opening equity as nil and the equity addition of Rs.711.30 crore during FY 2013-14 as detailed in the Table 5.8 below:

Table 5.8: Approved Return on Equity for Ukai – 6 for FY 2013-14

(Rs. crore)

| Sl. No. | Particulars | Amount |
|---------|---------------------------|--------|
| 1 | Opening Equity | 0 |
| 2 | Additions during the year | 711.30 |
| 3 | Closing Equity | 711.30 |
| 4 | Average Equity | 355.65 |
| 5 | Return on Equity @ 14% | 49.79 |

The Commission provisionally approves the return on equity at Rs. 49.79 crore in respect of Ukai-6 for FY 2013-14.

Interest on Working Capital

Petitioner's Submission

GSECL has claimed Rs. 31.18 crore as interest on working capital as detailed Table 5.9 below:

Table 5.9: Interest on Working capital claimed for Ukai – 6 for FY 2013-14

(Rs. crore)

| Sl. No. | Particulars | Amount |
|---------|------------------------------------|--------------|
| 1 | Coal Cost (1.5 months) | 73.63 |
| 2 | Sec Fuel Cost (2 Months) | 0.80 |
| 3 | O&M Expenses (1.5 Month) | 9.13 |
| 4 | Maintenance Spares | 29.12 |
| 5 | Receivable (1 Month) | 98.69 |
| 6 | Total Working Capital | 211.37 |
| 7 | Rate of Interest | 14.75% |
| 8 | Interest on Working Capital | 31.18 |

Commission's Analysis

The Commission has computed the working capital and interest on thereon as per MYT Regulations as detailed in Table 5.10 below:



Table 5.10: Approved Interest on Working capital for Ukai – 6 for FY 2013-14

| | | (Rs. crore) |
|----------------|------------------------------------|---------------|
| Sl. No. | Particulars | Amount |
| 1 | Coal Cost (1.5 months) | 72.41 |
| 2 | Sec Fuel Cost (1 Month) | 0.80 |
| 3 | O&M Expenses (1 Month) | 6.09 |
| 4 | Maintenance Spares | 13.85 |
| 5 | Receivable (1 Month) | 76.82 |
| 6 | Total Working Capital | 169.97 |
| 7 | Rate of Interest | 11.75% |
| 8 | Interest on Working Capital | 19.97 |

SLDC Charges

Petitioner's Submission

GSECL has claimed Rs. 0.27 crore towards SLDC charges projected at Rs. 0.27 crore computed based on the prevailing SLDC fees of Rs. 320 /MW/ Half year and charges of Rs. 400 / MW / month.

Commission's Analysis

The Commission recently approved the SLDC charges for the FY 2013-14 and accordingly computed the SLDC charges as Rs. 0.24 crores.

Income-Tax for FY 2013-14

Petitioner's Submission

GSECL has projected the Tax (MAT) at Rs. 18.24 crore applying a MAT rate of 20.01% for Ukai -6 for FY 2013-14.

Commission's Analysis

Regulation 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. As the generating station is yet to be commissioned the tax provision proposed by GSECL is not considered for FY 2013-14.

Non-Tariff income

Petitioner's Submission

GSECL has not projected any non-tariff income in respect of Ukai – 6 for FY 2013-14

Commission's Analysis

GSECL has not projected any non-tariff income for the generating station, therefore, the non-tariff income is considered nil for FY 2013-14.

On the basis of analysis of different components of fixed charges, the Commission provisionally approves the fixed charges for Ukai -6 for FY 2013-14 as detailed in the Table 5.11 below:

Table 5.11: Approved Fixed Charges for Ukai-6 for FY 2013-14

| (Rs. crore) | | |
|-------------|-----------------------------|---------------|
| Sl. No. | Particulars | Amount |
| 1 | O&M Expenses | 73.07 |
| 2 | Depreciation | 73.13 |
| 3 | Interest & Finance Charges | 116.75 |
| 4 | Return on Equity | 49.79 |
| 5 | Interest on Working Capital | 19.97 |
| 6 | Tax (MAT) | 0 |
| 7 | SLDC Charges | 0.24 |
| 8 | Total | 332.95 |
| 9 | Less: Non-tariff income | 0 |
| 10 | Net Fixed charges | 332.95 |

The Commission will revisit the provisionally approved fixed charges for FY 2013-14 when the details of actual capital expenditure will be made available to the Commission.

5.2.3 Variable charges

Petitioner's Submission

GSECL projected the performance parameters as per norms and cost parameters as approved by the Commission in the Tariff order dated 2nd June, 2012 for the year 2012-13 for arriving at the energy charges for FY 2013-14, for the Ukai -6 station.

The different parameters projected are given in the Table 5.12 below:



Table 5.12: Parameters Projected for Ukai-6 for FY 2013-14

| Sl. No | Parameters | Unit | Value |
|--------|-------------------------------|------------|-------|
| 1 | Plant Availability Factor | % | 85 |
| 2 | Plant Load Factor | % | 85 |
| 3 | Auxiliary Consumption | % | 8.5 |
| 4 | Station Heat Rate | Kcal / Kwh | 2425 |
| 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 at Rs. 1.757 / kWh net.

Commission's Analysis

In the tariff order for FY 2012-13, the Commission provisionally approved the SHR for Ukai-6 at 2425 KCal/kWh with a directive to GSECL to furnish the design heat rate of the unit, Max Turbine Cycle Heat Rate (KCal/kWh) and minimum boiler efficiency for Sub-Bituminous Indian Coal. The Commission also provisionally approved the auxiliary energy consumption to this Unit at 8.50% as claimed by GSECL with a directive to GSECL to clarify whether the boiler feed pumps of the plant are steam driven or electrically driven.

In compliance to the directive given by the Commission, the GSECL clarified that the Gross Heat Rate at 100% STG MCR is 2240 KCal/kWh and boiler efficiency at 100% BMCR is 86.53%.

