



COMMISSION'S ORDER

ON

**TRUE-UP FOR FY 2015-16, MID-YEAR PERFORMANCE REVIEW FOR FY
2016-17 AND DETERMINATION OF GENERATION TARIFF FOR THE FY
2017-18**

Case No. HERC/PRO-38 of 2016

26th April, 2017

HARYANA ELECTRICITY REGULATORY COMMISSION

BAYS NO. 33-36, SECTOR-4, PANCHKULA-134112

<https://herc.gov.in>

BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION
BAY NO. 33-36, SECTOR-4, PANCHKULA-134 112

CASE NO: HERC / PRO-38 of 2016

DATE OF HEARING : 15.03.2017

DATE OF ORDER : 26.04.2017

QUORUM

Shri Jagjeet Singh,	Chairman
Shri M.S. Puri,	Member
Shri Debashish Majumdar,	Member

INTHE MATTER OF

Petition filed by Haryana Power Generation Corporation Ltd. (HPGCL) for approval of True-up for the FY 2015-16, Mid-Year Performance Review for the FY 2016-17 and Determination of Generation Tariff for the FY 2017-18.

AND

IN THE MATTER OF

HPGCL, Panchkula

..... Petitioner

Present

1. Shri Vineet Garg, IAS, MD, HPGCL.
2. Shri B.B. Gupta, Controller Finance, HPGCL
3. Ms. Promila Sheoran, A.O., HPGCL
4. Shri Vijay Jindal, XEN

ORDER

1 The Haryana Electricity Regulatory Commission (hereinafter referred to as HERC or the Commission), had notified the Multi Year Tariff Regulations i.e. the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 (hereinafter referred to as MYT Regulations, 2012) vide Notification dated 5.12.2012.

2 Regulation 71.9 read with Regulation 75 of the MYT Regulations, 2012, requires that the Generation Company i.e. HPGCL shall file ARR/Generation Tariff for the FY 2017-18, mid-year performance review for the FY 2016-17 and true-up for the FY 2015-16, by 30th November, 2016.

3 The Commission by its Order dated 07.11.2016 has amended the MYT Regulations, 2012 by way of Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 (1st Amendment) Regulations, 2016. Accordingly, following amendments were made in the Regulation no. 3.16:

“The definition and interpretation under Regulation 3(3.16) shall be replaced by the following paragraph, namely:-

*“**Control Period**” means a multi-year tariff period fixed by the Commission from time to time. The first control period shall be from 1st April 2014 to 31st March 2018.*

Provided that where certain norms / benchmarks are required to be computed using ‘baseline values’ and the ‘base year’ has been defined as the financial year immediately preceding the first year of the control period. In all such cases the ‘base year, for projecting normative values for annual determination of the ARR/Tariff petition(s) for the FY 2017-18 shall be the FY 2015-16 based on the respective audited accounts of the licensees and the generating company.

Provided that in the case of HVPNL/Discoms the O&M expenses for the FY 2017-18 shall be based on the audited accounts for the FY 2015-16 subject to prudence check.

Provided further that in the case of HPGCL, the per MW O&M expenses, shall be worked out by the Commission based on the audited accounts for the FY 2015-16 subject to prudence check. “

4 Accordingly, the Petitioner HPGCL vide its Memo No. HPGC/FIN/Reg-472/1176

dated 29.11.2016, had submitted the present petition for approval of true-up for the FY 2015-16, mid- year performance review for the FY 2016-17, and determination of Generation Tariff for the FY 2017-18 under Section 61 and 62 of Electricity Act 2003.

5 The petition filed by HPGCL was made available on the website(s) of the Commission as well as that of the petitioner company for inviting objections / comments from the stakeholders. A Public Notice was published by HPGCL in the newspapers for inviting objections/suggestions from the stakeholders / General Public or any interested person as per the procedure laid down in the MYT Regulations, 2012 read with the Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2004 as amended from time to time. The said public notice was inserted by HPGCL in the following Newspapers and the last date for filing objections was 29th December, 2016.

Name	Language	Date
Financial Express	English	01.12.2016
Hindustan Times, Delhi	English	01.12.2016
Dainik Tribune	Hindi	01.12.2016

6 Salient features of the Petition filed by HPGCL

6.1 HPGCL's Basis of Tariff Proposal

HPGCL has submitted that they have filed the present petition in compliance with HERC MYT Regulations, 2012, as amended by the Commission's Order dated 07.11.2016 and that the relaxations approved by this Commission in its subsequent Order dated 27.03.2015 and 31.03.2016 for the FY 2015-16 & FY 2016-17, respectively, have also been proposed for FY 2017-18, wherever the similar ground and circumstances persists.. Additionally, HPGCL has prayed that the Commission may consider and allow the relief as consequences of the following:-

- i) Appeal filed before Hon'ble Punjab & Haryana High Court for certain relief in the technical and financial parameters as provided in MYT Regulations, 2012.

- ii) Appeal filed in the Hon'ble Supreme Court against Hon'ble APTEL's Order dated 19.09.2015.
- iii) Appeal filed in the Hon'ble APTEL against the HERC order dated 31.03.2016 on certain issues relating to recovery of fixed cost in FY 2014-15 and for remaining period of first control period.

HPGCL has submitted that pending decisions in above cases, HPGCL has restricted itself, while proposing the technical and commercial parameters as per the MYT Regulations and relaxation considered by the Commission in its earlier Orders subject to any relief in the ibid cases. It has been submitted that HPGCL is seeking a few relaxations in the norms in view of the National Tariff Policy, 2016 with regard to certain performance parameters of the generating units, considering the past performance and achievability.

HPGCL submitted that as per the amendment in HERC MYT Regulations, 2012, O&M Expense of FY 2017-18 have been projected by escalating actual O&M Expense as per audited accounts of the FY 2015-16. Further, for projecting Employees Cost of PTPS Units 1-4 for the FY 2017-18, HPGCL, has considered actual employee cost as incurred in the FY 2015-16 and apportioned it among various units in the ratio of actual employee cost of each unit as incurred in the FY 2015-16. The apportionment is then escalated @4% to arrive at the proposed cost of PTPS Units 1-4 in the FY 2017-18.

6.2 Additional data/details provided by HPGCL

After initial scrutiny of the petition, a few additional data / information was sought by the Commission from the Petitioner vide memo no. 8779/HERC/Tariff dated 24.01.2017. The same was provided as under:-

1. Sanction letters in respect of working capital loan granted by SBI to HPGCL, as applicable on 01.04.2015 and 01.04.2016, for determination of interest.

HPGCL's Reply

That the copies of the sanction letters in respect of working capital loan granted

by SBI, as applicable on 01.04.2015 and 01.04.2016, has been provided. HPGCL has further submitted that it has arranged the Working Capital borrowing under multiple Banking. SBI is one of the lender mainly catering to the financing of online Coal freight payments for HPGCL, rest of the financing of HPGCL is through other banks, whose rates, terms and conditions are different. For example there is a variation of up to 80-100 bps in the base rate of other nationalized banks and also variations in the applicable spreads. Copies of the sanction letter of SBOP are also enclosed according to which applicable base rate and margin were 10.25% & 1.25 % and 09.95% and 1.25% respectively, resulting thereby the effective rate of borrowings were 11.50 & 11.20 % for the period. Besides above, HPGCL has to submit the Govt. Guarantee to the banks as collateral security for which it has to pay an upfront guarantee fee of 2 % to the State Govt. and certain bank charges to the bankers. HPGCL has considered the above factors while proposing the Interest and Finance charges in its Tariff Petition.

2. Unit-wise profitability including breakup of O&M expenses (Employee cost, R&M & A&G) of HPGCL plants, for the FY 15-16.

HPGCL's Reply

Unit wise profitability including break up of O&M Expenses was provided.

3. Standalone Financial Statements of HPGCL for the FY 2015-16 along with Audit Report.

HPGCL's Reply

Copy of Standalone Financial Statement of HPGCL for FY 2015-16 has been provided.

4. Copies of Energy Audit conducted by M/s. PCRA, M/s. STAG and M/s. Siri Energy & Carbon Advisory Services Pvt. Ltd.

HPGCL's Reply

Copies of Energy Audit conducted by M/s PCRA , STEAG and Siri Energy & Carbon Advisory Services have been provided.

5. Details of compensation paid by HPGCL during the FY 2015-16 & 2016-17, due to non lifting of minimum stipulated quantity of coal.

HPGCL's Reply

An amount of Rs 30.88 Crore has been paid by HPGCL as per fuel supply agreement as compensation for short-lifting of coal. The short-lifting of coal was due to massive backing down of HPGCL units on instruction of beneficiaries. No compensation has been paid for FY 2016-17 till date.

6. Revised depreciation figures for the FYs 2015-16 and 2016-17, after deducting the capital spares amounting to Rs. 154.60 Crore , not approved in the true up order for the FY 2014-15.

HPGCL's Reply

Revised Depreciation figures for FY 2015-16 & FY 2016-17 after deducting the capital spares amounting to Rs. 154.60 Crore is placed below. However it may be seen from depreciation calculation sheet referred to above that the major difference in the depreciation on capitalized spares pertaining to PTPS Units 1-5 i.e Rs 36.22 Crore out of Rs 42.16 Crore, which have already outlived their useful life. As per Regulation 23 (c) of HERC MYT Regulations, 2012 the assets of generating stations are required to be depreciated fully during its useful life. PTPS Units 1-4 have already been retired and PTPS Unit-5 has outlived its useful life, as such depreciation claim of HPGCL should be allowed without any revision.

7. A statement showing reconciliation of additions to fixed assets during FYs 2015-16 & 2016-17 with the capex plan approved/proposed by HPGCL.

HPGCL's Reply

Statement showing reconciliation of addition to fixed assets during the FY 2015-16 & FY 2016-17 with the capex plan approved/proposed by HPGCL has been provided.

8. Table No. 4 to 8 of the Petition as updated up to January, 2017.

HPGCL's Reply

Table no 4 to 8 of the Petition as updated up to December 2016 has been provided. As the data for the month of January 2017 is yet to be compiled, the same will be submitted after compilation of the data.

9. Detail of station wise (i.e. separately for PTPS, DCRTPS, RGTPS) coal transit loss for last three years and current year up to Jan., 2017.

HPGCL's Reply

Detail of station wise transit loss (%) for the last three years is as under:-

Financial Year	PTPS	DCRTPS	RGTPS
2013-14	1.27	0.24	1.86
2014-15	0.62	1.17	1.44
2015-16	0.88	-0.05	0.27
2016-17 till Dec 16	1.36	0.01	1.18

10. Details of Employees and other shared cost with 10 MW Solar Power plant at PTPS, Panipat.

HPGCL's Reply

Details of Employees shared for 10 MW solar plant at PTPS Panipat is attached. It is further submitted that HPGCL is not sharing any employee cost for 10 MW Solar PV Plant at PTPS Panipat as the O&M expense as considered by Commission for determination of its tariff consists only the O&M expenditure as payable to the O&M contractor.

11. Details/methodology of coal stock accounting.

HPGCL's Reply:

HPGCL Coal Accounting Manual is attached regarding the Detail / methodology of coal stock accounting.

12. Copies of the revenue bills for the FY 2015-16, aggregating to Rs. 5246.83 Crore.

HPGCL's Reply:

Copies of the revenue bills for the FY 2015-16 aggregating to Rs. 5246.83 Crore is attached

13. Latest three months plant-wise Price Store Ledger (PSL) and copy of relevant invoices of coal and freight and oil.

HPGCL's Reply:

Three months plant wise PSL along with relevant invoices has been provided.

7. True-up Petition for the FY 2015-16

7.0 That Generation tariff for the FY 2015-16 was determined by the Commission vide its order dated 27.03.2015 on the tariff Petition of HPGCL filed on dated 28.11.2014 as per HERC MYT Regulation, 2012. The tariff was determined based on the information of the tariff component available up to September 2014. HPGCL is now submitting the petition for true-up for the FY 2015-16 based on the audited accounts for the FY 2015-16 in accordance with the regulation 13.1 of the MYT Regulations, 2012. A copy of the FY 2015-16 audited accounts was provided.

7.1 True-up of Operation and Maintenance (O&M) expenses

7.1.1 The Petitioner has submitted the actual O&M Expenses i.e. sum total of the Employees Cost, Repair & Maintenance Expenses and A&G expenses, as per audited accounts for FY 2015-16 as against the approved by the Commission in its order dated 27.03.2015 as under:-

Rs. Crore

	Approved	Actual	Variance
PTPS – 1-4	102.77	165.20	62.43
PTPS –5-6	92.02	103.31	11.29
PTPS –7-8	81.20	112.51	31.31
DCRTPP	85.38	104.58	19.20
RGTPP	96.46	130.44	33.98
Hydel	26.52	21.33	(5.19)
Total	484.37	637.36	153.00

7.1.2 The Petitioner has further submitted breakup of approved and actual O&M Expense in Employee cost and R&M and A&G Expense, for the FY 2015-16 as under:-

O&M Expense	Approved	Actual	Diff	Remarks
Employee Cost	257.56	382.54	124.98	Due to Terminal Liability
R&M and A&G	226.79	254.82	28.02	Due to lower escalation rate considered in allowing the R&M and A&G expenses and also an additional amount of Rs. 10.85 cr. incurred on repair of boiler of RGTPP Unit-1
Total	484.37	637.36	153.00	

7.1.3 That the normative Employees cost considered by Commission in the O&M expenses for the FY 2015-16 was based on the audited expenses of the base year FY 2011-12 where in there was nominal terminal liability and with an escalation rate of 4 % per annum only (No escalation considered for PTPS Units 1 to 4).

