ASSAM ELECTRICITY REGULATORY COMMISSION (AERC)

TARIFF ORDER
FY 2013-14 to FY 2015-16

Assam Power Generation Corporation Limited (APGCL)

Petition No. 3/2013

ASSAM ELECTRICITY REGULATORY COMMISSION
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List of Abbreviations

A&G	Administrative & General
ABT	Availability Based Tariff
ADB	Asian Development Bank
AEGCL	Assam Electricity Grid Corporation Limited
AERC	Assam Electricity Regulatory Commission
APDCL	Assam Power Distribution Company Limited
APDRP	Accelerated Power Development and Reforms Programme
APGCL	Assam Power Generation Corporation Limited
ARR	Annual Revenue Requirement
ASEB	Assam State Electricity Board
BTPS	Bongaigaon Thermal Power Station
FPA	Fuel Price Adjustment
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GCV	Gross Calorific Value
GoA	Government of Assam
GoI	Government of India
GSHR	Gross Station Heat Rate
KLHEP	Karbi Langpi Hydro Electric Project
kV	Kilo Volt
kVA	Kilo Volt Ampere
kW	Kilo Watt
kWh	Kilo Watt Hour
LRPP	Lakwa Replacement Power Project
LTPS	Lakwa Thermal Power Station
MAT	Minimum Alternate Tax
MMSCMD	Million Metric Standard Cubic Meter per day
MU	Million Unit
MW	Mega Watt
MYT	Multi-Year-Tariff
NCV	Net Calorific value
NRPP	Namrup Replacement Power Project
NTPS	Namrup Thermal Power Station
PAF	Plant Availability Factor
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
R&M	Repairs and Maintenance
ROE	Return on Equity
Rs.	Rupees
T&D	Transmission and Distribution
T.C.	Transportation Cost

ASSAM ELECTRICITY REGULATORY COMMISSION

Guwahati

Present

Shri Naba Kumar Das, Chairperson

Dr. Rajani Kanta Gogoi, Member

Shri Tapan Chatterjee, Member

Petition No. 03/2013

Assam Power Generation Corporation Limited (APGCL) - **Petitioner**

ORDER

(Passed on 21.11.2013)

(1) The Assam Power Generation Corporation Limited (APGCL) filed its Multi-Year Tariff (MYT) Petition for approval of Annual Revenue Requirement (hereinafter called as 'ARR') for the period from FY 2013-14 to FY 2015-16 and determination of Generation Tariff for FY 2013-14 on January 31, 2013 under Section 62 of the Electricity Act, 2003. Further, APGCL filed the Petition for Truing-up for FY 2011-12 and Annual Performance Review for FY 2012-13 on March 21, 2013.

(2) The Commission on preliminary scrutiny found that the above Petition filed by APGCL was incomplete in some material particulars. Therefore, additional data and clarifications on the Petition were sought for from APGCL from time to time and replies received. Although, additional information and clarifications continued to be submitted, the Commission in the larger interest of the consumers as well as the licensee and abiding by the statutory obligation of tariff determination, admitted the Petition on April 4, 2013. It would be pertinent to mention here that both the Petitions filed by APGCL on January 31, 2013 and March 21, 2013, respectively, were clubbed together for final disposal.

(3) Although, the Petition from APGCL was admitted on April 4, 2013, the Commission continued to receive additional data and clarifications from APGCL on various aspects as late as June 2013.

(4) After the Petition was admitted, in accordance with Section 64 of the Electricity Act 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to ensure due public participation. A copy of the Petition and other relevant documents were also made available to consumers and other interested parties at the offices of APGCL. A copy of the Petition was also made available on the website of the Commission and APGCL.

(5) Accordingly, a Public Notice was issued by APGCL inviting objections/suggestions from stakeholders on or before April 30, 2013. The notice was published in 11 (Eleven) leading newspapers of the State on April 9, 2013. Meanwhile, the Commission received requests for extending the time limit for filing objections/suggestions from some consumers/ consumer organizations. With a view to allow some more time for obtaining views of stakeholders, the Commission positively considered the request and extended the time limit for filing objections/suggestions upto May 13, 2013. APGCL was asked to issue a public notice to this effect, which was published in 11 (Eleven) newspapers on May 4, 2013.

(6) The Commission received 6 (Six) objections on the Petition filed by APGCL and sent communication to the objectors and served personally/by Registered Post informing the date and time of Hearing to take part in the Hearing to be held at the Circuit House, Jorhat on May 17, 2013 and at the Assam Administrative Staff College, Guwahati on May 18, 2013. Also, a comprehensive Notice was published in the following seven newspapers on May 12, 2013 in Assamese and English language. The Hearing was held at the Circuit House, Jorhat on May 17, 2013 as scheduled. The Commission commenced the Hearing at the Assam Administrative Staff College, Guwahati on May 18, 2013, as notified, however, few objectors/respondents who were present in the Hearing submitted that the Utilities have either not satisfactorily responded or not at all responded in certain cases and appealed to the Commission to adjourn the Hearing. APGCL responded that they have replied to objections submitted till last date of submission, and they have not submitted the replies to recently received objections. During the deliberation, the Commission also clarified the mandate under the Act, and also referred to the recent Judgment of Hon'ble Appellate Tribunal for Electricity. However, based on persistent requests from few objectors/respondents who were present in the Hearing, the Commission directed APGCL to submit replies to all such objections on or before May 24, 2013, and adjourned the Hearing to a later date, to be notified in due course.

(7) The Commission rescheduled the adjourned Hearing on July 2, 2013 and July 3, 2013. In this context, Notices were served on the objectors personally/by Registered Post informing the date and time of Hearing. Also, a comprehensive Notice was published in the seven leading newspapers of the State on June 26, 2013

(8) The Commission held Hearing at Circuit House, Guwahati, on July 2, 2013 and July 3, 2013, respectively, as notified, so that the objectors may make their oral submissions. However, a section of the objectors/respondents insisted upon that the Hearing be held in open space on both the days so that all people who desire to take part may participate and also that the media including live coverage on Television be allowed to cover the proceedings and disrupted the proceeding. The Commission stated that all the proceedings of the Commission are deemed to be judicial proceedings in terms of Section 95 of the Electricity Act, 2003 and therefore, allowing media inside the Hearing premises would not be appropriate. The Commission further clarified that the Hearing is being held only on the response petitions filed under affidavit by individuals/organizations. The Commission appealed to objectors/respondents to maintain faith in the Commission and allow the Commission to complete the proceedings with objective participation. Even after several requests from the Commission some of the objectors/respondents refused to co-operate and created pandemonium inside the Hearing premises.

(9) The Commission rescheduled the Hearing on September 27, 2013 and September 28, 2013, respectively. In this context, Notices were served on the objectors personally/by Registered Post informing the date and time of Hearing. Also, a comprehensive Notice was published in the seven leading newspapers of the State on September 19, 2013.

(10) The Commission held Hearing at Karmabir Nabin Chandra Bordoloi Indoor Stadium, Sarusajai, Guwahati, on September 27, 2013 and September 28, 2013, respectively, as notified.

(11) The details are discussed in the relevant section of this Tariff Order. Besides, all stakeholders who participated in the Hearing were afforded the opportunity to express their views on the Petition. The MYT Petition was also discussed in the meeting of the State Advisory Committee (constituted under Section 87 of the Electricity Act, 2003) convened on May 9, 2013 held at the Assam Administrative Staff College, Guwahati.

(12) The Commission, now in exercise of its powers vested in it under Section 61 and 62 of the Electricity Act, 2003 and all other powers enabling it in this behalf and taking into consideration the submissions made by the Petitioners, objections and suggestions received from stakeholders and all other relevant materials on record, carried out true-up for FY 2011-12, Annual Performance Review for FY 2012-13, and determined the ARR for FY 2013-14, FY 2014-15 and FY 2015-16, and the Generation Tariff for FY 2013-14 and accordingly, issued Order making the new tariff effective from December 1, 2013.

(13) The Commission further directs APGCL to publish a Public Notice 7 days before the implementation of the Order.

(14) Before parting, it would be worth mentioning that while passing the Tariff Order some delay could not be avoided and the factors attributed for the same have been stated herein before.

(T. Chatterjee)	(Dr. R.K. Gogoi)	(N. K. Das)
Member, AERC	Member, AERC	Chairperson, AERC

1 Introduction

1.1 CONSTITUTION OF THE COMMISSION

1.1.1. The Assam Electricity Regulatory Commission (hereinafter referred to as the AERC or the Commission) was established under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) on February 28, 2001.

1.1.2. AERC came into existence in August 2001 as a one-man Commission. Considering the multidisciplinary requirements of the Commission, it was made a Multi Member Commission consisting of three Members (including Chairperson) from January 27, 2006. The Commission started functioning as a Multi Member Commission on joining of two Members from February 1, 2006.

1.1.3. The Commission is mandated to exercise the powers and functions conferred under Section 181 of the electricity Act 2003 (36 of 2003) (hereinafter referred to as the Act) and to exercise the functions conferred on it under Section 86 of the Act.

1.2 TARIFF RELATED FUNCTIONS OF THE COMMISSION

1.2.1. Under Section 86 of the Act, the Commission has the following tariff related functions:

(a) To determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be within the State;

(b) To regulate electricity purchase and procurement process of distribution utilities including the price at which the electricity shall be procured from the generating companies, licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

(c) Facilitate intra-State transmission and wheeling of electricity;

(d) To promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purpose of this Act.

1.2.2. Under Section 61 of the Act in the determination of tariffs, the Commission is to be guided by the following:

(a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;

(b) That the electricity generation, transmission, distribution and supply are conducted on commercial principles;

(c) The factors, which would encourage competition, efficiency, economical use of the resources, good performance, Optimum investments, and other matters which the State Commission considers appropriate for the purpose of this Act;

(d) The interests of the consumers are safeguarded and at the same time, the consumers pay for the use of electricity in a reasonable manner;

(e) That the tariff progressively reflects the cost of supply of electricity at an adequate and improving level of efficiency and also gradually reduces cross subsidies;

(f) The National Power Plans formulated by the Central Government including the National Electricity Policy and Tariff Policy.

1.2.3. In accordance with the provisions of the Act, the Commission will not show undue preference to any consumer of electricity in determining the tariff, but may differentiate according to the consumers load factor, power factor, voltage, total consumption of energy during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required. (Section 62 of the Act).

1.2.4. If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the Commission, the State Government shall pay the amount to compensate the person affected by the grant of subsidy in the manner the Commission may direct as a condition for the licensee or any other person concerned to implement the subsidy provided by the State Government (Section 65 of the Act)

1.3 BACKGROUND AND BRIEF HISTORY

1.3.1. This Order relates to Petition No. 3 of 2013 filed by APGCL before the Commission for determination of Multi-Year tariff for sale of electricity to APDCL for the second Control Period from FY 2013-14 to FY 2015-16. APGCL is the successor of the erstwhile ASEB and owns and operates the generating plants previously owned by ASEB. APGCL has started functioning as a separate entity from December 10, 2004 as per Assam Electricity Reforms First Transfer Scheme, which was notified by the Government of Assam vide PEL. 151/2003/Pt/165 dated December 10, 2004. The

Government of Assam, vide notification No. PEL.151/2003/Pt/349 dated August 16, 2005 issued Orders to give effect to the reorganization of the Assam State Electricity Board and finalization of the provisional transfers effected as per the provisions of the Electricity Act, 2003 and First Transfer Scheme. The Govt. of Assam notified the opening Balance Sheet, which was updated and finalized based on the Audited Accounts of ASEB as on March 31, 2005 under Notification No: PEL.114/2006/120 of August 29, 2007.

1.3.2. The Commission notified the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006 vide No. AERC.2005/19 dated April 28, 2006, which was published in the Assam Gazette on May 24, 2006. It was stated that it shall come into force from the date of their publication in the Official Gazette of the Govt of Assam, i.e., w.e.f May 24, 2006. As per Regulation 1.2(d), the Regulations shall apply to all Generating Companies operating in the State of Assam, which are not subject to the jurisdiction of the CERC, which include Generating Companies owned or controlled by Central Government or Generating Companies with a composite scheme of generation and sale in more than one State.

1.3.3. As per Regulation 5.3, the tariff will be determined on the basis of the principles enunciated for a period of five years commencing from April 1, 2006 for generation. As per Regulation 6.5, tariff in respect of a Generating Company under the Regulations shall be determined station-wise and the Generating Company shall submit separate calculations in respect of each generating station. The Commission noted that APGCL filed its tariff petition in the MYT format for the period from FY 2013-14 to FY 2015-16.

1.3.4. **Assam Power Generation Corporation Limited**

APGCL is the successor Corporate entity of erstwhile ASEB formed pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003 (Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of personnel of the Board to successor entries.

(i) APGCL is a Company incorporated with the main object of generation of electricity in the State of Assam.

(ii) APGCL is a Generating Company under the provisions laid down in Section

14, provision 5, read with Section 131(2) of the Electricity Act 2003.

1.3.5. **Commission's Orders for the first Control Period**

APGCL filed the MYT Petition for the first Control Period for determination of Annual Revenue Requirement for FY 2010-11, FY 2011-12 and FY 2012-13 on February 8, 2010 in accordance with the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006.

The Commission, in exercise of the powers vested in it under Section 61, 62 and 64 of Electricity Act 2003 and all other powers enabling it in this behalf and after taking into consideration the submissions made by APGCL, the objections/suggestions by various stakeholders, response of APGCL, issues raised during public hearing and all other relevant material, issued the MYT Order on May 16, 2011.

Further, APGCL filed the Petition for approval of Annual Performance Review for FY 2011-12 and Truing-up for FY 2009-10, FY 2010-11 on June 6, 2012. APGCL further filed revised Petition for approval of Annual Revenue Requirement and determination of Generation Tariff for FY 2012-13 on September 28, 2012. Thereafter, the Commission passed the Tariff Order on Truing-up for FY 2009-10 and FY 2010-11, Annual Performance Review for FY 2011-12 and determination of revised ARR and Generation Tariff for FY 2012-13 on February 28, 2013.

1.4 PROCEDURAL HISTORY

APGCL filed the MYT Petition for approval of ARR for FY 2012-13 to FY 2015-16 and determination of generation tariff for FY 2013-14 on January 31, 2013. Further, APGCL filed the Petition for True-up of FY 2011-12 and Annual Performance Review for FY 2012-13 on March 21, 2013.

1.5 ADMISSION OF PETITION AND HEARING PROCESS

1.5.1. The Commission conducted preliminary analysis of the Petition submitted by APGCL as mentioned above and found that the Petitions were not complete in material particulars. Therefore, the additional data and clarifications on the MYT Petition were sought from APGCL on March 15, 2013 and the requisite information was submitted on March 26, 2013. Although, additional information an clarifications continued to be submitted, the Commission in the larger interest of the consumers a well as licensees and abiding by the statutory obligation of tariff determination, clubbed together both the petitions and admitted by the Commission on April 4, 2013 and registered as Petition No. 3 of 2013.

1.5.2. In accordance with Section 64 of the Electricity Act, 2003, the Commission directed APGCL to publish its application in the abridged form and manner to ensure due public participation.

A Public Notice was published by APGCL inviting objections / suggestions from stakeholders on or before April 30, 2013, which was published in the following 11 (Eleven) newspapers on April 9, 2013.

Date	Newspapers	Language
April 9, 2013	The Assam Tribune	English
	The Sentinel	English
	The Telegraph	English
	The Pratidin	Assamese
	The Amar Asom	Assamese
	Janasadharan	Assamese
	Dainik Janambhumi	Assamese
	Jugashankha	Bengali
	Sakalbela	Bengali
	Pratahkhabar	Hindi
	Purbanchal Prahari	Hindi

1.5.3. The time limit for submitting objections/suggestions was stipulated in accordance with the AERC (Conduct of Business) Regulations, 2004. Moreover, the same were also in line with the time limit given by most of State Electricity Regulatory Commissions in India, and the time allowed by the Commission in earlier tariff proceedings. Meanwhile, the Commission received requests for extending the time limit for filing objections/suggestions from some consumers/consumers organizations. The Commission positively considered the requests from different stakeholders, and extended the time limit for filing objections/suggestions upto May 13, 2013. In this context, a Public Notice was issued again by APGCL in the aforementioned 11 (Eleven) newspapers on May 1, 2013.

1.5.4. The Commission considered the objections received and sent communication to the objectors to take part in hearing process for presenting their views in person before the Commission, if they so desired. Accordingly, the Commission scheduled a Hearing in the matter on May 17, 2013 at Jorhat and on May 18, 2013 at Guwahati.

In this context, Notices were dispatched to the objectors personally/by Registered Post stating the date and time of hearing. Also, a comprehensive Notice was published in the following seven newspapers on May 12, 2013 in Assamese and English language. The Hearing was held at the Circuit House, Jorhat on May 17, 2013 as scheduled. All objectors/respondents who participated in the Hearing were given opportunity to express their views on the Petition.

Date	Name of Newspaper	Language
12.05.2013	The Sentinel	English
	The Assam Tribune	English
	Amar Asom	Assamese
	Pratidin	Assamese
	Dainik Janambhoomi	Assamese
	Dainik Jugashankha	Bengali
	Purbachal Prahari	Hindi

1.5.5. The Commission commenced the Hearing at the Administrative Staff College, Guwahati on May 18, 2013, however, few objectors/respondents who participated in the Hearing submitted that the Utilities have either not satisfactorily responded or not at all responded in certain cases and requested the Commission to adjourn the hearing. APGCL responded that they have replied to objections submitted till last date of submission, and they have not submitted the replies to recently received objections. During the hearing, the Commission also clarified the mandate under the Act, and also referred to the recent Judgment of Hon'ble Appellate Tribunal of Electricity. However, based on persistent requests from certain consumers who participated in the hearing, the Commission directed APGCL to submit replies to all such objections on or before May 24, 2013.

1.5.6. The Commission rescheduled the adjourned hearing on July 2, 2013 and July 3, 2013. In this context, Notices were dispatched to the objectors personally/by Registered Post stating the date and time of hearing. Also, a comprehensive Notice was published in the aforementioned seven newspapers on June 26, 2013.

1.5.7. The Commission held a hearing at Circuit House, Guwahati, on July 2, 2013 and July 3, 2013 so that the objectors may make their oral submissions. However, a section of the objectors/respondents insisted that the hearing be held in open space on both days so that all people who desire to take part may participate and also that the media, including live coverage on Television, be allowed to cover the proceedings, and did not allow the hearing to proceed. The Commission stated that all the proceedings of the Commission are deemed to be judicial proceedings in terms of Section 95 of the Act and therefore, allowing media inside the hearing premises would not be appropriate. The Commission further clarified that the hearing is being held only on the response petitions filed under affidavit by individual/organizations. The Commission appealed to objectors/respondents to maintain faith in the Commission and allow the Commission to complete the proceedings with objective participation. Even after several requests from the Commission some of the objectors/respondents refused to co-operate and created pandemonium inside the premises.

1.5.8. The Commission rescheduled the hearing on September 27, 2013 and September 28, 2013. In this context, Notices were dispatched to the objectors personally/by Registered Post stating the date and time of hearing. Also, a comprehensive Notice was published in the abovementioned same seven newspapers on September 19, 2013.

1.5.9. The Commission held hearing at Karmabir Nabin Chandra Bordoloi Indoor Stadium Sarusajai, Guwahati, on September 27, 2013 and September 28 , 2013.

1.5.10. All consumers/public who participated in the Hearing were given the opportunity to express their views on the Petition. All the written representations submitted to the Commission and oral submissions made before the Commission in the hearing and the responses of APGCL have been carefully considered while issuing this Tariff Order. The major issues raised by different consumers and consumer groups along with the response of the Petitioner, APGCL and views of the Commission are elaborated in Chapter 3 of this Order.

1.5.11. The Commission obtained further information and clarifications from APGCL, which are listed below:

i) APGCL submitted additional data/clarifications against letter No. AERC 401/2012/B/6 dated March 15, 2013 vide letter No. APGCL/CGM (G)/MYT/13-16/232/26 dated March 26, 2013.

ii) APGCL submitted additional data/ clarifications against letter No. AERC

401/2012/B/21 dated 26/04/2013 and minutes of data validation meeting on 29/04/2013 vide letter No. APGCL/CGM(G)/MYT/2013-16/232/41 dated 06/05/2013.

iii) APGCL submitted additional data/ clarifications against letter No. AERC 401/2012/B/Pt-I/2 dated 31/05/2013 vide letter No. APGCL/CGM(G)/MYT/2013-16/232/69 dated 05/06/2013.

1.6 STATE ADVISORY COMMITTEE MEETING

The meeting of the State Advisory Committee (constituted under Section 87 of the Electricity Act, 2003) was convened on May 9, 2013 and Members were briefed on the MYT Petition of APGCL for FY 2013-14 to FY 2015-16. The minutes of the meeting are appended to this Order as **Annexure - 1**.

2 Summary of ARR and Tariff Petition

2.1 ANNUAL REVENUE REQUIREMENT FOR THE PERIOD FROM FY 2013-14 TO FY 2015-16

The Assam Power Generation Company Limited submitted the Petition on January 31, 2013 for determination of Aggregate Revenue Requirement (ARR) for the Control Period from FY 2013-14 to FY 2015-16 and the Generation tariff for FY 2013-14. APGCL has projected ARR of Rs 690.84 Crore for FY 2013-14, Rs 777.12 Crore for FY 2014-15 and Rs 923.62 Crore for FY 2015-16.

2.2 SUMMARY OF THE PETITION

Summary of the Petition filed by APGCL for the period from FY 2013-14 to FY 2015-16 is shown in the Table below:

Table 2.1: ARR and Generation Tariff for FY 2013-14 to FY 2015-16

Sl. No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	Employee Cost	79.97	89.27	100.57
2	Repairs & Maintenance Expenses	62.06	47.76	43.94
3	Administrative & General Expenses	6.35	8.12	10.85
4	Interest & Finance Charges	79.93	124.96	165.07
5	Interest on Working Capital			
6	Taxes on income	21.07	29.20	36.53
7	Depreciation	42.15	78.60	107.70
8	Provision for Bad & Doubtful Debts	0.00	0.00	0.00
9	Return on Equity	69.45	96.26	120.45
10	Less: Other Income	9.40	9.31	8.79
	(A) Total Fixed Charges	**351.57**	**464.86**	**576.32**
	(B) Fuel Cost	**339.28**	**312.31**	**347.30**
	ARR (A) + (B)	**690.84**	**777.17**	**923.62**
1	Fixed cost in Rs / kWh (sent out)	2.04	2.42	2.38
2	Fuel Cost in Rs / kWh (sent out)	1.97	1.63	1.44
	Tariff Rs / kWh (sent out)	4.00	4.05	3.82

APGCL submitted that based on the existing position of plant and gas availability from various sources, age factor, gas pricing, inflation trend, etc., the fuel charges and fixed charges for LTPS and NTPS have been projected for the Control Period.

APGCL further submitted that for existing LTPS and NTPS, the norms specified by the CERC cannot be followed on account of indifferent mode of operations of plants due to ageing of stations and varied capacities of stations. APGCL further submitted that for KLHEP also, CERC norms cannot be applicable as the project was commissioned after an inordinate delay of 25 years on account of which the project cost is not comparable with the Hydro Projects having normal gestation period.

APGCL further submitted that the new power projects expected to be commissioned during MYT Control Period are 100 MW NRPP, 70 MW Lakwa Ph.-I Replacement Project, 6 MW Lungnit SHEP, 9 MW Myntriang SHEP, 10 MW Golaghat Gas IC Engine and 27 MW Cachar Gas Engine projects.

2.3 Truing up for FY 2011-12

The Assam Power Generation Company Limited submitted the Petition on March 21, 2013 for Truing up for FY 2011-12 and Annual Performance Review for FY 2012-13. APGCL submitted the net revenue deficit of Rs 103.53 Crore on account of truing up for FY 2011-12.

Table 2.2: Approved in Tariff Order for FY 2011-12 and Actuals as per Audited Accounts for FY 2011-12

Sl. No.	Item of Expense	Approved in Tariff Order dated May 16, 2011	Actuals as per Audited Annual Accounts for FY 2011-12
1	Units Generated (MU)	1852.75	1772.27
2	Units Sent out (MU)	1775.95	1671.94
3	Auxiliary Consumption (%)	4.02%	5.66%
	Revenue Income		
4	Revenue from Sale of power (Rs Crore)	371.78	433.96
5	Revenue from Subsidies & Grants (Rs Crore)		
6	Other Income (Rs Crore)	5.19	9.08
7	Total Revenue (Rs Crore)	376.97	443.04

Sl. No.	Item of Expense	Approved in Tariff Order dated May 16, 2011	Actuals as per Audited Annual Accounts for FY 2011-12
	Expenditure		
1	Cost of Fuel (Rs Crore)	168.57	313.64
2	Employee Cost (Rs Crore)	64.38	65.76
3	R&M Expenses (Rs Crore)	12.78	23.24
4	A&G Expenses (Rs Crore)	2.92	9.88
5	Depreciation Charges (Rs Crore)	23.93	31.07
6	Interest & Finance charges (Rs Crore)	49.97	26.27
7	Interest on working capital (Rs Crore)	10.89	-
8	Prior Period Expenses/(Charges) (Rs Crore)	-	21.88
9	Provision for Tax (Rs Crore)	5.54	0.93
10	Return on Equity (Rs Crore)	37.99	53.90
11	**Total Revenue Requirement (Rs Crore)**	**376.97**	**546.57**
12	**Net revenue Deficit (Rs Crore)**		**103.53**

APGCL submitted that in accordance with the Fuel and Power Purchase Price Adjustment Regulations, 2010, the monthly Fuel Price Adjustment bill has been raised regularly to APDCL.

3 Brief Summary of Objections Raised, Responses of APGCL and Commission's Comments

The Commission has received 7 (Seven) no. of objections/suggestions on the Petitions filed by APGCL from the following stakeholders:

Sr. No.	Name of the Objector
1.	Assam Branch - Indian Tea Association, Guwahati
2.	All Assam SSI Association, Industrial Estate, Bamunimaidam
3.	Federation of Industry & Commerce, North East Region, Guwahati
4.	Krishak Mukti Sangram Samiti, Guwahati
5.	Shri Deven Dutta, Public Activist, Sundarpur
6.	Assam Jyeshta Nagarik Sanmilan, Jorhat District, Jorhat
7.	R. N. Barthakur, Guwahati

APGCL has submitted its responses to the objections/suggestions from various stakeholders.

The Commission considered the objections/suggestions received and sent communication to the objectors to take part in hearing process by presenting their views in person before the Commission, if they so desired.

The Commission held hearing at the Circuit House, Jorhat on May 17, 2013 and at the Administrative Staff College, Guwahati on May 18, 2013. The Commission held a further hearing on July 2, 2013 and July 3, 2013 at Circuit House, Guwahati. The Commission also held hearing at Karmabir Nabin Chandra Bordoloi Indoor Stadium, Sarusajai, Guwahati, on September 27, 2013 and September 28, 2013.

The objectors attended the hearings and submitted their views/suggestions. All the written representations submitted to the Commission and oral submissions made before the Commission in the hearing and the responses of APGCL have been carefully considered while issuing this Tariff Order.

As a part of the tariff exercise, a meeting of the State Advisory Committee (SAC) was convened on May 9, 2013 at Assam Administrative Staff College, Guwahati to obtain views of SAC members on the ARR and Generation Tariff submitted by APGCL. The suggestions made by the members of SAC were duly taken into consideration by the Commission while finalizing the Tariff Order.

The objections/suggestions made by the stakeholders and responses of the Petitioner are briefly dealt with in this Chapter. The major issues raised by different consumers and consumer groups are discussed below along with the response of the Petitioner, APGCL and views of the Commission.

It is observed that the objections/suggestions filed are by and large repetitive in nature. Some of the objections/suggestions are general in nature. While all the objections/suggestions have been given due consideration by the Commission, only major responses/objections received related to ARR and Tariff Petition and also those raised during the course of Hearings have been grouped and addressed issue-wise rather than objector-wise, in order to avoid repetition.

Issue No. 1: Auxiliary Consumption

Objections:

Assam Branch of Indian Tea Association (ABITA) submitted that APGCL has proposed higher auxiliary consumption for the Control Period for all the generating stations and has ignored the norms provided for auxiliary consumption specified under AERC (Terms and Conditions for determination of Tariff) Regulations, 2006 as well as the norms approved in the Tariff Order for FY 2012-13. Though the Commission has already prescribed norms for auxiliary consumption in the Regulations, the Petitioner has proposed auxiliary consumption for all the generating stations, except KLHEP, based on the DPR values. Similarly, APGCL has claimed higher auxiliary consumption for the new and refurbished generating stations expected to become operational during the Control Period.

ABITA submitted that the unjustified increase in auxiliary consumption will increase the consumer tariff. ABITA requested the Commission to consider its own approach as adopted in the Tariff Order for FY 2012-13 and approve auxiliary consumption as per specified norms only

Response of APGCL:

For projecting the Auxiliary Power Consumption (APC) of NTPS, APGCL has considered the average APC of previous years from FY 2009-10 to November 2012. As regards LTPS, APGCL submitted that it has projected APC considering 9.4% for

Lakwa WHRU based on DPR and 8% for open cycle, and for KLHEP APC has been proposed as per Tariff Order for FY 2010-11. Further for new generating stations, APGCL has projected the APC as per DPR.

Comments of the Commission*:*

The Commission, in the previous Tariff Order, has directed APGCL to undertake energy audit of both NTPS and LTPS thermal generating stations and take necessary steps to reduce the auxiliary consumption to the required levels. In this regard, APGCL has submitted the Energy Audit Report of NTPS vide letter dated May 3, 2013. After taking into consideration the norms specified in the AERC Tariff Regulations, the Report submitted by APGCL and various submissions made by APGCL in the past and Central Electricity Authority technical standards, the Commission has approved the auxiliary consumption norms in this Tariff Order, as elaborated in Chapter 6 of this Order.

Issue No. 2: Gross Station Heat Rate (GSHR)

Objections:

ABITA has submitted that APGCL's Petition has been prepared without proper due diligence and validation, and contains numerous inadvertent mistakes, which are not only misleading but also challenge the sanctity/appropriateness of the entire Petition itself. The GSHR figures provided in the write- up portion of the Petition do not match for most of the Plants with the figures provided in the relevant Formats/Annexures. For instance, the GSHR proposed for NTPS is 3950 kcal/kWh in the Petition whereas the Format has a figure of 3559 kcal/kWh. Similarly, GSHR varies for other generating plants as well.