As per the MYT Regulations, 2011 (Regulation 54.3) the SHR for new coal based thermal generating stations is 1.065xDesign Heat Rate. Accordingly, the Commission considers the SHR for Ukai-6 at 2385 KCal/kWh.

The GSECL also clarified that there is one Motor Driven Boiler Feed Pump (MDBFP) and two Steam Driven Boiler Feed Pumps (SDBFP). The MDBFP shall be in service for start-up of the Unit and SDBFPs will come into service one after another after attaining 250 MW load. At full load the two SDBFPs shall be in service and the MDBFP shall remain at standby.



Accordingly, the Commission considers the Auxiliary Consumption at 6.00% as per MYT Regulations, 2011 (Table 9 of Regulation 54.6).

The other parameters projected by GSECL are as per MYT Regulations, 2011 and so the Commission considers the same.

The Commission approves the fuel cost for Ukai-6 station based on the above discussed parameters. 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 calculation for arriving costs at the costs are given in Annexure 5.1.

5.2.4 Tariff for Dhuvaran CCPP-3 station for FY 2013-14

5.2.5 Fixed Charges

Petitioner's Submission

GSECL has submitted that Dhuvaran CCPP-3 unit of 375 MW is scheduled to be Commissioned on 9th September, 2013. The unit will be operational for the period from 9th September, 2013 to 31st March, 2014 of FY 2013-14. GSECL has proposed the fixed charges of Dhuvaran CCPP -3 for FY 2013-14 as detailed in the Table 5.13 below:

Table 5.13: Proposed fixed charges for Dhuvaran CCPP-3 for FY 2013-14

| | | (Rs. crore) |
|----------------|-----------------------------|---------------|
| Sl. No. | Particulars | Amount |
| 1 | O&M Expenses | 38.75 |
| 2 | Depreciation | 42.05 |
| 3 | Interest & Finance Charges | 58.54 |
| 4 | Return on Equity | 33.45 |
| 5 | Interest on Working Capital | 12.39 |
| 6 | Tax (MAT) | 6.69 |
| 7 | SLDC Charges | 0.11 |
| | Total | 191.99 |



Operation and Maintenance (O&M) Expenses

Petitioner's Submission

GSECL has submitted that O&M expenses of Dhuvaran CCPP -3 for FY 2013-14 are estimated on the normative expenses of Rs 18.49 lakhs / MW applicable for FY 2013-14. Based on this O&M expenses are projected at Rs. 38.75 crore on pro-rata basis for the period from 9th September, 2013 to 31st March, 2014.

Commission's Analysis

The O&M expenses claimed by GSECL for Dhuvaran CCPP-3 of 375 MW are in accordance with provisions of MYT Regulations, 2011. The Commission accordingly, approves the O&M expenses at Rs. 38.75 crore on pro-rata basis for the period from 9th September 2013 to 31st March 2014.

Capital Cost

GSECL has projected the capital cost at Rs. 1275 crore at the beginning of FY 2013-14 and capital addition of Rs. 300 crore during FY 2013-14.

Commission's Analysis

The Commission provisionally approves the capital cost of Dhuvaran CCPP-3 at Rs. 1575 crore.

Depreciation

Petitioner's Submission

GSECL has submitted that it has projected the depreciation considering the opening balance of GFA at Rs. 1275 crore for FY 2013-14 and calculated the depreciation on pro-rata basis for the period from 9th September, 2013 to 31st March, 2014. The details are as given in the Table 5.14 below:

Table 5.14: Depreciation claimed for Dhuvaran CCPP-3 for FY 2013-14

| (Rs. crore) | | |
|----------------|--------------------------|---------------|
| Sl. No. | Parameter | Amount |
| 1 | GFA in Beginning of Year | 1,275 |
| 2 | Capital Addition | 300 |
| 3 | Deduction | 0 |
| 4 | Closing GFA | 1,575 |
| 5 | Rate of Depreciation | 5.28% |
| 6 | Depreciation | 42.05 |



Commission's Analysis

The Dhuvaran CCPP-3 is likely to be Commissioned on 9th September, 2013, therefore the opening GFA for the plant is Nil. The Commission has computed the average assets and depreciation as detailed Table 5.15 below.

Table 5.15: Approved Depreciation for Dhuvaran CCPP-3 for FY 2013-14

(Rs. crore)

| Sl. No. | Parameter | Amount |
|---------|--|--------------|
| 1 | Opening GFA | 0 |
| 2 | Addition during the year | 1575 |
| 3 | Deduction | 0 |
| 4 | Closing GFA | 1,575 |
| 5 | Average GFA | 787.50 |
| 6 | Rate of Depreciation | 5.28% |
| 7 | Depreciation for the year on pro-rata basis | 23.24 |

The Commission provisionally approves the depreciation at Rs. 23.24 crore for FY 2013-14.

Interest & Finance charges

Petitioner's Submission

GSECL has claimed Rs. 58.54 crore as interest and finance charges based on the normative debt equity of 70:30 at an interest rate of 10.5% (Base rate). The interest and finance charges are calculated on pro-rata basis for the period from 9th September, 2013 to 31st March, 2014. The details are as given in the Table 5.16 below:

Table 5.16: Projected Interest & Finance Charges of Dhuvaran CCPP -3 for FY 2013-14

(Rs. crore)

| Sl. No. | Particulars | Amount |
|---------|---|--------------|
| 1 | Opening Loans | 892.50 |
| 2 | Loan Additions during the Year | 210.00 |
| 3 | Repayment during the Year | 0.00 |
| 4 | Closing Loans | 1102.50 |
| 5 | Average Loans | 997.50 |
| 6 | Interest on Loan | 58.54 |
| 7 | Guarantee Charges | 0 |
| 8 | Total Interest & Financial Charges | 58.54 |
| 9 | Wt. Avg. Rate of Interest on Loan | 10.50% |



Commission's Analysis

The Dhuvaran CCPP-3 is likely to be commissioned on 9th September, 2013, therefore the Commission considers the opening loan for FY 2013-14 as NIL.

