ASSAM ELECTRICITY REGULATORY COMMISSION

FILE NO. AERC. 702/2018/PTI　　　　Petition No.: 1/2019

ORDER SHEET

25.06.2019

Before the Assam Electricity Regulatory Commission
ASEB Campus, Dwarandhar,
G. S. Road, Sixth Mile, Guwahati – 781 022

Assam Power Generation Corporation Ltd. (APGCL)	-------Petitioner
Bidyut Grahak Mancha	-------Respondent1
Assam Power Distribution Company Limited	--------Respondent2

Date of Admissibility Hearing:	06.05.2019
Date of Final Hearing:	27.05.2019

Representative for Petitioner:	Shri Ramendra Choudhury GM (HQ)
	Shri Bandana Goswami DGM (HQ)
	Shri Aklantika Saikia AGM
	Shri Ranjit Das AGM
	Shri Pinki Deb AO
	Shri Anirban Bandopadhyay Consultant
	Shri Abhishek Amarnani Consultant
Representative for Respondent1:	Shri Subodh Sharma
	Shri Khanindra Talukdar
Representative for Respondent2:	Shri M Kalita GM (Com TRC)
	Shri Bibhu Medhi AGM (TRC)
	Shri N Deb, AM (F&A)
	Smt. Bonita Das AM (TRC)

In the matter of

Review Petition No. 1 of 2019 for review of APGCL's Tariff Order dated March 1, 2019 of the Commission on Truing-up of FY 2017-18, Annual Performance Review of FY 2018-19 and Multi Year Tariff for the Control Period from FY 2019-20 to FY 2021-22

CORAM

Shri S. C. Das, Chairperson

ORDER

1. The Assam Power Generation Corporation Ltd. (herein after referred as “APGCL” or “the Petitioner”) has filed a combined Review Petition before the Commission on April 24, 2019 for review of its two Tariff Orders dated March 1, 2019 regarding the Truing up for FY 2017-18, Annual Performance Review of FY 2018-19 and Multi Year Tariff for the Control Period from FY 2019-20 to FY 2021-22 and for determination of Capital Cost of LRPP including ARR for the Control Period FY 2019-20 to FY 2021-22.

2. The Petitioner filed the Review Petition on April 24, 2019, which is within the specified time of 60 days from date of issue of the Order in Petition No. 14 of 2018 and 18 of 2018, i.e., March 1, 2019. Hence, the Petition is admissible under relevant provisions of AREC (Conduct of Business) Regulations, 2004.

3. The Commission after hearing the Petitioner vide order dated May 6, 2019 admitted the Petition and directed to issue notices to all respondents who participated during finalization of MYT Tariff Petitions of APGCL.

4. Bidyut Grahak Mancha and Assam Power Distribution Company Limited (APDCL) submitted its comments on the Review Petition filed by the Petitioner.

5. The Petitioners and the Respondents were heard by the Commission on 27.05.2019.

6. The Petitioner re-iterated the submissions made in the Review Petition and requested the Commission to allow the prayers made in the Petition. Bidyut Grahak Mancha and Assam Power Distribution Company Limited (APDCL) also reiterated their submissions made before the commission.

7. Having heard the Petitioner, APDCL and Bidyut Grahak Mancha considering the submissions on record, the issue-wise submissions of the Petitioner, APDCL and Bidyut Grahak Mancha and Commission’s analysis and decisions are discussed in the following paragraphs:

8. Issue No. 1: Station Heat Rate of LTPS for FY 2017-18

APGCL’s Submission

The Petitioner stated that the Commission has allowed Station Heat Rate (SHR) for LTPS considering open cycle mode of operation of 25 days, as against the actual open cycle mode of operation of 158 days, thereby allowing SHR of 3248 kcal/kWh against claimed SHR of 3429 kcal/kWh.

APGCL has submitted a chronology of events in its additional submission to justify the delay in the overhauling process, after the issuance of directions of the Commission vide Order dated November 21, 2014, as detailed below:

Date	Action Taken
7th and 8th May 2015	BHEL team visited LTPS and recommended actions to improve performance
14th May 2015	Major activities required to be undertaken were finalized

Date	Action Taken
Gap of 5 Months	
07th October 2015	Unit was shut down and corrective activities undertaken
22nd October 2015	Unit was brought back to operation after corrective activities (Generation improvement of 2.5 MW to 2.8 MW)
Gap of 6 Months	
19th & 20th April 2016	Meeting held between APGCL and BHEL. BHEL suggested more corrections required to be undertaken for further improvement of performance of Unit-8
5th May 2016	Unit was shut down and corrective activities were undertaken to improve performance of Unit-8 but no significant improvement was achieved
Gap of 3.5 Months	
24th August 2016	Meeting held between APGCL and BHEL to finalize more corrective actions for improvement of Unit-8. It was decided that BHEL team shall visit LTPS
Gap of 2 Months	
27th October 2016	BHEL team visited site and suggested complete capital overhauling. The capital overhauling was suggested for improvement of performance of Unit-8. BHEL suggested overhauling of 35 days.
28th October 2016 to 27th June 2017	Spares were brought. Third party contractor was selected through bidding for implementation of overhauling
28th June 2017	Shutdown of Unit-8 was undertaken at 22:00 Hrs
02nd July 2017	Overhauling was undertaken. Machines were opened. Pre-inspection works were carried out by deputed BHEL's expert. Upon inspection, BHEL found that sealing fins and inter-stage fins of diaphragms and rotor were in bad condition both physically and dimensionally, which needed to be repaired
02-24th July 2017	Different activities like insulation removal, bearing top half dismantling, loosening of HP steam pipe flange bolts, servicing of LP control valves, loosen turbine coupling bolts, dismantling of turbine, etc., were undertaken. Alumina blasting of different components
25th July 2017	It was decided by BHEL that repairing could not be undertaken at site or any workshop in Assam and the machine needs to be sent to Hyderabad (OEM of this machine) (Delay of 27 days from the shutdown of Unit-8)
9th August 2017	All the concerned components dispatched to BHEL's workshop at Hyderabad
1st week of September	All the concerned components reached BHEL's workshop at Hyderabad
28th September 2017	All the concerned components dispatched from BHEL's workshop at Hyderabad after necessary works
23rd October 2017	All the concerned components reached LTPS site after necessary works from BHEL's workshop at Hyderabad (Delay of 76 days from the date of dispatch of materials from site plus 14 days of packaging).
04th November to 5th December 2017	Reassembly works, insulation works, oil flushing, etc., were undertaken
6th December 2017	Machine started, and full load attained on 08th December 2017. Average max load attained was 35.5 MW (Delay of 43 days from the receipt of concerned components at LTPS site).