The projected GSHR for NTPS for the Control Period, as provided in the Format - Annexure V, is significantly higher as compared to the Commission approved GSHR, which is in line with the normative values of GSHR specified in the AERC Tariff Regulations, 2006. ABITA submitted that wastage of scarce natural resources due to inefficiencies of APGCL should not be passed on to consumer in the form of increase in tariff. The Gross Station Heat Rate as specified in Annexure II of the AERC Tariff Regulations, 2006 limit the recovery of variable cost at a lower GSHR of 3266 kcal/kWh. ABITA requested the Commission to consider GSHR as per applicable Regulations.

Response of APGCL:

APGCL submitted that the figure of 3950 kcal/kWh given in the petition as the Heat Rate of NTPS is the gross value, whereas the average Net Station Heat Rate of NTPS for last three years is 3559 kcal/kWh. The Gross Heat Rate projected for the MYT Control Period for LTPS and NTPS are the average of actual Heat Rates of these stations in the last three years.

Comments of the Commission*:*

The Commission in the Tariff Order for FY 2012-13, had directed APGCL to appoint an institution like IIT, Guwahati or Assam Engineering College for carrying out tests for studying the actual position of the generating stations and a Report may be submitted to the Commission. In this regard, APGCL submitted that IIT team had already visited NTPS and LTPS in 1st week of April, 2013 for undertaking the study and the detailed justification along with test reports will be submitted to the Commission as soon as the same is received from IIT, Guwahati. The Commission is of the view that till the Reports of the study are scrutinised by the Commission, the Commission cannot take any view on the need to revise the norms specified in the AERC Tariff Regulations, 2006. Accordingly, in this Order, the Commission has approved the Heat Rate norms as specified in the AERC Tariff Regulations, 2006.

Issue No. 3: Employee Expenses

Objections:

ABITA submitted that APGCL has proposed a steep increase of 15% over the approved employee expenses for FY 2012-13, which is not justified even if the capacity additions are considered. The employee expenses per MW approved for FY 2012-13 is around Rs. 18.5 Lakh/MW, whereas the employee expenses per MW proposed for FY 2013-14 is Rs. 21.1 Lakh/MW, which signifies an annual increase of more than 14%. ABITA further submitted that the Commission had adopted an approach of flat 5.72% increase in employee expenses in its Tariff Order for FY 2012-13 and the same escalation rate should be considered for FY 2013-14.

Response of APGCL:

APGCL submitted that as regards the employee expenses proposed in the Petition, salary portion has been hiked at 3% p.a for the MYT Period from FY 2013-14 to FY

2015-2016. Further, as DA rates are declared twice in a year, i.e., every January and July, accordingly a hike of 8% has been assumed for the month of July 2013 and similarly upto January 2016. APGCL further submitted that an average rate of 19% has been considered for calculating terminal benefits. Rest of the components of Employee expenses, i.e., Overtime, Other allowances, bonus, etc., have been calculated after considering an escalation of 5.72%.

Comments of the Commission*:*

The Commission has noted the objection and APGCL's reply. The employee expenses for the Control Period have been considered after due prudence check and after considering the past trend in this regard, as elaborated in Chapter 7 of this Order.

Issue No. 4: Repair & Maintenance (R&M) Expenses

Objections:

ABITA has submitted that APGCL in its revised ARR Petition, has claimed higher R&M expenses for FY 2012-13 to the extent of Rs. 30.94 Crore, however, the R&M expenses for FY 2013-14 have been proposed at more than Rs. 62.00 Crore, which requires a review by the Commission.

In this regard, ABITA requested the Commission to disallow this proposed arbitrary increase of more than 140% with respect to the approved R&M expenses of Rs. 26.58 Crore, as per Tariff Order for FY 2012-13. Further, the Commission should review the proposed R&M expenses and disallow the unjustifiable increase.

Response of APGCL

APGCL submitted that the R&M expenses projected for the MYT period is almost as per norms, excluding the cost of major overhauling of certain machines. Major Overhauling will be undertaken in the MYT period as per OEM manual and it is essential for the proper functioning of the machines.

Comments of the Commission*:*

The Commission has noted the objection and APGCL's reply. The R&M expenses for the Control Period have been considered after due prudence check and after considering the past trend in this regard, as elaborated in Chapter 7of this Order.

Issue No. 5: Administration and General (A&G) Expenses

Objection:

ABITA submitted that APGCL has proposed the A&G expenses without considering the A&G expenses approved for FY 2012-13 and has proposed an increase of more than 12% for FY 2013-14 and even higher increase for FY 2014-15 and FY 2015-16 at 28% and 34%, respectively. If the A&G expenses are considered in per MW terms, then the proposed increase is as high as 19%, 21% and 11% for FY 2013-14, FY 2014-15 and FY 2015-16, respectively. Further, APGCL has also failed to provide any justification for the increase in A&G expenses. ABITA requested the Commission to disallow this unjustifiable increase in A&G expenses and allow A&G expenses considering an escalation of 5.72%. ABITA further submitted that the Commission in the Tariff Order for FY 2012-13 had disallowed the proposed A&G expenses and had provided an escalation of only 6%, the same may also be considered for approving the A&G expenses for the Control Period.

Response of APGCL:

APGCL submitted that it has considered an escalation of 5.72% for projecting A&G expenses for the period from FY 2013-14 to FY 2015-16.

Comments of the Commission*:*

The Commission has noted the objection and APGCL's reply. The A&G expenses for the Control Period have been considered after due prudence check and after considering the past trend in this regard, as elaborated in Chapter 7 of this Order.

Issue No. 6: Maintenance Spares

Objection:

ABITA submitted that APGCL has completely ignored the norms specified in the AERC Tariff Regulations, 2006, whereby maintenance spares equivalent to 1% of GFA are only allowed, as approved by the Commission in the previous Tariff Order for FY 2012-13.

Response of APGCL:

APGCL submitted that the maintenance spares proposed by APGCL are in line with the AERC Tariff Regulations, 2006 and are equivalent to 1% of GFA. Due to inclusion of new projects expected to be commissioned in the MYT Control Period and major Renovation & Modernisation works of existing stations, the Gross Fixed

Assets (GFA) is projected to be increased which in turn results in higher maintenance spares.

Comments of the Commission*:*

The Commission has noted the objection and APGCL's reply. The maintenance spares for the Control Period have been considered in accordance with the AERC Tariff Regulations, 2006, after due prudence check and after considering the new projects that can be realistically expected to be commissioned during the Control Period, as elaborated in Chapter 7 of this Order.

Issue No. 7: Equity Contribution

Objection:

ABITA submitted that APGCL has proposed an addition of Rs. 505 Crore to its equity base during the Control Period, which cannot be substantiated even if the projects being commissioned during the Control Period are included. The Petitioner has included the equity investment even for those projects, which are getting commissioned beyond the Control Period.

A careful analysis of the investment plan reveals that the total equity addition during the Control Period will be Rs. 158.5 Crore in FY 2015-16 alone, with respect to Lakwa RPP (Rs. 84 Crore), Gas IC Engine Golaghat (Rs. 23.5 Crore) and Gas IC Engine Cachar (Rs. 51 Crore). Thus, APGCL has neglected the principles specified in the AERC Tariff Regulations, 2006 and included the equity for the projects even before their commissioning.

ABITA requested the Commission to revalidate the equity addition during the Control Period while approving the ROE during the Control Period.

Response of APGCL:

APGCL submitted that it normally considers a composition of 70:30 ratio of Debt: equity for new projects. The equity base considered for estimation of ROE is 30% of total project cost. Accordingly, whatever the project cost, only 30% of it is considered as equity and ROE of 15.5% has been charged on the equity contribution.

Comments of the Commission*:*

The Commission has noted the objection and APGCL's reply. The ROE for the Control Period has been considered in accordance with the AERC Tariff Regulations, 2006, after due prudence check and after considering the new projects that can be realistically expected to be commissioned during the Control Period, as elaborated in Chapter 7 of this Order.

Issue No. 8: Rate of Return on Equity and Income Tax

Objection:

ABITA submitted that APGCL has computed the ROE @ 15.5%, which is inconsistent with Regulation 57 of the AERC Tariff Regulations, 2006 as well as the approach adopted by the Commission in the Tariff Order for FY 2012-13, which allow for ROE @ 14%. ABITA requested the Commission to consider the ROE @ 14% and consider the equity base only with respect to commissioned projects in line with the AERC Tariff Regulations, 2006.

Further, submitted that APGCL has not provided any basis for proposing provision for income tax. However, the analysis of the same reveals that APGCL has considered income tax rate of 30.33% after grossing up the RoE amount while estimating the amount of taxes.

ABITA submitted that considering the negligible tax implication in the past years, the Commission should disallow the large amount of provision for taxes claimed by the Petitioner and approve the actual tax paid based on the audited accounts.

Response of APGCL:

APGCL submitted that it has proposed ROE @ 15.5% based on the rate specified by CERC in CERC (Terms and Conditions of Tariff) Regulations, 2009.

Comments of the Commission*:*

The Commission has approved the ROE @14% in accordance with the AERC Tariff Regulations, 2006. As regards the income tax, the Commission has approved the same based on prudence check, as elaborated in Chapter 7 of this Order.

Issue No. 9: Depreciation

Objection:

ABITA submitted that the depreciation proposed in the Petition appears to be incorrect and does not conform to the depreciation rates specified in the AERC Tariff Regulations, 2006 and considered in the previous Tariff Orders for FY 2011-12 and FY 2012-13. Further, there is no congruence between the proposed average depreciation rate with the gross fixed assets. The computation shows that the average rate of depreciation claimed by APGCL for FY 2014-15 and FY 2015-16 is 5.52% and 7.42%, respectively, which is significantly higher than the average depreciation rate approved in the previous Control Period. ABITA requested the Commission to consider an average rate of 3.29% for estimation of depreciation for FY 2014-15 and FY 2015-16, which is the average of approved depreciation rate in previous Tariff Orders for FY 2011-12 and FY 2012-13.

Response of APGCL:

APGCL submitted that depreciation has been calculated considering the depreciation rate specified in AERC Tariff Regulations, 2006.

APGCL submitted that in its presentation to the State Advisory Committee Meeting, it has mentioned that though the KLHEP project was commissioned in March 2007, most of the assets (Plant Machinery, Buildings, etc.) were procured during the period 1992. As the assets were kept idle for about fifteen (15) years, so for deriving depreciation rate of assets of KLHEP, life span of assets may be considered as 20 years instead of normal life span of 35 years for hydro Station. Therefore, considering 20 years of life span, the rate of depreciation of Plant & Machinery should be 4.5% (i.e. 90/20, considering 10% salvage value). Further, APGCL submitted that CERC (Terms and Conditions of Tariff) Regulations, 2009 has also revised the Depreciation Schedule where rate of depreciation for Plant & Machinery is 5.28%.

Comments of the Commission*:*

The Commission has approved the depreciation in accordance with the AERC Tariff Regulations, 2006, which are the applicable Regulations for the State of Assam. As regards APGCL's submission regarding consideration of reduced life of asset due to delayed commissioning, the Commission does not find any merit in the same, as depreciation can be allowed only after commissioning, and APGCL cannot expect to get higher depreciation due to the delay in commissioning, which is due to its own inefficiencies.

Issue No. 10 Debt and Interest on Debt

Objection:

ABITA submitted that APGCL has neglected financial principles and capitalized the debt without considering the proposed date of commercial operation of assets during the Control Period. ABITA further submitted that in the proposed investment plan as provided in Investment Plan Table II (pg. no.36 of the Petition), the total debt which is attributable to the assets proposed to be commissioned during the Control Period is estimated to be only Rs. 881.70 Crore, whereas the remaining debt pertains to the assets, which will be commercially operational only beyond the Control Period.

Based on computation undertaken by ABITA, suggested that a total of Rs. 37.38 Crore, Rs. 68.71 Crore and Rs. 77.53 Crore during FY 2013-14, FY 2014-15 and FY 2015-16, respectively, should be allowed as interest, and requested the Commission to consider the debt as per investment plan provided APGCL and disallow any excessive interest on the proposed debt. Further, the Commission should also direct APGCL to be careful in their filings because such claims, which do not confirm with the applicable Regulations, tend to misguide the consumers and other stakeholders.

Response of APGCL:

APGCL submitted that addition of debt shown in the Investment Plan Table-II (Pg. no 36) of the Petition details the loans taken for projects during the Control Period only, i.e., the loans taken before or after the Control Period are not forming part of it.

Further, APGCL submitted that it has considered only the projects which are expected to be commissioned in the Control Period and not projects expected to be commissioned beyond the Control Period, for computation of interest expenses.

Comments of the Commission*:*

The Commission has approved the interest and finance charges in accordance with the AERC Tariff Regulations, 2006, after due prudence check and after considering the new projects that can be realistically expected to be commissioned during the Control Period, as elaborated in Chapter 7 of this Order.

Issue No. 11: Annual Revenue Requirement

Objection:

ABITA submitted the comparison of Annual Revenue Requirement (ARR) proposed by APGCL and as per ABITA

Response of APGCL:

APGCL has not submitted any reply.

Comments of the Commission*:*

The ARR for the Control Period has been considered after due prudence check of each head of expenditure and the performance norms, in accordance with the AERC Tariff Regulations, 2006, as elaborated in Chapter 7 of this Order.

Issue No. 12: Hike in Tariff

Objection:

Assam Jyeshta Nagarik Sanmilan submitted that consumers are feeling harassed and tortured over the frequent tariff hikes and insufficient and irregular electricity supply. Further, the consumers are unaware of the reasons prompting the exorbitant rise in the tariff. The ex-parte decision of the three concerned agencies appears to be quite undemocratic. Therefore, there should be a thorough discussion on such a vital issue between the Commission and the consumers.

Response of APGCL:

APGCL submitted that Fuel Cost has been projected as per the present market rate of Gas. On the other hand, Fixed Cost has been projected considering 5.72% escalation on different heads except Employee Expenses, where escalation has been considered as 19%. 15.5% ROE has been considered as per the norms.

APGCL further added that the process of tariff determination by the Commission is not an ex-parte decision. The Commission will conduct Hearing for the stakeholders on the tariff proposal of the Utilities and after taking into consideration the submissions made by the Petitioners, objections and suggestions received from the stakeholders and all other relevant materials, the Commission will finalise the Generation Tariff of APGCL.

Comments of the Commission*:*

The Commission does not agree with the contention that tariff has been decided on ex-parte basis. In all tariff process, the Commission is giving due opportunity to stakeholders to submit their comments in writing and also conducts Hearing and considers the stakeholders' suggestions, while taking its decision. The Commission has approved the ARR and tariff after undertaking detailed prudence check, as detailed in Chapter 7 of this Order.

Issue No. 13: Generation

Objection:

Krishak Mukti Sangram Samiti (KMSS) requested the Commission to ensure optimum generation from existing power generating stations.

Response of APGCL:

APGCL submitted that in the last five years NTPS and LTPS have achieved higher PLF than approved PLF as specified in the AERC Tariff Regulations, 2006. For Karbi Langpi HEP, the average Capacity Index (Availability) is 92.9% for the last 5 years, which indicates the healthy running condition of the Units, however, depending upon the water availability, the yearly generation of KLHEP varies.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has approved the PLF of various generating stations based on the norms specified in the AERC Tariff Regulations, 2006 and considering the performance achieved in the past, as elaborated in Chapter 6 of this Order.

Issue No. 14: Solar power and sub-MW capacity hydropower projects

Objection:

Krishak Mukti Sangram Samiti (KMSS) requested the Commission to encourage solar power and sub-MW capacity hydropower projects.

Response of APGCL:

APGCL submitted that a few solar power projects have been developed by APDCL. As regards sub-MW capacity hydropower projects, APGCL submitted that the Government of Assam has identified 90 locations in various parts of the State of Assam for development of Hydro Projects ranging from 0.10 MW to 20 MW. Out of these, fifty-eight (58) locations have been identified for development of projects below 1 MW. The Government of Assam has notified a Policy for development of Small Hydro Project (SHP) during March 2007, which allows development of any other new SHP identified by Independent Power Producer (IPP)/Agencies/User Societies. The Government of Assam also invites any qualified interested IPPs/user societies to bid for identified projects for development through this Policy.

Further, APGCL has taken up implementation of 2 (two) SHPs namely, Lungnit SHP (6 MW) and Myntriang SHP (9 MW). Preparation of DPR for Amring SHP (21 MW) is under process and is targeted for completion by June 2013.

APGCL has engaged Assam Power Projects Development Company (APPDCL), a JV company of Government of Assam and ILFS, for development of Decentralized Distributed Generation (DDG) projects. Till now, APGCL has forwarded 2 (two) DPRs namely Haru (2x20 kW) and Langsomipi (2x40 kW), (both located in the Karbi Anglong district) to the Rural Electrification Corporation (REC) for concurrence and extending necessary financial assistance for implementation of these projects. Further, APPDCL has taken up few SHPs at different parts of the State of Assam.

Comments of the Commission:

The Commission has already directed APGCL to develop power projects in order to meet the energy requirement of the State. The Commission has also specified minimum procurement of Renewable Energy (RE), i.e., RPO, under Regulation 4 of the AERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010, which specify the Renewable Purchase Obligation for the respective year.

Issue No. 15: No proposal for capacity addition

Objection:

Krishak Mukti Sangram Samiti (KMSS) submitted that the State Government is trying to run the sector without any plan for expansion or capacity addition in generation. KMSS cited that out of the proposed expansion of 68672 MW of thermal power in 12^{th} five year Plan (2012-17) through coal based power generation, the Centre has received proposal for only 50 MW from Assam, which are two expansion projects of 25 MW of each. It also cited the proposal submitted by other States (Maharashtra – 1320 MW, Madhya Pradesh- 2680 MW, Bihar – 3300 MW, Punjab – 2890 MW)

Response of APGCL:

APGCL has not submitted any reply.

Comments of the Commission:

The Commission agrees with the objector that there is an urgent need to enhance the generation capacity in the State by ensuring adequate generation from the existing projects as well as setting up low cost generation facilities, depending on the fuel availability, so that the dependence on the costlier generation sources from outside the State can be reduced. However, it is observed that there is a significant delay in most new and renovation projects proposed by APGCL. APGCL should look into this matter and adhere to the projected timelines for completion of projects, and should also conceive appropriate projects, with the overall objective of reducing the cost of power in the State of Assam.

Issue No. 16: **Shutting down of existing projects**

Objection :

Krishak Mukti Sangram Samiti (KMSS) submitted that Chandrapur station of 60 MW is shut down. Further, Bongaigaon Thermal Power Plant (60 x 4 = 240 MW) is under shut down condition for the last three years. Bardikharu Hydel Power Project (1.5 MW) is also shut down. The proposed works for Amguri Project (60 MW) did not even take off.

Response of APGCL:

APGCL submitted that Chandrapur station has been shut down due to significant increase in crude oil price that has increased the per unit cost of generation. However, at present work is in progress for operating the plant on coal instead of furnace oil. Further efforts are also being made to run the power Station with imported coal, if necessary.

As regards Bongaigaon Thermal Power Plant, APGCL submitted that due to weak economic condition and increase in per unit Cost of Generation, all the Units of Bongaigaon Thermal Power Plant have been shutdown. At present 750 MW plant is under construction by NTPC at the BTPS site, and the first Unit of the Plant is expected to be commissioned in the year 2014. Assam will get a share of 380 MW when all the Units of the Plant are put into operation.

APGCL further submitted that Amguri gas based Thermal power Station of 100 MW capacity advanced to the level of land allotment but due to unavailability of gas linkage, further work could not be undertaken. However, the Govt. of Assam has already been pursuing with the Ministry of Petroleum & Natural Gas for allocation of the required gas.

APGCL further submitted that Bordikharu Small Hydro Project (2 MW) was commissioned in 1983, however, the Project was closed in the year 1991 due to the reason that the O&M of the project was not possible as the project was located at remote location and it was also difficult to mobilise manpower at the site.

Comments of the Commission:

The Commission agrees with the objector that there is an urgent need to enhance the generation capacity in the State by ensuring adequate generation from the existing projects as well as setting up low cost generation facilities, depending on the fuel availability, so that the dependence on the costlier generation sources from outside the State can be reduced. However, it is observed that there is a significant delay in most new and renovation projects proposed by APGCL. APGCL should look into this matter and adhere to the projected timelines for completion of projects, and should also conceive appropriate projects, with the overall objective of reducing the cost of power in the State of Assam.

Issue No. 17: **Deteriorating Performance / Operating parameters of the generating stations of APGCL**

Objection :

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that the performance/operating parameters of the generating stations of APGCL are deteriorating and do not conform to the provisions of the AERC Tariff Regulations, 2006. The objector further submitted that APGCL has also sought a relaxation in plant availability on the purported reason that there is non-availability of gas. The Commission should not accept the same as arrangement of fuel is the responsibility of the generator and the risk on account of the same cannot be passed on to the consumers. The Hon'ble ATE in the Judgment dated April 30, 2013 in Appeal No. 110 of 2012 (NTPC v/s CERC & Others) had rejected a similar prayer for relaxation of PLF on account of non-availability of fuel.

The objector added that APGCL is asking for relaxation in norms instead of making effort in improving the performance. In this regard, it is submitted that no relaxation in any of the operating parameters should be allowed to APGCL since the inefficiencies in operation and lack of planning on the part of APGCL cannot be passed on as a burden to the consumers.

Response of APGCL:

APGCL submitted that it has projected its generation as per the contracted quantity of gas linkage in case of NTPS and as per availability of gas in case of LTPS in the MYT Petition (2013-16). APGCL submitted that in the MYT Petition, the projection of Availability factor and PLF are significantly higher than the norms specified in the

AERC (Terms and Conditions of Tariff) Regulations 2006 for NTPS and LTPS, i.e., 50%. Hence, the Commission may not find any issue of allowing relaxation on the ground of lower availability of gas.

As regards the performance of Karbi Langpi HEP (KLHEP), APGCL submitted that in the MYT Petition (2013-16), the projection of yearly generation of KLHEP is based on design generation.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission finds merit in the reply of APGCL as PLF and Availability projected for LTPS are higher than the norms specified in the AERC (Terms and Conditions of Tariff) Regulations 2006. However, for NTPS the PLF projected by APGCL for FY 2013-14 is less than the normative PLF, i.e., 50%. Accordingly, the Commission has approved the PLF and Availability of other generating stations except NTPS as projected by APGCL for the Control Period. For NTPS station, the Commission has approved the PLF as per the norms specified in the AERC Tariff Regulations, 2006 and availability for NTPS has been considered as projected by APGCL as elaborated in Chapter 6 of this Order.

Issue No. 18: **Parameters of Myntriang SHEP**

Objection :

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that APGCL has claimed the entire capitalisation of the cost of Myntriang SHEP and projected that commercial operation would be declared in April 2013. The Commission should not accept the project cost of Rs. 81 Crore for a 9 MW project which means the per MW capital cost is Rs. 9 Crore.

Further, no fixed date has been provided for the commissioning of Myntriang SHP. The project seems to have missed its deadlines for commissioning and there are serious problems in its construction, design and operational capability. Accordingly, the viability of the project and its operational capabilities itself are in serious doubt. In such circumstances, there is no issue of providing any tariff for Myntriang SHP project. In this regard, APGCL should operate the generating station and generate electricity at reasonable cost to the consumers.

The objector further submitted that APGCL must first file a Petition for determination of provisional tariff and should not pass the additional cost to the consumers without giving proper explanations for the same.

Further, under Regulation 28 of the CERC RE Tariff Regulations 2012, the capital cost benchmarking of small hydro power projects has been specified. Accordingly, with regard to the above benchmarking, APGCL should provide the clarification about the capital cost of Rs. 81 Crore allowed to Myntriang SHEP.

In its rejoinder to APGCL's reply, FINER submitted that since six months of the tariff period is already over, therefore, APGCL must be directed to provide the exact COD of the Myntriang SHEP instead of claiming the fixed charges based on some assumptions. FINER further submitted that since the COD of the project has been delayed, there are serious issues related to viability of the project and its operational capabilities, therefore, approving tariff without prudence check in this Tariff Order is not appropriate. FINER further submitted that in terms of Section 37 of the AERC Tariff Regulations 2006, APGCL must file Petition for determination of provisional tariff.

Response of APGCL:

APGCL submitted that the Detailed Project Report for Myntriang Small Hydro Electric Project (MSHEP- Stage-I: 2 x 3.0 MW and Stage-II: 2 x 1.5 MW) was prepared in 2005 with an estimated cost of Rs. 67.93 Crore. Based on the results of the competitive bidding, APGCL allotted the execution of the Project to the EPC Contractor at a project cost of Rs.78.17 Crore (Excluding IDC).

APGCL further submitted that it has claimed the fixed charges in respect of MSHEP based on the proposed date of commissioning of the Project.

APGCL in its reply to the rejoinder submitted that it has already furnished the related reply regarding implementation of Myntriang SHEP. The expected COD for the Stage-II (2×1.5 MW) of the project is November 2013.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has considered the cost as mentioned in the DPR instead of the cost claimed by APGCL and as regards Myntriang SHEP and Lungnit SHEP the Capital cost is not available with the Commission and hence, the Commission has considered normative capital cost as Rs 7 Crore/ MW in accordance with the Regulation 29.1 of AERC (Terms and

Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012, as it will not be prudent to approve the actual project cost without undertaking prudence check of the actual expenditure.

Issue No. 19: **Commissioning of New Power Projects in the MYT Period**

Objection :

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that at Page 40-44 of the Petition, APGCL has proposed several new generating stations. It is not possible for APGCL to commission so many generating projects in such a short duration, i.e., by FY 2015-16. Further, most of the projects envisaged to be commissioned during the Control Period have neither received the gas allocation nor clearances from the authorities. In this regard, the Commission should not allow the capital cost for such projects.

In its rejoinder to APGCL's reply, FINER submitted that APGCL has reiterated the contents of its Petition in its reply. FINER further submitted that existing gas availability being sufficient for Lakwa and Namrup does not show the bonafide of APGCL to commission the new generating stations within the Control Period from FY 2013-14 to FY 2015-16. FINER further submitted that APGCL in its reply has admitted that most of the projects are only in the pipeline and are expected to be commissioned after the Control Period from FY 2013-14 to FY 2015-16. Therefore, there is no point in approving tariff for the same and accordingly inflated proposals of fixed costs on account of above stations needs to be ignored.

Response of APGCL:

APGCL submitted that in the MYT Petition (FY 2013-16), the commissioning of following Power Projects is not envisaged.

1. 500 MW Margherita Project.
2. 100 MW Amguri CCGT Project.
3. 100 MW Namrup Expansion Project.
4. 21 MW Amring SHEP.
5. 120 MW Lower Kopili HEP
6. 20 MW Dhanshiri SHEP

Further, in the MYT Control Period, APGCL envisaged commissioning of the following gas based projects, namely, 100 MW Namrup Replacement CCGT Project and 70 MW Lakwa (Ph.-I) Replacement Project. For these two Projects, the existing gas linkage will be sufficient for its operation with high efficiency gas turbine and gas IC Engine for Namrup Replacement and Lakwa Replacement project, respectively.

For all future pipeline gas based projects, such as 100 MW Amguri CCGT project, 100 MW Namrup Expansion Project, etc., the implementation is subject to establishment of gas linkage only.

APGCL in its reply to the rejoinder submitted that in the MYT Control Period (FY 2013-14 to FY 2015-16), it has envisaged commissioning of the 100 MW Namrup Replacement CCGT Project and 70 MW Lakwa (Ph.-I) Replacement Power Project to replace the old generating units having high-heat rates and high maintenance cost. The requirements of gas of NRPP and LRPP can be met from the existing gas linkages.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has considered the revised Investment Plan submitted by APGCL vide letter dated May 6, 2013 and accordingly approved the tariff only for generating stations that are getting commissioned during this Control Period from FY 2013-14 to FY 2015-16. The details of the projects considered to be commissioned during the Control Period have been elaborated in Chapter-7 of the Order.

Issue No. 20: Interest on Working Capital

Objection:

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that APGCL in its MYT Petition has submitted that the Interest on Working Capital (IWC) is considered in accordance with AERC Tariff Regulations 2006. In this regard, the objector submitted that APGCL should modify its IWC claim in accordance with the fuel cost and maintenance spares actually approved by the Commission.

Response of APGCL:

APGCL submitted that Interest on working capital is calculated in line with the AERC Tariff Regulations.

The rate of interest on working capital @ 14.5% has been considered for computing interest on working capital.

APGCL, in its reply to the rejoinder, submitted that it has claimed Interest on Working

Capital (IWC) as per the Tariff Regulations. For thermal generating stations, IWC is claimed as per Tariff Regulations as detailed in Part – IV, Regulation 42. For Hydro generating station, IWC is claimed as per Tariff Regulations detailed in Part – V, Regulation 64.

APGCL further submitted that FINER has quoted Regulation 64 which is related to Hydro generating station only, but APGCL has both Hydro as well as thermal generating stations. Further, the Commission in the Tariff Order for FY 2012-13 has also approved IWC same as submitted by APGCL in MYT *(Ref: Table 4.19 Interest on Working Capital approved in the Revised ARR for FY 2012-13, page No. 55)*.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has approved interest on working capital based on the norms specified in the AERC Tariff Regulations, 2006 and expenses approved by the Commission, as elaborated in Chapter 7 of this Order.

Issue No. 21: **Fuel Cost**

Objection:

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that submitted that for FY 2012-13, the Commission had approved fuel cost of Rs. 183 Crore, while for FY 2013-14, APGCL has claimed fuel cost of Rs. 339 Crore on account of alleged increase in gas price. In this regard, the Commission has already approved the FPPPA formula in which the entire fuel cost is passed on to the consumers. Therefore, the Commission should apply a thorough prudence check before allowing any fuel cost.

Response of APGCL:

APGCL has not submitted any reply.

Comments of the Commission:

Following the past practice of approving the Fuel Cost based on the actual fuel cost of the previous year, subject to prudence check and in accordance with normative parameters, the Commission has considered the actual fuel cost for FY 2012-13 for approving the fuel cost for the Control Period.