Although there is no new addition to the number of employees but due to increase in the retirement of the existing employees terminal liabilities of the HPGCL has increased. As per the actuarial valuation report carried out by independent actuary firm M/s Bhudev Chatterjee, the terminal liability of HPGCL is Rs.132.51 Crore, which mainly tantamount to the increase in employees cost and thereby O&M cost as well. As per clause 8.3 (b) of HERC MYT Regulations, 2012 terminal liabilities is an uncontrollable expense. Moreover being a State owned undertaking, HPGCL follows rules and regulations of employee benefits of State Government, therefore, the increase in the pay

structure of its employees is also beyond control of the HPGCL. The Petitioner therefore prays to the Commission to allow recovery of Rs. 124.98 Crore only (actual employee cost Rs 382.54 Crore - Approved Employee Cost Rs. 257.56 Crores) on account of employee cost from the beneficiaries along with the carrying cost.

7.1.4 Additionally, there is a variation of Rs. 28.02 Crores between actual and allowed R&M Expense and A&G Expense for the FY 2015-16. This is due to the fact that annual escalation considered by the Commission while approving the R&M and A&G expenses is insufficient in view of the inflationary trend, only 50% R&M and A&G expenses was considered for PTPS 1 to 4 while keeping the PLF level at 15% and HPGCL had to incur an uncontrollable expenditure of Rs 10.85 Crore on R&M of Unit-1 RGTPS due to force majeure condition.

HPGCL had submitted to the Commission, vide Petition No. HERC/PRO 30 of 2015 for mid-year performance review for FY 2015-16 to allow the uncontrollable expenditure of Rs. 10.85 cr. as a pass through expenditure. However the Commission in its Order dated 31.03.2016 had directed HPGCL to furnish the report of the enquiry/investigation held in respect of this accident and whether the accident was on account of any lapse on the part of operating officers/officials or on account of any deficiency in the O&M of the unit. Further, Commission also enquired whether HPGCL has lodged/received any insurance claim in respect of the loss.

In this regard HPGCL submits that a committee comprising of members of CEA, NTPC and HPGCL was constituted to find out the reasons of the blast. The said committee concluded that there was no fault of any employee of HPGCL. The accident should be treated as a force majeure condition. It is further submitted that HPGCL lodged the insurance claim but no insurance claim was received by HPGCL on this account as insurance company denied the same due to non-coverage of such incidents in insurance policy. HPGCL incurred an amount of Rs 10.85 Crores on repair of the plant after the blast which should be treated as a pass through in tariff. HPGCL further submitted that

they are exploring procurement of a mega insurance policy for its plants to cover such like incidents as happened in RGTPS. However, for getting the same HPGCL will have to incur extra insurance premium which will form a part of A&G Expense. As and when HPGCL will get such cover it will request Commission to treat insurance premium as additional A&G Expense on pass through basis in tariff.

Considering the above submission and also the provision of MYT Regulation regarding rate of escalation, HPGCL has restricted its true up claim to the extent of differential Employee cost including terminal liabilities, extra R&M expense incurred on restoration of RGTPS Unit-1 amounting to Rs. 135. 83 Crore only (124.98Crore + 10.85 Crore). It is also prayed that said true up expenditure for F.Y. 2015-16 should be allowed to HPGCL with appropriate carrying cost.

7.2 True-up of Depreciation

The Commission, as per its order dated 27.03.2015, had approved depreciation of Rs. 463.2 Crores. The actual depreciation of HPGCL in the FY 2015-16 is Rs. 633.53 Crores as per the audited accounts for the year i.e. higher than the approved depreciation by Rs. 170.33 Crore for the following reason:-

(i) After retiring of PTPS unit 1 to 4 in December, 2015, their remaining depreciable value i.e. 90% of GFA minus accumulated depreciation claimed till date, had to be depreciated fully in FY 2015-16 as per the HERC Regulation.

(ii) The reason for accumulation of unclaimed depreciation at the time of retiring of the units is that HPGCL has not claimed that depreciation in earlier year in proportion to the useful life of the assets such as HPGCL carried out significant refurbishment activities in PTPS Units 1-4 as they had completed their useful life of 25 years. The amount capitalized at refurbishment activity was mainly under the head of plant and machinery which was depreciated annually at rate of 5.28% whereas as it should be claimed according to the extended useful life of the plant after refurbishment

of the units. There was no specific directive of the Commission regarding remaining useful life of the plants after refurbishment.

(iii) Similarly in case of PTPS unit-5 and RGTPS also the accumulated unclaimed depreciation was more than the corresponding useful life of the plant for which statutory auditor has advised to provide for the differential depreciation i.e. the accumulated depreciation required to be claimed according to useful life of the plant as per HERC Regulation minus actual accumulated depreciation claimed so far. Accordingly HPGCL has provided the depreciation in case of PTPS unit-5 and RGTPS.

The snapshot of status of claimed and balance claimable depreciation for FY 2015-16 is given below:-

Rs. in Crore

	Maximum Allowable Depreciation as per Regulations	Accumulated Depreciation upto FY 2014-15	Depreciation during the year FY 2015-16	Accumulated Depreciation upto FY 2015-16	Balance Claimable Depreciation
PTPS – 1	185.52	92.00	93.52	185.52	-
PTPS – 2	221.63	197.24	24.38	221.63	-
PTPS – 3	56.94	50.18	6.77	56.95	-
PTPS – 4	65.05	50.87	14.18	65.05	-
PTPS – 5	262.63	205.98	39.23	245.20	17.43
PTPS – 6	887.99	876.70	1.39	878.09	9.90
PTPS – 7	844.40	408.54	44.95	453.49	390.91
PTPS – 8	835.74	405.74	44.65	450.39	385.35
DCRTPP-1	982.02	357.39	56.40	413.79	568.23
DCRTPP-2	982.06	349.59	56.89	406.48	575.58
RGTPP-1	1,895.09	445.80	121.54	567.34	1,327.75
RGTPP-2	1,895.09	400.41	121.54	521.95	1,373.14
Hydel	175.70	86.66	8.10	94.75	80.95
Total	9,289.86	3,927.10	633.54	4,560.63	4,729.24

As per the directives of the Commission in Order dated 31.03.2016, HPGCL is proposing for adjustment of the differential depreciation true up claim against the AAD of the respective unit. A comparative position of the depreciation allowed by the Commission, the actual depreciation as per audited accounts for F.Y. 2015-16, adjustment of the differential depreciation and true up required is as under:-

Plant	Allowed by the Commission for the FY 2015-16	Provided for in the books of accounts	Difference	AAD to be adjusted	Depreciation on True-up
PTPS 1 to 4	31.95	138.85	(106.90)	63.08	43.82
PTPS 5	10.57	39.23	(28.66)	28.66	-
PTPS 6	2.51	1.39	1.12	-	(1.12)
PTPS 7	46.95	44.95	2.00	-	(2.00)
PTPS 8	46.38	44.65	1.73	-	(1.73)
DCRTPP	107.20	113.29	(6.09)	-	6.09
RGTPP	207.98	243.08	(35.10)	35.10	-
WYC	9.88	8.10	1.78	-	(1.78)
Total	463.42	633.54	(170.12)	126.84	43.28

The Commission in its Order dated 31.03.2016 had directed following action to claim undepreciated asset of PTPS Units 1-4:-

“The Commission has considered the above submissions of HPGCL and during the hearing held on 15th February, 2016, asked HPGCL to furnish details of loan outstanding against these units. HPGCL invited the attention to Form 5 of the petition, containing plant-wise loans, wherein it has been shown that Rs. 33.94 Crore loan is outstanding towards PTPS units 1-4. On examination of the same, it is observed that most of these loans are in the nature of shared loans, which are not attracting any annual repayment and can be divided amongst PTPS units 5-8. Further, Advance Against Depreciation (AAD) allowed to HPGCL during FY 2007-08 to 2010-11 needs to be adjusted plant-wise. Accordingly, AAD allowed in the earlier years for PTPS units 1-4 (Rs. 56.03 Crore), FTPS (Rs. 7.05 Crore) and WYC & Kakroi (Rs. 13.83 Crore), needs to be adjusted in the fixed assets, upon the closure of the plants. Since, FTPS is not having any depreciable fixed assets, AAD allowed in respect of the same, is also required to be adjusted against the fixed asset of PTPS 1-4. Normal depreciation allowed, in respect of PTPS units 1-4, for the FY 2015-16 is Rs. 31.95 Crore. After all these adjustment, the balance left out for fixed assets of PTPS units 1-4 shall be Rs. 46.08 Crore (Rs. 141.11 Crore – Rs. 56.03 Crore – Rs. 7.05 Crore – Rs. 31.95 Crore).

HPGCL should make sincere effort to dispose off the fixed assets of PTPS units 1-4 at the earliest, to avoid further deterioration of the same and get the maximum value for the same. The excess realized proceeds of Plant and Land, over the 10% value of Gross Fixed Asset should be adjusted against the left out amount of Rs. 46.08 Crore and no additional burden on account of closed units should be claimed in the generation tariff ultimately recovered from the electricity consumers of Haryana.”

The above table reveals that the differential unapproved depreciation for the FY 2015-16 after adjustment of the AAD for the respective unit remains only Rs. 43.28 cr. which pertains to the retired unit PTPS 1 to 4 only. The Commission vide its Order dated 31.03.2016 has advised that “The excess realized proceeds of Plant and Land, over the 10% value of Gross Fixed Asset should be adjusted against the left out amount of Rs. 46.08 Crore. (now Rs. 43.28 cr. only)”.

However, HPGCL submitted that the *ibid* Order of the Commission needs to be reviewed in view of the following:-

- (i) There may be time lag in the process of actual selling of the plant.
- (ii) Realisable sale value of the plant after adjusting the 10% scrap value may be or may not be sufficient for adjusting the differential unclaimed amount of the depreciation.
- (iii) Further as per directives of the Commission HPGCL also needs to sell its inventory at PTPS Units 1-4 amounting to Rs 75 Crore and loss thereof is also required to be set off against the sale proceeds of the plant.

In view of the above it is proposed that the differential true up claim of the depreciation, amounting to R. 43.28 Crore, be allowed with the true up of the FY 2015-16 only instead of deferring the same for adjusting against the realisable value of asset which is not certain as on date.

7.3 True-up of Interest Expenses

That as against the interest and finance charges on loan of Rs. 457.70 crore approved by the Commission for the FY 2015-16, the actual amount incurred, as per the audited accounts, was Rs. 500.38 crore. Accordingly, HPGCL has requested to true-up difference of actual and approved interest cost amounting to Rs. 42.68 Crore (500.38 – 457.70) in FY 2015-16, on account of the followings:-

(i) A new loan of Rs. 189.26 Crore has been availed by HPGCL during the FY 2015-16 for discharging the outstanding capex liabilities of the EPC contractor and to fund the additional capex requirement in respect of RGTPS.

(ii) HPGCL has swapped the higher cost PFC loan of Rs 1085.84 Crores during the FY 2015-16, pertaining to DCRTPS with cheaper Indian Overseas Bank loan with the approval of the State Govt. The rate of interest of IOB loan is@ 10.05% p.a. as compared to PFC interest rate of 12.50% p.a. This would entail recurring saving of annual interest and finance charges which is Rs 13.44 Crore in FY 2015-16 and about Rs. 22.91 Crore in FY 2016-17. However for the same HPGCL had to shell out pre-payment charges to PFC, government guarantee fees to Government of Haryana and upfront fees to IoB amounting to Rs 47.57 (24.76+21.72+1.09) Crore which will be completely offset with the savings of subsequent years including F.Y. 2015-16. In the overall scenario by offsetting all the prepayment charges and guarantee fee etc. there will be a net saving of Rs. 40.06 Crore over the repayment schedule of the existing loan.

(iii) HPGCL has swapped the higher cost PFC loan of Rs 947.73Crores during FY 2015-16, pertaining to RGTPS with cheaper State Bank of India loan with the approval of the State Govt in FY 2015-16. The rate of interest of State Bank of India loan is@ 9.60% p.a. as compared to PFC interest rate of 11.45% p.a. This would entail recurring saving of annual interest and finance charges which is Rs 2.44 Crore in FY 2015-16 and about Rs. 16.46 Crore in FY 2016-17. However for the same HPGCL had to shell out pre-payment charges to PFC, amounting to Rs 26.91 Crore which will be completely offset with the savings of subsequent years including F.Y. 2015-16. In the overall scenario by offsetting all the prepayment charges and guarantee fee etc. there will be a net saving of Rs. 70.88 Crore over the repayment schedule of the existing loan.

(iv) As per the regulation 21.1 (v) of HERC MYT Regulation, 2012, the cost associated with the refinancing shall be borne by the beneficiaries and the net savings after deducting the cost of refinancing, shall be subject to incentive and penalty framework as mentioned in the regulation 12 which shall be dealt with at the time of midyear performance review or true-up.