APGCL has provided the following justification for consideration of 158 days under open cycle mode of operation:

i. APGCL stated that overhauling of Waste Heat Recovery Unit (WHRU) of LTPS was carried out for improving the decreasing generation of WHRU as per directions of the

Commission vide Order dated November 21, 2014.

ii. APGCL contracted M/s BHEL as OEM for performance improvement of WHRU. BHEL suggested major overhauling of 35 days, as detailed in the Minutes of Meeting between APGCL and M/s BHEL and as per recommendations made by BHEL.

iii. The shutdown was taken on June 28, 2017 and overhauling work started from July 02, 2017. The BHEL expert carried out pre-inspection works and found that the sealing fins and inter-stage fins of diaphragms and rotor were in bad condition both physically and dimensionally, which need to be replaced.

iv. M/s BHEL suggested to transport the rotor, inner casing and GBCs to its workshop at Hyderabad, as the refining and machinery works were not possible at any site or workshop in Assam. It took about 75 days to complete the works in Hyderabad, which resulted in a delay in the overhauling process.

v. The turbine components were sent to BHEL's workshop at Hyderabad on August 09, 2017 and reached back on site on October 23, 2017. After arrival of these components, necessary assembling works were carried out as planned. The Unit was synchronized on December 06, 2017 and operated at full load capacity thereafter. The average loading of Steam Turbine Generator (STG) increased to 35.5 MW at ambient temperature of 19 degree Celsius, which was around 28-29 MW prior to shut down.

vi. APGCL stated that the above event of sending the parts to Hyderabad is an uncontrollable event and was necessary to be undertaken on the recommendations made by M/s BHEL to complete the overhauling process.

vii. There has been no negligence, delay or lack of oversight on part of APGCL in undertaking the overhauling process. APGCL also stated that it has submitted a schedule of 50 days for the overhauling of the gas turbines of LTPS in the Petition for FY 2019-20 to FY 2021-22 and not 25 days as stated in paragraph 4.6.3 of the impugned Order.

viii. APGCL requested the Commission to review the Order and allow 158 days for overhauling of WHRU-8 of LTPS and consequently allow the SHR on actual basis.

Respondent's Submission

The Commission vide directive dated November 2, 2014, directed APGCL to improve its generation and reduce the Station Heat Rate from 3248 kcal/kWh to 2150 kcal/kWh level, as envisaged in CEA standards. However, APGCL initiated action by way of overhauling of its WHRU after a lapse of two years. The WHRU was producing 6.5 MW less than its capacity as per APGCL's submission as on October 27, 2016. Initially a shutdown of 50 days was scheduled to complete the works as mentioned in the Review Petition, but the works were completed on December 6, 2017, which happens to be three years after the directive given by the Commission. It is apparent from the above submission that the delay in taking decision by APGCL and the absence of any diagnostic maintenance drill by APGCL, has caused a loss, which is being sought to be passed on to the consumer.

APGCL has submitted that the delay of 75 days was only due to transporting the parts such as shaft, etc., to BHEL's workshop and then bringing them back to the site. Even if, 50 days of time was taken into consideration for carrying out the overhauling as submitted by APGCL, the entire job could have been completed in 125 days. However, APGCL has claimed a period of 158 days, which could have been avoided if a quick decision had been made by APGCL. Accountability of such mismanagement causing public loss needs to be fixed by the

Commission.

Thermographic analysis and vibration analysis procedures as a part of the maintenance drill seem to be missing from the agenda of APGCL and they had to wait for the directions of the Commission for improving the SHR of its unit. With the help of the above-mentioned tools, ageing and malfunctioning of its plants could be ascertained without taking a shutdown and thereafter a planned maintenance schedule in a professional manner could be undertaken.

The Respondent prayed that:

a. No extension should be given beyond the original planned shutdown of 50 days.
b. The Commission should fix accountability for the lapse in timely execution of job.
c. The Commission should direct APGCL to submit detailed maintenance drill encompassing modern techniques, with a time bound plan to reduce SHR to 2150 kcal/kWh.

APGCL's Reply

APGCL submitted that the SHR of 2150 kcal/kWh is as per CEA norms for Gas engines only. Since LTPS is not a Gas engine power plant, SHR of 2150 kcal/kWh is not applicable to LTPS. Further, the recommendations of CEA are for new plants and not for older plants. Since the commissioning of WHRU-8, SHR of LTPS has always been below AERC approved SHR of 3,200 kcal/kWh. During FY 2017-18, considering the actual number of days of open cycle and combined cycle operation, the weighted average SHR is still within the norms. APGCL has repeatedly taken corrective action for improvement of performance of WHRU-8 from time to time. The corrective action was taken in October, 2015 when an improvement of generation from 2.5 MW to 2.8 MW was observed and again in May 2016 when no significant improvement was observed. As full load could not be achieved after undertaking the above corrective actions, M/s BHEL suggested complete capital overhauling. The overhauling was undertaken in July 2017. APGCL submitted that it has been constantly acting to improve the performance of WHRU-8 and there has been no negligence or delay on their part.