In accordance with GERC MYT Regulations, the depreciation approved for the year is to be considered as repayment. The Interest & Faineance charges are computed at 10.5% rate of interest as detailed in the Table 5.17 below:

Table 5.17: Approved Interest & Finance Charges of Dhuvaran CCPP -3 for FY 2013-14
(Rs. crore)

| Sl. No. | Particulars | Amount |
|---------|---|--------------|
| 1 | Opening Loans | 0 |
| 2 | Loan Additions during the Year | 1102.50 |
| 3 | Repayment during the Year | 41.58 |
| 4 | Closing Loans | 1060.92 |
| 5 | Average Loans | 530.46 |
| 6 | Rate of Interest | 10.5% |
| 7 | Interest & Financial Charges for the year (pro-rata) | 31.13 |

Return on Equity

Petitioner's Submission

GSECL has claimed Return on Equity at Rs. 33.45 crore. GSECL has projected the equity based on normative debit equity of 70:30 and is calculated 14% on pro-rata basis for the period from 9th September 2013 to 31st March 2014. The details are as given in the Table 5.18 below:

Table 5.18: Projected Return on Equity of Dhuvaran CCPP -3 for FY 2013-14

(Rs. crore)

| Sl. No. | Particulars | Amount |
|---------|---------------------------|--------------|
| 1 | Opening Equity | 382.50 |
| 2 | Additions during the year | 90.00 |
| 3 | Closing Equity | 472.50 |
| 4 | Average Equity | 427.50 |
| 5 | Rate of Return on Equity | 14.0% |
| 6 | Return on Equity | 33.45 |

Commission's Analysis

The Commission has computed the Return on Equity considering the opening equity as Nil and the equity addition of Rs. 472.50 crore towards 30% of the capital cost as detailed in the Table 5.19 below:



Table 5.19: Approved Return on Equity of Dhuvaran CCPP -3 for FY 2013-14

| (Rs. crore) | | |
|-------------|-------------------------------|--------------|
| Sl. No. | Particulars | Amount |
| 1 | Opening Equity | 0 |
| 2 | Addition during the year | 472.50 |
| 3 | Closing equity | 472.50 |
| 4 | Average equity | 236.25 |
| 5 | Return on equity @ 14% | 18.49 |

The Commission approves the Return on Equity at Rs. 18.49 crore on pro-rata basis for the period the projected is considered to be in operation during FY 2013-14.

Interest on Working Capital

Petitioner's Submission

GSECL has claimed Rs. 12.39 crore towards Interest on Working Capital of Dhuvaran CCPP -3 for FY 2013-14 based on the norms and calculated on pro-rata basis for the period from 9th September, 2013 to 31st March 2014 as detailed in the Table 5.20 below:

Table 5.20: Proposed Interest on Working Capital for Dhuvaran CCPP-3 for FY 2013-14

| (Rs. crore) | | |
|-------------|-------------------------------|--------|
| Sl. No. | Particulars | Amount |
| 1 | Fuel Cost (1 month) | 51.57 |
| 2 | Liquid fuel Stock (1/2 Month) | 0 |
| 3 | O&M Expenses (1 Month) | 5.78 |
| 4 | Maintenance Spares | 12.75 |
| 5 | Receivable (1 Month) | 80.19 |
| 6 | Total Working Capital | 150.29 |
| 7 | Rate of Interest | 14.75% |
| 8 | Interest on working Capital | 12.39 |

Commission's Analysis

The Commission has computed the Working capital and interest thereon as per MYT Regulations as detailed in the Table 5.21 below:

Table 5.21: Approved Interest on Working Capital for Dhuvaran CCPP-3 for FY 2013-14

| (Rs. crore) | | |
|-------------|--|--------|
| Sl. No. | Particulars | Amount |
| 1 | Fuel Cost (1M) | 51.58 |
| 2 | Liquid fuel stock (1/2 M) | 0 |
| 3 | O & M Expenses (1 M) | 5.78 |
| 4 | Maintenance Spares 1% of average GFA | 7.88 |
| 5 | Receivables (1M) | 69.90 |
| 6 | Total Working Capital | 135.14 |
| 7 | Rate of Interest | 14.75% |
| 8 | Interest on Working capital (pro-rata) | 11.14 |

SLDC Charges

Petitioner's Submission

GSECL has claimed Rs. 0.11 crore towards SLDC charges computed based on the prevailing SLDC fees of Rs. 320 / MW /Half year and charges of Rs. 400 /MW/month.

Commission's Analysis

The Commission recently approved the SLDC charges for the FY 2013-14 and accordingly computed the SLDC charges as Rs. 0.10 crores.

Income Tax

Petitioner's Submission

GSECL claimed Rs. 6.69 crore towards MAT of 20.01 % for Dhuvaran CCPP-3 for FY 2013-14 computed on the ROE of Rs. 33.45 crore.

Commission's Analysis

Regulation 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. As the generating station is yet to be commissioned the tax provision proposed by GSECL is not considered for FY 2013-14.

On the basis of different components of fixed charges, the Commission provisionally approves the fixed charges of Dhuvaran CCPP-3 for FY 2013-14 as detailed in the Table 5.22 below:

Table 5.22: Approved Fixed costs for Dhuvaran CCPP-3 for FY 2013-14

| (Rs. crore) | | |
|-------------|-----------------------------|---------------|
| Sl. No. | Particulars | Amount |
| 1 | O&M Expenses | 38.75 |
| 2 | Depreciation | 23.24 |
| 3 | Interest & Finance Charges | 31.13 |
| 4 | Interest on Working Capital | 11.14 |
| 5 | Return on Equity | 18.49 |
| 6 | SLDC Charges | 0.10 |
| 7 | Tax (MAT) | 0 |
| 8 | Total | 122.85 |

5.2.6 Variable charges

Petitioner's Submission

GSECL submitted that Dhuvaran CCPP-3, gas based unit (375 MW) is scheduled to be Commissioned on 9th September, 2013 and the unit will be operational for 204 days during FY 2013-14. GSECL projected the operational performance parameters as per norms as shown in the Table 5.23 below:

Table 5.23: Performance Parameters Projected for Dhuvaran CCPP-3 for FY 2013-14

| 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 |

The cost parameters projected are as given in the Table 5.24 below:

Table 5.24: Cost Parameters Projected for Dhuvaran CCPP-3 for FY 2013-14

| Sl. No | Parameters | Unit | Value |
|--------|------------------------|-----------|-------|
| 1 | Calorific value of gas | Kcal/ Kwh | 9700 |
| 2 | Price of gas | Rs. / scm | 11.62 |

With the above parameters GSECL projected the fuel cost at Rs. 215.68 crore for a net generation of 911 MU, at Rs. 2.37 / unit net.