7.4 True-up of Return on Equity

HPGCL has submitted that the Commission had approved RoE of 10% Pre-tax amounting to Rs. 212.70 crore, for the FY 2015-16. Further, the Commission in its Order dated 31.03.2016, has approved ROE on equity of Rs. 2136.81 Crore. Therefore, Opening Equity for the FY 2015-16 becomes Rs. 2136.81 Crore. Hence, it has been prayed that the same amounting to Rs. 1.45 crore may also be considered for truing – up the RoE for the FY 2015-16. In the FY 2015-16, HPGCL received equity of Rs 14.34 Crore from Government of Haryana. Out of which, Rs. 9.65 Crores was received for power plants regulated by the Commission. Rs 2.09 Crore of equity was received for replacing of PVC fill packs of PTPS Unit-7 (Cooling Tower) in FY 2015-16. The scheme has already been submitted to the Commission for approval of its Capital Investment Plan for second control period submitted on 01.08.2016 in Case No. HERC/PRO 23 of 2016. Remaining equity of Rs 7.56 Crore was received for raising of ash dyke for RGTPP plant. The scheme has already been approved by Hon'ble Commission in its Order for case no. HERC/PRO 30 of 2015 dated 31.03.2016. Hence, it has been prayed that additional RoE for the FY 2015-16 amounting to Rs. 1.45 crore may also be considered for truing – up.

7.5 True-up of Interest on Working Capital

HPGCL has re-calculated the Interest on Working Capital at Rs. 219.55 Crore for the FY 2015-16 against the earlier approved amount of Rs. 239.88 Crore, taking into consideration of the following:-

i) While computing the truing-up of working capital for FY 2015-16, actual rate of coal and oil prevailing in the FY 2015-16 has been considered. The same price thus arrived at has been used in calculation of receivables. The Commission in its

Order dated 27.03.2015 regarding generation tariff for FY 2015-16 had projected average coal and oil prices at prevailing market prices i.e. up to September 2014. However, there has been variation in prices of coal and oil during the FY 2015-16.

ii) O&M Expenses have also been kept at the level approved by the Commission for FY 2015-16 in its Order dated 27.03.2015 regarding generation tariff for FY 2015-16. The True-up sought for O&M Expense for FY 2015-16 has also been added to approved O&M Expense.

iii) Further in its Order dated 27.03.2015 for determination of Generation Tariff for F.Y. 2015-16, the Commission based on the submissions of HPGCL has approved the relax norms of maintenance spares for RGTPP and DCRTTP @ 15% of the allowed O&M Expense limited for the control period i.e. 2014-15 to 2016-17. Accordingly the level of spares has been considered while computing the revise requirement of working capital for F.Y. 2015-16.

iv) Rate of Interest on Working Capital has been calculated by adding spread of 1.25% over SBI Base rate applicable as on 01.04.2015 which was 10.0%. This is in line with approach adopted by the Commission in its Tariff Order dated 31.03.2016 regarding True-up for FY 2014-15 and Generation Tariff for FY 2016-17.

Thus, HPGCL has proposed for true-up of the interest on working capital amounting to Rs. (-) 20.33 crore (Rs. 239.88 Crore minus Rs. 219.55 Crore) for the FY 2015-16.

7.6 True-up of recovery of cost of Oil

In FY 2015-16, HPGCL had incurred oil expense amounting to Rs. 32.73 Crore, which was considerably lower than the approved amount of Rs. 98.61 Crore. The prime reason for low oil consumption is better operational performance of HPGCL despite frequent start-stop operation on instructions of Discoms/SLDC. As per Regulation 12.2 (b) of HERC MYT Regulations, 2012, SFC is subjected to incentive penalty

framework. Hence HPGCL proposed to retain 50% of saving i.e Rs 32.94 Crore as an incentive and pass-through remaining Rs 32.94 Crore to Discom.

7.7 True-up of recovery of Fixed Cost

In addition to the true-up of various expenses as mentioned above, HPGCL has further prayed for true-up of fixed cost of Rs. 81.86 Crore, comprising of the following:-

i) Incentive (Rs. 72.35 Crore):

HPGCL submitted that in its Order dated 29.06.2016, on review petition filed against generation tariff order for FY 2016-17, the Commission had observed as under:-

a) HPGCL needs to recover fixed charges as per Regulation 30 (a) of HERC MYT Regulations, 2012 and cannot recover fixed cost over and above that approved by Commission.

b) The Regulation 12, does list the plant availability factor as one of the element of ARR of a generating company on which incentive/penalty clause would apply but the manner in which the payable incentive would be worked out is not specified in the Regulations.

HPGCL submitted that since the mechanism of payment of incentive is not clarified in HERC MYT Regulations, 2012, it is proposing following methodology for claiming incentive as per the Regulation 12:-

$$\text{Incentive (Rs. Crore)} = 0.5 \times \text{Approved Fixed Cost (Rs. Crore)} \times \left(\frac{\text{Annual Deemed PLF}}{\text{Normative PLF}} - 1 \right)$$

In view of the above proposed formulae, HPGCL claimed incentive amounting to Rs. 72.35 Crore, due to higher deemed PLF over and above the approved norms for PLF, as detailed below:-

Plant	Net Sent Out (MU)	Backing Down(MU)	Deemed PLF(%)	Normative PLF (%)	Approved Fixed Cost (Rs Crore)	Incentive (Rs Crore)
PTPS 1-4	2.69	587.06	15.00%	15.00%	169.62	0
PTPS 5	146.85	1441.59	87.00%	60.00%	78.05	17.56
PTPS 6	138.22	1318.2	79.79%	60.00%	91.56	15.10
PTPS 7	479.43	1240.7	80.36%	85.00%	152.96	0
PTPS 8	746.54	1301.07	96.40%	85.00%	152.39	10.22
DCRTPP	3709.28	1012.39	96.13%	85.00%	450.09	29.46
RGTPP	4392.27	4017.18	82.44%	85.00%	820.13	0
Total	9615.27	10918.18				72.35

ii) Under recovery of fixed cost of RGTPS (Rs. 3.16 Crore):

HPGCL has submitted that RGTPS Unit-I had suffered loss of generation due to the following force majeure condition beyond control of HPGCL.

“As on 01.07.2015 Unit-II was under complete shutdown on no demand and Unit-I RGTPP was running at a load of 382 MW instead of full load due to backing down of 250 MW. A message was received from SLDC at 14:40 hrs to box up Unit-1 also immediately on no demand. In the process of cutting down the fuel to the furnace, unburnt fuel accumulated which re-ignited suddenly causing blast in the furnace and tripping of the unit. Though the unit tripped on furnace pressure very high protection, but the intensity of the furnace pressure was too severe that it caused damage to the wind box (RHS), Secondary air duct (RHS), Flue gas duct between economiser to Air Pre-heater and vertical Buck stays. Fortunately no human casualty took place. The work of rectification was completed on 23.08.2015 and the unit successfully synchronized with the grid on 24.08.2015. Due to the unit being unavailable for 55 days, deemed PLF of RGTPP went below the normative level as determined for it by the Commission”.

HPGCL has further submitted that if the plant had not been under shut down due to force majeure reason, HPGCL would have achieved normative PLF for RGTPS plant in FY 2015-16. Therefore under-recovery of fixed cost on that account

should be condoned and the same should be allowed as pass through. There has been under-recovery of fixed cost of RGTPS amounting to Rs 3.16 Crore in FY 2015-16 and the same should be Trued-up.

iii) The energy charges (Rs. 6.35 Crores) credited to the Discoms:

HPGCL has submitted that in the FY 2015-16, PTPS Units 1-8 were boxed-up altogether for many months continuously. The auxiliary energy consumption of units for such months had to be compensated to the Discoms at the rate of energy charge of the units determined by the Commission for FY 2015-16 vide its Order 27.03.2015, as detailed below:

Plant	PTPS Units 1-4	PTPS Unit 5	PTPS Unit 6	PTPS Unit 7	PTPS Unit 8	Total
Auxiliary Consumption when Boxed-up (MU)	4.34	4.64	3.43	2.21	1.53	16.15
Variable Cost (Rs/kWh)	4.65	3.71	3.71	3.57	3.57	-
Variable Cost Refunded (Rs Crore)	2.02	1.72	1.27	0.79	0.54	6.35

7.8 Total True-up for the FY 2015-16

A summary of the True-up claims as proposed by the HPGCL is presented in the table below:-

(Rs. Crore)

O&M Expenses	Depreciation Cost	Oil Expenses	Interest Cost	Interest Cost on Working Capital	ROE	Fixed Cost	Total
135.91	43.28	(32.94)	42.68	(20.33)	1.45	81.86	251.91

In addition to the above claim, the Petitioner has prayed that the Commission may also allow carrying cost on the trued-up amount for six months for the year in which the same accrued and for twelve months of the current year. Additionally, it has been prayed that the carrying cost may further be allowed if recovery of the True-up amount is delayed beyond 1st April, 2017.

8 REVIEW OF CAPITAL EXPENDITURE PLAN

8.1 HPGCL has submitted that the Commission, vide its Order dated 31.03.2016 had approved Rs. 182.29 crore towards Capital Expenditure for the control period from the FY 2014-15 to the FY 2016-17. However, due to variation in the actual capex incurred in the FY 2015-16 and inclusion of FY 2017-18 in the first control period, the total capital expenditure on the approved plans, during FY 2015-16 to FY 2017-18, is likely to remain at Rs. 172.75 crore, as detailed below:-

Year	2015-16	2016-17	2017-18	TOTAL
Increase in the height of Ash Dyke of DCRTTP	-	32.00	32.00	64.00
Increase in the height of Ash Dyke of RGTPP	23.33	2.00	-	25.33
Capital Overhauling at WYC	4.34	11.00	14.00	29.34
Increase of Ash Dyke height at PTPS	-	-	-	-
ERP System and allied works	-	15.00	20.00	35.00
Additional Capital Expenditure at RGTPP – Setting up Zero Discharge System	17.58	1.50	-	19.08
Total: Rs. Crore	45.25	61.50	66.00	172.75

8.2 Additional Capitalization submitted in CIP Petitioner no. HERC/PRO-23 of 2016:

HPGCL had submitted additional capitalization for FY 2015-16 and FY 2016-17 along-with Capital Investment Plan for second control period vide petition no. 23 of 2016 on 01.08.2016, in compliance of the Commission's Order dated 31.03.2016.

8.3 Schemes being submitted in this petition:

i) Raw Water Intake Channel for RGTPP, Hisar:

HPGCL submitted that as per Clause 18.5.2 (c) of HERC MYT Regulations, 2012 it can submit additional capitalization on account of compliance of the order or decree of a court even after cut-off date.

In this regard, HPGCL submitted that it had to pay Rs 14.96 Crore for raw water intake channel as per Order of Additional District Judge Hisar on 15.11.2015, as detailed below:-

a) For the construction of raw water intake channel of RGTPP Khedar, a deposit work was entrusted to Haryana Irrigation Department vide Chief Engineer

Projects Memo no. Ch-18/CE/Projects(C)-9/RGTPP/Raw water Intake Dated 08.01.08 amounting to Rs 66.65 Crores includes 5% departmental charges and cost of land.

- b) The water channel has been constructed parallel to Bhadawar Distributary taking off from Sirsana head at RD 74900 R Barwala branch of Bhakra system, this water channel is a closed channel, the major portion of channel falls in the land of irrigation. However channel connecting behind the national highway upto thermal plant boundary wall is in private land for which land has been acquired by the irrigation department for construction of channel.
- c) A Letter No. 1628-29 dated 01.04.2016 was received on 02.04.2016 from Executive Engineer, Adampur Water Service Division, Hisar (Irrigation Department) for subject cited matter. The matter relates to 12.87 Acres land acquired by Irrigation department for Construction of Feeder Channel 75 Cusecs for HPGCL as deposit work during 2008.
- d) The Collector Officer had assessed market value of all kind of land @ Rs. 8 Lacs, 10 Lacs and 17 Lacs + statutory benefits as envisaged under Section-23(1), 23(1-A) & 28 of Land Acquisition Act. Accordingly, District Revenue Officer – Cum – Land Acquisition announced the award no. 20/H dated 17.11.2008.
- e) 20 Nos. land owners filed petition in the court of Additional District Judge Hisar on 22.05.2012 and after hearing, the Hon'ble court announced the decision on 15.11.2015 and assessed the market value of the land @ Rs. 1095 per Sq. Yard i.e. Rs. 52,98,667/- per acres on the ground that the amount of compensation declared by LAC was not proper in Award No. 20/H along with statutory benefits as envisage under Section-23(1), 23(1-A) and 23(2) of the Land Acquisition Act 1894 plus counsel fee Rs. 2100/- in each petition.
- f) In order to honour the Order of Hon'ble Court, HPGCL has paid the claim of Irrigation Department of Govt. of Haryana, amounting to Rs. 14.96 Core.

Accordingly HPGCL has prayed that the Commission may approve the additional capitalization on account of court order. The capex for the same has incurred in FY 2016-17, as such has been taken into consideration in the review of F.Y. 2016-17.

ii) Mobile Coal Sampling System

Coal is being received at RGTPP in coal wagons. Before unloading coal wagons, samples are collected manually for purpose of analysis of coal at unloading end which does not give accurate results. To study the system at other power plants a committee of HPGCL officials visited Koradi TPS, MSPGCL and Gandhinagar TPS, GSECL where automatic auger sampling process is used to collect coal sample. The purchase will be made at cost of Rs 0.66 Crore in FY 2016-17 and would be capitalized in the same year.