APGCL further submitted that the thermographic analysis and vibration analysis are regularly monitored by operation and maintenance personnel in the plant. All the critical parameters related to the steam turbine and its auxiliaries are incorporated in the DCS system, which is monitored in real time mode. The necessary remedial actions are taken up as soon as any abnormality is observed. The local instruments (usually for temperature, pressure, steam flow, current flow etc.) installed at site are regularly monitored by shift and maintenance personnel. Also, local vibration measurements are taken from time to time for early notice of any variation from normal range. Hence, Thermography and Vibration analysis is already implemented by APGCL, however, the damage to the seal fins could not be determined through these techniques and was detected only after opening the casing of unit.

Commission's View

The Commission noted the submission of the Respondent. The Commission, in para 4.6.3 of the impugned Order, has clearly stated that Major overhauling as per industry practice should not take more than 25 days. The relevant extract is reproduced below:

> *"4.6.3 The Commission is of the view that* ***the planned shutdown for Major Overhaul should not take more than 25 days as per industry practice****. APGCL has also considered outage of 25 days for Major Overhaul in its proposal for FY 2019-20.*

> *Accordingly, impact of the same is passed through, by revising the normative SHR to 3248 kcal/kwh,* ***by considering 25 days of operation under Open Cycle and 340 days of operation under Closed Cycle****."* ***(emphasis added)***

At the time of issuance of the Order, the Commission was well aware of the facts of the case and has taken a conscious decision to allow outage of only 25 days for major overhauling. LTPS is designed to operate efficiently under closed cycle mode of operation, with the WHRU also in operation, and non-operation of the WHRU results in LTPS operating in open cycle mode of operation at a much higher SHR, which is not desirable and such inefficiencies cannot be passed on to the consumers.

Further, APGCL has stated in the Review Petition that it had submitted a schedule of 50 days for the overhauling of the gas turbines of LTPS in the Petition for FY 2019-20 to FY 2021-22, rather than 25 days as stated in the impugned Order. The Commission has verified from the Petition that APGCL had proposed as scheduled outage of 25 days for major overhauling in FY 2020-21 (Table 144, Page 162 of the Petition) and in FY 2021-22 (Table 145, Page 163 of the Petition). As the Commission has referred to Unit-wise and not Station-wise outage schedule for Major Overhauling, even APGCL has proposed 25 days only as stated in the Order, hence, there is no error in the statement.

Further, the proposal and approval for the overhauling of Unit 8 were for FY 2014-15, and the Commission had approved the overhaul, as the operational hours before next overhaul was getting completed in FY 2014-15. However, as seen from the detailed timeline of activities submitted by APGCL, the actual overhaul was undertaken in FY 2017-18. It is obvious that non-timely overhauling is likely to lead to machine breakdowns, and that is why the OEMs specify an overhauling schedule linked to the hours of operation between overhauls. APGCL has delayed the overhauling activity, which are likely to have caused the grave failure of the equipment, thereby requiring the off-site repair at BHEL's workshop. The additional time required for the overhaul can be directly attributed to errors of omission and commission by APGCL. The consumers cannot and should not be asked to bear the brunt of the higher generation cost due to this mismanagement of the overhauling operations by APGCL.

At the same time, the Commission is of the view that although APGCL is responsible for the delayed overhaul, which has caused the requirement of severe repair, it needs to be appreciated that APGCL's Generating Stations are very old. Also, these are the only State-Owned thermal Generating Stations supplying power to APDCL. Hence, the Commission decides to consider the time required for repair work at Hyderabad Workshop on normative basis. Hence, the Commission allows the additional time/delay of 55 days, including 25 days towards repairs work at Hyderabad workshop and 30 days towards the total time for to and fro travelling of equipment to Hyderabad workshop. Accordingly, the Commission has computed the Station Heat Rate as 3,353 kcal/kWh, after considering the Open Cycle operation for 80 days.

However, this has been considered as a special case, and should not be cited as a precedent for claiming additional days of outage in future. APGCL should ensure that the overhauls are done as per the schedule, so that such situations are not repeated.

After considering the relief granted, the Commission has computed the sharing of gains and losses for LTPS as shown in the following Table:

Table 1: Sharing of (Gains)/losses for LTPS for FY 2017-18 (Rs. Crore)

Particulars	Approved in Order	Revised after Review
Sharing of (gains)/ losses on account of O&M Expenses	0.51	0.51
Sharing of (gains)/ losses on account of Fuel Cost	2.60	1.06
Sharing of (gains)/ losses on account of Auxiliary Consumption	1.28	1.33
Grand Total (gains)/Loss	**4.39**	**2.89**

The Commission approves the total losses of Rs. 2.89 Crore for LTPS for FY 2017-18. The impact of change in Station Heat Rate on other components of ARR of LTPS for FY 2017-18 has been considered subsequently.

9. **Issue No. 2: Incentive for Higher Availability for KLHEP for FY 2017-18**

APGCL's Submission

The Petitioner had claimed incentive for achieving Availability of 92.61% for KLHEP in FY 2017-18, against normative Availability of 85% as per Regulation 55.2 of AERC Tariff Regulations, 2015. The normative Availability of 85% considered by APGCL was as per first amendment to the AERC Tariff Regulations, 2015 dated November 8, 2017. APGCL submitted that as per para 4.2.3 of the True-up Order for FY 2017-18, the Commission has considered the Normative Annual Plant Availability Factor (NAPAF)/Capacity Index for KLHEP at 90%, which is as per the original AERC Tariff Regulations, 2015 notified on June 2, 2015. Therefore, APGCL requested the Commission to revise the incentive calculation of KLHEP by considering NAPAF of 85% as per the first amendment to the AERC Tariff Regulations, 2015.