Commission's Analysis

The Commission approves the performance parameters for the station as projected, as they are as per norms. Regarding calorific value of gas, the value (9700 Kcal / Kwh) projected by GSECL is the same as that approved in the MYT order dated 11th April 2011 for Dhuvaran (Gas 2) station and the same is approved.

The Commission has considered the price of gas at Rs. 11.62/ scm for FY 2013-14, for Dhuvaran CCPP-3 as projected by GSECL.

Based on the above, the fuel costs are worked out to be Rs. 345.95 crores for this station for a Gross energy generation of 1561 MU and a net generation of 1514 MU with the energy charge at Rs. 2.285 / unit net. The details of which are given in the Table 5.26 under para 5.5.

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

5.3 Determination of Fixed charges for FY 2013-14

The Table below summarizes the fixed charges as approved by the Commission for the FY 2013-14 in the MYT Order dated 11th April, 2011. Detailed analysis of each expense head has already been provided in the MYT order.



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Table 5.25: Approved 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 | Income Tax | SLDC Charges | Total Fixed Cost | Less Non Tariff Income | Net Fixed Charges |
|--------|-------------------|---------------|----------------------------|------------------|-----------------------------|---------------|---------------|------------|--------------|------------------|------------------------|-------------------|
| 1 | Ukai (1-5) | 70.50 | 70.54 | 31.36 | 27.29 | 144.04 | 0.00 | 1.00 | 0.46 | 345.19 | 25.27 | 319.92 |
| 2 | Gandhinagar (1-4) | 66.38 | 24.29 | 30.66 | 28.62 | 102.01 | 30.47 | 2.00 | 0.36 | 284.79 | 19.62 | 265.17 |
| 3 | Gandhinagar 5* | 32.70 | 0.00 | 26.78 | 9.30 | 27.00 | 7.62 | 2.00 | 0.11 | 105.51 | 6.24 | 99.27 |
| 4 | Wanakbori 1-6 TPS | 100.47 | 80.68 | 65.80 | 51.84 | 147.39 | 40.57 | 4.00 | 0.68 | 491.43 | 37.45 | 453.98 |
| 5 | Wanakbori 7* | 31.75 | 0.00 | 26.00 | 8.86 | 27.00 | 7.12 | 2.00 | 0.11 | 102.84 | 6.24 | 96.60 |
| 6 | Sikka TPS | 30.40 | 10.78 | 20.44 | 9.32 | 51.67 | 3.89 | 2.00 | 0.13 | 128.63 | 7.13 | 121.50 |
| 7 | KLTPS 1-3 | 60.02 | 28.16 | 43.68 | 12.01 | 81.00 | 0.60 | 3.00 | 0.12 | 228.59 | 6.39 | 222.20 |
| 8 | KLTPS 4 | 35.17 | 34.38 | 28.42 | 9.11 | 18.14 | 0.00 | 1.00 | 0.04 | 126.26 | 2.23 | 124.03 |
| 9 | Dhuvaran (Gas 1)* | 16.50 | 4.91 | 12.87 | 2.78 | 15.00 | 0.00 | 1.00 | 0.06 | 53.12 | 3.18 | 49.94 |
| 10 | Dhuvaran (Gas 2) | 21.64 | 7.60 | 15.40 | 3.05 | 19.95 | 0.00 | 1.00 | 0.06 | 68.70 | 3.33 | 65.37 |
| 11 | Utran Gas* | 20.50 | 6.04 | 10.40 | 3.26 | 14.00 | 2.70 | 1.00 | 0.07 | 57.97 | 4.01 | 53.96 |
| 12 | Utran Extension* | 79.56 | 86.75 | 56.70 | 9.87 | 48.00 | 1.59 | 2.00 | 0.20 | 284.67 | 11.15 | 273.52 |
| 13 | Ukai Hydro | 7.35 | 3.94 | 8.12 | 0.53 | 12.83 | 0.00 | 1.00 | 0.16 | 33.93 | 9.07 | 24.86 |
| 14 | Kadana Hydro | 15.07 | 5.62 | 28.00 | 1.10 | 14.76 | 0.00 | 2.00 | 0.13 | 66.68 | 7.19 | 59.49 |
| 15 | Ukai- 6# | 73.13 | 116.75 | 49.79 | 19.97 | 73.07 | 0 | 0 | 0.24 | 332.95 | 0 | 332.95 |
| 16 | Dhuvaran CCPP 3# | 23.24 | 31.13 | 18.49 | 11.14 | 38.75 | 0 | 0 | 0.10 | 122.85 | 0 | 122.85 |
| | Total | 684.38 | 511.57 | 472.91 | 208.05 | 834.61 | 94.56 | 25 | 3.03 | 2834.11 | 148.5 | 2685.61 |

* PPA based stations

New power stations expected to be commissioned during FY 2013-14.

5.4 Determination of Variable charges for FY 2013-14

The variable energy charges approved by the Commission for the FY 2013-14 are discussed in the following paragraphs.

5.4.1 Energy charges for the existing stations at the time of issue of MYT Tariff order dated 11th April, 2011.

Petitioner's Submission

The Table below gives energy charges for FY 2013-14 proposed by GSECL as approved in the MYT order dated 11th April, 2011, for the stations other than Ukai -6 TPS and Dhuvaran CCPP-3.