The Capex has been claimed as per Clause 18.5.2 (e) of HERC MYT Regulations, 2012 to enhance efficiency of the plant and has not been submitted earlier in HPGCL Petition dated 01.08.2016.

8.4 The summary of scheme-wise capital expenditure approved earlier, submitted in capital investment plan vide petition no. 23 of 2016 on 01.08.2016 and being submitted in this petition, has been detailed below:-

S. No	Activity Planned to be carried out	Estimated Cost (Rs. Crore)	2015-16	2016-17	2017-18	2018-19	2019-20
(A) Schemes already approved vide Order dated 31.03.2016							
1	Increase in the height of Ash Dyke of RGTPP	25.33	23.33	2.00	-	-	-
2	Additional Capital Expenditure at RGTPP – Setting up Zero Discharge system	19.08	17.58	1.50	-	-	-
3	Increase in the height of Ash Dyke of DCRTTP	64.00	-	32.00	32.00	-	-
4	Capital Overhauling at WYC	40.34	4.34	11.00	14.00	11.00	-
5	ERP System and allied works	35.00	-	15.00	20.00	-	-
	Sub-Total (A)	183.75	45.25	61.50	66.00	11.00	-
(B) Schemes submitted in capital investment plan vide petition no. 23 of 2016 dated 01.08.2016							
6	Procurement of one no. heat exchanger for Boiler Circulation Pump for RGTPP, Hisar	2.00	-	2.00	-	-	-
7	Balance Payment to R-Infra against EPC contract for RGTPP, Hisar	56.31	40.88	9.43	6.00	-	-
8	Procurement of one set of PA fan blades for RGTPP Hisar	1.40	-	-	1.40	-	-
9	Procurement of 2 No. Air Driers for Transport Compressors for RGTPP Hisar	1.50	-	-	0.75	0.75	-
10	Trunion Bearing Housing and adopter sleeves support and guide side of APH for RGTPP Hisar	2.00	-	-	2.00	-	-
11	Up-gradation of C&I system for RGTPP Hisar	3.00	-	-	-	1.50	1.50
12	Providing of CO monitoring Probes at APH inlet and additional oxygen probes at APH inlet and outlet of Unit-I& II for RGTPP Hisar	1.25	-	-	1.25	-	-
13	Monitoring of flue gas temperature across furnace for RGTPP Hisar	0.40	-	-	0.20	0.20	-
14	Arrangement of Dust Suppression system at ash dyke for RGTPP Hisar	4.50	-	0.20	1.00	2.00	1.30
15	Construction of 2 no. Barracks for CISF for RGTPP Hisar	1.28	-	-	1.28	-	-
16	Installation of CCTV surveillance System in RGTPP Hisar	2.00	-	-	1.44	0.36	0.20
17	Construction of DAV school in power plant colony for RGTPP Hisar	6.87	-	0.20	3.00	3.67	-
18	Up-gradation of PTPS Centum-VPHMI by Yokogawa India	2.65	2.65	-	-	-	-
19	Continuous Monitoring Emission System (CEMS) and Effluent Quality Monitoring System (EQMS) for Units 5- 8, PTPS	1.01	1.01	-	-	-	-
20	Installation of 100MT Weigh Bridge at PTPS	0.19	0.19	-	-	-	-
21	Extra Work carried out in PTPS Unit-7&8 Ash Handling & DM Plant	11.67	11.67	-	-	-	-
22	Replacement of PTPS Unit-7's PA Fan Blade	1.35	1.35	-	-	-	-
23	Rectification / repair work of ESP of PTPS, Unit # 7-8, Panipat	10.30	5.30	5.00	-	-	-
24	Installation of On-Line Monitoring System in Unit# 7&8 PTPS	1.53	0.76	0.77	-	-	-
25	Revival of Fire Fighting System of Unit-6,PTPS,Panipat	0.60	-	0.60	-	-	-
26	Change of LP Piping in Unit-5 PTPS Panipat	0.75	-	0.75	-	-	-
27	RLA Study of Unit-5 PTPS	1.50	-	1.50	-	-	-
28	Replacement of PTPS Unit-6 AD Line in Ash Handling & repair D2 of ESP Field	2.20	-	2.20	-	-	-
29	Replacement of damaged floorand Construction of Roads in PTPS Colony, Panipat as per new norms of Government of Haryana	1.55	-	1.55	-	-	-
30	Installation of CCTV in PTPS, Panipat	0.30	-	0.30	-	-	-
31	Replacement of CTs and CVTs in 220 KV Unit#5&6 PTPS	1.70	-	-	1.70	-	-
32	Up-gradation of DCS System in	16.81	-	5.00	11.81	-	-
33	Purchase of Fire Tenders for PTPS	0.80	-	0.40	0.40	-	-
34	Up-gradation of PTPS Unit-6 HMI System of pro-control supplied by M/s BHEL	1.50	-	-	1.50	-	-
35	Up-gradation of PTPS Unit-7&8 PLC system of DM Plant& Ash Handling System	0.45	-	-	-	0.45	-
36	Energy Management System PTPS Unit- 7-8	0.70	-	-	0.70	-	-
37	Replacement of PTPS and Spray pipelines	3.00	-	-	3.00	-	-
38	Replacement of PVC Tower	16.55	8.05	5.00	3.50	-	-
39	Online Energy Management System (EMS) for DCRTTP	0.40	-	0.40	-	-	-
40	Up gradation of existing DCS system for DCRTTP 1 & 2	4.25	-	4.25	-	-	-
41	Installation of CCTV Camera System in DCRTTP Plant area	0.60	-	0.60	-	-	-
42	Revival of 20 no ESP fields and repairing of balance 36 no. ESP fields of Unit-1& 2 DCRTTP Yamunanagar	45.00	-	12.50	22.50	10.00	-
43	Providing of 2 No. VFD on Unit-1 DCRTTP ,6.6KV Motor of CEP	2.30	-	-	2.30	-	-
44	Purchase of LP Turbine Blades of DCRTTP Unit 1&2	8.45	-	8.45	-	-	-
45	Township for DCRTTP, Yamunanagar	19.00	15.50	1.75	1.75	-	-
46	Civil Works for WYC Hydrel Project	7.50	-	2.30	2.90	2.30	-
	Sub-Total (B)	247.12	87.36	65.15	70.38	21.23	3.00
(C) Schemes being submitted in this Petition							
47	Raw Water Intake Channel	14.96	-	14.96	-	-	-
48	Mobile Coal Sampling System	0.66	-	0.66	-	-	-
	Sub-Total (C)	15.62	-	15.62	-	-	-
	Grand-Total (A+B+C)	446.49	132.61	142.27	136.38	32.23	3.00

9 HPGCL's Proposed Technical Parameters

9.1 HPGCL has submitted that they have carried out mid-year performance review for the FY 2016-17 and generation tariff for the FY 2017-18 in line with regulation 11 of the HERC MYT Regulations, 2012. Accordingly, the Petitioner has proposed the trajectory for the FY 2016-17 and the FY 2017-18 based on actual performance in the FY 2015-16 and first six months of FY 2016-17 including rationale for deviations from the Regulations and / or previous tariff Orders of the Commission.

9.2 Plant Load Factor (PLF)

The Petitioner has proposed the PLF of its various power plants for the FY 2016-17 to FY 2017-18 as under:-

PLF (%)	HERC Approved		HPGCL Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS 5-6	35	NA	35	35
PTPS –7-8	85	NA	85	85
DCRTPS-1-2	85	NA	85	85
RGTPS-1-2	85	NA	85	85
WYC and Karkoi	37	NA	37	37

The Petitioner has submitted that they are able to achieve the normative PLF if the generating stations are not backed down on the instructions of the Discoms or SLDC and due to some force majeure conditions in the case of RGTPS Unit-1 in the months of July and August, 2015. The Petitioner has submitted that the PLF for WYC has been proposed keeping in view the planned renovation of the machines and their available installed capacity. The Commission in its last Order has suo-motu reduced normative PLF of PTPS (Units 5-6) from 85% to 35%.

9.3 Auxiliary Energy Consumption

HPGCL has reiterated that due to high backing down, frequent start-stop conditions, poor quality of coal and ageing of PTPS Units 5-6, auxiliary energy consumption increases. This was agreed to by the Commission while passing the Order dated 27.03.2015. However, the Commission in the said Order considered relaxation in auxiliary energy consumption for PTPS (units 1-6) only based on their ageing. The

Commission also extended the relaxation for FY 2016-17 in its Order dated 31.03.2016 in Case no. HERC/PRO 30 of 2015. The Petitioner has prayed that the same relaxation should also be extended in the FY 2017-18. Further, normative auxiliary energy consumption of PTPS Units 7 & 8 may also be relaxed to 9%.

Further, the DCRTPS Units are equipped with Motor Driven Boiler Feed Pumps (MDBFP) which consumes higher auxiliary energy as compared to Turbine Driven Boiler Feed Pumps (TDBFP), which are installed in RGTPS Khedar. This technology difference also contributes to slightly higher auxiliary energy consumption in DCRTPS. Due to high auxiliary consumption of the DCRTPP, the same has also been proposed at 9% as compared to normative auxiliary consumption of 8.5%.

The auxiliary energy consumption approved by the Commission and proposed by HPGCL for the FY 2016-17 and the FY 2017-18 are as under:-

Auxiliary Energy Consumption (%)	HERC Approved		HPGCL Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS 5-6	10	NA	10	10
PTPS -7-8	8.5	NA	9.0	9.0
DCRTPS-1-2	8.5	NA	9.0	9.0
RGTPS-1-2	6.0	NA	6.0	6.0
WYC and Karkoi	1.0	NA	1.0	1.0

9.4 Secondary Fuel Oil Consumption (SFC)

The Petitioner has submitted that there is no specific provision/ criteria given in the HERC MYT Regulation, 2012 to govern the abnormal running i.e. massive backing down and frequent start and stop operation of the generating plant on the instructions of the beneficiaries. HPGCL has submitted Removal of Difficulty Petition (Petition no. HERC/PRO 29 of 2016) for amendment in Haryana Grid Code (HGC), 2009 regarding incorporating amendments in CERC IEGC regulations notified on 06.04.2016. As per the amendment a generator is to be compensated in its SFC for start and stop operation on instruction of beneficiaries. In the present petition, HPGCL has proposed SFC as per the norms. However, the Petitioner has requested to consider the petition and allow relaxation in case of high backing down on instruction of Discoms.

The SFC approved by the Commission and that proposed by HPGCL is as under:-

Secondary Fuel Oil Consumption (ml/kWh)	HERC Approved		HPGCL Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS 5-6	1.0	NA	1.0	1.0
PTPS –7-8	1.0	NA	1.0	1.0
DCRTPS-1-2	1.0	NA	1.0	1.0
RGTPS-1-2	1.0	NA	1.0	1.0

9.5 Station Heat Rate (SHR)

The Petitioner has submitted that PLF and the GCV are the two factors which directly affect the SHR of the power plant. HPGCL has filed removal of difficulty Petition (Petition no. HERC/PRO 29 of 2016) for amendment in Haryana Grid Code (HGC), 2009 regarding incorporating amendments in CERC IEGC regulations notified on 06.04.2016. As per the amendment a generator is to be compensated in its SHR for low PLF resulting from backing down instruction of beneficiaries. In the present petition, HPGCL has proposed SHR as per the norms. However, the Petitioner has prayed that the Commission may consider ibid petition and allow relaxation in case of high backing down on instruction of the Discoms.

The SHR approved by the Commission and that proposed by HPGCL is as under:-

SHR (kCal/kWh)	HERC Approved		HPGCL Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS 5-6	2550	NA	2550	2550
PTPS –7-8	2500	NA	2500	2500
DCRTPS-1-2	2344	NA	2344	2344
RGTPS-1-2	2387	NA	2387	2387

9.6 Calorific Value and Price of Coal

HPGCL has proposed GCV and weighted average cost of Coal and Secondary Fuel (Oil) for the FY 2016-17 and the FY 2017-18 as per the actual weighted value of coal/Oil for PTPS, DCRTPS and RGTPS during 2015-16, as under:-

Particulars	PTPS	DCRTPS	RGTPS
Gross Calorific Value of Coal (kcal/Kg)	3724.33	3630.00	3544.00
Gross Calorific Value of Oil(kcal/Kg)	10107	10091	10303

Coal Cost (Rs/MT)	PTPS	DCRTPS	RGTPS
2016-17	4866.34	4510.66	5018.24
2017-18	4866.34	4510.66	5018.24

Oil Cost (Rs/KL)	PTPS	DCRTPS	RGTPS
2016-17	38880.01	42800.40	42120.80
2017-18	38880.01	42800.40	42120.80

9.7 Fuel / Variable Cost for the Control Period

In view of the above, the Petitioner has propose fuel cost in the FY 2016-17 and the FY 2017-18 as under:-

Fuel Cost	2016-17		2017-18	
	Generation (Ex-bus)	Per Unit Fuel Cost	Generation (Ex-bus)	Per Unit Fuel Cost
	in MU	Rs/ Unit	in MU	Rs/ Unit
PTPS - 5	579	3.69	579	3.69
PTPS - 6	579	3.69	579	3.69
PTPS - 7	1694	3.58	1694	3.58
PTPS - 8	1694	3.58	1694	3.58
DCRTPS-1	2033	3.19	2033	3.19
DCRTPS-2	2033	3.19	2033	3.19
RGTPS-1	4200	3.58	4200	3.58
RGTPS-2	4200	3.58	4200	3.58
Hydel				
Total	17011	3.49	17011	3.49

9.8 Annual Fixed Cost

The Petitioner has submitted that the annual fixed cost for the FY 2016-17 has been determined by the Commission vide its Order dated 31.03.2016. However, in view of the audited accounts of the FY 2015-16, addition in equity component, revision in capex and refinancing arrangement made by HPGCL by swapping high cost loans with the cheaper loans, HPGCL has submitted that the components of fixed cost allowed by the Commission needs to be revised.