Respondent's Submission

APGCL submitted that NAPAF of KLHEP was fixed at 85% but 90% was achieved by the plant, yet incentives as per AERC Regulations have not been granted to APGCL. The Respondent requested the Commission to investigate the matter.

APGCL's Reply

The Respondent submitted that the incentive may be allowed for KLHEP considering NAPAF of 85%.

Commission's View

The Commission notified the first amendment to AERC Tariff Regulations, 2015 on November 8, 2017, i.e., in FY 2017-18. The Commission notes that, in the said amendment, NAPAF of KLHEP has been revised from 90% to 85%. Accordingly, **the Commission has accepted APGCL's prayer for review on this matter, under the head of error apparent on the face of the record**.

The Commission has accordingly revised the computation of incentive for higher Availability of

KLHEP. However, the amendment to the AERC Tariff Regulations, 2015 was notified on November 8, 2017 and till such date of notification, NAPAF of KLHEP was as per the original AERC Tariff Regulations, 2015, since all amendments are to be considered prospectively and not retrospectively. Accordingly, the Commission has considered NAPAF of 90% from April 1, 2017 to November 7, 2017 and NAPAF of 85% from November 8, 2017 to March 31, 2018, and computed a weighted average NAPAF of 88.03% for FY 2017-18. The revised calculation of incentive for higher Availability of KLHEP based on the weighted average NAPAF of 88.03% is as shown in the Table below:

Table 2: Revised Incentive for Higher Availability of KLHEP for FY 2017-18 (Rs. Crore)

Particulars	Approved in Order	Revised after Review
Normative Availability (%)	90%	88.03%
Availability Incentive	1.18	2.10
Incentive for secondary generation	13.36	13.36
Total Incentive	**14.54**	**15.47**
Net Impact (Rs. Crore)	**0.93**	

The Commission approves additional impact of Rs. 0.93 Crore towards incentive for higher availability for KLHEP for FY 2017-18.

10. Issue No. 3: Prior Period Items for FY 2017-18

APGCL's Submission

The Petitioner submitted that items related to O&M expenses were not claimed either as prior period income or expenses in the Petition, as O&M expenses are allowed on normative basis. However, the Commission has shared 1/3rd of such O&M related income and expenses. APGCL submitted that the amount of excess booking of R&M expenses related to FY 2016-17 was already excluded, while claiming R&M expenses for FY 2016-17 and the same was acknowledged by the Commission in para 4.9.4 of the Order dated 19th March 2018, hence, consideration of the same is not prudent. APGCL further submitted that O&M expenses have been allowed for FY 2017-18 by considering normative escalation on Trued-up number of FY 2016-17 and for FY 2016-17 by considering the escalation on trued-up number of FY 2015-16. Therefore, consideration of prior period items related to O&M expenses does not have any bearing on the O&M expenses that is being allowed by the Commission. Hence, APGCL requested the Commission not to consider sharing of income/expenses on actual prior period items related to O&M expenses. APGCL also submitted that the Commission has never taken such approach in its previous Tariff Orders.

Respondent's Submission

APGCL has made a review prayer for inclusion of income and expenses pertaining to FY 2016-17, which were not included in the Tariff Petition for FY 2017-18. APGCL's contention is in aberration with AERC norms, wherein actual O&M expenses for past period exceeding the approved amount is now sought to be reimbursed.

The Tariff Order for FY 2016-17 is already settled, wherein the above-mentioned expenses are not included in FY 2016-17. In the Tariff Order at paragraph 4.9.4, the Commission has granted expenses as per actual on account of revision of pay for 4 months on special consideration. APGCL is now demanding payment of O&M expenses for FY 2016-17 period, which is already settled.

The Commission has restricted O&M expenses to a certain limit with reasonable norms for annual maintenance budget. It is a revenue expenditure and its control is of paramount importance to consumers.

Regulation 34 of AERC (Conduct of Business) Regulations, 2004 clearly states that an aggrieved party may submit its Review Petition within 60 days from the relevant Order. Therefore, for expenses of FY 2016-17, which were settled in March 2018, the time frame has already lapsed, and it is barred for any consideration.

It would be unjustified to pass through such amounts to the consumer without any accountability of APGCL.

APGCL's Reply

APGCL submitted that there were certain accounting errors in FY 2016-17, i.e., excess booking of R&M expenses, etc., which were pointed out in the Statutory Auditor Report. Accordingly, APGCL excluded such claims from O&M expenses in its True-up Petition for FY 2016-17. The Commission acknowledged the same in para 4.9.4 in its Order dated March 19, 2018 and approved O&M expenses for FY 2016-17 by escalating the Trued-up O&M expenses for FY 2015-16. Thus, the actual O&M expenses claimed by APGCL have not been allowed by the Commission.

In FY 2017-18, APGCL had corrected the accounting errors, including the O&M related expenses by way of prior period items in Annual Accounts of FY 2017-18. Since prior period items related to O&M expenses does not have a bearing on O&M expenses to be allowed in True-up of FY 2017-18, sharing of income/expenses of controllable prior period items is not prudent. APGCL has not sought any payment of O&M expenses for FY 2016-17 as it was long settled. It has requested the Commission to review prior period items of FY 2017-18. The Commission in its previous Orders has never taken this approach of sharing of income/expenses of controllable prior period items as these income/expenses do not have impact on controllable items like O&M expenses. In view of the above, the contentions of the Respondent that APGCL is trying to pass the buck on to the consumers are untrue and unfound.