Issue No. 22: **Excessive Projection of ARR**

Objection:

Federation of Industry & Commerce of North Eastern Region (FINER) submitted that that APGCL has proposed excessive increase in all expenses and, therefore, the ARR of APGCL has increased significantly. The objector added that APGCL is aware of the actuals being allowed by the Commission on account of the various expenses for the previous years. Therefore, APGCL must claim similar expenses with the applicable escalations only instead of projecting highly inflated ARR.

FINER further submitted that interest cost for new generating stations cannot be allowed as there is no clarity on the issue of setting up of the generating stations.

Response of APGCL:

APGCL submitted that O&M cost comprises employees cost, Administration & General expenses and Repair & maintenance expenses, and submitted head-wise detailed explanation in line with that submitted in the MYT Petition and replies submitted to the Commission's additional queries.

APGCL, in its reply to the rejoinder, submitted that projections of O&M expenses (Employee Cost, Administrative & General Expenses and Repair & Maintenance Expenses), for MYT Control Period have been made based on past trends and the same has been explained in the MYT Petition as well as in the reply submitted to the FINER objection.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The ARR for the Control Period has been considered after due prudence check of each head of expenditure and the performance norms, in accordance with the AERC Tariff Regulations, 2006, as elaborated in Chapter 7 of this Order.

Issue No. 23: **General**

Objection:

All Assam SSI Association submitted that in accordance with the AERC Tariff Regulations, 2006, Multi Year Tariff Petition should be filed on or before 1st of

December but on the contrary, APDCL, AEGCL and APGCL filed their ARR along with Tariff Petition on January 31, 2013.

The objector further submitted that APGCL has incurred unproductive expenditure on CTPS by way of Employees Cost. The CTPS was transferred to JV Company, i.e., MIS IAPL in 2010 as per Joint Venture Agreement. With regard to such transfer, APGCL cannot show the Employees Cost in their ARR for Tariff petition.

Response of APGCL:

APGCL submitted that though APGCL signed a Joint Venture Agreement with M/s Imperial APGCL Power Ltd in February 2010, the assets, i.e., Land and Buildings and other plants & machineries is yet to be handed over to the JV Company as the work for revival of 2x30 MW Chandrapur TPS (CTPS) is not progressing due to non-allotment of required coal linkage. So the APGCL employees are posted in CTPS till date for preservation of the machineries and equipment and to safeguard the entire CTPS assets.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has approved the employee cost by providing an escalation of 8% twice on the trued up employee expenses of FY 2011-12 as elaborated in Chapter 7 of this Order.

Issue No. 24: High tariff of APGCL

Objection :

Shri Deven Dutta, Public Activist, Sundarpur submitted that APGCL has two gas based thermal stations at Namrup and Lakwa and a 2 x 50 MW hydel plant of its own. Though, the installed capacity of APGCL is 391.5 MW, APGCL cannot generate power more that 275 MW due to less availability of gas and water. However, the tariff proposal for next three years is Rs. 3.89/ kWh, Rs. 3.84 / kWh and Rs. 3.58/ kWh in comparison to Rs. 2.79 / kWh for FY 2012-13. This has both thermal and hydro mix. He further submitted that per unit rate of gas based NEEPCO plant is less than the gas based APGCL station. In this regard, APGCL should submit the reason for such a high tariff.

Response of APGCL:

APGCL submitted that in the MYT Petition for FY 2013-16, APGCL has projected variable cost as per the current market price of natural gas.

As regards NEEPCO's thermal power stations, APGCL submitted that NEEPCO's thermal power station are relatively newer than the Namrup TPS and Lakwa TPS, therefore, comparative tariff of APGCL (thermal Hydro Mix) may be higher than the thermal power station tariff of NEEPCO.

APGCL further submitted that in order to reduce the cost, APGCL is implementing Namrup RPP to replace the existing Namrup TPS with higher efficiency generating units. Similarly, Lakwa (Ph-I) project is also planned to be replaced by high efficiency Gas IC engines.

Comments of the Commission:

The Commission has noted the objection and APGCL's reply. The Commission has approved the tariff after due prudence check of each head of expenditure and the performance norms, in accordance with the AERC Tariff Regulations, 2006, as elaborated in Chapter 7 of this Order.

Issue No. 25: Overdraft and Payment of Interest due to Wrong Parking of Funds

Objection :

Krishak Mukti Sangram Samiti (KMSS) and Shri. R.N. Barthakur submitted that as per the CAG Report for FY 2009-10, APGCL had to take overdraft from the Bank paying interest, on account of wrong parking of funds in different Financial Institutions.

Response of APGCL:

Fixed Deposits made during FY 2009-10 were only temporary parking of funds and have benefited the Company in terms of interest earnings. Overdraft facilities were used to meet certain urgent expenses, however, use of overdraft facility has been completely restricted from the beginning of July 2010. As a whole, APGCL has benefited by earning interest on the Fixed Deposits, which more than offset the expense incurred on the overdraft facility.

Comments of the Commission:

Noted.

Issue No. 26: Shut-down of Unit 4 of Namrup TPS

Objection :

Shri. R.N. Barthakur submitted that as per the CAG Report of FY 2009-10, Unit 4 of Namrup TPS was under prolonged shut-down for around four years, on account of non-availability of Starting Diesel Engine, on account of which a loss of Rs. 60.33 crore has been incurred by APGCL.

Response of APGCL:

Unit 4 of Namrup TPS was under shut-down for 45 months due to failure of Starting Diesel Engine (SDE), as cracks developed on both cylinder heads of the SDE. Various attempts to source necessary spares and repair the cracks in the cylinder heads could not succeed. M/s Cummins had already discontinued manufacturing of this model of SDE and its spare parts. Subsequent efforts to replace the same also did not materialise in spite of best efforts. Meanwhile, one spare SDE of LTPS was repaired locally and was shifted to NTPS for use in Unit 4 and the Unit was put into operation in July 2009.

Comments of the Commission:

Noted. The Commission desires that prompt decision and timely action should be taken in such cases to avoid outages of generating plants for long periods, considering the demand-supply gap and already low level of supply from APGCL stations.

Issue No. 27: Inordinate Delay in Commissioning of KLHEP

Objection :

Krishak Mukti Sangram Samiti (KMSS) and Shri. R.N. Barthakur submitted that inordinate delay in commissioning of KLHEP has caused undue burden on consumers.

Response of APGCL:

The Justice D.N. Baruah Commission submitted its Final Report in 2002, after six years, after which the remaining works were taken up and the project was commissioned in 2006.

Comments of the Commission:

Noted. The Commission desires that projects should be completed in a timely manner, considering the demand-supply gap and already low level of supply from APGCL stations.

Issue No. 28: Loss due to delay in disposal of unused coal

Objection :

Krishak Mukti Sangram Samiti (KMSS) and Shri. R.N. Barthakur submitted that as per Para 4.1 of the CAG Report (FY 2007-08), due to delay in sale of unused coal, APGCL has incurred a loss of Rs. 48.15 lakh.

Response of APGCL:

The offer from the local firm for purchase of unused coal could not be entertained, since it was a single offer and the credentials of the Party was not known, and there was also an expectation that a better price would be realised through open tender. The para has been dropped by Committee of Public Undertaking (COPU).

Comments of the Commission:

Noted.

Issue No. 29: Avoidable Expenditure due to delay in termination of Agreement with Railways

Objection :

Krishak Mukti Sangram Samiti (KMSS) and Shri. R.N. Barthakur submitted that as per Para 4.2 of the CAG Report (FY 2007-08), APGCL incurred an avoidable expenditure of Rs. 98.22 lakh, due to delay in termination of Agreement with the Railways for Bongaingon TPS at Salakati, after closure of the Station.

Response of APGCL:

The decision for final closure of the Station could not be taken up by the management since the options of reviving the Station/handing over the Station to NTPC were being explored, and hence, the decision to hand over the siding contract could not be initiated in February/March 2002. APGCL took the initiative in the later part of 2005 to terminate the siding contract with Railways, when NTPC agreed to set up a new project in place of existing 4x60 MW BTPS. It is purely a decision of the Government of Assam and APGCL cannot take any such decision. The para has been dropped by Committee of Public Undertaking (COPU).

Comments of the Commission:

Noted.

Issue No. 30: Delay in Opening of Letter of Credit

Objection :

Krishak Mukti Sangram Samiti (KMSS) submitted that as per CAG Report (FY 2007-08), APGCL incurred a loss of Rs. 12.90 lakh, as it failed to avail rebate due to delay in opening of irrevocable Letter of Credit (IRLC).

Response of APGCL:

APGCL has availed rebate of 1% for prompt payment within 30 days, through direct payment, as against 2.5% rebate available on payment through Letter of Credit. Since, opening of IRLC entails a cost of 1.5%, APGCL has not incurred any loss on this account. The para has been dropped by Committee of Public Undertaking (COPU).

Comments of the Commission:

Noted.

Issue No. 31: Hiring of Higher Capacity DG Set at KLHEP

Objection :

Krishak Mukti Sangram Samiti (KMSS) submitted that as per CAG Report (FY 2007-08), APGCL incurred a loss of Rs. 0.43 crore, on account of hiring higher capacity

DG set as compared to the actual requirement.

Response of APGCL:

The load requirement at various locations of tunnel work was properly assessed by the Department considering requirement at Workshop at Hawai unit and Workshop at Hawai Ingti Colony. The para has been dropped by Committee of Public Undertaking (COPU).

Comments of the Commission:

Noted.

Issue No. 32: Irregular Procurement of Crane at KLHEP

Objection :

Krishak Mukti Sangram Samiti (KMSS) submitted that as per CAG Report (FY 2007-08), irregular fixation of supply and fabrication price of Gantry crane led to avoidable expenditure of Rs. 0.90 crore.

Response of APGCL:

Gantry crane for dam work is especially designed on case to case basis for handling of stop log gate. The fabrication of gantry crane is more complex than fabrication of catwalk way. Due to experience of designing, fabrication and erection, APGCL placed an order to purchase the same from M/S OMNI. The para has been dropped by Committee of Public Undertaking (COPU).

Comments of the Commission:

Noted.

4 Truing up for FY 2011-12

4.1 METHODOLOGY FOR TRUING UP

The Commission approves the cost parameters through approval of the Annual Revenue Requirement at the beginning of the year, keeping in view the data available at that point of time. The cost approvals for each of the items are based on projection of expenses and revenue before beginning of the year and hence, the projections might vary over the course of the year.

The actual cost/values for certain elements/parameters may vary as against the approved cost during the year due to various controllable and uncontrollable factors on the part of the Generating Company. The Generating Company may end up with higher or lower expenditure, as the case may be, at the end of the year as against the approved cost. In case of actual expenditure being higher than the approved expenditure, there is no mechanism during the year to recover the additional expenditure over and above the approved expenditure as the tariff for Generating Company cannot be amended more than once as per Section 5.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006, the abstract of which is provided below:

"No tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified in terms of subsection (4) of section 62 of the Act specified in Regulation 9 of these Regulations"

As per Regulation 9 of AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006, the recovery of additional cost for fuel and power purchase over and above the cost approved by the Commission is provided on a quarterly basis in accordance with the formula approved by the Commission.

Accordingly, the Commission approved the Fuel and Power Purchase Price Adjustment Formula (FPPPA) and the same was notified by the Government of

Assam on December 28, 2010 as AERC (Fuel and Power Purchase Price Adjustment Formula) Regulations, 2010.

Based on the prudence check and scrutiny of the Quarter wise Petitions of FY 2011-12 for FPPA filed by APDCL and various submissions by APGCL as per AERC (Fuel and Power Purchase Price Adjustment Formula) Regulations, 2010, the Commission has approved the following quarterly FPPPA charges for FY 2011-12

i) Quarter 1 – April 2011 to June 2011: Rs 0.69/kWh
ii) Quarter 2 – July 2011 to September 2011: Rs 0.65/kWh
iii) Quarter 3 – October 2011 to December 2011: Rs 1.03/kWh
iv) Quarter 4 – January 2012 to March 2012: Rs 1.03/kWh

Under the truing-up mechanism, APGCL analyzed the difference between actual expenditure and the expenditure approved by the Commission and requested for recovery of the previous year's actual expenditure through truing up.

The Commission analyzes the actual expenditure for the previous year/years based on the Annual Audited Financial Statement of the Generating Company and allows/disallows the recovery of the actual expenditure through the present year's tariff, subject to prudence check.

Based on above methodology, APGCL submitted the truing-up proposal for FY 2011-12, supported by Audited Annual Accounts.

4.2 BACKGROUND

The Commission approved the ARR and Tariff for FY 2011-12 in its MYT Order for FY 2010-13 dated May 16, 2011. Further, the Commission vide Tariff Order dated February 28, 2013 carried out true up for FY 2009-10 and FY 2010-11, Review for FY 2011-12 and determined the Revised ARR and Generation Tariff for FY 2012-13 for APGCL.

APGCL submitted the Petition for approval of Annual Revenue Requirement for the second Control Period from FY 2013-14 to FY 2015-16 and generation tariff for FY 2013-14 on January 31, 2013, and the truing-up Petition for FY 2011-12 and Annual Performance Review for FY 2012-13 on March 21, 2013.

On scrutiny, it was noticed that the data furnished in respect of truing up exercise and MYT was deficient in some respects, and through letters dated March 15, 2013, April 29, 2013 and May 31, 2013, the Commission sought further information/clarification from APGCL. The additional information was furnished by APGCL in its letter dated March 26, 2013, May 6, 2013 and June 5, 2013 .

4.3 TRUING UP FOR FY 2011-12

4.3.1 Capacities of Generating Stations

The capacities of the existing generating stations (full details are given in Chapter 6) are as given in table below:

Table 4.1: Capacities of generating stations of APGCL

Sl. No.	Station	Total Capacity (MW)
1	NTPS	119.5*
2	LTPS with WHRU	157.2
3	KLHEP	100.0
Total		**376.70**

**De-rated capacity*

4.3.2 Plant Availability Factor (PAF)/ Capacity Index

As per Regulation 39.1 and 61.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations 2006, full fixed charges for thermal and hydro generating stations shall be recoverable from beneficiaries at the following level of availability:

Table 4.2: Target availability /Capacity Index for recovery of full fixed charges (%)

Sl. No.	Station	Target Availability/Capacity Index
1.	NTPS	50
2.	LTPS	50
3.	KLHEP (Run-of-river)	90

The actual PAF for the stations of APGCL as submitted by APGCL for FY 2011-12 is given in the Table below:

Table 4.3: Actual PAF for FY 2011-12 (%)

Sl. No.	Station	Availability/Capacity Index
1	NTPS	56.5
2	LTPS with WHRU	74.1
3	KLHEP	91.8

It may be observed from the above table that the actual PAF/Capacity Index is higher than the target availability for all the Generating Stations, therefore, **APGCL is eligible to recover the full fixed charges for FY 2011-12**.

As actual Capacity Index of KLHEP of 91.8% is higher than the normative capacity index specified for run-off the river generating stations, i.e., 90%, **incentive is allowed for the Station**.

4.3.3 Plant Load Factor (PLF)

As per Regulation 39.2 of the AERC Tariff Regulations 2006, the target PLF for eligibility of incentive for NTPS and LTPS stations is as follows:

Table 4.4: Target PLF for incentive (%)

Sl. No.	Station	Target PLF
1	NTPS	50
2	LTPS	50

The plant load factor considered by the Commission for various generating stations in the MYT Order for FY 2010-13 and actuals as submitted by APGCL for FY 2011-12, are as given in the table below:

Table 4.5: PLF approved in MYT Order for FY 2010-13 and Actuals (%)

Sl. No.	Station	PLF approved in MYT Tariff Order FY 2010-13	Actuals for FY 2011-12 as submitted by APGCL
1	NTPS	53.49	53.90
2	LTPS with WHRU	65.53	69.51

Commission's view

As the actual PLF for the NTPS and LTPS Stations for FY 2011-12 are higher than the target PLF, **incentive is allowed for the Stations**.

For truing up purposes, the actual PLFs achieved are approved for all the Stations as given in the table below:

Table 4.6: PLF approved for Truing up for FY 2011-12 (%)

Sl. No.	Station	Approved by the Commission for truing up purposes
1	NTPS	53.90
2	LTPS with WHRU	69.51

4.3.4 Auxiliary Energy Consumption

The actual auxiliary consumption submitted by APGCL for FY 2011-12 for different Stations is given in the table below:

Table 4.7: Auxiliary Energy consumption for FY 2011-12 (%)

Sl. No.	Station	Approved for FY 2011-12 in Tariff Order	Actual for FY 2011-12 as submitted by APGCL
1	NTPS	4.50	4.84*
2	LTPS	5.50	9.57*
3	KLHEP	0.50	0.50

* *Based on revised submission* dated March 26, 2013

It may be observed that the actual Auxiliary Energy Consumption (AEC) of both LTPS and NTPS is higher than the approved auxiliary consumption. APGCL submitted that the reason for higher AEC is the actual system loss in the power station switchyard including transformer loss, i.e., net energy sent out to the grid at the interface point. In this regard, the Commission asked APGCL to submit the break-up of auxiliary energy consumption including details of various auxiliaries and the system loss. APGCL, in its reply dated March 26, 2013, submitted the break-up of auxiliary power consumption in the generation Unit, generating station and Transformer loss for LTPS and NTPS generating station as mentioned in the table below:

Table 4.8: Break-up of Auxiliary energy consumption submitted by APGCL for FY 2011-12

S. No.	Particulars	LTPS		NTPS	
		MU	%	MU	%
1	Gross Gen. (MU)	751.66	-	565.66	
2	Unit AEC (MU)	8.61	1.14%	15.35	2.71%
3	Station AEC (MU)	44.33	5.90%		
4	AEC for Transformer loss (MU)	19.01	2.53%	12.05	2.13%
5	Total AEC (MU)	71.95	9.57%	27.40	4.84%

Commission's View:

It may be observed from the above table that the station auxiliary consumption and transformer losses are significantly high for LTPS and NTPS, which are gas based generating Stations. In this regard, the Commission in the previous Tariff Orders already directed APGCL to carry out the Energy Audit of both the gas thermal Stations, viz., NTPS and LTPS, and take necessary steps to reduce the auxiliary consumption to the required levels. In this regard, APGCL vide letter dated May 3, 2013 submitted the Energy Audit Report of NTPS station prepared by National Productivity Council. In the Report, it is recommended that replacement of the 37.5 kW Boiler Feed Pump with lower capacity of 25 kW would save 0.1 MU annually. In this regard, the Commission directs APGCL to make sincere effort to implement the recommendation of Energy Audit Report to reduce the auxiliary consumption.

Accordingly, in this Order, **the Commission has approved the auxiliary consumption same as approved in the MYT Order FY 2010-13** in accordance with the AERC (Terms and Conditions for Determination of Tariff) Regulations 2006, as given in the table below:

Table 4.9: Auxiliary Energy Consumption for Truing-up FY 2011-12 (%)

Sl. No.	Station	Approved by the Commission for truing up purposes
1	NTPS	4.50
2	LTPS	5.50
3	KLHEP	0.50

4.3.5 Gross and Net Generation

Based on the above analysis and decisions of the Commission, the Station-wise gross and net generation approved by the Commission in the Tariff Order for FY 2011-12 and actuals now furnished by APGCL, are given in table below:

Table 4.10: Gross and Net Generation for FY 2011-12 (MU)

Sl. No.	Station	Approved by the Commission in MYT Order FY 2010-11 to FY 2012-13		Actuals for FY 2011-12 as submitted by APGCL	
		Gross	**Net**	**Gross**	**Net**
1	NTPS	559.95	534.75	565.66	538.28
2	LTPS	902.80	853.15	751.66	679.73
	Total thermal	**1462.75**	**1387.90**	**5 1317.32**	**6 1218.01**
4	KLHEP	390.00	388.05	454.95	452.68
	Total APGCL	**1852.75**	**1775.95**	**7 1772.27**	**8 1670.68**

The gross generation for FY 2011-12 now submitted by APGCL is 1772.27 MU. However, plant-wise generation is not available in the audited annual statement of accounts and as such the additional information furnished by APGCL subsequently has been taken into account by the Commission.

Accordingly, **the Commission approves gross Generation for FY 2011-12 at 1772.27 MU. The Commission thus, approves the following generation after truing up for 2011-12:**

Table 4.11: Gross and Net Generation approved for truing up for FY 2011-12 (MU)

Sl No	Station	Gross generation (MU)	Net generation (MU)
1	NTPS	565.66	540.21
2	LTPS	751.66	710.32
	Total thermal	**1317.32**	**1250.52**
3	KLHEP	454.95	452.68
	Total APGCL	**1772.27**	**1703.20**

4.3.6 Gross Station Heat Rate

APGCL submitted that the actual heat rate for NTPS and LTPS stations are significantly higher than the heat rate approved for FY 2011-12 in the MYT Order for FY 2010-11 to FY 2012-13 as mentioned in table below:

Table 4.12: Heat Rate for FY 2011-12 (kcal/kWh)

Sl. No.	Station	Approved by the Commission in MYT Order for FY 2010-11 to 2012-13	Actual heat rate achieved for FY 2011-12
1	NTPS	3266	3972
2	LTPS	3211	3918

It may be observed that the actual heat rates achieved for FY 2011-12 for NTPS and LTPS are significantly higher than the heat rate approved by the Commission in the

MYT Order for FY 2010-11 to FY 2012-13. The Commission, in the Tariff Order for FY 2012-13, directed APGCL to appoint an institution like IIT, Guwahati or Assam Engineering College for carrying out tests for studying the actual position of the generating stations witnessed by CEA/NTPC and submit the report to the Commission. In this regard, vide letter dated March 15, 2013, the Commission asked APGCL to submit the detailed justification with test reports conducted by appropriate agencies such as IIT/NTPC, etc., for the higher Gross Station Heat Rate. APGCL, in its reply dated March 26, 2013, submitted that the detailed justification along with test reports will be submitted to the Commission as soon as the same are received from IIT, Guwahati and further submitted that IIT team is expected to visit NTPS and LTPS in 1st week of April, 2013 for undertaking the study.

Commission's view

During performance review for FY 2011-12, the Commission approved the heat rate for NTPS for FY 2011-12 as approved in the MYT Order for FY 2010-11 to FY 2012-13, at 3266 kcal/kWh. However, for LTPS, the Commission revised the heat rate from 3211 kcal/kWh to 3566 kcal/kWh considering the actual generation of LTPS WHRU for FY 2011-12. The computation of the revised heat rate for LTPS WHRU is given below:

Heat Rate as per AERC Regulations	= 3658 kcal/kWh
Total generation of LTPS for FY 2011-12	=752 MU
Generation in WHRU for FY 2011-12	=19 MU
Generation other than WHRU	= 733 MU
Approved heat rate taking into consideration WHRU generation	= (3658/752) x 733 = **3566 kcal/kWh**

Hence, the Commission approves the heat rate for FY 2011-12 as approved in the Tariff Order for FY 2012-13, as 3266 kcal/kWh and 3566 kcal/kWh for NTPS and LTPS Stations, respectively.

Table 4.13: Heat Rate for FY 2011-12 (kcal/kWh)

Sl. No.	Station	Approved by the Commission in MYT Order for FY 2010-11 to 2012-13	Actual heat rate achieved in FY 2011-12	Heat rate approved by the Commission for FY 2011-12 for truing up purposes
1	NTPS	3266	3972	3266
2	LTPS	3211	3918	3566

4.3.7 Fuel Cost

In its MYT Order for FY 2010-11 to FY 2012-13, the Commission approved the fuel cost as Rs. 168.57 Crore corresponding to gross thermal generation of 1462.75 MU for FY 2011-12.

The actual fuel cost for FY 2011-12 as reported by APGCL in the Annual Accounts of FY 2011-12 corresponding to gross thermal generation of 1772.28 MU, is Rs 313.64 Crore. This comprises of Rs. 118.22 Crore for Gas, 194.59 Crore for Gas/Oil (Internal Combustion) and Rs. 0.83 Crore (as per Schedule 23 of Annual Accounts) for Lubricants and consumable stores. As the plant-wise fuel cost is not mentioned in the Annual Accounts of FY 2011-12, the details of weighted average Gross Calorific Value (GCV) of gas and total cost of gas for each station were obtained from APGCL vide their letter dated June 5, 2013. The values furnished by APGCL are as given in the table below:

Table 4.14: Weighted average calorific value of gas and weighted average price of gas / 1000 SCM (Actuals) for FY 2011-12

Sl. No.	Station	Wt. Avg. GCV of Gas kcal/SCM	Wt. Avg. price of Gas/1000 SCM (including transport) (Rs. 1000/SCM)
1	NTPS	9154.30	5163.41
2	LTPS	9480.80	5990.22

Accordingly, **the Commission approves the weighted average GCV and price of gas for truing-up purposes for FY 2011-12, as given in the table below**:

Table 4.15: Gross Calorific Value and price of Gas as approved by the Commission for FY 2011-12

Sl. No	Station	GCV of Gas (kcal/SCM)	Price of Gas (Rs/1000SCM)
1	NTPS	9154.30	5163.41
2	LTPS	9480.80	5990.22

The Commission has now approved gross thermal generation of 1317.32 MU (565.66 MU for NTPS + 751.66 MU for LTPS) as discussed in para 2.3.5 above. The fuel cost for different thermal stations corresponding to generation now approved has been worked out, based on the normative parameters approved in Regulations The price and GCV of Gas has been adopted as validated and accepted by the Commission.

On the above basis, fuel cost for FY 2011-12 for different thermal stations corresponding to actual generation is given in table below:

Table 4.16: Approved Fuel Cost for truing-up for FY 2011-12

Sl. No.	Item	Derivation	Unit	NTPS	LTPS	Total
1	Generation (Gross)	A	MU	565.66	751.66	1317.32
2	Heat Rate	B	kcal/kWh	3266	3566	
3	Weighted average Calorific Value of gas	C	kcal /SCM	9154.30	9480.80	
4	Overall Heat	D=AxB	G. cal.	1847446	2680420	4527865
5	Gas Consumption	E=D/C	M.SCM	201.81	282.72	484.53
6	Price of Gas including Transportation	F	Rs/1000 SCM	5163.41	5990.22	
7	Total Cost of Gas	G=E x F/100	Rs. Lakh	10420	16936	27356

Sl. No.	Item	Derivation	Unit	NTPS	LTPS	Total
8	Percentage of Auxiliary Consumption	H	%	4.50%	5.50%	
9	Auxiliary Consumption	I=A x H/100	MU	25.45	41.34	66.80
10	Net Generation	J=A-I	MU	540.21	710.32	1250.52
11	**Fuel Cost per unit (Gross)**	**K=G/A/10**	**Rs/kWh**	**1.84**	**2.25**	**2.08**
12	**Fuel Cost per unit (Net)**	**L=G/J/10**	**Rs./ kWh**	**1.93**	**2.38**	**2.19**

The Commission thus, approves the fuel cost of Rs.273.56 Crore for gross thermal generation of 1317.32 MU for FY 2011-12.

4.3.8 Incentive for Generation

As discussed in para 2.3.3, APGCL is eligible for incentive for the thermal stations at a flat rate of 25.00 paise/kWh, for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target plant load factor. Further, as discussed in para 2.3.2, incentive is available for hydro generating station in case Capacity Index exceeds 90% for run-of-river plant in accordance with the following formula :

Incentive =0.65x Annual Fixed Charges x $(CI_A-CI_N)/100$

Where:

CI_A- Capacity Index Achieved

CI_N- Normative Capacity Index, i.e., 90% for run-of-river plant

The incentive calculations for Thermal Generating Station and Hydro Generation are given in the tables below:

Table 4.17: Incentive computation for thermal stations for FY 2011-12

Sl. No.	Station	Target PLF for allowing incentive(%)	Gross Generation with target PLF (MU)	Approved aux. consumption(%)	Net generation with target PLF(MU)	Actual PLF	Gross Generation(Actual) (MU)	Actual aux. consumption(%)	Net Generation (Actual) (MU)	Ex-bus energy eligible for incentive	Incentive Rs Crore
	1	2	3	4	5	6	7	8	9	10=(9-5)	11=25 paise x 10
1	NTPS	50%	524.84	4.50%	501.23	53.90%	565.66	4.84%	538.28	37.06	0.93
2	LTPS	50%	560.52	5.50%	529.69	69.51%	751.66	9.57%	679.73	150.03	3.75
	Total		1085.36		1030.92		1317.32		1218.01	187.09	4.68

Table 4.18: Incentive computation for hydro station for FY 2011-12

Sl. No.	Station	Target Capacity Index	Actual Capacity Index	Total Generation Capacity of APGCL (MW)	Capacity of KLHEP	Annual Fixed Charges of APGCL (Rs Crore)	Annual Fixed Charges of KLHEP (Rs Crore)	Incentive in (Rs Crore)
	1	2	3	4	5	6	7=(5x6)/4	8= 0.65 x (3-2) x7
1	KLHEP	90%	91.78%	376.70	100	177.36	47.08	0.54

Thus, for thermal generating stations, APGCL is eligible for incentive of 25.00 paise/kWh for 187.09 MU of ex-bus energy for FY 2011-12, which works out to Rs 4.68 Crore, and for hydro generating station eligible for incentive for exceeding targeted capacity index for run-of-river, incentive works out to Rs 0.54 Crore. The total incentive amount of Rs 5.22 Crore is to be passed on as incentive in the ARR for FY 2011-12.

4.3.9 Employee Cost

The Commission, in the MYT Order for the period from FY 2010-11 to FY 2012-13, had approved employee cost at Rs. 64.38 Crore for FY 2011-12.

The actual Employee cost, as per the Audited Annual Accounts for FY 2011-12, is Rs. 67.49 Crore (Gross). After deducting capitalization of Rs. 1.72 Crore, the actual employee cost works out to Rs. 65.76 Crore. The employee cost of Rs. 67.49 Crore includes the terminal benefits of Rs. 10.07 Crore, which is a part of employee cost. As the actual employee cost for FY 2011-12 is only slightly higher than the employee cost approved in the MYT Order for FY 2010-11 to FY 2012-13, **the Commission approves the employee cost at Rs 65.76 Crore as per Audited Annual Accounts in the Truing up for FY 2011-12.**

4.3.10 Repair and Maintenance (R&M) Expenses

The Commission has approved R&M expenses at Rs. 12.78 Crore for FY 2011-12 in the MYT Tariff Order for the period from FY 2010-11 to FY 2012-13.