It has further been submitted that, the Commission had extended the first control period up to the FY 2017-18. Accordingly, HPGCL proposed the fixed cost for the FY 2017-18, as under:-

9.9 Operation and Maintenance Expenses (O&M)

9.10 That the Commission, vide its Order dated 27.03.2015, had considered the FY 2013-14 as the base year for determining O&M expense for RGTPS, DCRTPS and WYC Hydel and retained the annual escalation of 4%. In the present petition, HPGCL has proposed the O&M expense of these units for the FY 2016-17 accordingly. O&M Expenses of PTPS Units 5-8 have been projected for FY 2016-17 keeping FY 2011-12 as base as per the Commission's Order dated 31.03.2016.

9.11 Further as per the amendment in HERC MYT Regulations, 2012, O&M Expense of FY 2017-18 have been projected by escalating actual O&M Expense of FY 2015-16 as per audited accounts.

9.12 Due to retirement of PTPS Units 1-4 in the FY 2015-16, their R&M and A&G expenses have not been considered for FY 2016-17 and FY 2017-18. However as per previous Orders, the Commission had held that it is not in favour of retrenchment of existing employees. Hence their employee cost have been apportioned in other plants as per HERC Order dated 31.03.2016 regarding generation tariff for FY 2016-17. For projecting employee cost of PTPS Units 1-4 for FY 2017-18, HPGCL has considered actual employee cost as incurred in FY 2015-16 and apportioned it among various units in the ratio of actual employee cost of each unit as incurred in FY 2015-16. The apportionment is then escalated @4% to arrive it the component of PTPS Units 1-4 in FY 2017-18. It has been further submitted that HPGCL has not included terminal liability at this stage and the same needs to be allowed at time of true-up of respective year as has been practice from the FY 2012-13 to the FY 2014-15.

9.13 That the Commission, vide its order dated 31.03.2016, had allowed only 50% of normative R&M Expense incurred for PTPS Units 5-6 for the FY 2016-17 owing to their low PLF. However HPGCL submitted that R&M expenditure are not directly proportionate to PLF of the plant and paring it down by 50% would lead to significant under-recovery of cost. Further, recovering the shortfall in R&M Expense at the time of true-up would lead to accumulation of carrying cost and hence the same should be allowed as part of Mid-Year Performance Review.

9.14 That, if the Commission increases petition filing fees as proposed in the draft amendment to Haryana Electricity Regulatory Commission (Fee) Regulations, 2005 to Rs. 2.75 Crores from present Rs 1.00 Crore, the additional Rs 1.75 Crore should also be allowed as additional A&G Expenditure.

9.15 The Petitioner has further submitted that in the FY 2016-17 there will be additional financial implications in the employees cost on account of recommendations of 7th pay Commission. However, in the present petition, no impact thereof has been projected for which, HPGCL will approach to the Commission at the time of true up of the respective year.

9.16 HPGCL has provided the following detailed break-up of O&M expenses expected in the FY 2016-17, on the basis of above submission:-

(Rs. Crore)

Plant	Allowed O&M Expense	PTPS 1-4 Employee cost	Total Approved O&M Expense	Estimated O&M Expense for FY 2016-17	Total O&M Expense FY 2016-17
	a	b	C= a + b	d	E = d+b
PTPS – 5-6	68.50	47.00	115.50	95.68	142.68
PTPS –7-8	84.45	45.29	129.74	84.45	129.74
DCRTPP-1-2	88.76	19.54	108.30	88.76	108.30
RGTPP-1-2	100.25	19.72	119.97	100.25	119.97
WYC Hydel	27.58	7.39	34.97	27.58	34.97
Total	369.54	138.94	508.38	396.72	535.66

9.17 HPGCL provided the following detailed break-up of O&M expenses for the FY 2017-18, on the basis of above submission:-

(Rs. Crore)

Plant	Actual O&M Expense FY 2015-16	Projected O&M Expenses FY 2017-18	PTPS 1-4 Employee cost FY 2015-16	PTPS 1-4 Employee cost FY 2017-18	Total O&M Expense FY 2017-18
PTPS – 5-6	103.31	111.74	33.19	35.90	147.64
PTPS –7-8	112.51	121.69	30.05	32.50	154.19
DCRTPP-1-2	104.58	113.11	33.16	35.86	148.97
RGTPP-1-2	130.44	141.08	40.23	43.52	184.60
WYC Hydel	21.33	23.07	11.19	12.11	35.18
Total	472.17	510.69	147.82	159.89	670.58

9.18 Considering the above submissions, HPGCL has submitted the proposed and Projected O&M Expenses for the FY 2016-17 and 2017-18, as under:-

O&M Expense (Rs. Crore)	Approved		Proposed	
	FY 16-17	FY 17-18	FY 16-17	FY 17-18
PTPS – 5-6	115.50	N.A	142.68	147.64
PTPS –7-8	129.74	N.A	129.74	154.19
DCRTPP-1-2	108.30	N.A	108.30	148.97
RGTPP-1-2	119.97	N.A	119.97	184.60
WYC Hydel	34.97	N.A	34.97	35.18
Total	508.48	N.A	535.66	670.58

9.19 Depreciation

HPGCL, for its various power plants, has proposed revised depreciation for the FY 2016-17 and projected depreciation for the FY 2017-18, based on Capital Investment Plant submitted on 01.08.2016 and changes in the approved capitalization. The details of Gross Fixed Assets for FY 2016-17 and FY 2017-18 has been submitted as under:

(Rs. in Crore)

FY 2016-17	Opening GFA	Additions	Deletions	Closing GFA
PTPS - 5	295.71	2.81	-	298.52
PTPS - 6	1,009.69	3.36	-	1,013.05
PTPS - 7	961.51	0.56	-	962.07
PTPS - 8	952.21	6.33	-	958.54
DCRTPP-1	1,135.06	7.73	-	1,142.79
DCRTPP-2	1,135.11	7.73	-	1,142.83
RGTPP-1	2,171.02	35.73	-	2,206.75
RGTPP-2	2,171.02	35.73	-	2,206.75
WYC Hydel	202.87	2.30	-	205.17
Total	10,034.20	102.28	-	10,136.47

FY 2017-18	Opening GFA	Additions	Deletions	Closing GFA
PTPS - 5	298.52	1.15	-	299.67
PTPS - 6	1,013.05	2.96	-	1,016.02
PTPS - 7	962.07	12.52	-	974.59
PTPS - 8	958.54	22.80	-	981.34
DCRTPP-1	1,142.79	57.64	-	1,200.43
DCRTPP-2	1,142.83	54.86	-	1,197.69
RGTPP-1	2,206.75	8.66	-	2,215.41
RGTPP-2	2,206.75	8.66	-	2,215.41
WYC Hydel	205.17	33.73	-	238.90
Total	10,136.47	202.98	-	10,339.46

9.20 It has been submitted that PTPS Unit - 5 has outlived its useful life as defined in the MYT Regulation. It requires comprehensive Renovation and Modernisation (R&M) and accordingly the same has also been proposed in the Capex Plan. However, the Commission has held that it would be prudent to conduct Residual life Assessment of the unit and then proceed for comprehensive R&M if feasible. In view of the uncertainty it is proposed to claim the entire unclaimed depreciable value of the unit by FY 2017-18. Further if the phasing out of PTPS Unit 5 comes earlier than the unclaimed depreciation of these units is required to be allowed in the true up claim of the respective year.

9.21 In view of the above the depreciation proposed by HPGCL for the FY 2016-17 & 2017-18 is as under:-

(Rs. in crore)				
	HERC (Approved)		HPGCL (Proposed)	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS – 5-6	6.11	N.A	9.37	9.72
PTPS –7-8	91.45	N.A	91.91	54.01
DCRTPP-1-2	105.45	N.A	106.88	108.96
RGTPP-1-2	206.98	N.A	211.77	211.66
WYC Hydel	9.69	N.A	9.12	3.24
Total	419.69	N.A	429.05	387.60

9.22 Interest & Finance Charges

HPGCL has submitted that the capitalization proposed in the Capex plan submitted to the Commission on 01.08.2016 has been funded primarily by loans. Equity is to be received partly only for raising height of ash-dyke of PTPS and RGTPP. HPGCL has also apportioned loan of Rs32.29 Crore of PTPS Units 1-4 as standing on 31.03.2016 in PTPS Units 5-8 as per directive of the Commission in its Order dated 31.03.2016. Further, during the FY 2016-17, HPGCL has refinanced its, higher cost REC loan, amounting to Rs 200 Crore pertaining to RGTPS, from cheaper loan from Punjab National Bank (PNB). The rate of interest of PNB loan is@9.80% p.a. as compared to REC interest rate of 12.45% p.a. Further, HPGCL is also able to get the interest rates reduced from the original financier REC to 9.90% for the remaining amount of loan of Rs 742 Crore loan. The entire savings of reduced rate of interest on REC loan has also been considered for being passed on to the Discoms in the mid year performance review for the FY 2016-17. The savings due to refinancing shall be shared with Discoms at time

of midyear performance review or true-up for FY 2017-18 onwards as per Regulation 21 (v) and 12 of HERC MYT Regulations, 2012.

HPGCL has submitted that as per the regulation 21.1 (v) of HERC MYT Regulation, 2012 the cost associated with the refinancing shall be borne by the beneficiaries and the net savings after deducting the cost of refinancing shall be subject to incentive and penalty framework as mentioned in the regulation 12 which shall be dealt with at the time of midyear performance review or true-up. Accordingly, HPGCL shall be able to completely offset the refinancing cost incurred in the FY 2015-16 with the saving in interest cost in the FY 2017-18. Further, savings in the interest costs i.e. the interest charges required to be paid before refinancing minus the interest charges actually paid during the respective financial year shall be shared with Discoms at time of midyear performance review or true-up for F.Y. 2017-18 onwards as per Regulation 21 (v) and 12 of HERC MYT Regulations, 2012.

9.23 Interest and finance charges as proposed by HPGCL for the FY 2016-17 & the FY 2017-18 is as under:-

	(Rs. Crore)			
	Approved		Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS – 5-6	8.56	N.A	8.28	6.33
PTPS –7-8	36.42	N.A	18.14	8.55
DCRTPP-1-2	95.14	N.A	91.94	87.02
RGTPP-1-2	258.64	N.A	226.76	190.99
WYC Hydel	2.56	N.A	0.89	2.52
Total	401.32	N.A	346.01	295.41

9.24 Return on Equity

The details of the equity capital in the FY 2016-17 and the FY 2017-18, without considering any addition in equity, as proposed by HPGCL is as under:-

	(Rs. Crore)			
	Opening	Additions	Closing	RoE @ 10%
PTPS - 5	5.62	-	5.62	0.56
PTPS - 6	151.27	-	151.27	15.13
PTPS - 7	216.28	-	216.28	21.63
PTPS - 8	214.18	-	214.18	21.42
DCRTPP-1	243.84	-	243.84	24.38

DCRTPP-2	243.84	-	243.84	24.38
RGTPP-1	487.57	-	487.57	48.76
RGTPP-2	487.57	-	487.57	48.76
WYC Hydel	14.69	-	14.69	1.47
Total	2064.86	-	2064.86	206.49

Accordingly, Return on Equity as proposed by HPGCL for the FY 2016-17 & FY 2017-18 is as under:-

(Rs. Crore)				
	Approved		Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS – 5-6	15.71	N.A	15.69	15.69
PTPS –7-8	42.86	N.A	43.05	43.05
DCRTPP-1-2	48.80	N.A	48.77	48.77
RGTPP-1-2	96.82	N.A	97.51	97.51
WYC Hydel	1.47	N.A	1.47	1.47
Total	205.65	N.A	206.49	206.49

9.25 Interest on Working Capital (IWC)

HPGCL has submitted that it has re-assessed the normative working capital requirement taking into consideration the actual weighted average rate of coal and oil for the FY 2015-16 for calculation of fuel cost for FY 2016-17 and FY 2017-18 without any escalation. Maintenance spares have also been considered as per the Commission's Orders dated 27.03.2015 & 31.03.2016 i.e. 15% of O&M Expenses for RGTPS and DCRTPS. HPGCL has also considered Interest rate on working capital at SBI Base rate with a margin of 1.25% as applicable on 01.04.2016 i.e. 10.55%.