Commission's View

The submission of APGCL that the O&M expenses have always been allowed on normative basis is factually incorrect. The Commission has allowed O&M expenses on normative basis from FY 2016-17 onwards. However, the Commission has been approving O&M Expenses based on audited accounts prior to FY 2016-17. The Commission in the Tariff Order dated March 1, 2019 has considered the treatment of prior period items based on the treatment allowed to that particular item in the true-up of the year to which the expenses/(income) pertain. While undertaking the Truing up for FY 2016-17, the Commission had approved normative O&M Expenses for FY 2016-17 and undertaken sharing of gains or losses with actual O&M Expenses.

The Commission notes that in the original MYT Petition, APGCL had not submitted the year to which these prior period O&M expenses/(income) pertain. However, in the review Petition, APGCL has submitted that the prior period O&M expenses/(income) claimed are pertaining to

FY 2016-17. The Commission is of the view that this information should have been submitted by APGCL earlier.

Based on the information submitted by APGCL in this Petition, it is noted that R&M expenses pertaining to KLHEP were not considered while undertaking sharing of gains or losses for FY 2016-17. Further, the Commission notes that in para 4.9.4 of the Order dated 19th March 2018, it has been mentioned that actual O&M Expenses had excluded R&M expenses to the extent of Rs. 401.08 Lakh as per audit observation for FY 2016-17 pertaining to the expenses incurred for KLHEP. Accordingly, the Commission had considered the actual O&M Expenses of Rs. 119.73 Crore for FY 2016-17 for undertaking sharing of gains or loss. Hence, it would not be appropriate to consider the sharing of these expenses under prior period income.

In view of this, the Commission decides not to consider the income arising out of withdrawal of excess booking as R&M Expenses under prior period income. The net prior period expenses/(income) approved by the Commission is shown in the following Table:

Table 3: Net Prior period expenses/(income) for FY 2017-18 (Rs. Crore)

Particulars	Approved in Order	Revised after Review
Prior period (Income)	2.32	0.79
Prior period Expenses	2.33	2.33
Net prior period (Income)/Expenses	**0.01**	**1.54**

Hence, the Commission approves Net prior period expenses of Rs. 0.33 Crore for NTPS, Rs. 0.69 Crore for LTPS and Rs. 0.51 Crore for KLHEP for FY 2017-18.

11. Issue No. 4: Interest and Finance Charges for NTPS for FY 2018-19

APGCL's Submission

The Petitioner submitted that the closing balance of loan approved by the Commission for FY 2017-18 for NTPS (Table 28 of the impugned Order) is different from that approved as opening balance of loan for FY 2018-19 (Table 61 of the impugned Order). The Commission has approved closing loan for FY 2017-18 as Rs. 0.79 Crore, while opening loan for FY 2018-19 has been approved as Rs. 4.25 Crore. APGCL requested the Commission to kindly review the interest and finance changes computed by the Commission for NTPS for FY 2018-19.

Respondent's Submission

The Respondent submitted that by going through the analysis of the Commission, it is observed that there is nothing incorrect in the approval of the Commission, notwithstanding the fact that the calculation is not verified by the Respondent. Apparently, the figure of Rs. 4.25 Crore as opening balance for FY 2018-19 instead of closing balance of Rs. 0.73 Crore for FY 2017-18 is due to some more loans proposed to be added in the beginning of FY 2018-19. The Respondent requested the Commission to clarify on the same.

APGCL's Reply

APGCL submitted that the closing balance of a previous year should be equal to the opening balance of the preceding year. The discrepancy in the same has been highlighted by APGCL. Hence, the submission of Respondent that the opening balance of FY 2018-19 is higher than the closing balance of FY 2017-18 due to addition of loans, is not correct.

Commission's View

The Commission has verified the closing balance of loan of FY 2017-18 and opening balance of loan for FY 2018-19, approved in the impugned Order, and it is observed that there is a mismatch in the values considered, though they should be the same.

Hence, there is an error apparent on the face of the record in computation of Interest and Finance charges for FY 2018-19 and therefore, the review is allowed on this issue.

After making the necessary corrections, the net impact on interest and finance charges for FY 2018-19 is as shown in the Table below:

Table 4: Revised Interest and Finance Charges for NTPS for FY 2018-19 (Rs. Crore)

Sr. No.	Particulars	Approved in Order dated 01.03.2019	Approved in this Order
1	Net Normative Opening Loan	4.25	0.79
2	Addition of normative loan during the year	0.88	0.88
3	Normative Repayment during the year	1.42	1.42
4	Net Normative Closing Loan	3.72	0.25
5	Interest Rate (%)	10.12%	10.12%
6	Interest on Loan Capital	**0.40**	**0.05**

The Commission, therefore, approves an additional impact of Rs. (0.35) Crore towards interest and finance charges of NTPS for FY 2018-19.

12. Issue No. 5: Fuel Cost of LRPP for FY 2018-19

APGCL's Submission

The Petitioner submitted that is a difference in the amount of total cost of gas calculated in Table 20 of the impugned Order (Rs. 86.47 Crore) and Table 30 of the impugned Order (Rs. 86.45 Crore) for LRPP. APGCL requested the Commission to review the Fuel cost for LRPP for FY 2018-19.

Respondent's Submission

The typographical error could be accepted by the Commission.

APGCL's Reply

APGCL has not submitted any comments.

Commission's View

The Commission observed that there is a small difference in the values of cost of gas for LRPP mentioned in Table 20 and Table 30 of the impugned Order. The cost of gas approved and allowed by the Commission for FY 2018-19 is Rs. 86.45 Crore and the same is reflected in the final ARR Table (i.e., Table 30 of the Tariff Order).