The actual R&M expenses as per Audited Annual Accounts for FY 2011-12 is Rs 23.24 Crore. However, APGCL has claimed actual R&M expenses of Rs. 23.69 crore. The major expenditure incurred under R&M expenses has been on the R&M of Plant & Machinery at Rs 19.58 Crore.

Subsequent to the query raised by the Commission, APGCL vide letter dated June 5, 2013 submitted the detailed break up of R&M expenses as given in the table below:

Table 4.19: Break-up of R&M expenses submitted by APGCL

Sl No	Station	Major R&M Expenses	Cost Incurred (Rs Crore)
1	KLHEP	Procurement of Spare parts from Japan for 5th Annual Inspection	8.9
		Customs Duty	2.8
		Supervisory Charge	4.1

Sl No	Station	Major R&M Expenses	Cost Incurred (Rs Crore)
		Total Cost incurred for 5th Annual Inspection	15.8
		Other Regular Maintenance Work	2.24
		Total R&M KLHEP	**18.04**
2	LTPS	Regular R&M Work	2.2
3	NTPS	Regular R&M Work	3.41
4	CTPS	Regular R&M Work	0.04
	Total		**23.69**

It is observed from the above table that major expenditure incurred is on account of procurement of spares and paying custom duty for KLHEP station for the 5th Annual Inspection of Rs 15.80 Crore. In this regard, the Commission in the Tariff Order for FY 2008-09 and FY 2009-10 under Section 4.9 – Investment Plans has already directed APGCL for any Capital expenditure schemes of above Rs 10 Crore, APGCL should submit Feasibility Reports for the in-principle approval with a broad cost-benefit analysis.

The Commission has taken a note that despite the Commission's direction for obtaining prior approval for incurring capital expenditure above Rs 10 Crore, APGCL has overlooked the same and no prior approval has been obtained. Accordingly, the Commission is of the view that Rs 15.80 Crore claimed for 5th Annual Inspection against total R&M expenses of KLHEP should not be allowed. Hence, after deduction of Rs 15.80 Crore from the actual R&M expenses of Rs 23.69 Crore, the R&M expenditure remains Rs 7.89 Crore to be allowed as R&M expense for FY 2011-12. However, the Commission is of the view that R&M expense as Rs 7.89 Crore is significantly less than the R&M expense approved by the Commission in the MYT Order for FY 2011-12 as Rs 12.78 Crore, thus the Commission keep the R&M expenses same as approved in the MYT Order for the period from FY 2010-11 to FY 2012-13. In this regard, **the Commission directs APGCL that in future, all the capital related expenditure should be booked as Capital expenditure and not as Revenue expenditure and for any Capital expenditure schemes of above Rs 10 Crore, APGCL should submit Feasibility Reports for in-principle approval of the Commission with a broad cost-benefit analysis. Accordingly**, **the**

Commission allows the R&M expenses at Rs. 12.78 Crore for FY 2011-12.

4.3.11 Administration and General (A&G) Expenses

In the MYT Order for the period from FY 2010-11 to FY 2012-13, the Commission had approved A&G expenses at Rs. 2.92 Crore for FY 2011-12.

As per the Audited Annual Accounts, the actual A&G Expenses for FY 2011-12 is Rs. 9.88 crore, which includes Rs. 0.45 crore on account of R&M of vehicles, furniture and office equipment, and Rs. 4.10 crore of miscellaneous losses written off, thereby resulting in actual A&G expenses of Rs. 5.39 Crore. Out of this, expenses of Rs. 0.06 Crore have been capitalized and the net expenses amount to Rs. 5.33 Crore.

The Commission during technical validation session asked APGCL to submit the break-up of A&G expenses as recorded in the Audited Accounts for FY 2011-12. APGCL, vide letter dated May 6, 2013 submitted the break-up of A&G expenses reconciling the amount mentioned in the Audited Accounts for FY 2011-12.

The Commission allows the actual A&G expenses of Rs. 5.33 Crore as per the Audited Annual Accounts.

4.3.12 Depreciation Charges

In the MYT Order for the period from FY 2010-11 to FY 2012-13, the Commission had approved depreciation charges at Rs. 23.93 Crore for FY 2011-12.

As per the Audited Accounts, actual depreciation charges are Rs. 31.07 Crore. However, APGCL in the Annual Accounts stated that Depreciation for the period in respect of assets has been provided on straight-line method as per Schedule XIV of Companies Act, 1956 and that the fixed assets have been depreciated upto 95% of the original cost after taking 5% as the residual value. Further, Consumers' Contribution, subsidies and grants towards cost of capital assets have not been reduced from the cost of assets but have been treated as Reserves and Surplus and depreciation pertaining to fixed assets constructed out of Consumers' Contribution, subsidies and grants towards cost of capital assets have been charged.

The Commission, vide letter dated May 31, 2013 asked APGCL to provide the break-up of the Capital asset addition of Rs 218.89 Crore against plant & machinery under the heads of Plant & Machinery-Gas and Plant & Machinery –Hydel, as the depreciation rates under these heads varies significantly. APGCL vide letter dated June 5, 2013 has submitted the break-up of Rs 218.89 Crore addition under the heads of Plant & Machinery-Gas and Plant & Machinery –Hydel.

The depreciation charges for FY 2011-12 have now been computed in accordance with Regulation 14 of AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006, and works out to Rs. 31.07 Crore, as explained below. As specified in Regulation 14 of AERC Tariff Regulations, assets created using consumer contribution or capital subsidy/grant, etc., needs to be excluded from the asset value for the purpose of depreciation. The cumulative grants towards cost of capital assets upto end of March 2012 were Rs. 304.75 Crore as per the Audited Annual Accounts. The weighted average rate of depreciation works out to 3.50%. At this rate, the depreciation on the assets created by grants works out to Rs. 8.56 Crore, which has been deducted from the total depreciation amount of Rs. 39.63 Crore. The allowable depreciation is thus, determined at Rs. 31.07 Crore in the truing up for FY 2011-12. The detailed calculation of depreciation is given in the table below:

Table 4.20: Depreciation approved in truing up for FY 2011-12 (Rs. Crore)

Sl. No.	Particulars	All Stations		Rate of depreciation	Depreciation as per AERC Regulations
		GFA 01.04.2011	Additions during FY 2011-12		
1	Land & Rights	20.39	0.40		
2	Buildings	44.04	0.01	1.80%	0.71
3	Hydraulic	174.92	0.09	2.57%	4.05
4	Other civil works	132.11	52.36	1.80%	2.56
5	Plant machinery - Gas	252.07	218.54	6.00%	19.51
6	Plant & Machinery - Hydel	174.82	0.35	2.57%	4.05
7	Lines & Cable network	36.11	7.91	2.57%	0.93
8	Vehicles	1.17	0.07	18.00%	0.20
9	Furniture & Fixtures	3.90	0.09	6.00%	0.21
10	Office equipment	0.82	0.08	6.00%	0.05
11	Capital Spares at	172.33		4.75%	7.37

Sl. No.	Particulars	All Stations		Rate of depreciation	Depreciation as per AERC Regulations
		GFA 01.04.2011	Additions during FY 2011-12		
	Generating Stations				
12	**Total**	**1012.68**	**279.90**		**39.63**
13	Average Assets of OB & CB in 2011-12 (excluding land value)	1132.05		3.50%	
14	Average capital subsidy & contributions/grants	271.77			8.56
15	**Depreciation for the year**				**31.07**

Table 4.21: Depreciation on the assets built by Grants/ Subsidies and Consumer Contribution

Particulars	Rs. Crore
Grants & subsidies as on 01/04/2011	238.78
Grants & subsidies as on 01/04/2012	304.75
Average grants & subsidies	271.77
Depreciation on the 90% of the Assets funded by grants/subsidies	8.56

Accordingly, the Commission approves the depreciation for FY 2011-12 at Rs. 31.07 Crore in the truing up for FY 2011-12.

4.3.13 Interest and Finance Charges

The Commission approved an amount of Rs. 49.97 Crore towards interest on term loan for FY 2011-12 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

The actual interest and finance charges as per the audited Annual Accounts for FY 2011-12 are Rs. 26.27 Crore, after capitalisation. It was observed from the Audited Accounts that Interest and Finance Charges includes Rs 4.30 Crore charged on account of Interest on GPF. As stated in the previous Tariff Order for FY 2012-13, APGCL has neither created any fund nor GPF money has been invested with separate identification with some designated bank, therefore, the interest on GPF is disallowed for FY 2011-12, consistent with the decision taken in previous Tariff Order. Interest on State Government loans including public bonds is also not considered for calculating interest and finance charges as APGCL has not submitted the documentary evidence establishing that the Government loans were utilized for creation of capital assets. Also, the interest on loan (OD A/C) for Rs 0.002 Crore not considered as it is on the part of APGCL's liability due to non performance of financial management properly. The interest and finance charges amount mentioned in the Audited Accounts for FY 2011-12 for Govt. Of Assam is Rs 11.35 Crore and interest on the Public Bonds is Rs 1.15 Crore.

The Commission accordingly approves the interest and finance charges at Rs. 9.47 Crore [Rs. 26.27 Crore – (11.35 +1.15+4.30+ 0.002 Crore)] in the truing up for FY 2011-12.

4.3.14 Interest on working capital

The Commission approved interest on working capital of Rs. 10.89 Crore for FY 2011-12 in the MYT Order for the period from FY 2010-11 to FY 2012-13. Based on the truing up of all relevant expenditure heads as discussed above, the approved interest on working capital works out as shown in the table below:

Table 4.22: Interest on Working Capital (Rs. Crore)

Particulars	**FY 2011-12**
One month fuel cost	22.80
One month O&M cost	6.99
Maintenance spares (1% of GFA)	10.13
2 months receivables (Fixed + Variable charges)	75.15
Total working capital	**115.07**
Rate of interest (SBI PLR as on 01/04/2011)	13%
Interest on working capital	**14.96**

The Commission has considered the interest on working capital at Rs. 14.96 Crore in the truing up for FY 2011-12.

4.3.15 Prior Period Expenses and Other Debits

APGCL has shown Rs 4.11 Crore towards other debits and Rs. 21.88 Crore towards prior period expenses. APGCL has not submitted any justification for these prior period charges, in the claim for truing up, and accordingly, **the Commission has not considered these expenses in the truing up**.

4.3.16 Return on Equity

The Commission had approved the return on equity at Rs. 37.99 Crore for FY 2011-12 in the MYT Order for the period from FY 2010-11 to FY 2012-13. **The Commission has retained the return on equity at Rs 37.99 Crore in the truing-up for FY 2011-12** as approved in the MYT Order as there is no further infusion of equity during the year. The equity addition of LWHRP has already been included by the Commission while approving the return on equity for FY 2011-12.

4.3.17 Provision for Tax

In the MYT Order for FY 2010-13, the Commission had approved Rs 5.54 Crore as provision for income tax for FY 2011-12 subject to actual tax paid during truing up. In the Audited Annual Accounts for FY 2011-12, there is a provision of Rs 0.93 Crore towards tax. Hence, **the Commission has not considered provision for tax on income for truing up of FY 2011-12 as this has not been authenticated**.

4.3.18 Other Income

The Commission approved an amount of Rs. 5.19 Crore towards other income for FY 2011-12 in the MYT Order for the period from FY 2010-11 to FY 2012-13. As per the Audited Annual Accounts, actual other income is Rs. 9.08 Crore, and **the Commission has approved the other income at Rs 9.08 Crore in the truing up for FY 2011-12.**

4.3.19 Revenue from Sale of Power

The Commission had approved the revenue from sale of power at Rs. 371.78 Crore in the MYT Order for the period from FY 2010-11 to FY 2012-13. The revenue from sale of power as per Audited Annual Accounts for 2011-12 is Rs. 433.96 Crore, and **the Commission has approved the revenue from sale of power at Rs. 433.96 Crore as per actuals, in the truing up for FY 2011-12**.

4.3.20 Truing up of ARR for FY 2011-12

In view of the above analysis and approvals given by the Commission, **the approved revenue requirement for FY 2011-12 after truing up, is summarised in the table below**:

Table 4.23: Revenue Requirement for FY 2011-12 (Truing up) (Rs. Crore)

Sl. No	Particulars	Approved by the Commission in T.O. for FY 2010-11 to FY 2012-13	Actuals as per Audited Annual Accounts for FY 2011-12	Considered in the Truing up for FY 2011-12
	Revenue			
1.	Revenue from Sale of power	371.78	433.96	433.96
2.	Revenue from Subsidies & Grants			
3.	Other Income	5.19	9.08	9.08
4.	**Total Revenue (A)**	**376.97**	**443.04**	**443.04**
	Expenditure			
1.	Cost of Fuel	168.57	313.64	273.56
2.	Employee Cost	64.38	65.76	65.76
3.	R&M Expenses	12.78	23.24	12.78
4.	A&G Expenses	2.92	9.88	5.33
5.	Depreciation Charges	23.93	31.07	31.07
6.	Interest & Finance charges	49.97	26.27	9.47
7.	Interest on working capital	10.89	-	14.96
8.	Prior Period Expenses/(Charges)	-	21.88	-
9.	Provision for Tax	5.54	0.93	0.00
10.	Return on Equity	37.99	53.90	37.99
	Total Revenue Requirement	**376.97**	**546.57**	**450.92**
11.	Add incentive for generation for FY 2011-12			5.22

Sl. No	Particulars	Approved by the Commission in T.O. for FY 2010-11 to FY 2012-13	Actuals as per Audited Annual Accounts for FY 2011-12	Considered in the Truing up for FY 2011-12
12.	Gross expenditure			456.14
13.	**Net Revenue Deficit**			**13.10**

From the above truing up for FY 2011-12, it is seen that there is a net deficit of Rs. 13.10 Crore, which has been carried forward for adjustment in the ARR of FY 2013-14.

5 Review of Tariff Order for FY 2012-13

The MYT Order for the period from FY 2010-11 to FY 2012-13 was issued by the Commission on May 16, 2011 and came into effect from May 24, 2011. Further, the Commission passed the Tariff Order on Truing-up for FY 2009-10 and FY 2010-11, Annual Performance Review for FY 2011-12 and determination of revised ARR and Generation Tariff for FY 2012-13 on February 28, 2013. Before issuing the next Tariff Order, it is important that the Commission does a prudence check of the technical as well as financial performance of APGCL vis-à-vis the Tariff Order issued by the Commission for this year. Also, it is pertinent and desirable that the Commission does take review of its own estimation and directives to ensure better and effective implementation of its next Tariff Order.

While the true up exercise examines the audited financial statements for FY 2011-12, the review exercise examines the technical and financial performance of APGCL based on approved parameters in the Tariff Order for FY 2012-13.

The exercise also attempts to gauge the effectiveness of the last Tariff Order by evaluating the extent of implementation of the directives in the Tariff Order. These aspects are discussed in the following paragraphs.

5.1.1 Plant Availability Factor (PAF)/ Capacity Index

The actual/ estimated PAFs/ Capacity Index for the stations of APGCL, as submitted by APGCL for FY 2012-13, are as given in the table below:

Table 5.1: Actual/ Estimated PAF for FY 2012-13

Sl. No	Station	PAF/Capacity Index (%)
1.	NTPS	54.0
2.	LTPS +WHRU	72.0
3.	KLHEP	90.0

As the PAFs of the NTPS and LTPS stations are higher than 50% as specified in the Regulations, APGCL is eligible to recover the full fixed charges for FY 2012-13.

5.1.2 Plant Load Factor (PLF)

The Commission approved the plant load factor as 60% for NTPS, 75% for LTPS, and 49% for NRPP in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted the revised estimate of PLF for FY 2012-13 as against the PLF approved by the Commission for FY 2012-13 in the Tariff Order for FY 2012-13, as given in the table below:

Table 5.2: Plant Load Factor for FY 2012-13 (%)

Sl. No	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1.	NTPS	60	50	51
2.	LTPS with WHRU	75	68	64
3.	NRPP	49	-	-

The revised PLF submitted by APGCL for NTPS and LTPS for FY 2012-13 are higher than the targeted PLF of 50%, these can be allowed only after submission of Audited Accounts. For review purpose, the actual PLF arrived are considered.

5.1.3 Auxiliary Energy consumption

The Commission approved the auxiliary energy consumption for FY 2012-13 as 4.5% for NTPS, 5.5% for LTPS, 0.5% for KLHEP, 4.5% for NRPP, 0.5% for Lungnit, and 0.5% for Myntriang in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted the revised estimate of auxiliary consumption for FY 2012-13 as against the auxiliary consumption approved by the Commission for FY 2012-13 in the Tariff Order for FY 2012-13, as given in the table below:

Table 5.3: Auxiliary Consumption for FY 2012-13 (%)

Sl. No.	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1.	NTPS	4.50	4.50	5.63 *
2.	LTPS with WHRU	5.50	5.50	11.48 *
3.	KLHEP	0.50	0.50	0.50
4.	NRPP	4.5		
5.	Lungnit SHEP	0.50	-	-

Sl. No.	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
6.	Myntriang SHEP	0.50	-	-

**Based on revised submission dated May 6, 2013*

It may be observed from the above table that the revised auxiliary consumption of NTPS generating station is slightly higher than the auxiliary consumption approved in the Tariff Order for FY 2012-13. However, for LTPS generating station, revised auxiliary consumption is significantly higher than the auxiliary consumption approved in the Tariff Order for FY 2012-13.

5.1.4 Gross and Net generation

The station-wise gross and net generation approved by the Commission in the MYT Order for FY 2010-11 to FY 2012-13, approved by the Commission in the Tariff Order for FY 2012-13, and revised estimate submitted by APGCL are given in the table below:

Table 5.4: Gross and Net Generation for FY 2012-13

Sl. No.	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13		Approved in Tariff Order for FY 2012-13		Revised Estimate for FY 2012-13 as submitted by APGCL	
		Gross	Net	Gross	Net	Gross	Net
1	NTPS	626.64	598.44	525.25	501.61	536.51	506.37
2	LTPS with WHRU	1036.13	979.14	940.71	888.97	888.06	786.78
3	NRPP	108.00	103.14	-	-	-	-
	Total Thermal	**1770.77**	**1680.72**	**1465.96**	**1390.58**	**1424.57**	**1293.15**
4	KLHEP	390.00	388.05	333.94	332.27	342.5	340.79
5	Lungnit	6.48	6.45	**-**	**-**	-	**-**
6	Myntriang SHEP	9.72	9.67	3.18	3.16	-	**-**
	Total APGCL	**2176.97**	**2084.89**	**1803.08**	**1726.01**	**1767.07**	**1633.94**

The Commission approves the actual gross generation for FY 2012-13 at 1767.07 MU and the net generation at 1633.94 MU as shown in the Table 5.4 above, The actual net thermal generation for FY 2012-13 is 1293.15 MU as against the net generation at 1390.58 MU vide the Commission's Tariff Order for FY 2012-13. The Commission further observed that actual gross generation for FY 2012-13 is significantly less by 409.90 MU (2176.97 -1767.07 MU) and net generation for FY 2012-13 by 450.95 MU (2084.89 – 1633.94 MU) than the approved for FY 2012-13 in MYT Order for FY 2010-11 to FY 2012-13.

5.1.5 Gross Station Heat Rate

The Commission approved the gross station heat rate as 3266 kcal/kWh for NTPS, 2870 kcal/kWh for LTPS with WHRU, and 1950 kcal/kWh for NRPP in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted the revised estimate of station heat rate for FY 2012-13 as against the station heat rate approved by the Commission for FY 2012-13 in the Tariff Order for FY 2012-13, as given in the table below:

Table 5.5: Heat Rate for FY 2012-13 (kcal/kWh)

Sl. No.	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1.	NTPS	3266	3266	4093
2.	LTPS with WHRU	2870	2870	3082
3.	LRPP	1950	-	-

It is observed that the actual heat rates achieved for FY 2012-13 for NTPS and LTPS stations are significantly higher than that approved in the Tariff Order for FY 2012-13.

5.1.6 Fuel Costs

In its Tariff Order for FY 2012-13, the Commission has approved the fuel cost as Rs 157.32 Crore corresponding to gross thermal generation of 1465.96 MU for FY 2012-13.

APGCL, in its petition has submitted that revised fuel cost as Rs 347.32 Crore corresponding to gross thermal generation of 1767.07 MU for FY 2012-13. .

The details of revised estimate of weighted average GCV of gas and weighted average price of gas for FY 2012-13 were furnished by APGCL vide letter dated June 5, 2013 as given in the table below:

Table 5.6: Weighted average calorific value of gas and weighted average price of gas / 1000 SCM for FY 2012-13

Sl. No.	Station	Wt. Avg. GCV of Gas Kcal/SCM	Wt. Avg. price of Gas/1000 SCM (including transport) (Rs. 1000/SCM)
1.	NTPS	9182.00	5904.16
2.	LTPS	9527.00	7161.25

On the above basis, fuel cost for FY 2012-13 for different thermal stations corresponding to actual generation is as given in the table below:

Table 5.7: Fuel Cost for FY 2012-13 (Rs Crore)

Sl. No.	Station	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1.	NTPS	54.50	45.68	141.61
2.	LTPS	122.97	111.64	205.71
3.	NRPP	5.61	-	-
Total		**183.08**	**157.32**	**347.32**

It may be observed from the above table that fuel cost for FY 2012-13 has increased significantly as compared to that approved by the Commission in the Tariff Order for FY 2012-13. The Commission will analyse in detail the reason for increase in fuel cost while approving the FPPPA for FY 2012-13.

5.1.7 Employee Cost

The Commission approved the employee cost at Rs. 69.52 Crore in the Tariff Order for FY 2012-13.

In the Petition, APGCL has submitted the revised employee cost as Rs. 81.56 Crore (Gross). After deducting capitalization of Rs. 1.12 Crore, the employee cost works out to Rs. 80.44 Crore, which includes the terminal benefits of Rs. 18.25 Crore, as given in the table below:

Table 5.8: Employee Cost for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Employee cost	68.07	69.52	80.44

5.1.8 Repairs and Maintenance (R&M) Expenses

The Commission approved the Repair and Maintenance expenses at Rs 13.81 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted the revised R&M expenses of Rs. 12.58 Crore for FY 2012-13 as against the R&M expenses at Rs. 25.58 Crore for FY 2012-13 in the Tariff Order for FY 2012-13 as given in Table below:

Table 5.9: R&M Expenses for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	R&M expenses	13.81	25.58	12.58

5.1.9 Administration and General (A&G) Expenses

The Commission approved the Administration and General expenses at Rs 3.10 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has estimated the revised A&G expenses at Rs. 6.64 Crore for FY 2012-13 as against Rs. 5.66 Crore approved by the Commission in the Tariff Order for FY 2012-13, as given in table below:

Table 5.10: A&G Expenses for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	A&G expenses	3.10	5.66	6.64

5.1.10 Depreciation Charges

The Commission approved the depreciation charges at Rs 46.55 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has estimated the depreciation charges at Rs. 32.68 Crore as per the rates of depreciation prescribed by the AERC taking the weighted average rate of depreciation, as against Rs. 38.92 Crore approved by the Commission in the Tariff Order for FY 2012-13, as given in table below:

Table 5.11: Depreciation Charges for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Depreciation	46.55	38.92	32.68

It is observed from the above table that actual depreciation charges are less subject to Audited Annual Accounts. It is on account of actual lower investment during FY 2012-13.

5.1.11 Interest and Finance Charges

The Commission approved the interest & finance charges at Rs 71.11 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has estimated the interest and finance charges at Rs. 37.40 Crore for FY 2012-13 as against the interest and finance charges approved by the Commission at Rs. 36.49 Crore in the Tariff Order for FY 2012-13, as given in the table below:

Table 5.12: Interest Expenses for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Interest & Finance Charges	71.11	36.49	37.40

5.1.12 Interest on Working Capital

The Commission approved the interest on working capital at Rs 12.68 Crore for FY 2012-13 in MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted that the interest on working capital for FY 2012-13 is Rs 21.61 Crore as against Rs. 14.47 Crore approved in the Tariff Order for FY 2012-13, as given in table below:

Table 5.13: Interest on Working Capital for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Interest on Working Capital	12.68	14.47	21.61

5.1.13 Provision for Tax

The Commission approved tax on income at Rs 5.54 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has submitted that it has made a provision of Rs. 19.00 Crore towards tax as against Rs 5.54 Crore approved in the Tariff Order for FY 2012-13, as given in table below:

Table 5.14: Income Tax for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Income Tax	5.54	5.54	19.00

5.1.14 Return on Equity

The Commission approved return on equity at Rs 37.99 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the petition, APGCL has submitted that the return on equity for FY 2012-13 is Rs 62.64 Crore as against Rs. 37.99 Crore approved in the Tariff Order for FY 2012-13, as given in table below:

Table 5.15: Return on Equity for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Return on Equity	37.99	37.99	62.64

5.1.15 Other Income

The Commission approved other income at Rs 5.02 Crore for FY 2012-13 in the Tariff Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has estimated the income from other sources for FY 2012-13 at Rs. 4.61 Crore as against Rs. 8.99 Crore approved by the Commission in the Tariff Order for FY 2012-13, as given in table below:

Table 5.16: Other Income for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Other Income	5.02	8.99	4.61

5.1.16 Revenue from sale of power

The Commission approved revenue from sale of power at Rs 436.89 Crore for FY 2012-13 in the MYT Order for the period from FY 2010-11 to FY 2012-13.

In the Petition, APGCL has estimated the revenue from tariff including miscellaneous charges at Rs. 615.70 Crore as against Rs. 382.50 Crore approved by the Commission in the Tariff Order for FY 2012-13, as given in table below:

Table 5.17: Revenue for FY 2012-13 (Rs Crore)

Sl. No.	Particulars	Approved in MYT Order for FY 2010-11 to FY 2012-13	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13 as submitted by APGCL
1	Revenue from Sale of Power	436.89	382.50	615.70

5.1.17 Review of ARR for FY 2012-13

Based on the above analysis, the revenue requirement approved in the Tariff Order for the period from FY 2010-11 to FY 2012-13, approved in the Tariff Order for FY 2012-13, and the revised estimate submitted by APGCL, is given in the table below:

Table 5.18: Revenue Requirement for FY 2012-13 (Review) (Rs. Crore)

Sl. No.	Particulars	Approved in MYT Order FY 2010 to FY 2013	Approved in Tariff Order for FY 2012-13	Revised Estimate for FY 2012-13
	Revenue			
1	Revenue from Sale of Power	436.89	382.50	382.50
2	Revenue from Subsidies & Grants	-	-	-
3	Other Income	5.02	8.99	4.61
	Total Revenue (A)	**441.91**	**391.49**	**387.11**
	Expenditure			
1	Fuel Cost	183.08	157.32	347.32
2	Employee Cost	68.07	69.52	80.44
3	R&M Expenses	13.81	25.58	12.58
4	A&G Expenses	3.10	5.66	6.64
5	Depreciation Charges	46.55	38.92	32.68
6	Interest & Finance charges	71.11	36.49	37.40
7	Interest on working capital	12.68	14.47	21.61
8	Tax on Income	5.54	5.54	19.00
9	Return on Equity	37.99	37.99	62.64
	Total Revenue Requirement (B)	441.91	391.49	620.31
	Net Revenue Deficit	-	-	**233.20**

The review reveals a deficit of Rs 233.20 Crore for FY 2012-13. The above mentioned amount is only indicative in the absence of the Audited Accounts for FY 2012-13. **The deficit has not been carried forward to ARR for FY 2013-14. It will only be considered after the Audited Accounts are made available to the Commission**.