Table 5.26: Approved Energy Charges for FY 2013-14 for unit net, for the stations covered under MYT order

| Sl. No. | Power station | Approved energy charge approved in MYT order for FY 2013-14 (Rs. / Kwh) |
|---------|-------------------|---|
| 1 | Ukai (1-5) | 1.704 |
| 2 | Gandhinagar (1-4) | 2.375 |
| 3 | Gandhinagar 5* | 2.130 |
| 4 | Wanakbori 1-6 TPS | 2.108 |
| 5 | Wanakbori 7 TPS* | 2.022 |
| 6 | Sikka TPS | 2.760 |
| 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 |

* PPA based stations

Commission's Analysis

The Commission has noted the submission of GSECL. The Commission approves energy charges per unit net, based on the Gross and Net Generation and Fuel costs for different stations, as approved in the MYT order dated 11th April, 2011. For the stations Ukai-6 and Dhuvaran CCPP-3, the energy charges are approved as discussed in paragraphs 5.2.2 and 5.3.3.

Based on the above, the energy charges approved for different stations for FY 2013-14 are given in the Table 5.27 below:



Table 5.27: Approved Energy charges for FY 2013-14 for all stations of GSECL

| Sl. No. | Power stations | Approved energy charge for FY 2013-14 (Rs. / Kwh) |
|---------|----------------------|---|
| 1 | 2 | 3 |
| 1 | Ukai (1-5) | 1.704 |
| 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 | 2.760 |
| 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 Gas CCPP-3# | 2.285 |

* PPA based stations.

New stations expected to be commissioned during FY 2013-14.

5.5 Green Cess

GSECL proposed Green Cess at the rate of 2 Ps / Unit on gross generation from thermal stations to be paid to the Government of Gujarat from 1st August, 2011. As already discussed in para 4.5.2, the Commission has not taken into consideration, the Green Cess, in view of the judgment Pronounced by the Hon'ble High Court against Green Cess.

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Annexure 5.1: Approved Fuel costs for Ukai -6 for FY 2013-14

| Sl.No. | Item | Derivation | Unit | 2013-14 |
|--------|--------------------------------|--------------------------------|-----------|---------|
| 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 | $H=A \times D$ | G Cal | 8879355 |
| 10 | Heat from Oil | $I=(A \times E \times G)/1000$ | G Cal | 38976 |
| 11 | Heat from Coal | $J=H-I$ | G Cal | 8840379 |
| 12 | Transit losses | K | % | 0.8% |
| 13 | <u>Coal Blend</u> | | | |
| 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 | $L=A \times E$ | kl | 3723 |
| 18 | <u>Actual Coal Consumption</u> | $M=(J \times 1000)/F$ | MT | 2104852 |
| 19 | A) Indigenous Coal | $Q1=M* \times X1/(1-K)$ | MT | 0 |
| 20 | B) Washed Coal | $Q2=M* \times X2/(1-K)$ | MT | 2121827 |
| 21 | C) Imported Coal | $Q3=M* \times X3$ | 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 | <u>Coal cost</u> | | | |
| 28 | A) Indigenous Coal | $N1=Q1 \times P1$ | Rs Lakh | 0 |
| 29 | B) Washed Coal | $N2=Q2 \times P2$ | Rs Lakh | 57926 |
| 30 | C) Imported Coal | $N3=Q3 \times P3$ | Rs Lakh | 0 |
| 31 | Total Coal Cost | $N4=N1+N2+N3$ | Rs Lakh | 57926 |
| 32 | Oil Cost | $N5=P4 \times L/10^5$ | 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 |



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Annexure 5.2: Approved Fuel costs for Dhuvaran CCPP-3 for FY 2013-14

| Sl.No. | Item | Derivation | Unit | 2013-14 |
|--------|------------------------|-----------------------|-----------|---------|
| 1 | Gross Generation | A | MUs | 1561 |
| 2 | Auxiliary Consumption | C | % | 3.00% |
| 3 | Auxiliary Consumption | B | MUs | 47 |
| 4 | Net Generation | $Y=A - B$ | MUs | 1514 |
| 5 | Station Heat Rate | D | KCal/KWH. | 1,850 |
| 6 | Calorific value of Gas | F | kcal/scm | 9,700 |
| 7 | Overall Heat from Gas | $H=A \times D$ | G Cal | 2887850 |
| 8 | Actual Gas Consumption | $M=(H \times 1000)/F$ | M. scm | 297716 |
| 9 | Price of Gas | P1 | Rs/scm | 11.62 |
| 10 | Cost of Gas | $N5=P1 \times M/10^2$ | Rs Lakh | 34595 |
| 11 | Total Fuel Cost | N5 | Rs Lakh | 34595 |
| 12 | Fuel Cost/Unit Gross | $P=N/(A \times 10)$ | Rs/kWh | 2.216 |
| 13 | Fuel Cost/Unit Net | $Q=N/(Y \times 10)$ | Rs/kWh | 2.285 |



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.

The Compliance of the above directives and new directives issued by the Commission in this tariff order are discussed below.

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 analyze the cost effectiveness of the proposed R&M and submit the same for the approval of the Commission.

Compliance:

As desired, the Quarterly Progress Report for R&M works of Unit No. 1 & 2 of Ukai TPS is regularly submitted to GERC.

For discussing the recommendations proposed by M/s JCOAL in draft Final Report, a debriefing meeting between GSECL and M/s JCOAL on „Efficiency and Environmental improvement of coal fired power plant of Wanakbori TPS Unit No.1 was held on 30.05.2012 at GSECL, Vadodara. Based on the above discussions, comments/final report is awaited from M/s JCOAL.

Commission's comments:

Noted: The final report from M/s JCOAL may be expedited.



Directive 2: Energy Audit

The savings achieved by projects other than Gandhinagar 1-4, also should be submitted to the Commission.