Hence, the Review is allowed on this aspect under the head of error apparent on the face of the record, as it is a typographical mistake in Table 20. However, there is no material impact on the final ARR of LRPP.

13. Issue No. 6: Interest during Construction for LRPP

APGCL's Submission

The Petitioner submitted that the Commission has approved Interest During Construction (IDC) for LRPP in proportion to the IDC computed by APGCL. APGCL submitted source-wise loan details and the corresponding interest rates and interest amount incurred against each source of loan during the construction period of the project. APGCL requested the Commission to kindly allow IDC on approved debt of LRPP as per loan draw down details and interest rate of 10%.

Respondent's Submission

The Respondent submitted that the referred IDC calculation chart of the Commission could not be referred by the Respondent and therefore, it would be appropriate for the Commission to review the same if required. However, the respondent has raised some points of public interest before the Commission.

In the past, the Respondent has been raising the issue of delay in execution of projects by APGCL, which results into abnormal IDC component, which is subsequently passed on to the consumer. The consumer is unaware of the declared schedule of completion.

The Respondent requested the Commission to ensure timely execution of the projects undertaken and fix accountability of APGCL.

APGCL's Reply

APGCL submitted that LRPP project was completed on time and the IDC claimed by APGCL is based on the actual loan drawal schedule.

Commission's View

The Commission's has allowed IDC of Rs. 0.44 crore as against APGCL's claim of Rs. 3.52 crore, in proportion to the actual loan component, which is only 12% as against the original loan component of Rs. 233.10 crore (amounting to 89% of Capital Cost) on which the IDC has been computed. This aspect has been clearly explained in the impugned Order. The relevant extract of the impugned Order is reproduced below for reference:

"2.5.24 From the perusal of computation of original IDC of Rs. 3.52 Crore, it is observed that the said amount was computed considering the debt component of Rs. 233.10 Crore at 89% of capital cost of project. However, the actual debt component is much lower than envisaged in IDC computation. The actual debt component is Rs. 23.82 Crore in the capital cost of Rs. 245.87 Crore as on COD. The Commission has restricted the Equity to 30% of the project cost excluding the grant, and the balance amount of Equity is considered as loan. Accordingly, the Commission approves the IDC towards the normative debt component, in proportion to IDC computed by APGCL. Accordingly, the Commission approves IDC of Rs. 0.44 Crore."

The Commission notes that it has not disallowed Interest During Construction on account of any delay. Further, the Commission notes that APGCL, in the Review Petition, submitted the detailed computation of Interest During Construction, clearly indicating the date of disbursement, loan amount considered for computation of interest, actual interest paid, etc. This information could have been submitted by APGCL earlier. However, the Commission had approved IDC in Order dated March 1, 2019 in the absence of such detailed information.

The Commission notes the submission of APGCL that IDC of Rs. 3.19 Crore claimed is actual interest paid by APGCL. The Commission has verified the detailed computation of IDC and found that APGCL has paid an amount of Rs. 6,58,938/- towards penal interest to Government of Assam. The Commission finds it appropriate to consider the actual IDC paid as part of capital cost. However, the Commission has disallowed such penal interest in line with approach adopted in previous Orders. In view of the above, the Commission approves Interest During Construction of Rs. 3.12 Crore as part of Capital Cost as on COD.

In view of the above, the Commission approves the revised capital cost as COD for LRPP as shown in the following Table:

Table 5: Revised Capital Cost as on COD for LRPP (Rs. Crore)

Sr. No.	Particulars	Approved in Order dated 01.03.2019	Approved in this Order
1	Hard Cost	218.07	218.07
2	Interest during Construction	0.44	3.12
3	Overhead Cost	4.22	4.22
4	Initial Spares	20.39	20.39
5	**Grand Total**	**243.12**	**245.80**

At this stage, the Commission has not approved the impact of this on ARR of FY 2018-19, however, the same shall be considered at time of truing up for FY 2018-19.

The Commission has re-determined the Annual Fixed Cost for LRPP as Rs. 33.06 Crore for FY 2019-20, considering the impact of revised capital cost as on COD. Therefore, the monthly fixed charges for LRPP shall be Rs. 2.755 Crore for FY 2019-20 and billing shall be done accordingly.

14. Issue No. 7: Interest and Finance Charges for NTPS for FY 2019-20 to FY 2021-22

APGCL's Submission

The Petitioner submitted that the closing balance of loan approved by the Commission for FY 2018-19 for NTPS (Table 61 of the impugned Order) is different from that approved as opening balance of loan for FY 2019-20 and onwards till FY 2021-22 (Table 96 of the impugned Order). APGCL requested the Commission to review the interest and finance charges computed for NTPS for entire Control Period from FY 2019-20.

Respondent's Submission

The contentions of the Respondent are the same as that submitted on Issue no. 4.

APGCL's Reply

APGCL submitted that the closing balance of a previous year should be equal to the opening balance of the preceding year. The discrepancy in the same has been highlighted by APGCL. Hence, the submission of Respondent is not correct.

Commission's View

The Commission has verified the closing balance of loan of FY 2018-19 and opening balance of loan for FY 2019-20 and onwards, approved in the impugned Order, and it is observed that there is a mismatch in the values considered, though they should be the same.

Hence, there is an error apparent on the face of the record in computation of Interest and Finance charges for each year of the Control Period and therefore, the review is allowed on this issue.