6 APGCL Generating Stations and their Performance

6.1 GENERATING STATIONS OF APGCL

6.1.1 Existing Generating Stations

APGCL submitted that it owns and operates 3 (three) power plants, namely (i) 119.5 MW (De-rated) Namrup TPS (NTPS), (ii) 157.2 MW Lakwa Thermal Power Station (LTPS), and (iii) 100 MW Karbi Langpi Hydro-Electric Power Station (KLHEP). Chandrapur Thermal Power Station (CTPS) of capacity 60 MW has been closed since June 1999 due to exorbitant cost of generation on account of steep increase in the price of fuel oil. However, the process for revival of the plant is being initiated by using coal as an alternative fuel in Joint Venture under the Public-Private-Partnership (PPP) mode on Build–Operate-Transfer (BOT) basis. The details of the plant and the characteristics of NTPS, LTPS and KLHEP as furnished by APGCL are given in the tables below:

Table 6.1: Plant characteristics of NTPS – 119.50 MW

Details	Unit number					
	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**
Rated Capacity (MW)	23	23	23	12.5	30	22.5
Date of synchronization	Apr -65	Apr -65	Apr -65	Sep -75	Apr -76	Mar -85
Capacity at the date of synchronization (MW)	23	23	23	12.5	30	11.25 (Single Boiler)
Date of entry into commercial operation	Apr -65	Apr -65	Apr -65	Sep -75	Apr -76	Apr -90
Date of stabilization	Apr -65	Apr -65	Apr -65	Sep -75	Apr -76	Apr -90
Capacity at the date of stabilization (MW)	23	23	23	12.5	24	15
Derated Capacity (MW)	20	21	21	11	24	22.5
Has any performance test been performed	No	No	No	No	No	No

Details	Unit number					
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
If yes, capacity at test (MW)	NOT APPLICABLE					
Type of cooling system for condenser	-	-	-	-	Water	Water
Type of Boiler Feed pump	-	-	-	-	BF-20 WEIR Make	BF-20 WEIR Make
Type of cooling system for electric generator	Hydrogen	Hydrogen	Hydrogen	Air	Air	Air
Any other special feature	-	-	-	-	Could not be loaded upto rated capacity	Could not be loaded upto rated capacity

Table 6.2: Plant characteristics of LTPS – 157.2 MW

Details	Unit number							
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Rated Capacity (MW)	15	15	15	15	20	20	20	37.2
Date of synchronization	30-07-83	26-04-81	02-08-81	28-11-86	03-01-94	26-07-94	24-05-99	17.08.11
Capacity at the date of synchronization (MW)	15	15	15	15	20	20	20	11 (with 1 HRSG)
Date of entry into commercial operation	30-07-83	26-04-81	02-08-81	28-11-86	03-01-94	26-07-94	24-05-99	17-01-12
Date of stabilization	02-08-83	29-04-81	05-08-81	01-12-86	06-01-94	29-07-94	27-05-99	17-01-12
Capacity at the date of stabilization (MW)	15	15	15	15	20	20	20	33
Has any performance test been performed	To be done	To be done	To be done	To be done	To be done	To be done	To be done	To be done
If yes capacity at test (MW)	15	15	15	15	20	20	20	-

Details	Unit number							
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Type of cooling system for condenser	-	-	-	-	-	-	-	Water
Type of Boiler Feed pump	-	-	-	-	-	-	-	Kirloskar (325 kW, 53 cum/hr)/sulzer (9.5 kW, 13.5 cum/hr)
Type of cooling system for electric generator	Air	Air	Air	Air	Air	Air	Air	Air
Any other special feature	Scrubb ers	Scrubb ers	Scrubb ers	Scrubb ers	Scrub bers	Scrub bers	Scrub bers	

Table 6.3: Plant characteristics of KLHEP – 100 MW

Details	Unit Number	
	Unit 1	Unit 2
Rated Capacity (MW)	50	50
Date of synchronization	31-01-07	20-03-07
Capacity at the date of synchronization (MW)	50	50
Date of entry into commercial operation	06-04-07	06-04-07
Date of stabilization	06-04-07	06-04-07
Capacity at the date of stabilization (MW)	50	50
Has any performance test been performed	Yes	Yes
Type of cooling system for electric generator	Air	Air
Any other special feature	-	-

6.1.2 Planned Capacity Additions for the Control Period from FY 2013-14 to FY 2015-16

Besides existing generating stations, APGCL vide letter dated May 6, 2013 submitted the capacity addition plan for the Control Period from FY 2013-14 to FY 2015-16, as given in the table below:

Table 6.4: Planned Capacity Additions

Sl. No.	Station	Capacity (MW)	Probable date of commercial operation
1.	Namrup Replacement Power Project	98.4	December 2013
2.	Myntriang SHEP St. I	6	January 2014
3.	Myntriang SHEP St. II	3	April 2013
4.	Lungnit SHEP Phase I	3	January 2015

Sl. No.	Station	Capacity (MW)	Probable date of commercial operation
5.	Lungnit SHEP Phase II	3	April 2015
6.	Lakwa Replacement Power Project	70	April 2015
7.	Cachar Gas IC Engine Project	27	October 2015
8.	Golaghat Gas IC Engine Project	10	June 2015
	Total	**220.40**	

The Commission observed that few of the generating stations mentioned in the above table are not expected to get commissioned during this Control Period, and hence, vide letter dated April 29, 2013, the Commission asked APGCL to submit the revised investment plan and updated status of the date of commissioning of new generating stations during the Control Period from FY 2013-14 to FY 2015-16. APGCL, vide letter dated May 6, 2013 submitted the updated status of generating stations, in which APGCL confirmed that Cachar Gas IC Engine Project and Golaghat Gas IC Engine Project will not be commissioned during this Control Period. Accordingly, **the Commission has considered the updated status of new generating station as submitted by APGCL**. The revised capacity addition plan as submitted by APGCL is given in the table below:

Table 6.5: Planned Capacity Additions

Sl. No.	Station	Capacity (MW)	Probable date of commercial operation
1.	Namrup Replacement Power Project	98.4	62.2 MW GT: Apr' 14 36.2 MW WHRU: Oct' 14
2.	Myntriang SHEP Stage I	6	June 2014
3.	Myntriang SHEP Stage II	3	June 2013
4.	Lungnit SHEP Stage I	3	Dec' 2015
5.	Lungnit SHEP Stage II	3	Dec' 2014
6.	Lakwa Replacement Power Project	70	July 2015
	Total	**183.4**	

6.2 THE STATUS OF EXISTING GENERATING STATIONS OF APGCL

Namrup Thermal Power Station: (119.5 MW)

APGCL vide the MYT Petition for FY 2013-14 to FY 2015-16 dated January 31, 2013 submitted that currently Namrup Thermal Power Station is generating at a daily average of 70-75 MW with a peak load in the range of 80-85 MW. The Unit-wise details are as under:

- Unit-1 (20 MW, GT): Unit is presently running at full load capacity
- Unit-2 (21 MW, GT): Unit is presently running with an average load of 15 to 19 MW due to high deviation of temperature in combustor.
- Unit-3 (21 MW, GT): Unit is presently running with an average load of 14 to 17 MW due to non availability of hydrogen cooling system.
- Unit-4 (11 MW, GT): Unit is presently running at full load capacity
- Steam Turbine Unit 5 (24 MW): Unit was put into operation on September 28, 2012 and is running with an average load of 12–15 MW due to technical constraints.
- Waste Heat Unit 6 (22.5 MW): Unit is presently running with an average load of 10 to 11 MW due to technical constraints.

Lakwa Thermal Power Station: (157.2 MW)

APGCL vide the MYT Petition for FY 2013-14 to FY 2015-16 dated January 31, 2013 submitted that Lakwa Thermal Power Station is generating at a daily average of 100 – 110 MW with a peak load in the range of 120 – 125 MW based on availability of gas from GAIL, OIL and AGCL. The Unit-wise details are as under:

- Unit-1 (15 MW, GT): Unit is presently running at full load capacity.
- Unit-2 (15 MW, GT): Unit is presently running at full load capacity.
- Unit-3 (15 MW, GT): Unit is out of service for Stator fault since October 08, 2012. Maintenance work is in process. The Unit is likely to be restarted by January 2013.
- Unit-4 (15 MW, GT): Unit is presently running at full load capacity
- Unit-5 (20 MW, GT): Unit is presently running at full load capacity
- Unit-6 (20 MW, GT): Unit is presently running at full load capacity
- Unit-7 (20 MW, GT): Unit is presently running at full load capacity
- Unit-8 (37.2 MW WHRU): Unit is under forced shut down w.e.f. January 17, 2013 for failure of Intake Water Pump. Purchase order for standby pump and required spares has already been placed. Unit was running with an average load of 30 to 32 MW prior to failure of Intake Pump.

Karbi Langpi Hydro Electric Project (100 MW)

APGCL submitted that currently both the Units are in good condition and operating at full capacity based on availability of water.

6.3 GAS SUPPLY POSITION

APGCL submitted the Gas Linkage for the existing Gas Plants of APGCL (LTPS & NTPS) as mentioned below:

Sl.	Station	Pricing Mechanism	Details
1	LTPS	APM	GAIL – April 13 to Nov 13: 0.45 MMSCMD; GAIL – Dec 13 onwards: 0.40 MMSCMD
		Non – APM	OIL – April 13 to Oct 13: 0.35 MMSCMD; OIL – Nov 13 to March 14: 0.45 MMSCMD
2	NTPS	APM	OIL – 0.66 MMSCMD

Further, APGCL vide letter dated March 26, 2013 submitted that official commissioning date of Brahmaputra Cracker and Polymer Limited (BCPL) has been announced as December 2013 and therefore, after commissioning of BCPL, the existing thermal power stations of APGCL are expected to get lean gas. APGCL further submitted that the calorific value from specific suppliers has been obtained from the concerned sources as mentioned in the table below:

Table 6.6: Details related to fuel supply as submitted by APGCL

Period	Gas Source	Gross Calorific Value in kcal/scm	Projected Gas availability in MMSCMD	Remarks
Apr'13-Nov'13	OIL	9158	**Source OIL: NTPS = 0.66** **Source OIL: LTPS –Non-APM (based on site experience):** **Apr-Oct= 0.35** **Nov-March=0.45** **Source GAIL: LTPS (based on site Experience):** **Apr'13-Nov'13=0.45** **Dec'13 onwards=0.40**	Variation in the Calorific values from Dec'13 onwards is due to supply of lean gas by the two suppliers after commissioning of BCPL in Dec'13
	GAIL	9701		
Dec'13 onwards	OIL	8000		
	GAIL	8112		

6.4 PERFORMANCE OF GENERATING STATIONS – APGCL PROJECTIONS AND COMMISSION'S ANALYSIS AND DECISIONS

APGCL has submitted the actual performance of the stations for FY 2010-11, FY 2011-12 and FY 2012-13 and projections for FY 2013-14, FY 2014-15 and FY 2015-16.

6.4.1 Plant Availability Factor/Capacity Index

APGCL has submitted the plant availability factor/capacity index of all the stations for the period from FY 2010-11 to FY 2015-16 as given in the table below:

Table 6.7: Plant Availability Factor (PAF)/ Capacity Index (%) for MYT period (%)- APGCL Submission

Sl. No.	Station	FY 2010-11 (Actuals)	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
1	NTPS	53.0	56.5	54.0	51.7	52.6	52.6
2	LTPS with WHRU	80.0	74.1	72.0	68.0	61.0	59.0
3	KLHEP	90.5	91.8	90.0	90.0	90.0	90.0
4	NRPP	-	-	-	77.0	77.0	77.0
5	Myntriang SHEP (Stage I)	-	-	-		91.0	91.0
6	Myntriang SHEP (Stage II)				91.0	91.0	91.0
7	Lungnit SHEP – Stage I (3 MW)	-	-	-	-	-	91.0
8	Lungnit SHEP – Stage II (3 MW)	-	-	-	-	91.0	91.0
9	Lakwa Replacement Power Project	-	-	-	-	-	92.0

Commission's view

As per Regulation 39.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006, full fixed charges shall be recoverable, if the availability for thermal and hydro generating stations are higher than the target availability as mentioned in the table below:

Table 6.8: Target availability/ Capacity Index for recovery of full capacity charges

Sl. No	Station	Availability/Capacity Index (%)
1	NTPS	50
2	LTPS	50
3	Purely Run-of-river power stations	90
4	Storage type and Run-of-river power stations with pondage	85

Fixed charges shall be recoverable on pro-rata basis if actual availability/capacity index is lower than that indicated in the above table.

Availability shall be computed in accordance with the relevant provisions of the Regulations. SLDC shall verify the availability figures submitted by APGCL for claiming the fixed charges.

Further, vide letter dated May 6, 2013 APGCL submitted the updated status of commissioning of new generating stations, in which NRPP is expected to get commissioned in FY 2014-15 instead of FY 2013-14 as submitted in the Petition. Accordingly, the Commission has considered the availability of NRPP station from FY 2014-15.

The PAF/ capacity index projected by APGCL for different stations for FY 2013-14 to FY 2015-16 are found to be reasonable. Hence, the Commission approves the PAF/ capacity index as projected by APGCL.

Table 6.9: PAF/capacity index (%) projected and approved for MYT period

Sl. No.	Stations	Projected			Approved		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	NTPS	51.7	52.6	52.6	51.7	52.6	52.6
2	LTPS with WHRU	68.0	61.0	59.0	68.0	61.0	59.0
3	KLHEP	90.0	90.0	90.0	90.0	90.0	90.0
4	Namrup Replacement Power Project	77.0	77.0	77.0	-	77.0	77.0
5	Myntriang SHEP –Stage I (6 MW)		91.0	91.0		91.0	91.0
6	Myntriang SHEP –Stage II (3 MW)	91.0	91.0	91.0	91.0	91.0	91.0
7	Lungnit SHEP – Stage I (3 MW)	-	-	91.0	-	-	91.0
8	Lungnit SHEP – Stage II (3 MW)	-	91.0	91.0	-	91.0	91.0
9	Lakwa Replacement Power Project	-	-	92.0	-	-	92.0

6.4.2 Plant Load Factor

APGCL has submitted Plant Load Factor of all the stations for FY 2010-11 to FY 2015-16 as given in the table below, as per revised capacity addition plan submitted vide letter dated May 6, 2013:

Table 6.10: Plant Load Factor (%) for MYT period – APGCL Submission

Sl. No.	Stations	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
		(Actuals)	(Actuals)	(Actuals)	(Projected)	(Projected)	(Projected)
1	NTPS	51.0	53.9	51.0	49.1	50.0	50.0
2	LTPS with WHRU	73.0	69.5	64.0	62.1.	55.8	53.6
3	Namrup Replacement Project with WHRU	-	-	-		72.3	72.0
4	Lakwa Replacement Power Project	-	-	-	-	-	90.0

Sl. No.	Stations	FY 2010-11 (Actuals)	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
5	KLHEP	47.0	51.8	39.0	44.5	44.5	44.5
6	Myntriang SHEP – Stage I (6 MW)					87.1	87.1
7	Myntriang SHEP – Stage II (3 MW)				80.8	80.8	80.8
8	Lungnit SHEP – Stage I (3 MW)						76.3
9	Lungnit SHEP – Stage II (3 MW)					76.7*	76.7

** - Revised letter dated May 6, 2013*

As regards LTPS with WHRU, APGCL submitted that on account of lower gas availability for the project, APGCL has to undergo the forced reduction of some Units of the plant for the Control Period from FY 2013-14 to FY 2015-16.

Commission's view

As per Regulation 39.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006, the target PLF for incentive is 50% for NTPS and LTPS and for other thermal generating station is 80%

The PLF projected by APGCL for different stations for FY 2013-14 to FY 2015-16 are found to be reasonable, except for NTPS for which APGCL has projected lower than 50%, i.e., target PLF for FY 2013-14 .

Therefore, the Commission has considered the PLF as projected by APGCL for all generating stations except NTPS, for which the Commission has considered normative PLF, i.e., 50%.

Table 6.11: Plant Load Factor (%) approved for MYT period

Sl. No.	Stations	Projected			Approved		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16

Sl. No.	Stations	Projected			Approved		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	NTPS	49.1	50.0	50.0	50.0	50.0	50.0
2	LTPS with WHRU	62.1	55.8	53.6	62.1	55.8	53.6
3	Namrup Replacement Project with WHRU		72.3	72.0	-	72.7	72.0
4	Lakwa Replacement Power Project	-	-	90.0	-	-	90.0
5	KLHEP	44.5	44.5	44.5	44.5	44.5	44.5
6	Myntriang SHEP – Stage I (6 MW)	87.1	87.1	87.1		87.1	87.1
7	Myntriang SHEP* – Stage II (3 MW)	80.8	80.8	80.8	80.8	80.8	80.8
8	Lungnit SHEP – Stage I (3 MW)			76.3			76.3
9	Lungnit SHEP – Stage II (3 MW)		76.7	76.7		76.7	76.7

**Based on excel Model submitted by APGCL*

6.4.3 Auxiliary Energy Consumption

APGCL has submitted the actual auxiliary consumption for FY 2010-11, FY 2011-12 and 2012-13 and projection for the Control Period from FY 2013-14 to 2015-16, as given in the table below:

Table 6.12: Auxiliary Energy Consumption (%) - Submission by APGCL

Sl. No.	Stations	2010-11 (Actuals)	2011-12 (Actuals)	2012-13 (Actuals)	2013-14 (Projected)	2014-15 (Projected)	2015-16 (Projected)
1	NTPS	4.46	5.42	4.90	5.00	5.00	5.00
2	LTPS with WHRU	8.71	9.55	8.82	8.29	8.33	8.43
3	KLHEP	0.50	0.50	0.50	0.50	0.50	0.50
4	Namrup Replacem-ent Project	-	-	-	4.60	6.30	6.30
5	Myntriang SHEP – Stage I (6 MW)	-	-	-	1.00	1.00	1.00
6	Myntriang Small HEP – Stage II (3 MW)	-	-	-	1.00	1.00	1.00
7	Lungnit SHEP –	-	-	-	-	1.00	1.00

Sl. No.	Stations	2010-11 (Actuals)	2011-12 (Actuals)	2012-13 (Actuals)	2013-14 (Projected)	2014-15 (Projected)	2015-16 (Projected)
	Stage I (3 MW)						
8	Lungnit SHEP – Stage II (3 MW)	-	-	-	-	-	1.00
9	Lakwa Replacement Power Project	-	-	-	-	-	3.38*

**Revised letter dated May 6, 2013*

APGCL has submitted that for existing generating stations, the auxiliary energy consumption has been considered based on the average of actual auxiliary consumption of last three years, i.e., FY 2010-11 to FY 2012-13. APGCL submitted that the reason for higher auxiliary consumption is the actual system loss in the power station switchyard including transformer loss (i.e.) net energy sent out to the grid at the interfacing point.

For LTPS generating station, APGCL submitted that auxiliary energy consumption of 8% for open cycle and 9.4% for WHRU has been proposed in the DPR. Accordingly, for open cycle, 8% has been considered with a view that present auxiliary consumption of 10% will be curtailed by using energy efficient measures as per the energy audit report.

APGCL has also submitted the break-up of auxiliary consumption and transformation and other losses for FY 2010-11 to FY 2012-13 and requested for the approval of enhanced auxiliary consumption, as already discussed in Chapter 6. APGCL vide letter dated May 10, 2013 submitted the revised auxiliary energy consumption as 3.38% in accordance with the revised DPR submitted on account of inclusion of two Gas Booster Compressor of LRPP for FY 2015-16.

Commission's view

The Commission is of the view that actual auxiliary consumption of NTPS and LTPS generating stations have been consistently higher than that approved by the Commission during the period from FY 2010-11 to FY 2012-13. The auxiliary consumption projected by APGCL for the Control Period are on the higher side, as compared to norms specified for existing stations in Regulation 39.5 (iii) of AERC Tariff Regulations, 2006.

Further, according to CERC Regulations, the norm for auxiliary consumption for Gas Turbine / combined cycle generating stations is as follows:
(i) Combined cycle - 3.0%
(ii) Open cycle - 1.0%

According to CEA recommendations, where the gas boosters are in existence, auxiliary consumption of 5.5% for combined cycle and 4.0% for open cycle can be allowed. According to AERC Regulations, 5.5% is allowed for LTPS station, though it is open cycle, which is 1.5% more than the requirement as per CEA recommendations. The Commission is of the view that it is not prudent to allow higher percentage of auxiliary consumption even after commissioning of Lakwa WHRU, and APGCL should take the necessary steps to contain auxiliary consumption of LTPS with WHRU, within 5.5%.

The Commission accordingly approves the auxiliary consumption for the Control Period from FY 2013-14 to FY 2015-16 as per Regulation 39.5 of AERC Tariff Regulations, 2006, as given in the table below:

Table 6.13: Auxiliary Consumption as per Regulations, as projected by APGCL and as approved by the Commission for MYT period (%)

Sl. No.	Station	As projected by APGCL			As approved by the Commission		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	NTPS	5.0	5.0	5.0	4.5	4.5	4.5
2	LTPS with WHRU	8.3	8.3	8.4	5.5	5.5	5.5
3	KLHEP	0.5	0.5	0.5	0.5	0.5	0.5
4	Namrup Replacement Project	-	6.3	6.3	-	4.5	4.5
5	Myntriang SHEP – Stage I (6 MW)	-	1.0	1.0	-	0.5	0.5
6	Myntriang Small HEP –Stage II (3 MW)	1.0	1.0	1.0	0.5	0.5	0.5
7	Lungnit SHEP – Stage I (3 MW)	-	-	1.0	-	-	0.5
8	Lungnit SHEP – Stage II (3 MW)	-	-	1.0	-	0.5	0.5
9	Lakwa Replacement Power Project	-	-	3.38	-	-	3.38*

**The auxiliary consumption for LRPP is a provisional figure and is subject to review in due course.*

6.4.4 Station Heat Rate

APGCL submitted the actual Net Station Heat Rate for FY 2010-11, FY 2011-12, and FY 2012-13 and projections for the Control Period from FY 2013-14 to 2015-16, as given in the table below:

Table 6.14: Net Station Heat Rate (kcal/kWh) - Submitted by APGCL

Sl. No.	Stations	FY 2010-11 (Actuals)	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Projected)	FY 2014-15 (Projected)	FY 2015-16 (Projected)
1	NTPS	3476	3364	3723	3559	3559	3559
2	LTPS with WHRU	3578	3441	2736	2827	2729	2417
3	Namrup replacement project with WHRU	-	-	-	2374	1537	1537
4	Lakwa Replacement Power Project	-	-	-	-	-	1802

APGCL submitted that all-out efforts had been made to operate its existing power plants at optimum performance level to meet the operating norms fixed by AERC. However, due to fluctuation in supply of gas and intermittent under-loading and outage of Units due to technical reasons at times has led to higher SHR for the period from FY 2009-10 to FY 2011-12 for both LTPS and NTPS.

For projecting Heat Rate of NTPS for the Control Period from FY 2013-14 to FY 2015-16, APGCL has considered the average of actual Heat Rate of last 3 years, i.e., FY 2009-10 to FY 2011-12 as 3950 kcal/kWh.

For projecting Heat Rate of LTPS for the Control Period for FY 2013-14 and FY 2014-15, APGCL has considered the average of actual Heat Rate of last 3 years, i.e., FY 2009-10 to FY 2011-12, as 3955 kcal/kWh. However, for FY 2015-16 only Phase-II (3 x 20 MW) Units are proposed to be operated as the Phase – I (4 x 15 MW) Units are to be replaced by Lakwa RPP, which is expected to be commissioned by July 2015. APGCL submitted that as per the Original Equipment Manufacturer data, heat rate of Phase-II Units are lower as compared to Phase-I Units as the Phase-II Units are newer than Phase.-I Units.

APGCL submitted that the difference ratio of heat rate between Phase-I: Phase-II is 52:48. APGCL accordingly submitted that the actual average GSHR for the last 3 years of 3955 kcal/kWh has been evaluated in 52:48 ratio and the Phase-II Units GSHR works out to 3811 kcal/kWh, which has been considered for projecting fuel cost of the Phase-II Units expected to be commissioned in FY 2015-16.

Commission's view

For the existing stations for the Control Period from FY 2013-14 to FY 2015-16, the Commission feels that the Heat Rate of 3266 kcal/kWh and 3658 kcal/kWh as per AERC Regulations 2006 for NTPS and LTPS are quite reasonable and the same has been approved for the MYT Control Period.

However, the heat rates of LTPS with WHRU, is suitably modified for the period from FY 2013-14 to FY 2015-16 on the basis of the projected generation of WHRU. Accordingly, **the Heat Rate for LTPS with WHRU for FY 2013-14 to FY 2015-16 have been computed as follows**:

Table 6.15: Approved Station Heat Rate for LTPS with WHRU (kcal/kWh)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16
Heat Rate as per AERC Regulations	3658 kcal/kWh	3658 kcal/kWh	3658 kcal/kWh
Total generation of LTPS	855 MU	768 MU	457 MU
Generation in WHRU	202 MU	182 MU	141 MU
Generation other than WHRU	653 MU	586 MU	316 MU
Approved heat rate taking into consideration WHRU generation	(3658/855)x 653	(3658/768)x 586	(3658/457) x 316
	2792 kcal/kWh	**2792 kcal/kWh**	**2529 kcal/kWh**

For LRPP, the Commission feels that the Heat Rate projected by APGCL is quite reasonable and accordingly, approves the Heat Rate as projected by APGCL.

As regards **NRPP**, the Commission observed that APGCL has submitted Heat Rate for the Combined cycle, however in its revised submission submitted that WHRU is expected to be commissioned in October 2014, hence, **the Heat Rate has accordingly been worked out for FY 2014-15 and FY 2015-16 as mentioned below**:

Table 6.16: Approved Station Heat Rate for NRPP (kcal/kWh)

Particulars	FY 2014-15	FY 2015-16
Heat Rate submitted by APGCL as per petition	2635 kcal/kWh	2635 kcal/kWh
Total generation of NRPP	511 MU	622 MU
Generation in WHRU	109 MU	220 MU
Generation other than WHRU	401 MU	402 MU
Approved heat rate taking into consideration WHRU generation	(2635/511)x 401	(2635/622)x 402
	2071 kcal/kWh	**1704 kcal/kWh**

The Heat Rate projected by APGCL and approved by the Commission for the Control Period is given in the table below:

Table 6.17: Gross Station Heat Rates (kcal/kWh) Approved by the Commission for MYT period

Sl. No.	Stations	Heat rate Projected by APGCL			Heat rate approved by the Commission		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	NTPS	3950	3950	3950	3266	3266	3266
2	LTPS with WHRU	3138	3029	2683	2792	2792	2529
3	Namrup replacement project	-	1706*	1706*	-	2071	1704
4	Lakwa Replacement Power Project	-	-	2000	-	-	2000

**For Combined cycle*

7 Generation Cost: Variable and Capacity (Fixed) Charges

7.0 GENERATION COSTS

Variable and Capacity (Fixed) Costs and Charges are discussed in this Chapter.

7.1 VARIABLE COSTS

7.1.1 Gross Generation

Based on the installed capacity of the Station and approved PLF, **the approved Station-wise energy generation during the Control Period from FY 2013-14 to FY 2015-16, is given in the table below**:

Table 7.1: Gross generation approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16

Sl. No	Station	Capacity (MW)	FY 2013-14		FY 2014-15		FY 2015-16	
			PLF (%)	Gross Generation (MU)	PLF (%)	Gross Generation (MU)	PLF (%)	Gross Generation (MU)
1	NTPS	119.5	50.00	523.41	50.00	219.00	50.00	219.60
2	LTPS with WHRU	157.2	62.11	855.30	55.79	768.27	53.60	457.63
3	Namrup replacement with WHRU	98.4	-	-	72.7	510.74	72.0	622.32
4	Lakwa replacement	70.0	-	-	-	-	90.00	415.80
	Total Thermal	**445.1**		**1378.71**		**1498.01**		**1715.35**
5	KLHEP	100		390.00		390.00		391.07
6	Lungnit SHEP	9		-		6.64		26.74
7	Myntriang SHEP	6		17.69		59.54		67.19
	Total Hydro	**115**		**407.69**		**456.18**		**485.00**
	Total Thermal + Hydro	**560.1**		**1786.40**		**1954.19**		**2200.35**

7.1.2 Net Generation

Considering the approved auxiliary consumption for each generating station, **the approved net Generation from each Station for the Control Period from FY 2013-14 to FY 2015-16, is given in table below**:

Table 7.2: Net generation approved by the Commission for the Control period from FY 2013-14 to FY 2015-16

Sl. No.	Station	FY 2013-14			FY 2014-15			FY 2015-16		
		Gross Generation	Auxiliary Consumption	Net Generation	Gross Generation	Auxiliary Consumption	Net Generation	Gross Generation	Auxiliary Consumption	Net Generation
		(MU)	(%)	(MU)	(MU)	(%)	(MU)	(MU)	(%)	(MU)
1	NTPS	523.41	4.50	499.86	219.00	4.50	209.15	219.60	4.50	209.72
2	LTPS with WHRU	855.30	5.50	808.26	768. 27	5.50	726.01	457.63	5.50	432.46
3	Namrup replacement with WHRU	-	-	-	510.74	4.50	487.75	622.32	4.50	594.31
4	Lakwa replacement	-						415.80	3.38	401.75
	Total Thermal	**1378.71**		**1308.11**	**1498.01**		**1422.91**	**1715.35**		**1638.24**
5	Karbi Langpi HEP	390.00	0.50	388.05	390.00	0.50	388.05	391.07	0.50	389.11
6	Lungnit SHEP	-	-	-	6.64	0.50	6.61	26.74	0.50	26.60
7	Myntriang SHEP	17.69	0.50	17.60	59.54	0.50	59.24	67.19	0.50	66.85
	Total Hydro	**407.69**		**405.65**	**456.18**		**453.90**	**485.00**		**482.57**
	Total Thermal + Hydro	**1786.40**		**1713.76**	**1954.19**		**1876.82**	**2200.35**		**2120.81**

7.1.3 Fuel Requirement and Fuel Costs

Both the Thermal Stations of APGCL, i.e., NTPS and LTPS, are Gas based Stations, and hence, fuel required is Gas.

Assessment of fuel requirement and Cost

The consumption of gas and its cost are derived from the following parameters:

- Gross Station Heat rate in kcal/SCM
- GCV of gas

- Gross generation
- Landed Price of gas

APGCL projected the following fuel parameters for the Control Period from FY 2013-14 to FY 2015-16:

Table 7.3: Gas based stations – cost parameters projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16

Sl. No	Station	Net Calorific value of gas (kcal/SCM)				Delivered cost of Gas (Rs./1000SCM)			
		FY 2013-14		2014-15	2015-16	FY 2013-14		2014-15	2015-16
		Apr 13 to Nov 13	Dec 13 to Mar 14			Apr 13 to Nov 13	Dec 13 to Mar 14		
1	NTPS	8250.00	7207.21	7207.21	7207.00	5801.40	5129.14	5138.16	5147.36
2	LTPS with WHRU								
	(A) Generation by APM Gas from GAIL	8740.00	7308.11	7308.11	7260.00	5653.91	4730.81	4731.39	4700.98
	(B) Generation by Non-APM Gas from OIL	8250.00	7308.11	7207.21	7260.00	9461.81	8356.95	8362.35	8423.73
3	Namrup replacement project		7207.21	7207.21	7207.00		5129.14	5138.16	5147.36
4	Lakwa replacement project								
	(A) Generation by APM Gas from GAIL	-	-	-	7260.00	-	-	-	4700.98
	(B) Generation by Non-APM Gas from OIL	-	-	-	7260.00	-	-	-	8423.73

Commission's view

The Commission, vide letter dated April 29, 2013, asked APGCL to furnish the station-wise weighted average actual GCV and Gas price for FY 2012-13. APGCL, vide letter dated May 6, 2013 submitted the details of the LTPS Station related to Gas price and Calorific value. However, for NTPS, only details related to Gas price were submitted and no information on GCV has been submitted. The Commission, vide letter dated May 31, 2013, asked APGCL to submit the full details related to GCV of fuel for NTPS. APGCL, vide letter dated June 11, 2013 submitted the full details of actual GCV and Gas price for FY 2012-13.