HPGCL has provided the following details of the IWC in the FY 2016-17 and the FY 2017-18:-

FY 2016-17	Coal Stock	Oil Stock	O&M Expenses	Maint. Spares	Receivables	Total W/C Requirement	Int. on W/C
	2 Months	2 Months	1 Months	10/15/7.5 %	1Month		10.55%
PTPS – 5	35.61	0.42	6.01	7.22	25.69	74.95	7.91
PTPS – 6	35.61	0.42	5.88	7.05	26.32	75.28	7.94
PTPS – 7	100.94	1.21	5.49	6.58	64.52	178.74	18.86
PTPS – 8	100.94	1.21	5.32	6.39	64.33	178.19	18.80
DCRTPP-1	107.97	1.59	4.51	8.12	71.31	193.50	20.41
DCRTPP-2	107.97	1.59	4.51	8.12	71.31	193.50	20.41
RGTPP-1	250.58	3.14	5.00	9.00	157.93	425.65	44.91
RGTPP-2	250.58	3.14	5.00	9.00	157.93	425.65	44.91
WYC Hydel	-	-	2.91	2.62	3.95	9.48	1.00
Total	990.20	12.72	44.63	64.10	643.29	1,754.94	185.15

FY 2017-18	Coal Stock	Oil Stock	O&M Expenses	Maint. Spares	Receivables	Total W/C Requirement	Int. on W/C
	2 Months	2 Months	1 Months	10/15/7.5 %	1Month		10.55%
PTPS – 5	35.61	0.42	6.28	7.53	25.98	75.82	8.00
PTPS – 6	35.61	0.42	6.03	7.23	26.33	75.62	7.98
PTPS – 7	100.94	1.21	7.03	8.44	64.11	181.73	19.17
PTPS – 8	100.94	1.21	5.82	6.98	62.84	177.79	18.76
DCRTPP-1	107.97	1.59	6.21	11.17	72.95	199.89	21.09
DCRTPP-2	107.97	1.59	6.21	11.17	72.94	199.88	21.09
RGTPP-1	250.58	3.14	8.39	15.11	159.92	437.14	46.12
RGTPP-2	250.58	3.14	6.99	12.58	158.49	431.78	45.55
WYC Hydel	-	-	2.93	2.64	3.61	9.18	0.97
Total	990.20	12.72	55.89	82.85	647.17	1,788.83	188.72

On the basis of above submissions, approved and projected IWC for FY 2016-17 and FY 2017-18, has been proposed by HPGCL, as under:-

(Rs. Crore)

	Approved		Proposed	
	FY 2016-17	FY 2017-18	FY 2016-17	FY 2017-18
PTPS – 5-6	15.12	N.A	15.85	15.98
PTPS – 7-8	38.02	N.A	37.66	37.93
DCRTPP-1-2	40.13	N.A	40.83	42.18
RGTPP-1-2	85.10	N.A	89.81	91.67
WYC Hydel	1.12	N.A	1.00	0.97
Total	179.48	N.A	185.15	188.72

9.26 It has been submitted that the Commission, vide its Order dated 27.03.2015, had allowed recovery of all expenditure relating to petition filing fees including publication of notices etc. and any other statutory fees/ regulatory fees, taxes and levies and also SLDC charges from the beneficiaries as per actual for FY 2015-16 and prays for the similar allowance in the FY 2017-18 as well.

In accordance with the above submissions, HPGCL has proposed total fixed cost of Rs. 1778.60 Crore in the FY 2016-17 and Rs. 1825.04 Crore in the FY 2017-18.

9.27 HPGCL's Prayer

- a) Admit this Petition.
- b) Allow relaxed Technical Parameters for the FY 2017-18 based upon relaxation provided by the Commission in the Generation Tariff for FYs 2015-16 & 2016-17.
- c) Consider the impact of Terminal Liability for truing up O&M expenses of FY 2015-16.
- d) Consider blast in RGTPP Unit-1 on 01.07.2015 as force-majeure and allow R&M expenditure incurred on it in addition to normative value Similarly also condone unavailability of the plant resulting in low deemed PLF and allow recovery of full fixed cost
- e) Consider and allow True-up of depreciation cost owing to claiming full unclaimed depreciation of PTPS Units 1-4 in a single year and PTPS Unit-5 in 3 years.
- f) Consider and allow financing charges of Rs 74.48 Crore for re-financing of PFC loan pertaining to DCRTTP and RGTPP from IoB and SBI respectively. Also consider the saving from loan re-financing of the loan for sharing of gains from FY 2017-18 onwards as per Clause 12.2 (a) (vi) of HERC MYT Regulations, 2012.
- g) Consider and allow sharing of gains due to saving in secondary fuel consumption as per Clause 12.4 of HERC MYT Regulations, 2012.
- h) Consider and allow mechanism of claiming incentive on deemed PLF of various units for FY 2015-16 as per mechanism proposed by HPGCL

- i) Consider and allow recovery of energy charges credited to Discom for the months when the units were boxed-up on the instructions of the beneficiaries in F.Y. 2015-16.
- j) Approve True-up of FY 2015-16 at Rs 251.91 Crore with appropriate holding cost.
- k) Approve revised schedule of capital expenditure plan for FY 2015-16, FY 2016-17 and FY 2017-18.
- l) Consider and provide suitably for relaxation/ compensation for deterioration in the technical factor viz auxiliary consumption, SHR and SFC due to massive and frequent backing down and poor quality of coal in view of the CERC IEGC Regulation fourth amendment, 2016 and removal of difficulty petition filed by HPGCL for amendment in HGC, 2009.
- m) Consider and allow 0.5% relaxation in auxiliary consumption of DCRTTP and for PTPS unit 7&8.
- n) Consider and approve the revised Mid-year Performance Review for 2016-17 and provide appropriate provision to claim the differential amount of revised tariff.
- o) Provide for preference to the HPGCL generating units in the merit order dispatch.
- p) Determine Generation Tariff for 2017-18 as proposed by the petitioner.
- q) Provide appropriate provision for considering the relaxation or relief granted by any appellate authority on the appeals of the petitioner.
- r) Condone any inadvertent omissions / errors / delays / short comings and permit the applicant to add/ change/modify/ alter this filing and make further submissions as may be required at later stage as the filing is being done based on the best available information.
- s) Treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record.

10 Procedural Aspects, Analysis & Order of the Commission

10.1 Public Hearing

In compliance of Section 64 of the Electricity Act, 2003 and Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2004, the Commission scheduled a hearing on 15.03.2017 in order to afford an opportunity to the stakeholders to

present their objections / suggestions on the Generation Tariff proposal of HPGCL. The Commission heard the oral submissions of HPGCL in the said hearing as no other Objector had either filed objections or was present in the public hearing held on 15.03.2017. In the said hearing, the Petitioner mostly reiterated its written submissions and hence the same, for the sake of brevity, are not being reproduced here.

However, the Commission, raised a few issues and sought certain additional information/details from the Petitioner. The Petitioner, vide Memo No. HPGC/FIN/Reg-459/ dated 23.02.2017 & HPGCL/FIN/REG-472/1263 dated 30.03.2017, provided the requisite information/details. The same has been considered by the Commission at the relevant paragraphs of the present Order.

10.2 State Advisory Committee (SAC)

In order to take forward the consultation process, a meeting of the State Advisory Committee constituted under Section 87 of the Act, was convened on 20.03.2017 to discuss the petition filed by HPGCL and to seek suggestions /comments of the SAC. However, no suggestions /comments specific to determination of HPGCL's Generation Tariff were offered by the SAC Members. The comments / suggestions were mostly confined to the performance of the Discoms in Haryana.

11 Commission's Analysis and Order

The Commission has taken into account the petition filed by HPGCL , additional information provided by them in response to the Commission's deficiency letters, oral submissions made in the public hearing held on 15.03.2017 and the information/details provided by HPGCL vide Memo No. HPGC/FIN/Reg-459/ dated 23.02.2017 and HPGCL/FIN/REG-472/1263 dated 30.03.2017.

At the onset, the Commission reiterates that, at this stage, the Commission shall limit the present Order to True-up for the FY 2015-16 as well as determination of generation tariff for the FY 2017-18 in accordance with the HERC MYT Regulations, 2012 except for a few relaxations in the norms that may be considered on merit. Hence, the issues pertaining to the FY 2016-17 shall be considered by the Commission while

undertaking similar exercise in the FY 2017-18 in line with the HERC MYT Regulations, 2012.

12 FY 2015-16 True-Up

While undertaking true-up exercise for the FY 2015-16, the Commission has considered the actual expenditure as per the audited accounts of the FY 2015-16 vis-à-vis the Commission Order and has allowed/disallowed, as the case may be, the recovery of the trued-up amount in accordance with the provisions of the MYT Regulations, 2012 as under.

13 True-up of O&M Expenses for the FY 2015-16

In line with the relevant provisions of the HERC MYT Regulations, 2012, governing the truing-up process, the Commission has examined the audited accounts of HPGCL for the FY 2015-16, true-up petition of HPGCL submitted vide memo no. HPGC/FIN/Reg-472/1176 dated 29.11.2016 and additional information submitted by HPGCL vide its letter no. 8779/HERC/Tariff dated 24.01.2017. It is observed that HPGCL has sought true-up of Employee Cost including Terminal Benefits amounting to Rs. 124.98 Crore and uncontrollable expenditure of Rs. 10.85 crore on R&M of Unit-I RGTPS due to force majeure condition.

The Commission, in its MYT Order dated 27.03.2015, had reduced the PLF for PTPS (units 1-4) from the normative 68% to 15% and accordingly while considering O&M expenses, 50% of the R&M cost, was allowed.

The Commission has examined the contention of the Petitioner that the actual Employees cost in the FY 2015-16 including terminal liability of Rs. 132.51 Crore was Rs. 382.54 Crore as against Rs. 257.56 crore allowed by the Commission in the MYT Order dated 27.03.2015 leading to a shortfall in the allowed employees cost of Rs. 124.98 Crore (Rs. 382.54 Crore – Rs. 257.56 Crore).

The Commission has considered the above claims and observes that the terminal liability, change in dearness allowances as well as increase in the pay-scales of the employees is beyond the control of HPGCL and the same are also classified as

‘uncontrollable’ as per Regulation 8.3 (b) of the MYT Regulations, 2012. **Hence, the Commission allows Rs. 124.98 Crore as true-up amount pertaining to the Employee Cost and terminal liabilities.**

Further, claim of HPGCL amounting to Rs. 10.85 crore on R&M of Unit-I RGTPP due to force majeure condition has been examined in the light of Regulation 8.3 and Regulation 3.23 of the HERC MYT Regulations, 2012. The said Regulations are reproduced below :-

Regulation no. 8.3 (a) *“For the purpose of this regulation, the items of ARR shall be identified as ‘controllable’ or ‘uncontrollable’. The variation on account of uncontrollable items shall be treated as a pass-through subject to prudence check/validation and approval by the Commission;*

Provided that the Commission may allow variations in controllable items on account of Force Majeure events and also those attributable to uncontrollable factors as pass-through in the ARR for the ensuing year based on actual values submitted by the generating company and licensees and subsequent validation and approval by the Commission during true-up

<i>(b) ARR Element</i>	<i>Controllable/Uncontrollable</i>
.....	
.....	
<i>O&M Expenses (excluding terminal Liabilities with regard to employees on account of change in pay scales or dearness allowances due to Inflation)</i>	<i>Controllable</i>
.....	
“	

Regulation no. 3.23 *“force majeure events means, with respect to any party, any event or circumstance which is not within the reasonable control of, or due to an act or omission of that party and which, by the exercise of reasonable care and diligence, that party is not able to prevent, including, without limiting the generality of the foregoing,*

- i. acts of God, including but not limited to lightning, storms, earthquakes, floods and other natural disasters;*
- ii. strikes, lockouts, go-slow, bandhs or other industrial disturbances;*
- iii. acts of public enemy, wars (declared or undeclared), blockades, insurrections, riots, revolution, sabotage and civil disturbance;*
- iv. unavoidable accident, including but not limited to fire, explosion, radioactive contamination and toxic dangerous chemical contamination;*

v. any shutdown or interruption of the Grid, which is required or directed by the State or Central Government or by the Commission or the State/Regional Load Despatch Centre; and

vi. any shut down or interruption, which is required to avoid serious and immediate risks of a significant plant or equipment failure;”

HPGCL has submitted that blast in the furnace and tripping of Unit-I of RGTPS, while ramping down for boxing up due to no demand as per instruction of SLDC on 01.07.2015 and consequent shutdown from 01.07.2015 to 23.08.2015 was force majeure condition beyond the control of HPGCL.

The Commission, in its Order dated 31.03.2016, had directed HPGCL to furnish the report of the enquiry/investigation held in respect of this accident and also inform the Commission whether the accident was on account of any lapse on the part of operating officers/officials or on account of any deficiency in the O&M of the unit and in the event of any lapse on the part of operating staff or deficiency in the O&M of this unit having been found, whether responsibility of the delinquent officers/officials have been fixed. Further, it may also be intimated whether HPGCL have lodged/received any insurance claim in respect of the loss.

In compliance of the *ibid* directive of the Commission, HPGCL has submitted report dated August, 2015 prepared by the Committee of experts from CEA, NTPC and HPGCL.

The Commission has examined the same and observed that the said Committee at page no. 9 & 10 of their report pointed out that sequence of events was not available for 1st July. However, the same was available for two earlier trippings on 29th May and 21st June. From the examination of the same, it was observed by the Committee that **there is no standard shut down procedure being followed and there is no practice of taking oil guns to support combustion during unit shut down**. Further, there was no provision for measuring Flue Gas temperature in the horizontal pass and second pass of the boiler. These measurements are vital inputs for the desk operator for detecting combustion related issues such as occurrence of secondary combustion/delayed combustion, flame out conditions etc. In conclusion the Ld. Committee of experts have held as under:-

“From the above observations, it can be concluded that unstable flame at elevations A & D, lean fuel-air mixture, non-adherence to boiler shut down procedure vis-a-vis oil support and non operation of protections resulted in the continuous injection of pulverised coal by Mills-A, B & D into the furnace where partial or complete flame failure condition was prevailing”.