After making the necessary corrections, the net impact on interest and finance charges for FY 2019-20 to FY 2021-22 for NTPS is as shown in the Table below:

Table 6: Revised Interest and Finance Charges for NTPS for FY 2019-20 to FY 2021-22 (Rs. Crore)

Sr. No.	Particulars	Approved in Order dated 01.03.2019			Approved in this Order		
		FY 20	FY 21	FY 22	FY 20	FY 21	FY 22
1	Net Normative Opening Loan	5.14	9.58	12.22	0.25	3.27	4.17
2	Addition of normative loan during the year	4.75	3.04	1.78	4.75	3.04	1.78
3	Normative Repayment during the year	1.74	2.14	2.25	1.74	2.14	2.25
4	Net Normative Closing Loan	8.16	10.48	11.75	3.27	4.17	3.70
5	Interest Rate (%)	10.30%	10.18%	10.10%	10.30%	10.18%	10.10%
6	**Interest on Loan Capital**	**0.68**	**1.02**	**1.21**	**0.18**	**0.38**	**0.40**

The Commission therefore approves an additional impact of Rs. (0.50) Crore for FY 2019-20, Rs. (0.64) Crore for FY 2020-21 and Rs. (0.81) Crore for FY 2021-22 towards interest and finance charges of NTPS.

15. Issue No. 8: Interest and Finance Charges for LTPS for FY 2019-20 to FY 2021-22

APGCL's Submission

The Petitioner submitted that the closing balance of loan approved by the Commission for FY 2019-20 for LTPS (Table 96 of the impugned Order) is different from that approved as opening balance of loan for FY 2020-21 and onwards (Table 96 of the impugned Order). APGCL requested the Commission to kindly review the interest and finance charges computed for NTPS for entire Control Period from FY 2019-20.

Respondent's Submission

The contentions of the Respondent are the same as that submitted on Issue no. 4.

APGCL's Reply

APGCL submitted that, the closing balance of a previous year should be equal to the opening balance of the preceding year. The discrepancy in the same has been highlighted by APGCL.

Hence the submission of Respondent is not correct.

Commission's View

The Commission has verified the closing balance of loan of FY 2018-19 and opening balance of loan for FY 2019-20 and onwards, approved in the impugned Order, and it is observed that there is a mismatch in the values considered, though they should be the same.

Hence, there is an error apparent on the face of the record in computation of Interest and Finance charges for each year of the Control Period and therefore, the review is allowed on this issue.

After making the necessary corrections, the net impact on interest and finance charges for FY 2019-20 to FY 2021-22 for LTPS is as shown in the Table below:

Table 7: Revised Interest and Finance Charges for LTPS for FY 2019-20 to FY 2021-22 (Rs. Crore)

Sr. No.	Particulars	Approved in Order dated 01.03.2019			Approved in this Order		
		FY 20	FY 21	FY 22	FY 20	FY 21	FY 22
1	Net Normative Opening Loan	-	-	-	-	0.80	0.16
2	Addition of normative loan during the year	16.10	15.20	15.55	16.10	15.20	15.55
3	Normative Repayment during the year	15.30	15.84	16.58	15.30	15.84	16.58
4	Net Normative Closing Loan	0.80	-	-	0.80	0.16	-
5	Interest Rate (%)	10.30%	10.18%	10.10%	10.30%	10.18%	10.10%
6	**Interest on Loan Capital**	**0.04**	**-**	**-**	**0.04**	**0.05**	**0.01**

The Commission therefore approves an additional impact of Rs. 0.05 Crore for FY 2020-21 and Rs. 0.01 Crore for FY 2021-22 towards interest and finance charges of LTPS.

16. Issue No. 9, 10 & 11: Gas Price of NTPS, LTPS and LRPP for FY 2019-20 to FY 2021-22

APGCL's Submission

The Petitioner submitted that the Commission has considered actual weighted average landed price of gas for the period from April 2018 to December 2018 for approving gas price for FY 2018-19 and for rest of the Control Period. The Commission has deviated from the approach adopted in last Tariff Order, wherein fuel price for ensuing year was considered as average of two months after last fuel price revision. APGCL requested the Commission to adopt similar methodology as it had adopted in previous Tariff Order and approve gas price of NTPS, LTPS and LRPP in line with the revision in gas price in October 2018, while approving price of gas for NTPS, LTPS and LRPP for FY 2020-21 and FY 2021-22.

Respondent's Submission

The Respondent stated that it is the purview of the Commission to analyze and re-check the calculations in conformity with the Regulations. The Respondent is unaware whether commercial agreements with respect to supply of gas are in place or not.

The Respondent requested the Commission to ensure that APGCL immediately enters into Gas Supply Agreement with the supplier having detailed commercial terms on price, price variations and supply, which shall be legally binding on both Parties. Any failure by either party, which results into a loss to any party shall invite compensation to the aggrieved party. If there would have been such a system to segregate the actual gas cost to be loaded in tariff, such review/controversy would not have been raised.

APGCL's Reply

APGCL submitted that the gas price of FY 2019-20 to FY 2021-22 should be considered based on the latest revision in fuel price of October 2018, in line with the methodology adopted in previous Order. APGCL further submitted that it has contracted enough quantity of gas to run its power plants, however, APGCL has not been receiving sufficient quantity of gas from suppliers, which is completely uncontrollable in nature. APGCL has taken up the issue of insufficient supply of gas with the suppliers from time to time.

Commission's View

The Commission has consciously decided to allow fuel price of gas as weighted average of actual price from April 2018 to December 2018 and the same was considered for the rest of the Control Period without any escalation. As regards APGCL's submission that such treatment amounts to deviation from the approach adopted in the previous Order, it is clarified that the Commission is not bound to adopt the same approach for approving fuel price of gas. Any variation in variable cost of generation due to variation in fuel cost can be recovered through the FPPPA mechanism.

Also, the Commission is of view that the responsibility of arrangement of fuel lies with APGCL and hence, APGCL's contentions of supply of lower quantity of gas from suppliers as uncontrollable is not correct. The Commission has time and again directed APGCL to take preventive and corrective measures towards this lower supply of gas.