The actual values of weighted average GCV and unit cost of gas, as submitted by APGCL for FY 2012-13 has been considered for approving the fuel cost for the Control Period from FY 2013-14 to FY 2015-16. However, in accordance with Regulation 9 of AERC Tariff Regulations, 2006, any variation between approved gas price and GCV and actual gas price and GCV may be considered every quarter in the Fuel and Power Purchase Price Adjustment (FPPPA) Charges. For Namrup replacement project and Lakwa replacement project, the fuel price and GCV have been considered the same as that for NTPS and LTPS, respectively. Thus, **the fuel GCV and cost approved by the Commission for the Control Period are as given in table below**:

Table 7.4: Cost parameters approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16

Sl. No.	Station	Wt. Av. Gross Calorific value of gas (kcal/SCM)			Delivered cost of Gas (Rs./1000 SCM)		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	NTPS	9182.00	9182.00	9182.00	5904.16	5904.16	5904.16
2	Lakwa TPS with WHRU	9527.00	9527.00	9527.00	7161.25	7161.25	7161.25
3	Namrup* replacement project	-	9182.00	9182.00	-	5904.16	5904.16
4	Lakwa *replacement project	-	-	9527.00	-	-	7161.25

**It has been considered the existing gas allocation of NTPS and LTPS will be transferred to replacement projects after commissioning of the replacement projects*

7.1.4 Fuel Costs

The Station-wise Fuel Costs projected by APGCL or the Control Period are as given in table below:

Table 7.5: Fuel Costs Projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16

Sl. No.	Station	FY 2013-14			FY 2014-15			FY 2015-16		
		Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs
		(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)
1	Namrup TPS	415.35	394.59	104.17	219.85	208.86	55.78	220.45	209.43	56.03
2	Lakwa TPS with WHRU	855.28	784.38	212.61	768.23	704.25	188.53	457.63	419.04	99.68
3	NRPP	133.19	127.07	22.5	584.06	547.27	68	622.34	583.13	68.31
4	LRPP							553.39	543.98	89.86
5	Gas IC Engine Golaghat Project (10 MW)							65.88	64.76	12.76
6	Gas IC Engine Cachar Project (27 MW)							106.73	104.91	20.67
7	**Total Thermal**	**1403.82**	**1306.04**	**339.28**	**1572.14**	**1460.38**	**312.31**	**2026.42**	**1925.25**	**347.31**
8	Karbi Langpi HEP	390	388.05		390	388.05	-	390	388.05	-
9	Lungnit SHEP Stage I	-	-	-	4.94	4.89	-	20.09	19.89	-
10	Lungnit SHEP Stage II	-	-	-	-	-	-	20.22	20.01	-
11	Myntriang SHEP Stage I	10.13	10.03	-	45.77	45.31	-	45.77	45.31	-
12	Myntriang SHEP Stage II	21.24	21.03	-	21.24	21.03	-	21.24	21.03	-
13	**Total Hydro**	**421.37**	**419.11**	**-**	**461.95**	**459.28**	**-**	**497.32**	**494.29**	**-**
14	**Total (Thermal + Hydro)**	**1825.19**	**1725.13**	**339.28**	**2034.09**	**1919.66**	**312.31**	**2523.74**	**2419.54**	**347.31**

Commission's Analysis and decisions on fuel costs

The Commission decided to arrive at the fuel costs for the Control Period from FY 2013-14 to FY 2015-16 based on the following:

a) Performance parameters such as Gross Station Heat Rate, auxiliary consumption, etc., as approved in Chapter 6.
b) Other cost parameters such as weighted average GCV and weighted average unit cost of gas as per actuals for FY 2012-13.

Any variation in the cost parameters can be passed on to the consumer based on the approved FPPPA formula as specified in the AERC (Fuel and Power Purchase Price Adjustment Regulations), 2010. Copy of the AERC Regulations, 2010 on FPPPA adjustment formula is appended to this Order as **Annexure 2**. The performance parameters approved for the Control Period from FY 2013-14 to FY 2015-16 are given in Chapter 6. The cost parameters approved for the Control Period are given in Table 7.4. **Based on the generation and other operational parameters approved by the Commission above, the approved Station-wise fuel costs (Variable costs) are summarized in the table below**:

Table 7.6: Approved fuel cost for the Control Period from FY 2013-14 to FY 2015-16

Sl. No	Station	FY 2013-14			FY 2014-15			FY 2015-16		
		Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs
		(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)
1	Namrup TPS	523.41	499.86	109.92	219.00	209.15	45.99	219.60	209.72	46.12
2	Lakwa TPS with WHRU	855.30	808.26	179.52	768.27	726.01	161.26	457.63	432.46	87.00
3	Namrup replacement with WHRU	-	-	-	510.74	487.75	68.02	622.32	594.31	68.21
4	Lakwa Replacement Power Project	-						415.80	401.75	62.51
5	**Total Thermal**	**1378.71**	**1308.11**	**289.44**	**1498.01**	**1422.91**	**275.27**	**1715.35**	**1638.24**	**263.83**
6	Karbi Langpi HEP	390.00	388.05	-	390.00	388.05	-	391.07	389.11	-

Sl. No	Station	FY 2013-14			FY 2014-15			FY 2015-16		
		Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs	Gross Generation	Net Generation	Fuel Costs
		(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)	(MU)	(MU)	(Rs. Cr)
7	Lungnit SHEP	-	-	-	6.64	6.61	-	26.74	26.60	-
8	Myntriang SHEP	17.69	17.60	-	59.54	59.24	-	67.19	66.85	-
9	**Total Hydro**	**407.69**	**405.65**	**0.00**	**456.18**	**453.90**	**0.00**	**485.00**	**482.57**	**0.00**
10	**Total Thermal + Hydro**	**1786.40**	**1713.76**	**289.45**	**1954.19**	**1876.82**	**275.27**	**2200.35**	**2120.81**	**263.84**

The fuel costs approved by the Commission are Rs. 289.45 Crore for FY 2013-14, Rs.275.27 Crore for FY 2014-15, and Rs.263.84 Crore for FY 2015-16. Approved Station-wise per unit fuel costs (Rs/kWh) for the Control Period are given in the Table below:

Table 7.7: Station-Wise per unit Fuel costs approved for the Control Period from FY 2013-14 to FY 2015-16

Sl. No.	Station	FY 2013-14		FY 2014-15		FY 2015-16	
		Fuel Costs Rs./kWh Gross	Fuel Costs Rs./kWh Net	Fuel Costs Rs./kWh Gross	Fuel Costs Rs./kWh Net	Fuel Costs Rs./kWh Gross	Fuel Costs Rs./kWh Net
1	Namrup TPS	2.10	2.20	2.10	2.20	2.10	2.20
2	Lakwa TPS with WHRU	2.10	2.22	2.10	2.22	1.90	2.01
3	Namrup replacement project	-	-	1.33	1.39	1.10	1.15
4	Lakwa Replacement Power Project	-	-	-	-	1.50	1.56
	Total Thermal	2.10	2.21	1.84	1.93	1.54	1.61

7.2 ANNUAL CAPACITY CHARGES

7.2.1 Employee Expenses

The employee expenses comprise of all expenses related to employees like basic salary, dearness allowance, other allowances, leave travel assistance, earned leave encashment, pension and terminal benefits.

APGCL, in its Petition, has submitted that employee expenses for FY 2013-14 to FY 2015-16 have been projected considering 3% escalation in the basic salary, and Dearness Allowance and Terminal Benefits have been increased by 16% and 19%, respectively. In this regard, the Commission, vide letter dated March 15, 2013, asked APGCL to submit the detailed reason for considering escalation of 16% and 19% in Dearness Allowance and Terminal Benefits for the period from FY 2013-14 to FY 2015-16. APGCL, vide letter dated March 26, 2013, submitted that 3% hike in basic salary has been allowed from July 1 every year, therefore, escalation of 3% has been considered in the basic salary. As regards Dearness Allowance, APGCL clarified that as increase in Dearness Allowance has been declared twice, i.e., January and July and expected hike for January 2013 is 8%, therefore, the same rate, i.e., 8% has been considered for the month of July 2013. Hence, a total hike of 16% in Dearness Allowance has been considered for the period from FY 2013-14 to FY 2015-16.

APGCL has projected the employee expenses (net of capitalization) at Rs. 79.97 Crore for FY 2013-14, Rs. 89.27 Crore for FY 2014-15, and Rs. 100.57 Crore for FY 2015-16. The component-wise details of employee cost for the period from FY 2013-14 to 2015-16 furnished by APGCL are given in the table below:

Table 7.8: Employee Expenses projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1.	Salaries	37.45	37.96	35.24
2.	Overtime	0.49	0.53	0.49
3.	Dearness allowance	32.96	39.48	42.29
4.	Other allowances	6.71	6.73	6.80

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
5.	Bonus	0.03	0.03	0.03
6.	Medical allowance	0.20	0.20	0.20
7.	Leave Travel Assistance	0.03	0.03	0.03
8.	Earned level encashment	0.22	0.23	0.23
9.	Workmen compensatory payment	0.00	0.00	0.00
10.	Other staff cost	0.21	0.23	0.21
11.	Staff welfare expense	0.02	0.02	0.02
12.	Terminal benefits	12.92	14.39	17.17
13.	ROP arrears			
14.	**Subtotal**	**91.24**	**99.83**	**102.73**
15.	Less: Capitalization	11.27	10.56	2.16
	Total	**79.97**	**89.27**	**100.57**

Commission's analysis

For approving the employee expenses for the Control Period, the Commission has considered the trued-up expenses for FY 2011-12 based on Audited Accounts, as elaborated in Chapter 4 of this Order, as the base for escalating the employee expenses for the period from FY 2013-14 to FY 2015-16. The Commission observed that annual escalation in employee expenses as submitted by APGCL is around 8% which Commission also feels it appropriate. Thus, the Commission has escalated the trued-up basic salary and other allowances for FY 2011-12 by 8% twice for determining the employee expenses for FY 2013-14 and further 8% FY 2013-14 values for determining the employee expenses for FY 2014-15 and FY 2015-16.

As regards capitalisation of employee expenses, the Commission has proportionately considered the capitalisation submitted by APGCL, considering the revised investment plan approved by the Commission.

The Gross employee expense, capitalisation of employee expenses and net employee expenses approved by the Commission for FY 2013-14 to FY 2015-16 is given in the table below:

Table 7.9: Employee Expenses approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl No	Particulars	Amount		
		FY 2013-14	FY 2014-15	FY 2015-16
1	Gross employee expenses	78.72	85.01	91.81
2	Less : Capitalisation	0.59	8.63	0.39
3	Net employee expenses	78.12	76.39	91.42

The Commission accordingly approves the employee expenses at Rs 78.12 Crore for FY 2013-14, Rs 76.39 Crore for FY 2014-15, and Rs 91.42 Crore for FY 2015-16.

7.2.2 Repair and Maintenance (R&M) Expenses

Any expenditure on restoring an asset back upto the level of performance at which it was when it was first put to use is repairs expenditure. Any expenditure on maintaining the asset upto the level of performance at which it was when it was first put to use is maintenance expenditure.

R&M expenses include expenses on repairs and maintenance of plant and machinery, buildings, civil works, hydraulic, lines and cable network, furniture and fixtures, etc.

APGCL, in its Petition, has not submitted the approach adopted for projecting the R&M expenses. In this regard, the Commission vide letter dated March 15, 2013 asked APGCL to submit the approach adopted for projecting the R&M expenses for the period from FY 2013-14 to FY 2015-16. APGCL, vide letter dated March 26, 2013 submitted the following station-wise details of R&M expenses.

APGCL has projected the R&M expenses at Rs. 62.06 Crore for FY 2013-14, Rs. 47.76 Crore for FY 2014-15, and Rs. 43.94 Crore for FY 2015-16. APGCL has furnished the component-wise details of R&M expenses for the Control Period FY 2013-14 to FY 2015-16 as detailed in the table below:

Table 7.10: Repairs & Maintenances projected by APGCL for the Control from FY 2013-14 to FY 2015-16

(Rs. Crore)

SL No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1.	Plant & Machinery	52.63	36.05	29.28
2.	Buildings	1.32	2.67	3.67
3.	Other civil works	1.13	1.17	1.26
4.	Hydraulic	4.3	4.88	6.25
5.	Lines & cable network	0.35	0.4	0.44
6.	Vehicles	1.05	1.21	1.47
7.	Furniture & Fixtures	0.55	0.6	0.75
8.	Office equipment	0.73	0.77	0.83
	Total	**62.06**	**47.76**	**43.94**

Commission's analysis

The Commission observed that the actual R&M expenses for FY 2011-12 were Rs. 23.69 Crore and for FY 2013-14, APGCL has estimated Rs 62.06 Crore, i.e., CAGR of 63% over the actual R&M expenses. Further, it was also observed that APGCL in its revised investment plan has submitted around Rs 63.40 Crore as Renovation & Modernisation expenditure for the period from FY 2013-14 to FY 2015-16.

In this regard, the Commission asked APGCL to confirm that the expenditure considered under Repair & Maintenance expenses head excludes the expenditure considered under original Investment plan as Renovation and Modernisation expenditure for NTPS, LTPS and KLHEP generating stations of Rs 17 Crore, Rs. 52 Crore and Rs. 21.20 Crore, respectively. In reply, APGCL vide letter dated May 6, 2013 submitted the justification of Repair & Maintenance expenses for NTPS, LTPS and KLHEP station.

It has been observed from the information submitted by APGCL that most of the expenses submitted by APGCL under Repair & Maintenance expenses are of Capital Expenditure nature such as major overhauling of LTPS station is required to be undertaken for Unit-6 and Unit-7 during the Control Period and procurement of spares.

Hence, the Commission directs APGCL to include the major overhauling in the scope of work of Renovation and Modernisation and submit the Detailed Project Report with cost benefit analysis for approval of the Commission. Accordingly, the Commission has considered 8% annual escalation twice on the trued-up expenditure for FY 2011-12 based on Audited Accounts, as elaborated in Chapter 4 of this Order for determining the R&M expenses for FY 2013-14. Further, for approving the R&M expenses for FY 2014-15 and FY 2015-16, the R&M expenses for FY 2013-14 have been escalated at an annual rate of 8%.

The R&M expenses approved by the Commission for the period from FY 2013-14 to FY 2015-16 is given in the table below:

Table 7.11: R&M Expenses approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl No	Particulars	Amount		
		FY 2013-14	FY 2014-15	FY 2015-16
1	R&M expenses	14.91	16.10	17.39

The Commission, accordingly approves the R&M expenses at Rs. 14.91 Crore for FY 2013-14, Rs.16.10 Crore for FY 2014-15 and Rs. 17.39 Crore for FY 2015-16.

7.2.3 Administration and General (A&G) Expenses

A&G expenses cover rents, rates and taxes, insurance, communication, technical fees, professional fees, conveyance and travel charges, etc. APGCL, in its Petition, has not submitted the approach adopted for projecting the A&G expenses. In this regard, the Commission, vide letter dated March 15, 2013, asked APGCL to submit the approach adopted for projecting the A&G expenses for the period from FY 2013-14 to FY 2015-16. APGCL, vide letter dated March 26, 2013, submitted that 5.72% escalation has been considered for projecting the A&G expenses for the period from FY 2013-14 to FY 2015-16.

APGCL has projected the A&G expenses at Rs. 6.35 Crore for FY 2013-14, Rs. 8.12 Crore for FY 2014-15 and Rs. 10.85 Crore for FY 2015-16.

APGCL has provided the details of component-wise projections of A&G expenses for the Control Period from FY 2013-14 to FY 2015-16, which are given in the table below.

Table 7.12: Administration and General Expenses Projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16

(Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1.	Rent, rates & taxes	1.29	1.53	1.75
2.	Insurance	1.25	1.32	1.4
3.	Telephone charges	0.27	0.32	0.36
4.	Postage and telegram	0.05	0.06	0.06
5.	Legal charges	0.46	0.52	0.57
6.	Audit fee	0.03	0.04	0.04
7.	Consultancy charges	0.15	0.18	0.2
8.	Technical fees	0.04	0.04	0.05
9.	Other professional fees	0.11	0.12	0.13
10.	Conveyance & Travel charges	1.34	1.54	1.72
11.	Freight	0.26	0.29	0.33
12.	Other purchase related expenses	3.66	4.2	4.68
13.	**Sub Total**	**8.92**	**10.15**	**11.29**
14.	Less Capitalized	2.58	2.03	0.44
	Total	**6.35**	**8.12**	**10.85**

Commission's analysis

The Commission approves an annual escalation of 6.00% for projecting the A&G expenses for the Control Period from FY 2013-14 to FY 2015-16. The Commission has considered the trued-up expenses for FY 2011-12 based on Audited Accounts, as elaborated in Chapter 4 of this Order, as the base for approving the A&G expenditure. An annual escalation of 6.00% has been applied twice on the gross actual expenses for FY 2011-12 for arriving the A&G expenses for FY 2013-14. A further 6.00% escalation has been considered on A&G expenses for FY 2013-14 for projecting the A&G expenses for FY 2014-15 and FY 2015-16.

As regards capitalisation of A&G expenses, the Commission has proportionately considered the capitalisation submitted by APGCL, considering the revised investment plan approved by the Commission.

The Gross A&G expense, capitalisation of A&G expenses and net A&G expenses approved by the Commission for FY 2013-14 to FY 2015-16 is given in the table below:

Table 7.13: A&G Expenses approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl No	Particulars	Amount		
		FY 2013-14	FY 2014-15	FY 2015-16
1	Gross A&G expenses	6.06	6.42	6.81
2	Less : Capitalisation	0.14	1.66	0.08
3	Net A&G expenses	5.93	4.76	6.73

The Commission accordingly approves the A&G expenses at Rs. 5.93 Crore for FY 2013-14, Rs. 4.76 Crore for FY 2014-15, and Rs. 6.73 Crore for FY 2015-16.

7.2.4 Investment Plan

APGCL, vide letter dated May 6, 2013, submitted the revised investment plan and projected an investment of Rs. 2963.02 Crore for the period from FY 2013-14 to FY 2015-16. The year wise details of investment are given in the table below:

Table 7.14: Investment Plan submitted by APGCL for FY 2013-14 to FY 2015-16

(Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
	Investments Proposal			
A.	**R&M**			
1.	Namrup TPS	2.00	5.00	2.00
2.	Lakwa TPS	1.50	19.00	10.00
3.	KLHEP	5.40	10.00	8.50
B.	**Ongoing Projects**			
1.	Namrup Replacement Power Project	275.00	120.00	0.00
2.	Myntriang SHP	12.00	3.75	0.00

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
3.	Lungnit SHP	46.10	17.60	9.30
C.	**New Projects**			
1.	LRPP	42.00	169.00	68.00
2.	KLHEP (Upper Stage)	0.90	0.00	180.00
3.	KLHEP Intermediate Stage I	0.30	25.00	85.00
4.	KLHEP Intermediate Stage II	0.30	25.00	125.00
5.	Survey & Investigation of HEP	0.05	0.05	0.05
6.	Distributed Generation System of estimated Gas based IC Engine from OIL's Gas.			
7.	- Golaghat Distributed Generation System by Gas IC Engine	0.00	0.00	10.50
8.	- Cachar Distributed Generation System by Gas IC Engine	0.00	0.00	18.00
9.	500 MW Margherita TPP	0.90	200.00	400.00
10	Amguri CCGT (100 MW)	0.00	0.00	5.00
11	Amring SHP (21MW)	0.00	30.00	112.00
12	Lower Kopili HEP	12.00	225.00	525.00
13	Karbi Langpi Dam Toe H.E. Project	0.30	77.00	80.00
	Total	**398.75**	**926.40**	**1638.35**
	Financed by			
	Loans	356.65	334.05	624.85
	Grant	28.10	11.35	0.00
	Equity	14.00	581.00	1013.50

Commission's analysis

The Commission observed that the Petitioner has submitted the investment plan that includes investment requirement in Renovation and Modernisation of existing plants and for capacity addition. The Commission appreciates that the Petitioner is making efforts for enhancing generation by adding new generation capacity and by undertaking renovation and modernisation of existing stations. However, the Commission has observed that despite directions given by the Commission repeatedly to submit the Detailed Project Report for new capacity addition and for

Renovation and Modernisation schemes, the Petitioner has not submitted the Detailed Project Report for Renovation and Modernisation of any plants. Accordingly, the Commission has not considered any investment related to Renovation and Modernisation of the plant and will consider the investment only after prudence check of the Detailed Project Report submitted by the Petitioner. The Commission directs APGCL to submit the Detailed Project Report including cost benefit analysis of undertaking Renovation and Modernisation of existing stations for approval of the Commission.

As regards capital cost of the project, for LRPP and NRPP project the Commission has considered the capital cost which the Commission has accorded in-principle approval as Rs 277.76 Crore and Rs 693.92 Crore for approval of Capital Investment. However, for Myntriang SHEP and Lungnit SHEP the Capital cost is not available with the Commission and understand that the Cost submitted by APGCL is significantly high, thus the Commission has considered normative capital cost as Rs 7 Crore/ MW in accordance with the Regulation 29.1 of AERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012. Accordingly, the Commission has considered Rs 42 Crore and Rs 63 Crore for Lungnit and Myntriang SHEP. Further, for approving the financing structure Loan, Grant and Equity amount has been proportionately reduced as per the revised Investment Plan.

The revised investment plan approved by the Commission is given in the table below:

Table 7.15: Investment Plan approved for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
A	**Ongoing Projects**			
1.	Namrup Replacement Power Project	-	693.92	-
2.	Myntriang SHP	21.00	42.00	-
3.	Lungnit SHP	-	21.00	21.00
B.	**New Projects**			
1.	LRPP	-	-	277.76
	Total	**21.00**	**756.92**	**298.76**

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
	Financing Structure			
	Loans	2.58	581.40	206.65
	Grant	18.42	175.52	8.11
	Equity	-	-	84.00

7.2.5 Interest and Finance Charges

APGCL in the Petition has projected the interest and finance charges at Rs. 50.25 Crore for FY 2013-14, Rs. 101.93 Crore for FY 2014-15, and Rs. 139.93 Crore for FY 2015-16 (net of capitalization). Subsequent to the submission of revised investment plan, APGCL vide letter dated May 6, 2013 submitted the revised interest and finance charges for FY 2013-14 to FY 2015-16 as detailed below. The details of opening balances of loans, additions, repayments, interest, capitalization of interest, and the new loans proposed for borrowing are furnished in the additional submission, as given in table below.

Table 7.16: Interest and Finance Charges projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16
Interest & financing charges			
Existing Loans	34.87	34.52	33.88
New Loans	41.70	82.09	154.70
Other finance charges	4.61	4.72	4.90
Sub total	81.18	121.33	193.48
Less: Interest capitalised	45.30	41.73	85.99
Total	**35.88**	**79.60**	**107.49**

Commission's analysis

For the purpose of tariff determination, the Commission has worked out the normative loan in accordance with the AERC Tariff Regulations, 2006. The Commission has considered the normative loan addition as per the investment plan approved in this Tariff Order.

For arriving the outstanding balance of the loan for FY 2013-14, the Commission has considered trued-up outstanding loan for FY 2011-12 based on Audited Accounts as base and loan addition during FY 2012-13 has been considered.

The Commission has considered the interest rate for the Control Period as submitted by APGCL, i.e., interest rate for PFC and FI loan is considered as 12.50% and for State Govt. Loan, it is considered as 10.00%. The Commission has computed the repayment for PFC loan considering repayment period as 10 years as submitted by APGCL and for Govt. of Assam loan, 10% of the outstanding balance as repayment and for FI loan has been considered as 15 years as submitted by APGCL.

Based on the above considerations and AERC Tariff Regulations, 2006, the Commission has computed the interest expense for the Control Period as shown in the tables below:

Table 7.17: Interest & Finance Charges approved for FY 2013-14 (Rs. Crore)

Sl. No.	Particulars	FY 2013-14					
		Opening balance	**Receipts**	**Repayments**	**Closing Balance**	**Rate of Interest**	**Interest**
1	PFC	217.18	0.00	21.72	195.46	12.50%	25.79
2	State Govt. Loan	77.63	2.58	7.89	72.32	10.00%	7.50
	Sub-total	**294.81**	**2.58**	**29.61**	**267.79**		**33.29**
Less :	Interest Capitalized						2.39
Interest Charges in P&L							**30.90**

Table 7.18: Interest & Finance Charges approved for FY 2014-15 (Rs. Crore)

S.No.	Particulars	FY 2014-15					
		Opening balance	**Receipts**	**Repayments**	**Closing Balance**	**Rate of Interest**	**Interest**
1	PFC	195.46	557.28	47.41	705.34	12.50%	56.30
2	State Govt. Loan	72.32	17.28	8.10	81.51	10.00%	7.69
3	FI Loan	0.00	6.84	0.23	6.61	12.50%	0.41
	Sub-total	**267.79**	**581.40**	**55.73**	**793.45**		**64.40**
Less:	Interest Capitalized						34.09
Interest Charges in P&L							**30.31**

Table 7.19: Interest & Finance Charges approved for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	FY 2015-16					
		Opening balance	Receipts	Repayments	Closing Balance	Rate of Interest	Interest
1	PFC	705.34	5.60	70.81	640.12	12.50%	84.09
2	State Govt. Loan	81.51	0.85	8.19	74.16	10.00%	7.78
3	FI Loan	6.61	200.20	7.11	199.69	12.50%	12.89
	Sub-total	**793.45**	**206.65**	**86.12**	**913.98**		**104.77**
Less:	Interest Capitalized						15.68
Interest Charges in P&L							**89.09**

The Commission accordingly approves the interest charges at Rs 30.90 Crore for FY 2013-14, Rs 30.31 Crore for FY 2014-15, and Rs 89.09 Crore for FY 2015-16 as against Rs 50.25 Crore for FY 2013-14, Rs 101.93 Crore for FY 2014-15, and Rs 139.93 Crore for FY 2015-16 submitted by APGCL.

7.2.6 Interest on working capital

APGCL has projected the interest on working capital at Rs. 29.68 Crore for FY 2013-14, Rs. 23.03 Crore for FY 2014-15 and Rs. 25.14 Crore for FY 2015-16. The details are given in the table below.

Table 7.20 : Interest on Working Capital Projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1.	One month Fuel Cost	28.27	26.03	28.94
2.	One month approved O&M Cost	12.01	11.92	12.83
3.	Maintenance Spares	18.16	21.36	27.12
4.	Two month Receivables	146.24	99.53	104.46
	Total	**204.69**	**158.83**	**173.35**
	Interest: @ 14.5% for FY 2013-14 to FY 2015-16	**29.68**	**23.03**	**25.14**

The Commission has computed the working capital and interest on working capital in accordance with Regulation 42 of the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006 as detailed in the table below:

Table 7.21: Interest on working capital approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1.	Fuel cost (1 month)	24.12	22.94	21.99
2.	O&M cost (1 month)	8.25	8.10	9.63
3.	Maintenance spares @ 1% of GFA	8.85	8.79	15.90
4.	Receivables equivalent to two months of fixed and variable charges	82.49	79.49	96.12
Total working capital		**123.71**	**119.32**	**143.63**
Interest Rate @ 14.75%		14.75%	14.75%	14.75%
Interest charges		**18.25**	**17.60**	**21.18**

The Commission accordingly approves the interest on working capital at Rs. 18.25 Crore for FY 2013-14, Rs. 17.60 Crore for FY 2014-15 and Rs. 21.18 Crore for FY 2015-16.

7.2.7 Taxes on Income

APGCL has projected the tax on income at Rs. 21.07 Crore for FY 2013-14, Rs. 29.20 Crore for FY 2014-15, and Rs. 36.53 Crore for FY 2015-16.

Regulation 20 of AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006 specified that tax on income has to be computed as an expense and shall be recovered from the beneficiaries / consumers.

APGCL has not explained the basis of projection of tax on income, which is to be passed through. As per the accounts for FY 2011-12, the tax on income is Rs. 0.93 Crore for FY 2011-12.

The Commission has considered the tax on income at the same level, i.e., Rs. 0.93 Crore for the period from FY 2013-14 to FY 2015-16. The actual tax paid will be considered during the truing up for the respective years.

7.2.8 Depreciation

APGCL has projected the depreciation charges at Rs. 42.15 Crore for FY 2013-14, Rs. 78.60 Crore for FY 2014-15, and Rs. 107.70 Crore for FY 2015-16. The asset classification wise details of depreciation projected by APGCL are given in the table below:

Table 7.22: Depreciation projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs. Crore)

Sl. No	Asset category	FY 2013-14	FY 2014-15	FY 2015-16
1	Land & rights	0.00	0.00	0.00
2	Building	0.82	0.99	1.11
3	Hydraulic	6.87	7.77	8.69
4	Other civil works	3.71	4.41	5.11
5	Plant & Machinery	28.14	62.47	89.43
6	Lines & cable network	2.17	2.34	2.56
7	Vehicles	0.05	0.13	0.20
8	Furniture & fixtures	0.05	0.07	0.11
9	Other equipment	0.04	0.06	0.07
10	Capital spares at generating stations	0.30	0.36	0.42
	Total	**42.15**	**78.60**	**107.70**

It is submitted by APGCL that depreciation has been calculated using the schedule as prescribed by the AERC. It is further stated that analysis of the trial balance carried out and the weighted average rate has been calculated and used for calculation. Depreciation on assets commissioned in a year is charged on the average of opening and closing balance for the year.