Compliance

Energy savings achieved by other projects of GSECL power stations of Ist Quarter for year 2012-13 is attached here with as Annexure 6.2 and for IInd Quarter, there is no post verification of EA implementation suggested by energy audit agency in GSECL Thermal Power Stations during the period Julyth12 to Septemberth12.

The Energy Audit of SIKKA TPS carried out by NPC, Delhi in 2011-2012, report submitted by them is submitted separately vide this office Letter No. GSECL/GERC Cell/Comp.Dir. TO.2.6.12/2807 Date: 26.11.2012.

Commission's comments:

Noted.

Directive 3: Quality of Coal

The GSECL to make all efforts for replacing the balance mainline coal with washed coal.

Compliance:

Regarding the replacement of mainline coal with washed coal, it is to clarify that SECL is allocating about 135 lakh Mt of coal per annum from mainline (Korba) area out of the total Annual Contracted Quantity of 164.4 lakh Mt and GSECL has achieved 100% replacement of mainline coal with washed coal by awarding contracts for beneficiation (washing) of 144 lakh Mt per annum of RoM Mainline coal (Korba Area).

The Ministry of Coal, Government of India has constituted "Inter-Ministerial Task Force" to review the existing resources of coal to the power utilities and to consider feasibility of rationalization of these sources. GSECL has represented to the Task Force for transfer of coal linkage from Korea-Rewa coalfield of SECL (Rail mode) to linkage of F-Grade RoM coal (Road-cum-Rail mode) i.e., through washery mode from Korba Coalfields of SECL.



The Task Force has recommended the reduction in quantity of about 1-2 MTPA from Korea - Rewa coalfield and 1-2 MTPA to increase in the coal linkage from Korba coalfield, by swapping quantities of Madhya Pradesh Power Generation Company Limited (MPPGCL). However, GSECL has taken the matter at various level of Central Government.

Commission's comments:

The matter may be pursued and report submitted to the Commission.

Directive 4: 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 roadmap for the same and apprise the Commission of the action taken.

Compliance:

The action to be taken to design road map to get preparedness to compete with private generation companies are under process and on the finalization of the same GSECL will submit at the earliest.

Commission's comments:

This may be expedited and the report submitted by 30th June, 2013.

Directive 5: Sikka TPS

GSECL is directed to apprise the Commission about the schedule for completion and submit the progress report of the de-silting work on a quarterly basis. GSECL is also directed to submit the performance improvement report of the units at Sikka as soon as de-silting work is completed.

Compliance:

The work of de-silting of Canal Commenced from 27.03.2012 and will be completed by 26-01-2013. Till today de-silting up to Ch: 0.00 Meter to 1695 Meter out of Ch: 0.00 meter to Ch: 2605.0 meter is almost completed. i.e. at present approximately 65% work is completed.



Details of low tide period Generation and condenser vacuum data for STPS Unit 1 & 2 before and after completion of 65% de-silting work of canal is appended as Annexure 6.3. In month of October'-12, during low tide period there is no major loss in generation side observed because of de-silting work carried out in intake water channel even though during-0.3 meter level no requirement has arisen to take sea water from R/C pond in to CWPB for both the units.

Commission's comments:

Compliance of GSECL is noted. Further report may be submitted after completing the 100% of the work.

Directive 6: 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

Compliance:

The PG test of ESP of KLTPS Unit No-4 is completed in July 2011. However, for conductance of pending PG test of Turbine & Boiler, it scheduled in third week of October"2012.

For conductance/preparation of PG test of Turbine and Boiler, BHEL had already deputed their engineers at KLTPS site in third week of October, 2012 for installation of various Instruments necessary for PG test.

Recently, preparation to carry out PG test was almost completed but due to puncture in boiler tube, the same could not be conducted, and it will be conducted in near future. Hon'ble GERC will be informed accordingly.

Commission's comments:

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

Directive 7: Water Charges

GSECL is once again directed to submit plant wise quantity of water purchased from various agencies and its cost over the period of five years. GSECL shall also submit the increase in the rate of water by the agencies concerned in the above



period. A copy of government notification or such other document may be submitted to the Commission.

Compliance:

Desired details of Plant wise Water purchased from various agencies during 2007 to 2012 and its rate are submitted along with copy of Government Notification Dated 03-02-2007 vide this office Letter No. GSECL/ GERC Cell / Comp. Dir. T.O. 2.6.12/2429 dated 11.09.2012.

Commission's comments:

Noted.

Directive 8: 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.

Compliance:

The improvements noticed in the power stations performance/efficiency during 2011-12 as compared to 2010-11 on account of various initiatives undertaken by Power Stations are as given vide this office Letter No. GSECL/GERC Cell / Comp.Dir. T.O. 2.6.12/2429 dated 11.09.2012.

Further, GSECL respectfully submits that preparation of Comprehensive cost audit is under process and same will be submitted at the earliest.

Commission's comments:

Noted. The comprehensive cost audit report may be submitted early.

6.2 Compliance of New Directives issued in T.O. dated 2nd June 2012

Directive 1: Details of damage caused to the Dhuvaran Gas-1

GSECL has submitted in its petition that a compressor was damaged in Dhuvaran Gas 1 due to which there was forced outage of 157 days in the plant. GSECL is directed to furnish the details of damage caused to the Dhuvaran Gas 1, and the action taken for restoration of the same. Further, it is also directed to submit the reasons as to why it took so long to restore the plant.



Compliance

The CCPP-1 of Dhuvaran was taken under Hot Gas Path Inspection (HGPI) of gas turbine under M/s GE's supervision from 1.04.2010 to 12.04.2010. During HGPI, 2nd and 3rd stage buckets, nozzles and shrouds, fuel nozzle assembly, cap liners, transient piece were replaced. Moreover during baroscopic inspection of compressor, few dent marks were observed on compressor rotor blades which were also repaired. The unit was taken on bar on 12.04.2010 but subsequently it was observed that full load could not be attained on the gas turbine due to exhaust tunnel temperature and bearing No.2 metal temperature high and therefore the machine was stopped to attend the above defects.