The Commission, after careful examination of the Committee’s report, observes that “standard procedure” etc. is a sine quo none for safe operation of any power plant. Putting in place such procedure upfront is essential for protecting expensive plant and equipments as well as ensuring safety of men working in the power plant. Hence, the incidence of fire was well within the reasonable control of HPGCL and the same cannot be considered as force majeure event as the same could have been avoided had HPGCL laid down and prescribed the procedure pointed out by the Committee of experts. Thus, the event not being force majeure, HPGCL is not allowed to recover fixed cost during the period of shut down. However, the Commission also considered the submission of HPGCL that no insurance claim was received on this account as insurance company denied the same due to non-coverage of such like incidents in insurance policy. Consequently, HPGCL is also not allowed to recover Rs. 10.85 Crore R&M expenses incurred over and above the normative O&M expenses on restoration of RGTPS Unit-1. As non availability of the said plant leading to loss of generation and replacing the non-available power (MW) during the period would have led to scheduling of power from plants figuring lower down the merit order thereby putting additional financial burden on the electricity consumers of Haryana. Thus, the Commission is of the considered view that the consumers ought not to be burdened with additional O&M expenses and thereby putting the electricity consumers to double jeopardy. However, going forward, and in case, HPGCL is able to include coverage of such incidents in the insurance policy at an extra cost, the said amount, if the same is in excess of the norms, may be considered by the Commission as part of A&G expenses for the power plant concerned.

14 True-up of Depreciation

The Commission has carefully examined the submissions of HPGCL i.e. the actual depreciation in the FY 2015-16 was Rs. 633.53 Crore as against the approved depreciation of Rs. 463.20 Crore (considered by HPGCL as Rs. 463.42 Crore). Thus, actual depreciation is higher than the approved depreciation by Rs. 170.12 crore. Out of this, HPGCL has adjusted the advance against depreciation (AAD), amounting to Rs. 126.84 Crore, allowed in the earlier years and claimed the true up of the balance depreciation amounting to Rs. 43.28 Crore (Rs. 170.12 Crore minus Rs. 126.84 Crore), which is mainly on account of unclaimed depreciation of de-commissioned PTPS (units 1-4).

The Commission has considered the above submissions and observes that HPGCL had raised the same issue in its earlier Petition for true up of FY 2014-15 also, wherein the Commission had held as under:-

“The Commission is of the view that as per the submissions of the Petitioner in the present petition PTPS (units 1-4) is capable of operating at the normative levels but for the backing down instructions of the Discoms. Hence, all the plants, machinery and equipments of PTPS (units 1-4) are in running condition. Resultantly, the residual values of these Units are expected to be more than the normative salvage value of 10%. Thus, HPGCL may get valuation of the same done at the earliest along with valuation of the land of PTPS (units 1-4) and submit a report to the Commission so that a view may be taken regarding the adjustments of the balance depreciation amount and un-paid loans, if any.”

The desired valuation report was not made available to the Commission. Further, it has been observed that unclaimed depreciation of Rs. 43.28 Crore has arisen mainly on account of capitalization of spares amounting to Rs. 42.76 Crore by HPGCL in PTPS (Units 1 to 5), which was not approved by the Commission in its Order dated 31.03.2016.

In view of the above and given the fact that the instant issue has already been considered by the Commission and very specific findings given, it is not open

for the Petitioner to re-agitate the same issue. Moreover, the facts and circumstance leading to the findings / directions (Supra) has not undergone or demonstrated to have under gone any change.

In view of the above discussions, the true-up sought regarding unclaimed depreciation amounting to Rs. 43.28 Crore is not allowed.

Further, the Commission while undertaking true up exercise for the FY 2014-15 observed that:

“the spares capitalized by HPGCL amounting to Rs. 154.60 crore is not in conformity with the regulation 18.5.2 of MYT Regulation, 2012, hence the same cannot be allowed and accordingly, the depreciation charged on the same during the FY 2014-15, amounting to Rs. 8.08 crore (RGTPP – Rs. 3.99 crore, DCRTTPP – Rs. 1.43 crore and PTPS 2.66 crore) is disallowed.”

The Commission had directed HPGCL to submit details of depreciation pertaining to capitalization of such spares. HPGCL in its letter dated 24.01.2017 submitted that the major difference in the depreciation on capitalized spares are pertaining to PTPS Units 1-5 i.e Rs 36.22 Crore out of Rs 42.16 Crore. **The Commission has already disposed of the matter pertaining to depreciation of PTPS (Units 1 to 5) in the above para, therefore only the balance depreciation i.e. Rs. 5.94 Crore (Rs. 42.16 Crore minus Rs. 36.22 Crore) is disallowed.**

True-up for the Interest and Finance Charges

The Commission has examined the submissions of HPGCL that the actual interest and finance charges of HPGCL in the FY 2015-16 were Rs. 500.38 Crore as per the audited accounts for the year, as against the approved interest and finance charges on loan of Rs 457.70.00 Crore. HPGCL has further submitted that the increase in the interest and finance charges is mainly due to swapping of high cost PFC loan of Rs. 1085.84 Crore and Rs. 947.73 Crore, pertaining to DCRTPS and RGTPS, respectively with cheaper loans from Indian Overseas Bank and SBI, respectively. However for the same HPGCL had to shell out pre-payment charges to PFC, government guarantee fees to Government of Haryana and upfront fees, amounting to Rs. 74.48 Crore. However, this

will entail recurring saving of annual interest and finance charges which is Rs. 15.88 Crore in the FY 2015-16 and about Rs. 39.37 Crore in FY 2016-17. In the overall scenario by offsetting all the prepayment charges and guarantee fee etc. there will be a net saving of Rs. 110.94 Crore over the repayment schedule of the existing loan.

Accordingly, HPGCL proposed to true up difference of actual and approved interest cost amounting to Rs. 42.68 Crore, as per the regulation 21.1 (v) of HERC MYT Regulation, 2012 which provided that the cost associated with the refinancing shall be borne by the beneficiaries and the net savings after deducting the cost of refinancing shall be subject to incentive and penalty framework as mentioned in the regulation 12 which shall be dealt with at the time of midyear performance review or true-up.

The Commission observes that the above proposal is in line with the HERC MYT Regulations, 2012. Hence, the Commission allows Rs. 42.68 Crore for true-up of the interest and finance expense.

15 True-up of Return on Equity (ROE)

HPGCL has submitted that the Commission in its Order dated 31.03.2016, in case no. HERC/PRO 30 of 2015, regarding True-up of FY 2014-15 has approved opening Equity of FY 2014-15 as Rs 2126.81 Crore and equity addition of Rs 10.00 Crore. Thereby approved opening equity of FY 2015-16 is arrived at Rs 2136.81 Crores. Further, the Government of Haryana has provided an additional Equity Capital of Rs. 9.65 Crore to HPGCL in the FY 2015-16 for the capital works already approved by the Commission in its Order dated 31.3.2016/submitted on 01.08.2016 for approved in the Capital Investment Plan in Case No. HERC/PRO 23 of 2016 and hence the same needs to be considered for computing RoE as well. **Therefore, the true-up amount of return on equity @ 10% works out to Rs. 1.45 Crore (Rs. 214.16 Crore minus Rs. 212.71 Crore). Hence, the Commission allows the same.**

16 True-up for the Interest on Working Capital

HPGCL has proposed that the difference in the approved interest on working capital of Rs. 239.88 Crore and the revised normative interest on working capital of Rs. 219.55 Crore amounting to Rs. 20.33 may be considered for true-up in the

FY 2015-16. HPGCL has submitted that there has been variation in prices of coal and oil during the FY 2015-16, therefore while calculating the truing-up of working capital for the FY 2015-16, actual rate of coal and oil prevailing in FY 2015-16 has been considered and the same price thus arrived at has been used in calculation of receivables. Further, true-up sought for O&M expenses for FY 2015-16 has also been added to approved O&M expense. HPGCL has also considered the relaxed norms of maintenance spares for RGTPP and DCRTTP @ 15% of the allowed O&M expenses, while calculating revised requirement of working capital for FY 2015-16.

The Commission has considered the above submissions and observes that the actual interest on working capital, as per the audited accounts is Rs. 153.90 Crore. Thus, there is substantial difference between the interest on working capital allowed by the Commission and actual interest on working capital incurred by HPGCL. The Commission further observes that several generating units of HPGCL remained backed down for considerable time, hence, HPGCL's revenue decreased from the normative level of Rs. 8228.02 Crore to Rs. 5246.83 Crore. Further, the actual generation was also lower in the FY 2015-16 at 9802.19 MU as against the normative level of 18599.03 MU. HPGCL was allowed interest @ 13% p.a. on working capital loans for the FY 2015-16. Further, HPGCL was asked to submit sanction letters in respect of working capital loan granted by SBI to HPGCL, as applicable on 01.04.2015 and 01.04.2016, for determination of interest.

To the above, HPGCL replied that they have arranged Working Capital loans from several banks. SBI is just one of the lender catering mainly to the financing of online Coal freight payments for HPGCL. Rest of the financing of HPGCL working capital loans are through other banks, whose interest rates & terms and conditions are different. HPGCL has further submitted to calculate interest on working capital @ 11.25% i.e. after adding margin of 1.25% over base rate of SBI of 10% as on 01.04.2015.

The Commission has considered the submissions of HPGCL and observes that there is substantial reduction in PLF of all the generating units which is primarily attributable to backing down by the Discoms. This is one of the reasons of lower working capital requirement. Further, as per Regulation 22.2 of MYT Regulation 2012, the rate of

interest on working capital shall be equal to the base rate of SBI as applicable on 1st April of relevant financial year plus an appropriate margin that realistically reflects the rate at which the generating company can raise debt from the market.

The Commission has also considered the submission of HPGCL that increase in the prices of Coal & Oil has increased the working capital requirement for keeping Coal and Oil stock. Accordingly, the Coal and Oil stock as proposed by HPGCL has been considered for true up of interest on working capital. Further, the Commission is allowing holding cost on the true up amount, therefore, O&M expenses, Maintenance Spares and Receivables have not been revised in the calculation of interest on working capital.

In view of the above, the interest on Working Capital has been re-calculated for the FY 2015-16 considering reduced rate of interest on working capital i.e. 11.25% p.a. (Base rate of SBI as on 01.04.2015 = 10% + margin of 1.25%), as under:-

	Coal Stock (As proposed by HPGCL in Petition, due to rate revision)	Oil Stock (As proposed by HPGCL in Petition, due to rate revision)	O&M Expenses (Normative)	Maintenance Spares (Normative)	Receivables	Total W/C Reqd.	Int. on W/C
	2Months	2Months	1 Months	10/15 %	1 Month	Rs. Crore	11.25%
PTPS - 1-4	40.09	1.14	8.56	10.28	34.22	94.29	10.61
PTPS – 5	61.22	0.72	3.83	4.6	37.18	107.55	12.10
PTPS – 6	61.22	0.72	3.83	4.6	38.3	108.67	12.23
PTPS – 7	101.21	1.21	3.38	4.06	63.46	173.32	19.50
PTPS – 8	101.21	1.21	3.39	4.06	63.41	173.28	19.49
DCRTP-1 & 2	216.54	3.20	7.12	12.81	139.06	378.73	42.61
RGTP-1 & 2	502.54	6.28	8.04	14.47	306.55	837.88	94.26
Hydel			2.21	2.65	3.48	8.34	0.94
Total	1084.03	14.48	40.36	57.53	685.66	1882.06	211.73

Accordingly, true-up of interest on working capital for the FY 2015-16, has been worked out at Rs. – 28.17 Crore (Rs. 239.90 Crore - Rs. 211.73 Crore) as against Rs. – 20.33 Crore proposed by the Petitioner.

HPGCL has submitted that in FY 2015-16, HPGCL incurred oil expense amounting to Rs. 32.73 Crore, which is a considerably less than approved amount of Rs. 98.61 Crore. The main reason for low oil consumption is better operational

performance of HPGCL despite frequent start-stop operation on instructions of Discoms/SLDC. As per Regulation 12.2 (b) of HERC MYT Regulations, 2012, SFC is subjected to incentive penalty framework. Hence HPGCL proposed to retain 50% of saving i.e Rs 32.94 Crore as an incentive and pass-through remaining Rs 32.94 Crore to Discom.

The Commission has observed that oil cost is determined based on approved generation, specific oil consumption, gross calorific value of oil and cost of oil. Further, its recovery is allowed as part of fixed cost in line with HERC MYT Regulations, 2012. In the hearing held on 15.03.2017, the Commission invited the attention of HPGCL to the Cost Audit Report for the FY 2015-16, which states that cost of furnace oil has decreased from Rs. 45532.32 per KL to Rs. 40009.50 per KL. Accordingly, the Commission directed HPGCL to provide break-up of decrease in Oil cost attributable to each factors separately.