In reply to a query from the Commission, vide letter dated May 6, 2013, APGCL furnished the year-wise project-wise GFA addition during the Control Period as mentioned in the table below:

Table 7.23: Projected Gross Fixed Assets and Additions for FY 2013-14 to FY 2015-16 (Rs. Crore)

A/C code	Asset category	As on 01/04/2013	Additions during FY 2013-14	Additions during FY 2014-15	Additions during FY 2015-16
10.10	Land & rights	6.34	0.71	2.25	-
10.20	Building	28.43	6.83	9.55	3.45
10.30	Hydraulic	192.30	10.71	43.64	22.60
10.10	Other civil works	177.34	58.09	67.32	23.56
10.50	Plant & Machinery	433.34	638.92	680.47	281.52
10.60	Lines & cable network	40.35	12.11	14.92	5.37
10.70	Vehicles	0.26	0.50	0.50	0.20
10.80	Furniture & fixtures	0.17	1.00	1.04	0.44
10.90	Other equipment	0.51	0.50	0.53	0.23
11.30	Capital spares at generating stations	5.96	2.00	2.00	0.80
	Total	**885.00**	**731.38**	**822.22**	**338.20**

The Commission has computed the depreciation charges year-wise for the Control Period in accordance with Regulation 14 of the AERC Tariff Regulations based on the GFA and as per the revised investment plan approved by the Commission. Further, as per the Regulations, the consumer contribution/ capital subsidy/grant shall be excluded from the asset value for the purpose of computing depreciation. The details of depreciation approved for the Control Period from FY 2013-14 to FY 2015-16 are given in the tables below:

Table 7.24: Depreciation approved by the Commission for FY 2013-14 (Rs. Crore)

Sl. No.	Particulars	GFA 01.04.2013	Additions during FY 2013-14	Rate of depreciation	Depreciation approved by the Commission
1	Land & Rights	6.34			0.00
2	Buildings	28.44		1.80%	0.46
3	Hydraulic	192.29		2.57%	4.45
4	Other civil works	177.34		1.80%	2.87
5	Plant machinery Gas	258.42		6.00%	13.95
6	Plant machinery Hydel	174.91	21.00	2.57%	4.29
7	Plant machinery Thermal	0.00		3.60%	0.00
8	Lines & Cable net work	40.35		2.57%	0.93
9	Vehicles	0.26		18.00%	0.04
10	Furniture & Fixtures	0.18		6.00%	0.01

11	Office equipment	0.52		6.00%	0.03
12	Capital Spares	5.96		4.75%	0.25
	Total	**885.00**	**21.00**		**27.29**
13	Average Assets of OB & CB in FY 2013-14 (excluding land value)	889.16		3.07%	
14	Average capital subsidy & contributions/grants	396.19			10.94
15	**Depreciation for the year**				16.35

Average grants & subsidies for FY 2013-14	Rs. Crore
Grants & subsidies as on 01/04/2013	386.98
Grants & subsidies as on 01/04/2014	405.40
Average grants & subsidies	396.19
Depreciation on the 90% of the Assets funded by grants/subsidies	10.94

Table 7.25: Depreciation approved by the Commission for FY 2014-15 (Rs. Crore)

Sl. No.	Particulars	GFA 01.04.2014	Additions during FY 2014-15	Rate of depreciation	Depreciation approved by the Commission
1	Land & Rights	6.34			0.00
2	Building	27.97		1.80%	0.45
3	Hydraulic	187.84		2.57%	4.34
4	Other Civil Works	174.47		1.80%	2.83
5	Plant & Machinery Gas	244.46	693.92	6.00%	31.94
6	Plant machinery Hydel	191.62	63.00	2.57%	5.16
7	Plant machinery Thermal	0.00	0.00	3.60%	0.00
8	Lines & Cable Network	39.42		2.57%	0.91
9	Vehicles	0.22		18.00%	0.04
10	Furniture & Fixtures	0.17		6.00%	0.01
11	Office Equipment	0.49		6.00%	0.03
12	Capital spares at Generating Stations	5.71		4.75%	0.24
	TOTAL	**878.71**	**756.92**	**0.00%**	**45.95**
13	Average Assets of OB & CB in FY 2014-15 (excluding land value)	1250.83		3.67%	
14	Average capital subsidy & contributions/grants	493.16			16.30
15	**Depreciation for the year**				29.64

Average grants & subsidies for FY 2014-15	Rs. Crore
Grants & subsidies as on 01/04/2014	405.40
Grants & subsidies as on 01/04/2015	580.92
Average grants & subsidies	493.16
Depreciation on the 90% of the Assets funded by grants/subsidies	16.30

Table 7.26: Depreciation approved by the Commission for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	GFA 01.04.2015	Additions during FY 2015-16	Rate of depreciation	Depreciation approved by the Commission
1	Land & Rights	6.34			
2	Building	27.52		1.80%	0.45
3	Hydraulic	183.50		2.57%	4.24
4	Other Civil Works	171.64		1.80%	2.78
5	Plant & Machinery Gas	906.45	277.76	6.00%	56.45
6	Plant machinery Hydel	249.46	21.00	2.57%	6.01
7	Plant machinery Thermal	0.00		3.60%	0.00
8	Lines & Cable Network	38.51		2.57%	0.89
9	Vehicles	0.18		18.00%	0.03
10	Furniture & Fixtures	0.16		6.00%	0.01
11	Office Equipment	0.46		6.00%	0.02
12	Capital spares at Generating Stations	5.46		4.75%	0.23
	TOTAL	**1589.68**	**298.76**		**71.12**
13	Average Assets of OB & CB in FY 2015-16 (excluding land value)	1732.72		4.10%	
14	Average capital subsidy & contributions/grants	580.92			21.46
15	**Depreciation for the year**				49.66

Average grants & subsidies for FY 2015-16	Rs. Crore
Grants & subsidies as on 01/04/2015	580.92
Grants & subsidies as on 01/04/2016	589.03
Average grants & subsidies	584.97
Depreciation on the 90% of the Assets funded by grants/subsidies	21.46

The Commission accordingly approves the depreciation at Rs 16.35 Crore for

FY 2013-14, Rs 29.64 Crore for FY 2014-15 and Rs 49.66 Crore for FY 2015-16 as against Rs 42.15 Crore for FY 2013-14, Rs 78.60 Crore for FY 2014-15 and Rs 107.70 Crore for FY 2015-16 claimed by APGCL.

7.2.9 Return on Equity

APGCL has projected the return on equity at Rs. 69.45 Crore for FY 2013-14, Rs. 96.26 Crore for FY 2014-15, and Rs. 120.45 Crore for FY 2015-16 as detailed in the table below:

Table 7.27: Return on equity projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs Crore)

Project	Equity	ROE @ 15.5%		
		FY 2013-14	FY 2014-15	FY 2015-16
NTPS	128.57	19.93	19.93	19.93
LTPS	136.50	21.16	21.16	21.16
KLHEP	68.11	10.56	10.56	10.56
LWHRP	70.92	10.99	10.99	10.99
Lungnit SHEP	16.80		0.43	2.6
Myntriang SHEP	25.20	1.74	3.91	3.91
NRPP	208.20	5.08	29.29	32.27
LRPP	83.70			12.97
Golaghat distributed IC Engine				2.78
Cachar distributed IC Engine				3.27
Total		**69.45**	**96.26**	**120.45**

APGCL has mentioned that 100% ROE @ 15.5% has been proposed considering overall improvement in performance of LTPS, NTPS and KLHEP.

Considering the performance of the plants during FY 2013-14, FY 2014-15 and FY 2015-16, ROE is allowed at 14%, in accordance with AERC Tariff Regulations, as detailed in the Table below:

Table 7.28: ROE Approved by the Commission for the Control Period from FY 2013-14 to FY 2015-16 (Rs Crore)

Particulars	APGCL projects								
	NTPS	LTPS	KLHEP	LWHRP	NRPP	LRPP	Myntriang	Lungnit	Total
Equity as on 01/04/2013	63.31	69.03	68.11	70.92	-	-	-	-	271.37
Rate of ROE considered	14%	14%	14%	14%	-	-	-	-	
ROE approved for FY 2013-14	**8.86**	**9.66**	**9.54**	**9.93**	-	-	-	-	**37.99**
Equity capital as on 01/04/2014	63.31	69.03	68.11	70.92	-	-	-	-	271.37
Rate of ROE considered	14%	14%	14%	14%	-	-	-	-	
ROE approved for FY 2014-15	**8.86**	**9.66**	**9.54**	**9.93**	-	-	-	-	**37.99**
Equity capital as on 01/04/2015	63.31	69.03	68.11	70.92	-	84.00	-	-	355.37
Rate of ROE considered	14%	14%	14%	14%	-	14%	-	-	
ROE approved for FY 2015-16	**8.86**	**9.66**	**9.54**	**9.93**	-	**11.76**	-	-	**49.75**

The Commission accordingly approves the ROE at Rs. 37.99 Crore for FY 2013-14, Rs. 37.99 Crore for FY 2014-15, and Rs. 49.75 Crore for FY 2015-16 against Rs. 69.45 Crore for FY 2013-14, Rs. 96.26 Crore for FY 2014-15, and Rs. 120.45 Crore for FY 2015-16 projected by APGCL.

7.2.10 Other Income

APGCL has projected the other income at Rs. 9.40 Crore for FY 2013-14, Rs. 9.31 Crore for FY 2014-15, and Rs. 8.79 Crore for FY 2015-16 as detailed in the table below:

Table 7.29: Other income projected by APGCL for the Control Period from FY 2013-14 to FY 2015-16 (Rs Crore)

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
1	Interest on staff loans and advances	0.00	0.00	0.00
2	Income from investment	6.70	6.63	6.09
3	Income from sale of scrap	0.23	0.23	0.22
4	Rebate for timely payment	1.69	1.68	1.71
5	Misc. receipts (except 62.901 &	0.77	0.76	0.75

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
	62.908)			
6	Amount from residential buildings	0.01	0.01	0.01
	Total	**9.40**	**9.31**	**8.79**

The Commission observed that the other income projected by APGCL is on the lower side, as compared to the actual Other Income in FY 2011-12. Accordingly, for computing the other income for FY 2013-14, 10% escalation has been applied twice on the actual amount of other income as mentioned in the Audited Accounts for FY 2011-12. Further, 10% escalation has been considered on the computed other income for FY 2013-14 for projecting the other income for FY 2014-15 and FY 2015-16. Accordingly, **the Commission approves other income at Rs. 10.99 Crore for FY 2013-14, Rs. 12.09 Crore for FY 2014-15 and Rs. 13.29 Crore for FY 2015-16**.

7.2.11 Impact of Truing-up for FY 2011-12

The Commission has considered the impact of truing-up for FY 2011-12 as Rs 13.10 Crore in the ARR for FY 2013-14 as mentioned in Chapter 4 of the Order.

7.2.12 ARR for the Control Period from FY 2013-14 to FY 2015-16

The Commission has arrived at the fixed charges and variable charges in accordance with the analysis and decisions in the above paragraphs. **The fixed charges and variable charges as projected by APGCL and as approved by the Commission are given in the table below**:

Table 7.30: ARR approved for the Control Period from FY 2013-14 to FY 2015-16 (Rs Crore)

Sl. No.	Particulars	Projected by APGCL			Approved by the Commission		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
1	Operation & Maintenance expenses						
	Employee Expenses	79.97	89.27	100.57	78.12	76.39	91.42
	Repairs & Maintenance Expenses	62.06	47.76	43.94	14.91	16.10	17.39
	Administrative & General Expenses	6.35	8.12	10.85	5.93	4.76	6.73
2	Interest & Finance Charge	50.25	101.93	139.93	30.90	30.31	89.09

Sl. No.	Particulars	Projected by APGCL			Approved by the Commission		
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2013-14	FY 2014-15	FY 2015-16
3	Interest on Working Capital	29.68	23.03	25.14	18.25	17.60	21.18
4	Taxes on income	21.07	29.20	36.53	0.93	0.93	0.93
5	Depreciation	42.15	78.60	107.70	16.35	29.64	49.66
6	Return on Equity	69.45	96.26	120.45	37.99	37.99	49.75
7	Less: Other Income	9.40	9.31	8.79	10.99	12.09	13.29
(A)	**Total Fixed Charges**	**351.57**	**464.86**	**576.32**	**192.38**	**201.64**	**312.86**
(B)	**Fuel Cost**	**339.28**	**312.31**	**347.30**	**289.45**	**275.27**	**263.84**
(C)	**True-up for FY 2011-12**				**13.10**		
	ARR (A) + (B) + (C)	**690.84**	**777.17**	**923.62**	**494.94**	**476.91**	**576.69**
1	**Fixed cost in Rs / kWh (sent out)**	**2.04**	**2.42**	**2.38**	**1.20**	**1.07**	**1.48**
2	**Fuel Cost in Rs / kWh (sent out)**	**1.97**	**1.63**	**1.43**	**1.69**	**1.47**	**1.24**
	Tariff Rs / kWh (sent out)	**4.00**	**4.05**	**3.82**	**2.89**	**2.54**	**2.72**

7.3 APPROVED GENERATION TARIFF

The generation charges will include separate energy charges for NTPS and LTPS (on sent out basis) and a monthly fixed charges for NTPS, LTPS, and KLHEP. **The approved charges are given below**:

Table 7.31: Approved Fixed Charge and Energy Charge for FY 2013-14

Energy Charge (Net) (Rs/kWh)	**For FY 2013-14**
NTPS	2.20
LTPS	2.22
KLHEP	0
Fixed Charges	**Rs Crore**
Total Fixed Charges	205.49
Monthly Fixed Charges	17.12

7.4 EFFECTUATION OF GENERATION TARIFF

The approved rate of Energy Charge and Fixed charge shall be effective from December 1, 2013 or until replaced by another Order of the Commission.

APGCL has to file the Petition for determination of tariff for FY 2014-15 along with the Petition for truing up of FY 2012-13 and Annual Performance Review for FY 2013-14.

8 Compliance of Directives and New Directives

The Commission, in its Tariff Order dated May 16, 2011, had issued 11 fresh Directives to APGCL. The Commission in its Directive no. 10, directed APGCL to submit quarterly status report on implementation of various directives to the Commission for review.

Further, in the Tariff Order dated February 28, 2013 the Commission commented on the directives already issued by the Commission and gave specific directives wherever required.

8.1 COMPLIANCE OF SPECIFIC DIRECTIVES ON ALREADY ISSUED DIRECTIVES IN TARIFF ORDER DATED MAY 16, 2011

Commission's comments on the status of compliance of these specific Directives are given below:

Directive-1: Auxiliary Consumption (NTPS and LTPS)

The auxiliary consumption of both the thermal stations is on high side. APGCL was directed to carry out energy audit of both the thermal stations and take steps to reduce the auxiliary consumption to the required levels and compliance submitted to Commission within two months from the date of the Tariff Order.

APGCL's Compliance

NTPS: Energy Audit has been carried out by M/s. National Productivity Council, Guwahati (NPC) and final report was submitted on September 5, 2012.

LTPS: Energy Audit has been carried out by M/s. National Productivity Council, Guwahati (NPC) and action is being taken up as per energy audit report submitted by NPC. A number of measures are being taken up to execute Electrical and Thermal Energy saving and to prevent skin loss on machine.

Actions are being taken up to reduce auxiliary consumption to the extent feasible on the basis of the recommendation in the Report.

Commission's Comments

The efforts should continue and the Auxiliary Consumption levels of both the stations need to be brought down to the levels specified in the Regulations.

Directive-2: Investment Plan

APGCL had proposed an investment of Rs. 127 Crore for renovation and modernization (R&M) of Namrup and Lakwa gas based stations during the Control Period from FY 2010-11 to FY 2012-13 and another Rs. 45 Crore during FY 2013-14 and FY 2014-15.

APGCL was directed to submit a report on the likely benefits of the investment and cost benefit analysis of implementation of R&M by September 2011. If the benefits anticipated on implementation of R&M are not achieved on completion of R&M, the Commission will be constrained not to allow the interest, depreciation, ROE, etc., on the investment. The APGCL shall be judicious in taking up the R&M works.

APGCL's Compliance

APGCL had earlier proposed an investment of Rs. 127.0 Crore and Rs. 45.0 Crore for implementation of R&M Schemes of LTPS and NTPS in FY 2010-11 to 2012-13 and FY 2013-14 and FY 2014-15, respectively.

However, the R&M of Ph.-III scheme of LTPS has been revised and is being implemented at an estimated cost of Rs. 6.5 Crore with loan assistance from Govt. of Assam. The amount of Rs. 0.5 Crore and Rs. 2.5 Crore has already been invested in FY 2010-11 and 2011-12, respectively.

Similarly for NTPS, R&M of Ph.-III scheme is being implemented at an estimated cost of Rs. 7.0 Crore with loan assistance from Govt. of Assam. An amount of Rs. 0.5 Crore and Rs. 1.5 Crore has already been invested in FY 2010-11 and 2011-12 respectively.

Investment of Rs 3.5 Crore and Rs. 5.0 Crore has already been made for LTPS and NTPS, respectively, in FY 2012-13.

The preparation of DPR is in the final stage and will be placed for approval to Board and then made available to the Commission.

Commission's Comments

Noted.

Directive-3: Employee's Provident Fund

Under Employees Provident Fund Scheme, the provident fund is recovered from the employees and the amount recovered from the employees has to be invested in the trust. The interest to be paid to the employees on provident fund recovered which shall be met from the investments made by the trust.

APGCL is utilizing the provident fund amount recovered from the employees and no such account is maintained. Further, it is also not known for what purpose APGCL is utilizing the amount. The Commission can allow interest on the amount utilized for capital investment only.

In this regard, APGCL was directed to maintain separate accounts for the amounts recovered from the employees towards provident fund and its utilization duly audited by Statutory Auditors. It was directed to report compliance of the directive by end of September, 2011.

APGCL's Compliance

APGCL Trust Deed, APGCL GPF Trust Regulation, 2011 and APGCL GPF Rules, 2011 have been approved by the Board of Directors of APGCL and have been forwarded to the Govt. of Assam for inclusion of APGCL and its GPF Rules and Regulations under Provident Fund Act, 1925 (Act No. XIX of 1925) vide letter no. MD/APGCL/ACT/GPF Trust/11 – 12/335/5 dtd. April 16, 2012. No response has been received till date. On receipt of the necessary approval from Govt. of Assam, further necessary action will be initiated.

Commission's Comments

The Commission again directs APGCL to pursue the matter with the Govt. of Assam, and the formalities of forming the Trust should be completed as early as possible.

Directive-4: Re-commissioning of NTPS Unit - 5

Unit – 5 (24 MW) of NTPS was under shutdown since June 16, 2010 due to damage in stator winding. APGCL shall expedite re-commissioning of this Unit-5 at the earliest so that the availability of power can be increased to that extent.

APGCL's Compliance

The Unit was commissioned on 23:15 hrs of September 28, 2012 and is now running with an average load of 14-15 MW.

Commission's Comments

Noted.

Directive-5: Procurement of Gas

The Commission noted that APGCL is not getting the committed quantity of gas from the gas suppliers due to which generation of energy is getting reduced correspondingly. APGCL shall make all the efforts to get the gas supply as per commitment and also to get allotment of additional gas supply to overcome the problem of inadequate availability of power in the State.

APGCL's Compliance

During FY 2012-13, natural gas supplied by OIL was erratic. This may be due to strike/bandh/natural calamities, etc. However, APGCL made all efforts to get the gas supply as per commitment and also to get allotment of additional gas supply to overcome the serious setback of poor generation of power in the State.

Despite constant persuasion and initiative from APGCL both the gas suppliers GAIL & OIL India Ltd. fail to supply gas with desired gas pressure which is also inconsistent, which hampers power generation.

Commission's Comments

APGCL should make all out efforts to procure committed quantity of gas and to get additional allotments, to overcome the generation problem. The efforts made and the outcome should be periodically reported to the Commission.

Directive-6: Performance Parameters

The Performance Parameters of the gas-based power stations (NTPS, LTPS) are far below the national standards. APGCL shall endeavour for R&M assistance from the Government of India schemes and implement such steps so that the performances of the plants are brought to the national average level.

APGCL's Compliance

Namrup Replacement project of capacity 1x100 MW is being implemented and replacement of the PH-I (15x4 MW) Units of Lakwa TPS by higher efficiency Gas Engines is also being taken up.

Further, the PH-II (3x20 MW) Units of Lakwa TPS are being given due consideration while formulating R&M schemes to achieve sustained generation in view of its tied up 37.2 MW Waste Heat Unit.

Further, as a result of implementation of various R&M schemes during the last seven years, the performance parameters have improved considerably.

Commission's Comments

Noted. APGCL should expedite the ongoing Renovation & Modernisation schemes and ensure timely completion of the projects.

Directive-7: Monitoring of Progress of New Power Projects

The detailed progress report on new and ongoing R&M and generation projects is to be submitted by the Utility quarterly before the Commission without fail, for review.

APGCL's Compliance

The detailed progress report of New Projects (Thermal & Hydro) of 3rd quarter (Oct'12 to Dec'12) of FY 2012-13 had already been sent to the Commission vide letter no. APGCL/CGM(G) /AERC/2011-12/115/Pt./15 dated 17.01.2013 and APGCL/CGM(H)/W/2011- 12/390/28 dated 25.01.2013, respectively. The report of 4th quarter (Jan'13 to Mar' 13) for both the Thermal and Hydro projects are being prepared and will be submitted to the Commission soon.

Commission's Comments

Noted. APGCL is directed to submit quarterly progress report on time on regular basis.

Directive-8: Energy Audit of Power Station

APGCL was directed that a time-bound Programme for energy audit of all of its power stations should be prepared and an action plan to this effect needs to be submitted to the Commission within 60 days from the date of the Order. Such energy audit is required to be undertaken in-house or by outsourcing energy auditors for ensuring accuracy in proper perspective.

APGCL's Compliance

Final Energy Audit Report of NTPS has already been furnished to the Commission vide letter No. APGCL/CGM(G) /AERC/ 2012-13/115/Pt.VII/39 dated May 3, 2013.

For LTPS, Final Energy Audit Report had already furnished to the Commission vide letter No. APGCL/CGM (G)/MYT/ 2010- 13/211/52 dated July 20, 2011 and number of actions are being taken up to reduce auxiliary consumption to the extent viable.

Commission's Comments

Noted.

Directive-9: Performance of Petitioner's Plants

A lot of concern had been expressed by the stakeholders on the need for improvement in the performance of NTPS and LTPS where most of the Units are more than 25 years old. There is a scope for improvement in generation from these plants by increasing their existing capacities to at least their original design values, which have been stated to have reduced due to wear and tear during past many years. The more important issue is that of ensuring generation availability from these plants for longer duration of time as most of these plants have already outlived their originally envisaged useful life. Accordingly, the Commission was of the view that these plants urgently need Renovation, Modernization and Upgradation (RMU) for both improvement in generation capacity and life extension.

The Commission therefore, directed the Petitioner to make comprehensive RMU scheme for efficiency improvement and life extension of these plants and submit the DPRs for the same to the Commission within a period of six months giving roadmap for implementation of these schemes.

APGCL's Compliance

The preparation of DPR is in final stage and will be placed for approval and made available to the Commission.

Commission's Comments

The final DPR with cost benefit analysis indicating life extension period shall be submitted for approval of the Commission as early as possible.

Directive-10: Need for Augmenting Own Generating Capacity

The Commission was concerned to note that the State has hardly any generation of its own as practically 67% of the entire power requirement of the State is dependent on share allocated to Assam from Central Generating plants located in the NE region. Any power utility cannot run efficiently without a reasonable generating capacity of its own. In the interest of the energy security of the State, APGCL needs to take very urgent steps to augment its own Generating capacity. This issue has to be given top priority by the APGCL and the Government of Assam.

APGCL's Compliance

Details of ongoing and upcoming power projects of APGCL and brief status of each project has been submitted.

Commission's Comments

APGCL shall make all out efforts to complete the on-going projects within stipulated time to avoid time and cost overruns.

8.2 FRESH DIRECTIVES

Directive 1 – Submission of DPR for Renovation & Modernisation Schemes

The Commission observed that that most of the expenses submitted by APGCL under Repair & Maintenance expenses are of Capital Expenditure nature such as - major overhauling of LTPS station is required to be undertaken for Unit-6 and Unit-7 during the Control Period, and procurement of spares. Accordingly, the Commission directs APGCL to include the major overhauling in the scope of work of Renovation and Modernisation and submit the Detailed Project Report with cost benefit analysis for approval of the Commission.

Directive 2 – Capital Cost of Small Hydro Projects

The Commission observed that Capital Cost of new hydro electric project Myntriang SHEP and Lungnit SHEP has increased significantly on account of cost and time over run. In this regard, the Commission directs APGCL to submit the Petition with detailed break-up of the Capital Cost for approval of the Commission.

Directive-3: Creation of Tariff Regulatory Cell

APGCL shall create/constitute a Tariff Regulatory Cell (under an Officer of status/rank not below that of General Manager or equivalent) within one month from the date of issue of this Order. The Cell so constituted/created shall be provided with necessary authority and resources so as to look after all the tariff regulatory matters primarily to provide correct and timely information to the Commission as well as stakeholders, and should be the primary source of all data and submissions being filed before the Commission, so as to ensure consistency and timeliness of the data submitted and proper co-ordination with the Commission in the tariff determination process.

(T.Chatterjee) Member, AERC	(Dr. R.K.Gogoi) Member, AERC	(N. K. Das) Chairperson, AERC

Annexure-1

Minutes of the 17th Meeting of the State Advisory Committee of the Assam Electricity Regulatory Commission held on 9th May, 2013 at Assam Administrative Staff College, Khanapara, Guwahati.

The 17th meeting of the State Advisory Committee was held on 9th May, 2013 at the Assam Administrative Staff College, Khanapara at 11:00 a.m.

List of members of the State Advisory Committee along with the officers of the Commission present in the meeting are appended at **Annexure-I**.

At the beginning Shri M.J. Baruah, Secretary, AERC, welcomed the members present and requested the Chairperson, AERC, Shri J. Barkakati to preside over the meeting.

Chairperson, AERC once again welcomed the members and stated the objectives of the State Advisory Committee as mandated by Section 87 and 88 of the Electricity Act, 2003 which are mainly to advise the Commission on major questions of policy, matters relating to quality, continuity and extent of service provided by the licensees, protection of consumer interest, electricity supply and overall standards of performance by the utilities. The Chairperson stated that the Commission has been making utmost efforts to discharge its functions effectively as mandated by Section 86 of the Electricity Act 2003. It was stated that altogether 28 Regulations have been notified by the Commission on different aspects of the power sector for its overall improvement. These include Regulations for promotion of generation of electricity from renewable sources, promotion of investment in electricity industry, specifying standards with respect to quality, continuity and reliability of service by licensees, encouraging demand side management, protection of consumers' interests, etc.

The Chairperson, AERC stated that MYT petitions have been submitted by the power utilities of the state for the FYs 2013-14, 2014-15 and 2015-16 and notifications on the summary of these petitions were already published in 11 newspapers. He stated that the meeting of the State Advisory Commission is convened to discuss these petitions. He further stated that the Commission has been consulting the members of the State Advisory Committee every time as and when the Commission receives any petition for tariff revision from the State power utilities for discussion and their views on the petitions. The Chairperson referred to the judgment of the Hon'ble Appellate Tribunal for Electricity dated 11th November, 2011 which directed every State Commission to issue tariff order for a financial year before 1st April of that year and stated that this is being strictly monitored by the APTEL through the Forum of Regulators.

The Chairperson stated that in the last suo-motu Tariff Order for 2012-13 issued on 28th February 2012, there was no increase in tariff. He further stated that in the Multi Year Tariff

Order for 2010-13 issued on 16.05.2011, the Commission had approved an increase of 15 paise per unit for Jeevan Dhara category and 25 paise per unit for the rest of the categories of consumers and therefore, for the last two years, no tariff resetting had taken place other than FPPPA charges.

The Chairperson said that the Power Purchase Cost accounts for 75% of the Annual Revenue Requirement of the distribution company and due to less contribution from the hydro based Central Sector Generating Stations in the NE region and also due to less availability of gas, the distribution company has been procuring power from the energy exchanges, NTPC, IPPs, etc through short/ medium term arrangements at an average cost of approximately Rs 4.56 per unit. The Chairperson stated that the power purchase cost has been increasing and the petitioners have demanded a tariff increase of 37% over the present tariff. He stated that the Commission is presently scrutinizing the materials/ information submitted by the utilities and shall take an appropriate decision only after prudent checking of all submissions made so far. Meanwhile, it was informed that the Commission had written to the State Government as per section 65 of the Electricity Act 2003 to offer any subsidy to any class of consumers deemed necessary by the Government to provide relief to that class of consumers.

The Chairperson further stated that in the MYT Order for FY 2010-13, the Commission gave directions to the distribution utility to reduce their distribution losses from 22.60% to 19.60% in 2012-13. However, the Chairperson expressed concern that the losses have been increasing over the last two years and as per submissions available, actual distribution loss in 2010-11 is 25.44% against AERC approved 21.60% - an increase of 3.84% and in 2011-12, actual distribution loss in 2011-12 is 26.60% against AERC approved 20.60% - an increase of 6%. The Chairperson called upon all members to actively participate in the discussions and share their views liberally and offer their valuable suggestions and advice.

The Chairperson AERC than asked Shri Anurag Goel, the Commissioner & Secretary to the Government of Assam, Power Department to address the gathering.

Shri Goel stated that the Multi Year Tariff Petitions have implications for the next three years and therefore, these need to be discussed and scrutinized in detail. Speaking on the present power scenario, Shri Goel informed that the power sector is treading in the path of progress since 2004-05 after re-organisation of the erstwhile Assam State Electricity Board in the state. Shri Goel stated that distribution losses have declined to some extent over the last ten year while the number of consumers have more than doubled and demand for power have also increased 2-3 times during the peak period.

Shri Goel informed the members that the Government of Assam has provided the state transmission and distribution companies around Rs 1000 Cr over the last 2-3 years from the Trade Development Fund for improvement of the transmission and distribution networks. Shri Goel also informed that on the insistence of the Government of Assam for increasing the generation capacity of the State, one tranche of the 3 tranches of ADB loan which are usually granted for development of the transmission sector has been earmarked for the state generation sector. Shri Goel stated that due to many critical issues, the hydro potential of the state could not be harnessed to the maximum; however, efforts are on to develop Renewable Energy projects including solar energy projects. Shri Goel informed that investment in the power sector from the Government of Assam shall continue through in-principle support in the form of equity in the upcoming power projects as in the case of 70 MW Phase I - Lakwa Replacement Project where Rs 79.2 Cr has been invested by the State Government as Equity. Shri Goel stated that the power companies must recover their cost of supply in order to be economically viable; however, the Commission also has to take into account the interests of the consumers while deciding on the tariff.

The Chairperson, AERC thanked Shri Goel and stated that the tariff regulations on renewable energy projects notified by the Commission shall act as guidelines while determining tariff for such projects. The Chairperson further stated that the cost of generation from Solar PV is much higher in Assam and other north eastern states due to higher cost of the projects (as it is remotely located and solar insolation level is much less than that of Gujrat and Rajasthan) and low Capacity Utilization Factor (CUF). In consideration of the above, a high solar tariff in the state is pertinent to ensure viability of solar projects. However, he said that any solar tariff without financial incentive will be prohibitively high and would dissuade the distribution licensee from procuring such power and at the same time will not encourage developers to invest in such projects. The Chairperson stated that in order to attract developers to solar PV power generation in Assam and for economic viability of such projects, adequate policy and regulatory support would be necessary. As such, there is a justification in making a strong plea to the Central Government/MNRE not only to fix higher incentive but also to review the normative operating and financial parameters for solar technology in Assam in particular and North East in general. A realistic capping of solar tariff for Assam will have to be at least Rs 10/kWh. The Commission is concerned that a project cannot financially sustain without such a tariff support.

The Chairperson then asked Shri Jitesh Khosla, Additional Chief Secretary to the Government of Assam, Power Department, to speak on the occasion.