After attending above defects, it was rolled at 00.33 hrs. on 2.05.2010 as per the directives from M/s GE. It reached on full speed no load (FSNL) but it tripped suddenly with high vibrations on bearing No.1.

On detailed investigation, severe damage to compressor rotor, stator and GT rotor had been observed. The rehabilitation was carried out through from M/s GE being the OEM. M/s GE had confirmed the availability of new compressor rotor at Amsterdam. For rehabilitation, new 6FA Compressor Rotor was procured and coupled to Turbine Rotor at GE-European shop at Singapore.

The work involved dismantling of damaged compressor and turbine rotor, transportation of the same to overseas for repairing / coupling at GE-European shop, reassembly after receipt of the same. Looking to the major work of rehabilitation, the unit was under forced outage for 157 days. (The same is submitted vide letter no. GSECL/GERC Cell/Comp. Dir.T.O.2.6.2012/2429 dated 11.09.2012).

Commission's comments:

The time schedule for completion of the repairs and putting back the unit in service shall be reported to the Commission. GSECL shall also report the costs etc., involved by 30th June, 2013.

Directive 2: Transit loss of Coal

GSECL is directed to make claims for the transit loss with the railways and in the event of settlement of such claims, the benefit of such claims shall be passed on to the consumers.



Compliance

The Railway freight is charged by Railway as per chargeable weight of the coal quantity measured at weighbridge at their siding at loading point and Railway charge freight accordingly as per RR quantity. Railway is not considering for coal quantity received and measured at TPS weighbridge, so Railway does not take any responsibility for any loss during transit. However, GSECL will take the issue with Railway and if claim is admissible, same will be passed on to the consumers. (The same is submitted vide letter No. GSECL/GERC/Cell/Comp. Dir. T.O. 2.6.2012/2429/ dated 11.09.2012).

Commission's comments:

This may be pursued with railways and the response of the railways on the claim shall be reported to the Commission.

Directive 3: Capital Expenditure and parameters of Ukai -6

- (a) GSECL is directed to furnish the actual capital expenditure of Ukai 6 after it is commissioned.
- (b) GSECL is directed to furnish the Design Heat Rate, Max Turbine Cycle Heat Rate (Kcal/kWh) and minimum boiler efficiency for Sub-Bituminous Indian Coal of Ukai -6.
- (c) GSECL is directed to clarify whether the boiler feed pumps of the Ukai 6 plant are steam driven or electrically driven.

Compliance

- (a) Ukai TPS unit No.6 is still not commissioned and expected to be synchronized on trial base on oil by September, 2012. However, capital expenditure incurred up to April 2012 is Rs.2334.4966 crore.
- (b) Turbine cycle gross heat rate at 100% STG MCR is 2240 K.cal/kWh. Boiler efficiency at 100% BMCR is 86.53%.
- (c) The details of Boiler feed pumps for Ukai TPS unit No.6 is as under:

There are 1 No. of Motor Driven Boiler Feed Pump (MDBFP) and 2 Nos. of Steam Driven Boiler Feed Pumps (SDBFP). MDBFP shall be in service for startup of the unit and SDBFPs will come into service one after another after attaining 250 MW load. At full load 2 Nos. of SDBFP shall be in service and 1 No. of MDBFP shall



remain at standby. (The same is submitted vide letter No. GSECL/GERC/Cell/Comp. Dir. T.O. 2.6.2012/2429/ dated 11.09.2012).

Commission's comments:

The compliance is noted.



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Annexure 6.1: Quarterly Progress Report on R&M

Details of Physical & Financial Progress for the quarter from July.12 to Sept.12

Name of Power Station : Ukai TPS.

(Rs. crore)

| Sr No | Name of Activity | Cost (crore) | Expenditure incurred Up to March 2012 (Rs. crore) | Expenditure incurred During year 2012-13 | | | Total Expenditure incurred up to June.12 | Status of Activity |
|-------|--|--------------|---|---|---|--|--|--|
| | | | | Expenditure incurred in last Qtr April 12 to June | Expenditure incurred during this Qtr July 12 to Sept 12 | Expenditure incurred during the year 2012-13 | | |
| 1 | R & M and LE works of 2 x 120 MW Ukai TPS unit No.1 & 2 by M/s. BHEL | 260.00 | 245.5303 | 00.00 | 0.00 | 00.00 | 245.5303 | Unit 1 : Shut down was taken on 06.09.2006. Machine Synchronized on 24.05.08 Unit is running at 105 MW Yet full load of 120 MW is not achieved. BHEL yet to give PG Test Unit 2 : Unit 2 shut down taken on 12.08.08. Unit -2 re-commissioned |



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Annexure 6.2: Energy Audit Saving Details

ENERGY SAVING DETAILS FOR THE PERIOD 01-04-2012 to 30-06-2012

| Sr. No. | Recommendation | Action Taken | Expected saving in KWH/annum | Expected Saving in Rs. (Lakhs) / Annum |
|---|--|--|------------------------------|--|
| | GANDHINAGAR TPS #1 | | | |
| 1 | Performance improvement of ID fan 1A & 1B | Complete O/H of both the pump ID Fan 1A and 1B are carried out. | 108504 | 2.17 |
| 2 | Performance improvement of CW Pump - 1A & 1B. | CW pump 1A,1B and 1C O/H done. U#1 condensor tube cleaning done with high pressure water jetting in shut down of U #1 COH. | 484704 | 9.69 |
| SUB TOTAL | | | 593208 | 11.86 |
| | UKAI TPS #1 | | | |
| 1 | Re-insulate weak and exposed heating area of Boiler system and steam line for unit # 1 | Complete re-insulation work carried out at exposed heat area of the Boiler at different elevation, steam lines and equipments. | 426.8 T Coal | 9.26 |
| SUB TOTAL | | | 426.8 | 9.26 |
| | UKAI TPS #2 | | | |
| 1 | Re-insulate weak and exposed heating area of boiler system and steam line | Complete re-insulation work carried out at exposed heat area of the Boiler at different elevation, steam lines and equipments. | 205.60T Coal | 4.46 |
| SUB TOTAL | | | 205.6 | 4.46 |
| | UKAI TPS #4 | | | |
| 1 | Re-insulate weak and exposed heating area of Boiler system and steam line for unit # 4 | Complete re-insulation work carried out at exposed heat area of the Boiler at different elevation, steam lines and equipments. | 139.4 T Coal | 3.02 |
| SUB TOTAL | | | 139.4 | 3.02 |
| Total 593208 KWH/annum and 771.8 T Coal/ annum | | | | Rs. 28.6 lakhs |



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Annexure 6.3: De-silting Works of Canal.