Hence, it was a conscious decision made by the Commission, and the Review is not admissible on this issue as there is no error apparent on the face of the record.

17. Issue No. 12: Numbers in Discussion Table and ARR Summary for NTPS

APGCL's Submission

The Petitioner submitted that the depreciation approved in Table 94 of the impugned Order, Interest on Loan approved in Table 96 of the impugned Order and Return on Equity approved in Table 98 of the impugned Order is not matching with the numbers approved in ARR summary Table 103 of the impugned Order. The Commission has not provided any reason or calculation or discussion for the difference in numbers in the Tariff Order. APGCL requested the Commission to review the Interest on loan, depreciation and return on equity and approve the numbers allowed in the discussion of the Order.

Commission's View

The Commission clarifies that the difference in numbers approved in Tables 94, 96 and 98 of the impugned Order and that allowed in the ARR summary in Table 103 of the impugned Order, is on account of shutting down of Units 1, 2, 4 and 5 of NTPS in the next Control Period. The Depreciation in Table 94 of the Order, Interest on Loan in Table 96 of the Order and Return on Equity in Table 98 of the Order have been computed for total capacity of 119.50 MW of NTPS.

Thereafter, the proportionate reduction has been made due to dismantling of these Units of NTPS, considering the capacity of 43.50 MW. **Hence, there is no error apparent in the impugned Order, and the Review is not admissible on this issue.**

18. Issue No. 13: Numbers in Discussion Table and ARR Summary for LTPS

APGCL's Submission

The Petitioner submitted that the depreciation approved in Table 94 of the impugned Order, Interest on Loan approved in Table 96 of the impugned Order and Return on Equity approved in Table 98 of the impugned Order is not matching with the numbers approved in ARR summary Table 104 of the impugned Order. The Commission has not provided any reason or calculation or discussion for the difference in numbers in the Tariff Order. APGCL requested the Commission to review the Interest on loan, depreciation and return on equity and approve the numbers allowed in the discussion of the Order.

Commission's View

The Commission clarifies that the difference in numbers approved in Tables 94, 96 and 98 of the impugned Order and that allowed in the ARR summary in Table 104 of the impugned Order, is on account of shutting down of Units 1, 2, 3 and 4 of LTPS in the next Control Period. The Depreciation in Table 94 of the Order, Interest on Loan in Table 96 of the Order and Return on Equity in Table 98 of the Order have been computed for total capacity of 142.20 MW of LTPS. Thereafter, the proportionate reduction has been made due to dismantling of these Units of LTPS, considering the capacity of 97.20 MW. **Hence, there is no error apparent in the impugned Order, and the Review is not admissible on this issue.**

19. The Commission, in the Tariff Order dated March 1, 2019 has approved cumulative Revenue Surplus of Rs. 15.33 Crore. This cumulative Revenue Surplus is on account of Truing up for FY 2017-18. The Commission has not considered any impact of Annual Performance Review for FY 2018-19. In this Order, the Commission has re-computed the cumulative Revenue Gap/(Surplus) on account of the Review Order, as shown in the following Table:

Table 8: Revised Cumulative Revenue Gap/(Surplus) approved by the Commission (Rs. Crore)

Sr. No.	Particulars	Approved in Order dated 01.03.2019	Approved in this Order
1	**Truing up for FY 2017-18**		
	ARR for NTPS (considering effective capacity)	111.27	111.49
	ARR for LTPS (considering effective capacity)	231.67	235.59
	ARR for KLHEP	96.23	97.68
	Combined ARR	**439.17**	**444.76**
	Revenue from Sale of Power	451.62	451.62
	Revenue Gap/(Surplus)	(12.46)	(6.86)
	Impact of carrying cost of review Order of September 2017	0.16	0.16
	Net Revenue Gap/(Surplus)	**(12.30)**	**(6.70)**
2	Carrying cost on Revenue Gap/(surplus) in FY 2017-18 Order	**(3.03)**	**(1.65)**

Sr. No.	Particulars	Approved in Order dated 01.03.2019	Approved in this Order
3	**Cumulative Revenue Gap/(Surplus) along with carrying cost**	**(15.33)**	**(8.36)**

20. After considering the monthly refundable amount of Rs. 1.28 Crore, as approved in Tariff Order dated March 1, 2019, for April 2019 and May 2019, the Commission approves the revised monthly refundable amount from June 2019 onwards as Rs. 0.58 Crore.

21. The revised Annual Fixed Charges for NTPS, LTPS and LRPP for FY 2019-20 has been computed as shown in the following Table:

Table 9: Revised Fixed Charges of NTPS and LTPS for FY 2019-20 (Rs. Crore)

Particulars	FY 2019-20		
	NTPS	LTPS	LRPP
Annual Fixed Charges approved by the Commission in Tariff Order dated March 1, 2019	22.50	71.55	32.97
Annual Fixed Charges approved by the Commission after revision of computation of Interest and Finance charges considered under review	22.31	71.55	33.06
Monthly Fixed Charges to be levied to APDCL towards Tariff of FY 2019-20	**1.859**	**5.963**	**2.755**

The Commission approves monthly Fixed Charges of Rs. 1.859 Crore for NTPS and Rs. 2.755 Crore for LRPP for FY 2019-20. There is no change in the monthly Fixed Charges for LTPS for FY 2019-20. The Commission directs APGCL to make necessary adjustments in the monthly bill of APDCL for FY 2019-20 from June 2019.

With the above observations and decisions on the issue submitted for review, the Petition filed by the Petitioner stands disposed of.

Sd/-

(S. C. Das)
Chairperson, AERC