At the outset, Shri Khosla appreciated the good functioning of the Commission since its inception despite several impediments. Shri Khosla stated that the Commission has been regularly issuing tariff orders with several directives to the power utilities, although many Commissions in other advanced states have failed to do so. He called upon all stakeholders to effectively participate in the tariff making process to make the exercise successful. Shri Khosla stated that there are a few challenges faced by the power sector in the state today. These include:

i) Rising cost of fuel (coal, natural gas) which causes hike in tariff.

ii) Increasing the efficiency of the existing power stations.

iii) Balancing the hydro:thermal mix of power by building/enhancing the thermal capacity in the state. Hydro potential is seasonal and generation from the hydro based power stations in the North Eastern Region (NER) dips during the lean winter season causing shortages and hike in power purchase cost.

Shri Khosla stated that keeping in mind the peaking power requirement for trade, household and other purposes, a separate set of regulatory provisions seems essential for effective management of the peak demand and the Commission may formulate a separate set of Regulations in this regard.

Shri Khosla further stated that some excellent projects have been undertaken in the transmission system and this has helped in reducing the transmission losses marginally and the trend needs to be maintained. In the distribution sector too, investments have been made under various schemes of the State and Central Government and distribution losses have been reduced from above 40 % (ten years back) to 27% equivalent to the National Average. It was stated that a lot of investment is necessary to strengthen the transmission and distribution systems further. Shri Khosla stated that the distribution network is expanding rapidly with the Rajiv Gandhi Gramin Vidyutikaran Yojana and appealed to the Commission that electricity usage and pricing may be regulated through tariffs in such a manner so that wastage is minimum. Shri Khosla said that the fuel prices are internationally linked and therefore, its pricing cannot be regulated. However, a part of the extra burden of the fuel cost may be offset through increase in efficiency in production and preventive maintenance of the necessary infrastructure/ equipments.

Shri Khosla emphasized that quality of service needs to improve further, particularly in the rural areas. He also emphasized on the effective usage of Demand Side Management and conservation efforts in reducing electricity consumption, through use of LEDs/ CFLs, energy efficient equipments, etc. Shri Khosla assured that the Government would continue to support all efforts that are made towards DSM activities and for increasing the efficiency of the system.

The Chairperson AERC stated that the Commission is contemplating to draft some Regulations in line with Karnataka and Orissa on Peak Power management.

On a request from the Chairperson AERC, the Managing Director and Chairman, APDCL, Shri Rajiv Yadav, spoke on the occasion. Shri Yadav expressed concern that with the growth of the BPL consumers in rural areas, the distribution losses have increased. He stated that the Company is making efforts to arrest these losses by applying different technological options. Shri Yadav stated that as a State owned utility, implementation of the RGGVY is a priority.

Shri Yadav further stated that the share allocation from the Central Sector Generating Stations (CSGS) located in the North Eastern region was only on paper, the CSGS could provide only 50% of the allocated power to the Distribution Company during the last few months. Shri Yadav appealed to the Commission that the issue be communicated and deliberated with the Central Electricity Regulatory Commission as the distribution licensee had to pay the fixed charges despite non-availability of energy from the Stations. He further appealed to the Commission that the Central Electricity Authority may be requested to increase the share allocation of Assam from the CSGS located in the North Eastern Region, particularly from the thermal stations. Shri Yadav reiterated that the Company is making efforts to reduce its commercial losses through proper metering, more IT- Based applications, use of prepaid meters, etc. He further informed that the Company is making efforts to increase the number of HT consumers so that distribution losses could be curtailed significantly. Shri Yadav requested the State Government to provide financial assistance of Rs 463.00 Cr in power procurement so as to support the BPL consumers added through the RGGVY.

The MD, APDCL stated that a number of power projects are being envisaged in the coming years, some through the PPP mode which shall contribute in stabilizing the power demand and availability ratio. . He stated that the Company has submitted the MYT petitions for FY 2013-16 before the Commission and expressed hope that the Commission would provide a very judicious tariff structure which would help the company to effectively discharge its duties and obligations. Shri Yadav appealed to the Commission that it may allow the distribution company to recover the tariff gap which has accumulated over the last three years to be realized through electricity tariffs.

The Chairperson, AERC stated that increase in distribution losses is alarming and measures already suggested by the Commission in the last tariff orders need to be implemented to curtail these losses. He further stated that the Government of Assam should take adequate steps to implement the Margherita Project in right earnest and efforts should be made to use the expertise of NTPC by forming a JV Company in implementing the project.

The Chairperson then took up the Agenda for the meeting item-wise.

(1) Agenda Item No. 1: To confirm the Minutes of the 16th Meeting of the State Advisory Committee held on 19.12.2012.

The minutes of the last meeting of the Advisory Committee held on 19.12.2012, was placed before the Committee for confirmation. The minutes of the 16th meeting were accepted and confirmed.

(2) Agenda Item No. 2: Action taken on the Minutes of the 16th Meeting of the State Advisory Committee held on 19.12.2012.

The action taken reports on the minutes of the last meeting were submitted by the APGCL, AEGCL and APDCL to the Commission for information. Copies of the same were also distributed among the members in the meeting. The deliberations that took place on these minutes are briefly recorded below:

On the issue of higher Auxiliary Power Consumption (APC) than approved, it was informed by APGCL that higher auxiliary consumption is due to Lakwa Waste Heat Recovery Unit commissioned in January, 2012 having APC of 9% and consumption in gas booster compressor in Lakwa TPS and transformer loss of NTPS 132 KV substation for distribution transmission feeders. It was informed by APGCL that action is being taken to remove the distribution feeders from the NTPS 132 KV substation. Further action is also being taken up in LTPS for calibration of energy meter to eliminate possible errors. Regarding higher Station Heat Rate (SHR), it was further informed that as advised by AERC, IIT Guwahati has been engaged for studying the actual SHR of the generating units of LTPS and NTPS and the study report will be submitted to the Commission to review the SHR of NTPS and LTPS in due course of time. APGCL also informed that the Company has been pursuing seriously to expedite the progress of the project works at various levels for their timely completion.

On the status of the 2x250 MW Margherita Coal based Thermal Power Project, it was informed that instead of coal linkage, Government of India would be allocating coal block to the state for the project. A member suggested that Case II bidding may be invited from investors willing to participate in implementation of this project.

On the hydro power stations, it was informed that the 2nd phase (2x1.5 MW) of the 9 MW Myntriang Small Hydro Power Project is likely to be commissioned in June 2013 at a tariff of Rs 0.99/ unit. It was informed that no other hydro project is likely to be commissioned during the FY 2013-14.

The Chairperson AERC suggested that the Detailed Project Reports of the Small Hydro Projects in the State should be taken up immediately and the projects should be implemented within the scheduled timeframe.

AEGCL informed that during the last four years i.e. 2009-10, 2010-11, 2011-12 and 2012-13, transmission losses have been gradually reduced from 6.04%, 4.81%, and 4.21% to 4.15% respectively. AEGCL also informed that the PGCIL transmission charges have been increased to Rs 178.34 Cr and Rs 209.58 Cr for FY 2010-11 and FY 2011-12 respectively from the approved cost of Rs 134.24 Cr mainly due to tariff revision of PGCIL by CERC.

APDCL informed that efforts are being made to motivate personnel at the field level to improve system reliability and for submission of Standards of Performance (SOP) achieved as per formats of AERC for FY 2010-11 and FY 2011-12.

On a query from a member regarding formation of the Load Shedding Protocol (LSP)

Committee, APDCL informed that the process for constitution of the Committee is under progress as suggested by the Commission. **The Advisory Committee members requested that a meeting of the LSP Committee be held to discuss the Principles and Protocols of Load Shedding Hours without further delay.**

On the issue of arrear dues to the APDCL from the Government departments, it was informed that the State Government has made a budget provision of Rs 70.83 Cr against Government consumers and power subsidy for FY 2013-14 which shall be released shortly. It was also informed that for the current year, the Government releases Rs 8 Cr/ month against consumption in Government departments. It was however, informed that the amount is insufficient and no budget provision has been made against arrear of above Rs 13 Cr against the NHRM Hospitals.

The Chairperson AERC, suggested that the distribution company should work out the total amount outstanding upto FY 2012-13 and submit this to the State Government for necessary decision on the matter.

Regarding prepaid meters, it was informed that a total of 3253 prepaid meters have been purchased out of which 2624 were installed and a directive has also been issued to make it mandatory to install prepaid meters in all upcoming residential flats of Guwahati city. **Regarding installation of prepaid maters in Government buildings, it was informed that APDCL has not received any action plan from the State Government.**

Shri Khosla stated that the matter regarding installation of prepaid maters in Government buildings would be considered and informed in due course.

(3) Agenda Item No 3: Appraisal of members of the State Advisory Committee on the present power scenario of the State.

Representatives from APDCL gave a power-point presentation on the prevailing power situation in the state. It was informed during the course of the presentation that 47.62% out of installed capacity of 1235 MW from the Central Sector Generating Stations (CSGS) in North Eastern Region (NER) is allocated to the state of Assam. Out of total installed capacity of 4940 MW from the CSGS located in the Eastern Region (ER), Assam has been allocated only 157 MW. It was further informed that during the past few months, APDCL received only 50% of the power allocated from the NER CSGS. Therefore, there was a shortfall of about 250-300 MW all through these months, particularly, during the peak hours. It was informed that out of 107 MW allocated to the state, only 43 MW was received from the Kopili Hydro Electric Project.

The Chairperson AERC informed that during the recently held Coordination Forum Meeting, the representative from NEEPCO informed that the underwater machineries had undergone corrosion due to acidity in the water and repairs & maintenance works have been taken up. On a query from the Commission as to when the project would be able to generate to its effective capacity, it was informed that the repairs and maintenance works are likely to be completed by March 2014 and the project would be able to generate to its full capacity depending on the inflow of water.

The Chairperson, AERC informed the Committee that Rs 1.03 /unit is being charged as Fuel and Power Purchase Price Adjustment (FPPPA) on electricity consumption for all consumers and therefore, as the distribution licensee is now aware of the fact that power from Kopili Hydro Electric Project will be partially available until March 2014, the licensee may find some alternative economic source of power to mitigate the shortage.

APDCL informed that the Company was trying to procure power at an average price of Rs 2.50/unit from the Indian Energy Exchange and through Short term Open Access.

(4) Agenda Item No 4: Appraisal of members of the State Advisory Committee on Multi Year Tariff Proposal by the respective utilities.

As per AERC (Terms and Conditions for Determination of Tariff) Regulations 2006, the generation, transmission and distribution companies are required to file Multi Year Tariff petitions for FYs 2013-16 for determination of ARR and tariff by 01.12.2012. Each of the power utilities approached the Commission with petition to grant extension of time upto 31.01.2013 for filing MYT petition for FY 2013-14 to FY 2015-16 stating that the necessary information to submit the petitions was not available and therefore, the documents were not ready. Accordingly, the Commission extended the time by two months upto 31.01.2013.

The Commission informed the members of the State Advisory Committee that the petitions subsequently received from APGCL, AEGCL and APDCL were also deficient in material particulars and Technical Validation Sessions were held between officials of the Commission and the petitioners. Some data/clarifications were further sought from the Commission from time to time and most of these have been submitted except for those required to be submitted after the validation sessions.

The Commission further informed that, as per the Electricity Act 2003, and in line with the procedure followed by AERC for the previous years, notices regarding petitions received for determination of ARR and Tariff for FY 2013-16 were asked to be published in widely circulated dailies. The notifications were published in 11 dailies – 4 Assamese dailies, 3 English, 2 Bengali and 2 Hindi dailies. The last date for receipt of objection petitions was stated in the notifications as 30.04.2013. However, the Commission received a number of requests to extend the time for submission of response petitions and it was decided to extend the date for submission of comments and objections upto 13.05.2013. It was also informed that some petitioners requested that the notices be published in Assamese language in the Assamese newspapers. The Commission directed the power utilities to comply with and accordingly notices in Assamese language were published on 01.05.2013 in Assamese dailies.

The MYT petitions submitted by the utilities were briefly discussed during the meeting and power point presentations on these petitions were also given by all the companies.

After the presentations, a few members of the State Advisory Committee (SAC) enquired regarding billing and collection efficiency. APDCL sources informed that average current billing and collection efficiency was 75% and 95% respectively. **The members suggested that third party study of AT&C losses of the distribution company needs to be conducted and measures to reduce such losses must be taken as in rural areas, it can be seen that the losses were in the range of 40%-45%. It was further suggested that third party energy audit need to be done.**

Some SAC members enquired on the success of involving franchisees in Single Point Power Supply Scheme. APDCL informed that 26 Nos. of feeders and more than a 100 transformers entrusted to rural franchisees are running smoothly. APDCL further informed that in some areas in Central Assam like Nagaon, franchisee system has been very successful while in lower and upper Assam, it has not been that successful. It was informed that in Nazira and Sivasagar of Upper Assam, new feeders have been allocated to franchisees.

A SAC member pointed out that there were allegations that franchisees were not willing to enter into agreement with the distribution licensee as the revenue target offered to the franchisee were on the higher side and sometimes not achievable. Besides, there were also allegations that in some areas, either the franchisee DTRs were not metered or meters were not working and franchisees were billed on average consumption which led to financial losses to the company.

The Chairperson AERC asked the distribution licensee to make public the number of feeders and transformers offered to franchisees, the commission being offered to the franchisees and other details including increase in the revenue of APDCL after the franchisee system was introduced in a particular area to enhance transparency in the functioning of these franchisees.

It was suggested by a SAC member that the ongoing power projects within the state like Bongaigaon Thermal Power Project, need to be expedited and the Government of Assam should make sure that the law & order situation does not stand as an impediment in timely commissioning of these projects.

Shri Khosla assured the members that action in this regard would be taken.

No other matter was discussed and the meeting ended with a vote of thanks by the Secretary, AERC to everyone present in the meeting.

Sd/-
(J. Barkakati)
Chairperson,
Assam Electricity Regulatory Commission

Annexure – I

List of Persons attending the 17th Meeting of the State Advisory Committee held on 9th May, 2013

(1) **Shri J. Barkakati,** Chairperson, AERC

(2) **Dr. R. K. Gogoi**, Member, AERC

(3) **Shri T. Chatterjee,** Member, AERC

(4) **Shri J. Khosla,** Additional Chief Secretary, Power Deptt., Govt. of Assam.

(5) **Shri A. Goel, IAS,** Commissioner & Secretary, Power Deptt., Govt. of Assam

(6) **Shri R. Yadav, IAS,** Chairman, ASEB & CMD, APDCL.

(7) **Shri M.R. Dutta**, Joint Secretary, Agriculture Deptt., Govt. of Assam

(8) **Shri G. K. Das,** MD, AEGCL

(9) **Shri C. Baruah,** Director (Technical), APDCL.

(10) **Dr P.K. Bordoloi,** Professor & HoD, Deptt. of AEI, GIMT, Guwahati-17.

(11) **Shri D. Kedia,** Member, Power Committee, FINER, Guwahati.

(12) **Shri J. Madhav**, Former Chief Advisor to the Chief Minister, Govt. of Assam.

(13) **Shri A. K. Baruah,** President, All Assam Small Scale Industries Association.

(14) **Shri G.C. Baishya,** President, Grahak Suraksha Sanstha

(15) **Shri S. Baruah,** President, North Eastern Small Scale Industries Association

(16) **Shri K. C. Medhi,** State Secretary, North Eastern Small Scale Industries Association.

Officers of AERC present :

(1) **Shri M.J. Baruah,** ACS, Secretary, AERC.

(2) **Shri D. K. Sharma,** Joint Director (Tariff), AERC

(3) **Shri T. Mahanta,** Deputy Director (Engg.), AERC

(4) **Shri A. Purkayastha,** Deputy Director (Finance), AERC

Consultants of AERC present :

(1) **Ms P. Sharma,** Consultant (Finance, Database and Consumer Advocacy), AERC

(2) **Shri N.K. Deka,** Consultant (Technical), AERC

Annexure 2

পঞ্জীভূক্ত নম্বৰ - ৭৬৮ /৯৭ Registered No.-768/97

অসম ৰাজপত্ৰ

सत्यमेव जयते

THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্বৰ দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

নং 168 দিশপুৰ, মঙ্গলবাৰ, 10 এপ্ৰিল, 2012, 21 চ'ত, 1934 (শক)

No.168 Dispur, Tuesday, 10th April, 2012, 21st Chaitra, 1934 (S.E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

ASSAM ELECTRICITY REGULATORY COMMISSION FUEL AND POWER PURCHASE PRICE ADJUSTMENT FORMULA REGULATIONS, 2010, (AMENDMENT) 2012

NOTIFICATION

The 31st March, 2012

No. AERC. 28/2012.– In exercise of the powers conferred under Section 61(d), 62(4), 86(1)(b) sub-section (1) of section 181 and clause (zp) of sub-section (2) of section 181 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it on that behalf, the Assam Electricity Regulatory Commission makes the following regulations :-

REGULATIONS

1. **Short title, extent and commencement:**

   (1) These regulations may be called the Assam Electricity Regulatory Commission **(Fuel and Power Purchase Price Adjustment Formula) Regulations, 2010, (Amendment) 2012.**

   (2) These regulations shall extend to the whole of the State of Assam.

   (3) These regulations shall come into force from the date of their publication in the Assam Gazette

2. **Introduction:** As per Section 62(4) of the Electricity Act 2003, no tariff or part of any tariff may ordinarily be amended more frequently than once in a financial year except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. A reference can be drawn to the provisions of the Tariff Policy notified by the Government of India specifying that the uncontrollable costs be recovered speedily to ensure that the future consumers are not burdened with past costs. The uncontrollable costs include fuel cost, cost on account of inflation, variations in power purchase unit cost including on account of hydrothermal mix in case of adverse natural events etc. The AERC (Terms and conditions for determination of Tariff) Regulations, 2006 also states that "The Commission shall allow the recovery or refund; as the case may be, of additional charge for adjustment of tariff on account of change in fuel related costs of electricity generation and purchase of electricity within the period of a notified tariff order of the Commission." In this regulation, a fuel surcharge formula is specified in order to recover the additional burden on account of changes in fuel price and power purchase cost. Accordingly, the Commission proposes to introduce the regulations to recover the change in fuel price for the approved quantity of generation and power purchase for the distribution licensee.

3. **Definitions:**

   (1) In these Regulations, unless the context otherwise requires:

   (a) "Act" means the Electricity Act 2003 (36 of 2003);

   (b) "Commission" means the Assam Electricity Regulatory Commission;

   (c) "Generating Company" means any company or body corporate or associating or body of individuals, whether incorporated or not, or artificial juridical person, which owns or operates or maintains a generating station;

   (d) "Licensee" means a person who has been granted a licence under section 14 of the Act, including a person deemed to be a licensee referred to under any of the provisions to Section 14 of the Act;

   (e) "Tariff" shall mean the schedule of charges for generation and bulk supply, transmission, wheeling and supply of electricity together with terms and conditions thereof;

   (f) "Unscheduled Interchange" (UI) shall mean unscheduled interchanges as defined in Indian Electricity Grid Code;

   (g) "Year" shall mean financial year ending on 31st March;

(h) “Current Year” shall mean the year in which the statement of annual accounts or petition for determination of tariff is filed;

(i) “Previous Year” shall mean the year immediately preceding the current year;

(j) “Ensuing Year” shall mean the year next following the current year; and

(k) "State" means the State of Assam.

(2) The words of expressions occurring in these regulations and not defined herein but defined in the Act shall bear the same meaning as in the Act.

4. FUEL & POWER PURCHASE PRICE ADJUSTMENT (FPPPA) FORMULA

(i) The amount of Fuel & Power Purchase Price Adjustment (FPPPA) shall be computed as under :

V = VF + VPP

Where,

V = Amount of incremental Cost in a specified period on account of Fuel & Power Purchase (`).

VF = Amount of differential cost on account of fuels on generation by different power stations of the state generators (`).

VPP = Amount of differential cost on account of Power purchase (`)

(ii) The FPPPA rate shall be calculated as,

$$\underset{\text{(Paise/kWh)}}{\text{FPPPA Recovery Rate}} = \frac{V\ (\text{`})}{\text{Energy sales (KWH)}} \times 100$$

Where Energy sales consist of,

(a) Metered sale of Energy…. (ES1)

(b) Assessment of unmetered sale …. (ES2)

(c) Deemed sale of Energy on account of excess T&D losses …(ES3)

Less (d) Energy sale to the Exempted categories of consumers.(ES4)

The deemed sale of energy on account of excess T&D losses is equal to actual T&D losses minus losses allowed by the Commission. In case the figure is negative, the same may be ignored.

The recovery formula shall be as under:

$$\text{FPPPA Recovery Rate (Paise /Kwh)} = \frac{Q_C\,(RC2-RC1) + Q_O\,(R02-R01) + Q_G(RG2 - RG1) + QPP\,(RPP2-RPP1)}{ES1 + ES2 + ES3 - ES4} \times 100$$

FOR **COAL BASED STATION**:

Q_C = Quantity of coal consumed during the period in MT as per normative parameter.

$$Q_C = \frac{SHR}{NCV_O} \times \left[\frac{USO\,(MU)}{(1-AUX)}\right] \times (1+L_O) \times 10^3$$

Q_O = Quantity of oil consumed during the period in KL as per normative parameter.

= Generation (in MU) x specific oil consumption (ml/kWh) as approved by the Commission

USO = Actual unit sent out in MU.

AUX = Auxiliary Consumption Approved by the Commission (in %)

SHR = Station heat rate as approved by the Commission in Kcal./Kwh.

NCV_O = Approved calorific value of coal fired in kcal/kg.

L_O = Transit & storage losses of coal as approved by the Commission.

RC1 = Average rate of coal Ex. Power station coal yard as approved by the Commission for the period in ` / MT.

RC2* = Average rate of coal Supplied Ex. Power station coal yard as per actual for the period in ` / MT.

RO1 = Average rate of oil Ex. Power Station approved by the Commission for that period in ` /K.L.

RO2 = Average rate of oil actually supplied Ex. Power station during the period in ` / K.L.

* If the grade of coal supplied is inferior or superior to the grade considered in the last tariff order, then average rate of coal supplied (RC2) will be corresponding to the grade of coal considered by the Commission in the last tariff order.

FOR **GAS BASED STATION**:

Q_G = Quantity of Natural Gas consumed as per normative parameters during the period in 1000 SCM.

$$Q_G = \frac{SHR}{NCV_G} \times \left[\frac{USO}{(1-AUX)}\right] \times (1+L_G) \times 10^3$$

USO = Unit sent out in MU.

AUX = Auxiliary Consumption approved in percentage.

SHR = Station heat rate as approved by the Commission in kcal/kWh.

NCV_G = Approved calorific value of Gas fired in kcal/SCM.

L_G = Transit & storage losses of Gas as approved by the Commission, if any.

RG1 = Average rate of Natural gas as approved by the Commission including Transportation in `/1000 SCM

RG2* = Actual Average rate of Gas Supplied during the Period including Transportation in `/1000 SCM.

* If the grade of Gas supplied is inferior or superior to the grade considered in the last tariff order, then average rate of Gas supplied (RG2*) will be corresponding to the grade of Gas considered by the Commission in the last tariff order.

[Q_C and Q_O & Q_G will have to be calculated station wise.]

LEGENDS:

SCM = Standard Cubic Metre

MU = Million Unit

KCal = Kilo Calorie

Kwh = Kilowatt Hour

FOR **POWER PURCHASE**:

RPP1 = Average rate of power purchase as approved by the Commission in ₹/kWh.

RPP2 = Actual Average rate of power purchase during the period in ₹/kWh.

QPP = Actual Quantity of power purchased during the period in kWh for sale to the Distribution Licensee’s scheduled consumers.

N.B: For computation of Power Purchase, the ex-bus cost of energy from generating stations including associated transmission cost shall be considered.

5. Implementation of the formula

5.1 The FPPPA will be recovered in the form of an incremental energy charge (₹/KWh) in proportion to the energy consumption and will be forming a part of the energy bill to be served on monthly or any other periodical basis.

5.2 The FPPPA charge shall not exceed 25% of the variable component of tariff or such other ceiling as may be stipulated by the Commission from time to time, where the variable component of tariff is defined as total estimated revenue from energy charges (EC) in a year approved in the last Tariff Order divided by total estimated sales of the year. When FPPPA charges exceed 25% of the variable component of tariff, the Licensee shall make a petition to the Commission for recovery of the charges over the specified cap which shall be recovered after Commission's scrutiny and directives.

5.3 The formula will be applied at the end of each quarter by Distribution Licensee without making it necessary to go through the regulatory proceedings. The Distribution Licensee shall, however, be obligated to provide all relevant information to the Commission simultaneously and in any case where the Commission observes any discrepancies, the same will be adjusted during the next quarter. This mechanism will provide administrative and regulatory simplicity.

FPPPA charge is usually incurred by the generating company which is passed on to the distribution utility who in turn recover it from the end consumers. Therefore, the generating company owned by the state shall also provide all relevant details and supporting documents at the end of each quarter to the Commission for reconciliation.

5.4 The Fuel and Power Purchase Price Adjustment (FPPPA) charge will be made effective from the date of publication of the Regulations in the official Gazette.

Provided further that the FPPPA charge applicable to each tariff category of consumers shall be displayed prominently at the cash collection centres and on the website of the Distribution Licensee.

Provided that the Distribution Licensee shall put up on its website such details of the additional burden on account of changes in fuel price and power purchase cost and the FPPPA charges levied to all consumers for each quarter along with detailed computations.

5.5 Each control period shall be a quarter year i.e. 3 months. Accordingly, Distribution Licensee shall compute and adjust the amount as Fuel and Power Purchase Surcharge. Thus FPPPA surcharge for a quarter shall be charged from the first month of next quarter.

5.6 This fuel surcharge formula shall be applicable to the Distribution Licensee till it is amended either on petition or suo-moto. The FPPPA formula will be applicable for all consumers unless exempted by the Commission.

5.7 Distribution Licensee shall file detailed computation of actual fuel cost in ₹/kWH for each financial year for each of power stations of the state generators as well as cost of power purchase (Fixed and Variable) from each source/station based on audited accounts and a separate set of calculations with reference to permitted level of parameters as stated in the AERC (Terms and Conditions for determination of Tariff) Regulations, 2006. (audited and certified by cost accountant / chartered accountant).

5.8 Distribution Licensee shall file with the Commission all information including actual sales data required for calculation of the Fuel Surcharge (audited and certified by Cost Accountant/ Chartered Accountant) within 60 days of the end of the respective quarter failing which it shall forfeit any future claims on this account. It will also be incumbent upon Distribution Licensee to reconcile these figures at the end of the year based on audited accounts.

5.9 Distribution Licensee shall undertake its power procurement during the year in accordance with the power procurement plan for such year approved by the Commission in accordance with AERC (Terms and Conditions for determination of Tariff) Regulations, 2006. Any variation, during any quarter of a financial year, in the quantum or in the cost of power procured and any procurement from a source other than a previously approved source, in excess of five percent (5%) of quantum or cost, as the case may be, of power procurement for such quarter, as approved by the Commission in the power procurement plan of the Distribution Licensee, shall be only with the prior approval of the Commission.

Provided that a variation in the cost of power procured on account of changes in the price of fuel of allocated/approved generators, calculated in accordance with Regulation 4. above shall not be included in determining the need for prior approval of the Commission under this regulation 5.9.

5.10 Distribution Licensee can include a prior period expense for recovery in the subsequent quarters if it can prove to the satisfaction of AERC that the details of the expenses claimed were not available for reasons beyond the control of Distribution Licensee at the time of filing.

5.11 In the application of FPPPA formula, Distribution Licensee shall bear all costs/charges accruing on account of purchases done in contravention of the merit order principles.

5.12 The actual variable costs computed for all generating stations shall exclude transit and handling losses of all types of fuels beyond the limits specified in Commission's relevant Regulation.

5.13 Calculation and levy of such charge shall be subject to scrutiny of the Commission. The Commission shall make available the calculations of licensee or generating company for inspection by any person. The licensee or generating company shall refund or recover, as the case may be, any difference of such charge already recovered by it and approved by the Commission.

5.14 In case of any reduction in power purchase and fuel cost if the licensee or generating company fails to refund the additional charge to the consumers/customers within the stipulated time, the Commission shall suo-moto order the licensee or generating company to refund the same with 10 days notice to the licensee.

5.15 The Commission shall charge a fee in each quarter for verification of all relevant documents pertaining to FPPPA claimed by the Distribution Licensees and Generating Companies.

The amount of fees shall be zero point one percent (0.1%) of the claimed amount.

5.16 In case of any dispute, an appropriate petition in accordance with the Assam Electricity Regulatory Commission (Conduct of Business) Regulations, 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

6. Overriding Effect

Notwithstanding anything contained contrary -

a) in the AERC (Terms and Conditions for Open Access) Regulations, 2005; and

b) in the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006; and

c) in the AERC (Co-generation and Generation of Electricity from Renewable Sources of Energy) Regulations 2009; and

d) in the AERC (Fees) Regulations, 2009.

framed by the Commission under section 181 of the Electricity Act 2003; these regulations will have overriding effect.

7. Power to remove difficulties:

(a) In case of any difficulty in giving effect to any of the provisions of these Regulations, the Commission may by General or special order, direct the Licensee to take suitable action not inconsistent with the provisions of Electricity Act 2003 which appears to be necessary or expedient for the purpose of removing the difficulty.

(b) The Distribution Licensee may take an application to the Commission and seek suitable orders to remove any difficulty that may arise in implementation of these Regulations.

8. Issue of orders and directions:– Subject to the provisions of the Act and these regulations, the Commission may, from time to time, issue orders and practice directions with regard to the implementation of these regulations and procedure to be followed for such implementation and matters incidental or ancillary thereto.

9. Saving of Inherent Powers of the Commission:- Nothing contained in these Regulations shall limit or otherwise affect the inherent powers of the Commission to adopt a procedure, which is at variance with any of the provisions of these regulations, if the Commission, in view of the special circumstances of the matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient to depart from the procedure specified in these regulations.

10. Power to Amend:- The Commission may from time to time add, vary, alter, suspend, modify, amend or repeal any provision of these regulations.

11. Interpretation:- All issues arising in relation to interpretation of these regulations shall be determined by the Commission and the decision of the Commission on such issues shall be final.

GAURI REGON,

Secretary,

Assam Electricity Regulatory Commission