Sub: observation report on performance of De-silting work in Intake canal

Unit No: 1
Dt. 08.11.2012

| Sl.No | Date | Time | Low Tide | Min CW sump for bay level (mtr) | Vacuum | Load | CWP Disch v/v position (% open) | R/C Pond v/v position (open) | | Operation during low tide | Units on Bar | Remarks |
|-------|----------|-------|----------|---------------------------------|---------|--------|---------------------------------|------------------------------|-------|---------------------------|--------------|---------------------------|
| | | | Meter | | | | | A | B | | | |
| 1 | 01.10.12 | 20:40 | 0.4 | 4.5 | 662 | 80 | 100 | C | C | NIL | BOTH | |
| 2 | 02.10.12 | 21:10 | 0.4 | 5.45 | 665 | 72 | 100 | C | C | NIL | BOTH | |
| 3 | 03.10.12 | 21:40 | 0.6 | 4.45 | 640 | 83 | CWPC 50 | C | C | Front Cond o/l 40 to 30 % | BOTH | CWPC Sealing Problem |
| 4 | 04.10.12 | 22:20 | 0.7 | 5.4 | 635 | 83 | 100 | C | C | NIL | BOTH | |
| 5 | 13.10.12 | 18:20 | 0.7 | 5.4 | 635 | 82 | 100 | C | C | NIL | BOTH | |
| 6 | 14.10.12 | 19:00 | 0.3 | 4.5 | 620 | 105 | 100 | C | C | NASH PUMP A taken | BOTH | |
| 7 | 15.10.12 | 19:40 | -0.1 | 4 | 628 | 80 | 100 | C | C | NIL | BOTH | |
| 8 | 16.10.12 | 20:20 | -0.3 | 3.75 | 620 | 75 | 75 | C | C | COND o/l 40 to 25% | BOTH | |
| 9 | 17.10.12 | 21:10 | -0.3 | 3.75 | 633 | 76 | 75 | C | C | COND o/l 40 to 25% | BOTH | |
| 10 | 18.10.12 | 21:50 | -0.1 | 4.00/5.75 | 630/612 | 90/102 | 100 | C | C | NASH PUMP A taken | BOTH | |
| 11 | 19.10.12 | 22:40 | 0.2 | 4.25/4.25 | 626/640 | 104/88 | 100 | C | C | NIL | BOTH | |
| 12 | 20.10.12 | 23:30 | 0.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | No Operation Required |
| 13 | 27.10.12 | 18:20 | 0.7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | No Operation Required |
| 14 | 28.10.12 | 19:00 | 0.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | No Operation Required |
| 15 | 29.10.12 | 19:30 | 0.5 | 5.5 | 634 | 83 | 100 | C | C | NIL | BOTH | |
| 16 | 30.10.12 | 20:10 | 0.4 | 5 | 648 | 95 | CWPC 50 | C | C | NIL | BOTH | CWPC Sealing Problem |
| 17 | 31.10.12 | 20:40 | 0.4 | 5 | 664 | 95 | CWPB 50 | C | C | NIL | BOTH | CWP A TO E are in service |

Overall observation: In month of october'-12 , during low tide period there is no any major losses in generation side observed because of de-silting work carried out in intake water channel. even though during -0.3 meter level no requirement was arised to take sea water from r/c pond in to CWPH for both the units.



COMMISSION'S ORDER

The Commission approves the station-wise fixed charges and energy charges for the FY 2013-14 as outlined in the Table below:

| Sl. No. | Power Station | Annual Fixed Charges for FY 2013-14 (Rs. in crore) | Energy Charges FY 2013-14 (Rs./kWh) |
|---------|-------------------|--|-------------------------------------|
| 1 | Ukai (1-5) | 319.92 | 1.704 |
| 2 | Gandhinagar (1-4) | 265.17 | 2.375 |
| 3 | Gandhinagar-5* | 99.27 | 2.130 |
| 4 | Wanakbori (1-6) | 453.98 | 2.108 |
| 5 | Wanakbori-7* | 96.60 | 2.022 |
| 6 | Sikka | 121.50 | 2.760 |
| 7 | KLTPS (1-3) | 222.20 | 1.181 |
| 8 | KLTPS-4 | 124.03 | 1.109 |
| 9 | Dhuvaran (Gas-1) | 49.94 | 2.411 |
| 10 | Dhuvaran (Gas-2) | 65.37 | 2.388 |
| 11 | Utran Gas* | 53.96 | 2.367 |
| 12 | Utran Extension* | 273.52 | 2.071 |
| 13 | Ukai Hydro | 24.86 | - |
| 14 | Kadana Hydro | 59.49 | - |
| 15 | Ukai-6# | 332.95 | 1.683 |
| 16 | Dhuvaran CCPP-3# | 122.85 | 2.285 |
| | Total | 2685.61 | |

* PPA based stations.

New stations for which fixed and energy charges are provisionally approved.

The net loss of Rs. 66.46 crore approved in the Truing-up for FY 2011-12 is allowed to be recovered by GSECL in 12 equal monthly instalments from GUVNL.

This order shall come into force with effect from the 1st April, 2013.

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

Place: Ahmedabad
Date: 30/03/2013