HPGCL vide its letter no. HPGCL/FIN/REG-472/1263 dated 30.03.2017 provided the desired break-up of decrease in Oil cost and submitted that Specific Fuel Oil Consumption in ml/kwh(SFC) had decreased from approved weighted average norm of 1.06 to 0.40 during the FY 2015-16, for all the HPGCL plants as a whole. Total saving in Oil cost amounting to Rs. 65.88 Crore has been bifurcated by HPGCL into saving due to low oil price (Rs. 4.44 Crore), due to SFC (Rs. 54.11 Crore) and due to low generation (Rs. 7.33 Crore).

The Commission, after due deliberations on this issue including the details submitted by the Petitioner, observes that as per Regulation 12.2 (b) of HERC MYT Regulations, 2012, SFC is subjected to incentive penalty framework. The savings on account of decline in the price of fuel oil and due to lower requirement arising out of low generation cannot not considered as efficiency gains. Thus, out of the total savings of Rs.65.88 Crore only Rs. 54.11 Crore is on account of efficiency gains as per HERC MYT Regulations. Consequently, HPGCL shall retain 50% of the saving in Oil cost due to improved SFC amounting to Rs. 27.05 Crore (50% of Rs. 54.11 Crore) and the balance saving in Oil cost i.e. Rs. 38.83 Crore (Rs. 65.88 Crore minus Rs. 27.05 Crore), shall be passed on to the beneficiary.

17 True-up for Recovery of Fixed Cost

HPGCL has sought to recover of additional fixed cost vis-à-vis the fixed cost already recovered amounting to Rs. 81.86 crore (Rs. 72.35 Crore + Rs. 3.16 Crore + Rs. 6.35 Crore), comprising of incentive for higher deemed PLF (Rs. 72.35 Crore), compensation for lower PLF of RGTPS (Rs. 3.16 Crore) and energy charges credited to Discoms for the months when the units were boxed up (Rs. 6.35 Crore). The Commission has examined the relief sought, under each head, as under:-

(i) Incentive (Rs. 72.35 Crore):

HPGCL submitted that it should be allowed incentive in form of over recovery of fixed cost to the extent of 50%, when the PLF including deemed PLF exceeds HERC approved PLF, irrespective of the fact that actual generation is less. Accordingly, HPGCL has calculated incentive amounting to Rs. 72.35 Crore, as under:-

Plant	Net Sent Out (MU)	Backing Down(MU)	Deemed PLF (%)	Normative PLF (%)	Approved Fixed Cost (Rs Crore)	Incentive (Rs Crore)
PTPS 1-4	2.69	587.06	15.00%	15.00%	169.62	0
PTPS 5	146.85	1441.59	87.00%	60.00%	78.05	17.56
PTPS 6	138.22	1318.2	79.79%	60.00%	91.56	15.10
PTPS 7	479.43	1240.7	80.36%	85.00%	152.96	0
PTPS 8	746.54	1301.07	96.40%	85.00%	152.39	10.22
DCRTPP	3709.28	1012.39	96.13%	85.00%	450.09	29.46
RGTPP	4392.27	4017.18	82.44%	85.00%	820.13	0
Total	9615.27	10918.18				72.35

It has been submitted that the Regulation 12 of HERC MYT Regulations, 2012, lists the plant availability factor (PAF) as one of the elements of ARR of a generating company on which incentive/penalty regulation would apply. The relevant regulation is reproduced below:-

“Applicable when actual PAF falls below or exceeds the level specified by the Commission”.

Further, Note to the ibid Regulation states as under:

“Until the Intra-State ABT Regulations are notified by the Commission, plant

availability factor for the generating company shall mean plant load factor”.

The Commission carefully examined the relevant provisions of HERC MYT Regulations, 2012 and observes that in order to apply incentive and penalty framework w.r.t. Plant Availability Factor (PAF), actual PAF should fall below or exceed the level specified by the Commission. Thus, deemed PLF / PAF cannot form the basis of claiming any incentive as such. Accordingly, claim of HPGCL on incentive due to higher deemed generation than the approved generation, does not hold much merit, accordingly the said claim is not considered for the purpose of incentive under the HERC MYT Regulations, 2012.

(ii) Under recovery of fixed cost of RGTPS (Rs. 3.16 Crore)

The issue has already been decided at para 13 of the present Order, wherein it has been observed that the event of blast in boiler is not being force majeure, HPGCL, is not allowed to recover fixed cost during the period of shut down.

The Commission further observes that the deemed PLF (%) for PTPS-7 and RGTPS 1-2 was 80.40% and 82.40% respectively against the threshold PLF norms of 85% and 85%, respectively. Accordingly, HPGCL cannot be allowed to recover full fixed cost in terms HERC Order dated 31.03.2016 and 29.06.2016 in the matter. Accordingly, the Fixed Cost of PTPS – 7 and RGTPS (1&2) that can be legitimately recovered from the Discoms and ultimately from the electricity consumers of Haryana is as under:-

Plant	Approved Annual Fixed Cost (Rs. Crore)	Approved PLF (%)	Actual /Deemed PLF (%)	Allowed recovery of Fixed Cost (Rs. Crore)	Recovered Fixed Cost (Rs. Crore)	Excess recovery (Rs. Crore)
	(1)	(2)	(3)	(4)=1*3/2, subject to max. of 1	(5)	(6=5-4)
PTPS-7	152.96	85.00%	80.36%	144.61	152.59	7.97
RGTPS 1&2	820.13	85.00%	82.40%	795.04	816.96	21.92
Total						29.89

It is evident from the above calculations that there is over recovery of fixed cost amounting to Rs. 29.89 Crore in respect of PTPS-7 and RGTPS (1&2). Consequently, HPGCL's claims for true-up of Fixed Cost of RGTPS amounting to Rs. 3.16 Crore, is without any merit and accordingly rejected. In view of the above findings, **HPGCL is directed to reverse the excess amount of fixed cost of Rs. 29.89 crore recovered from the beneficiaries in respect of above generating stations in the FY 2015-16.**

(iii) The energy charges (Rs. 6.35 Crores) credited to Discom:-

HPGCL has submitted that in FY 2015-16, PTPS Units 1-8 were boxed-up altogether for several months continuously. The auxiliary energy consumption of the generating units for such months had to be compensated to Discom at the rate of energy charge of the units determined by the Commission for FY 2015-16 vide its Order 27.03.2015, as per the details provided below:-

Plant	PTPS Units 1-4	PTPS Unit-5	PTPS Unit-6	PTPS Unit-7	PTPS Unit-8	Total
Auxiliary Consumption when Boxed-up (MU)	4.34	4.64	3.43	2.21	1.53	16.15
Variable Cost (Rs/kWh)	4.65	3.71	3.71	3.57	3.57	-
Variable Cost Refunded (Rs Crore)	2.02	1.72	1.27	0.79	0.54	6.35

The Commission has examined the submission of HPGCL and observes that due to frequent backing downs/shut-start operation PTPS (1-8) due to low demand could attain PLF ranging from 8.84% (PTPS – 5) to 37.15% (PTPS – 8) only. However, in order to keep these stations ready certain auxiliary motors had to be kept running thereby auxiliary energy consumption occurs even during the period that these stations remained boxed – up. The Commission finds some merit in the submissions of HPGCL on this issue and hence allows refund of variable cost amounting to Rs. 6.35 Crore as prayed for.

18 True-up of Non-tariff Income

The Commission observes that HPGCL has reported non operating income (excluding prior period income due to adjustment in provisions of earlier years) of Rs.

13.10 Crore in the FY 2015-16. In terms of the Commission's Order dated 31.03.2016, non operating income needs to be reduced from true-up amount approved by the Commission. Accordingly, Rs. 13.10 Crore has been reduced from the amount eligible for true up in the present Order.

In view of the foregoing paragraphs, the Commission allows true-up expenses for the FY 2015-16 as under:-

(Rs. Crore)		
	HPGCL (Proposed)	HERC (Allowed)
Employee Cost	124.98	124.98
O&M of RGTPS	10.85	-
Depreciation cost	43.28	-
Disallowed Depreciation	-	-5.94
Oil Cost	-32.94	-38.83
Interest Cost	42.68	42.68
ROE	1.45	1.45
IWC	-20.33	-28.17
Fixed Charges – Incentive	72.35	-
Fixed Charges – RGTPS	3.16	-
Fixed Charges – Energy charge	6.35	6.35
Fixed Charges-Over recovery	-	-29.89
Non Tariff Income	-	-13.10
Total True-up	251.83	59.53
Add: Holding Cost @ 10.55% from 01.04.2016 to 30.04.2017 (13 months)		6.80
Total True-up including holding cost		66.33

HPGCL shall recover the aforesaid amount of Rs. 66.33 Crore from the Discoms i.e. UHBVNL and DHBVNL. The major difference between the true-up amount as worked out by HPGCL and that approved by the Commission is on account of disallowance of incentive claimed for deemed generation, relief claimed on account of Force Majeure and under recovery of fixed cost thereto besides depreciation (PTPS) and non tariff income.

19 Capital Investment Plan (CIP)

HPGCL has submitted that the CIP proposed by it and approved by the Commission vide its Order dated 31.03.2016 as under:-

Capital Expenditure Work	Rs. Crores		
Year	2014-15	2015-16	2016-17
Increase in the height of Ash Dyke of DCRTTP	-	-	32
Increase in the height of Ash Dyke of RGTPP	13.14	11.98	2
Capital Overhauling at WYC	1.35	4.16	23.85
Increase of Ash Dyke height at PTPS	37.09	7.76	6.6
ERP System and allied works	-	9.23	13
Additional Capital Expenditure at RGTPP – Setting up Zero Discharge system	17.04	1.59	1.5
Total	68.62	34.72	78.95

It has been submitted that there has some been variation in actual capex incurred in the FY 2015-16 and accordingly there has been change in projection for FY 2016-17 also. The table below provides the capex incurred in FY 2015-16 and proposed to be incurred in FY 2016-17 and FY 2017-18 for schemes already approved by the Commission.

Revised CIP Proposed by HPGCL

Year	2015-16	2016-17	2017-18
Increase in the height of Ash Dyke of DCRTTP	-	32.0	32.0
Increase in the height of Ash Dyke of RGTPP	23.33	2.00	-
Capital Overhauling at WYC	4.34	11.00	14.00
Increase of Ash Dyke height at PTPS	-	-	-
ERP System and allied works	-	15.0	20.0
Additional Capital Expenditure at RGTPP – Setting up Zero Discharge system	17.58	1.5	-
Total	45.25	61.50	66.00

It has been submitted that capital expenditure for raising Ash Dyke and setting-up of Zero discharge system for RGTPS was proposed to be incurred in the FY 2014-15 but the same could only take place in the FY 2015-16 with no cost escalation. There has also been a slight deviation in capex schedule of capital overhauling of WYC, Yamunanagar i.e. Capital Overhauling of Machines B1 and C1 of WYC, Yamunanagar can only be completed in FY 2017-18. Accordingly those machines will become available after the FY 2017-18.

The project of installing ERP system would commence in the FY 2016-17 and is expected to be completed in the FY 2017-18.

Capex envisaged for increasing the Ash Dyke at PTPS has been deferred as there has been very less generation and consequentially very less ash. Further due to less deposition of ash existing ash in the dyke has been dried-up and hence have been lifted by various contractors. However in future if HPGCL feels the need to commence the project, it will approach the Commission.

Raw Water Intake Channel for RGTPS, Hisar

HPGCL has submitted that as per regulation 18.5.2 (c) of the HERC MYT Regulations, 2012, HPGCL can submit additional capitalization on account of compliance of the order or decree of a court even after cut-off date. To this effect, it has been submitted that HPGCL had to pay Rs 14.96 Crore for raw water intake (deposit work being executed by the Haryana Irrigation Department) channel as per Order of Additional District Judge Hisar on 15.11.2015 in the matter of petition(s) filed by the land owners. Accordingly HPGCL has requested the Commission to approve the additional capitalization on account of court order. The capex for the same has incurred in FY 2016-17, as such has been taken into consideration in the review of the FY 2016-17.

Mobile Coal Sampling System

HPGCL has submitted that Coal is being received at RGTPS in coal wagons. Before unloading coal wagons coal sample are collected manually from wagons for purpose of analysis of coal at unloading end which doesn't give accurate results. A committee of HPGCL officials visited Koradi TPS, MSPGCL and Gandhinagar TPS, GSECL to study the system at other power plants where automatic auger sampling process is used to collect coal sample. The purchase will be made at cost of Rs 0.66 Crore in FY 2016-17 and would be capitalized in the same year. The Capex has been claimed as per Clause 18.5.2 (e) of HERC MYT Regulations, 2012 to enhance efficiency of the plant and has not been submitted earlier in HPGCL Petition dated 01.08.2016.

Additional Capitalization submitted in CIP Petition (HERC/PRO 23 of 2016)

HPGCL had also proposed additional capitalization for FY 2015-16 and FY 2016-17 in its Petition no. 30 of 2015 submitted on 28.11.2015. However, the Commission desired that complete details of the scheme may be provided. Accordingly, HPGCL submitted additional capitalization for FY 2015-16 and FY 2016-17 along-with Capital Investment Plan for second control period vide petition no. 23 of 2016 on 01.08.2016.

The scheme-wise abstract of capital expenditure earlier approved , submitted in capital CIP vide petition no. 23 of 2016 on 01.08.2016 and being submitted in this petition are as under:-

Capex Work and Fund Requirement (Rs Crore)

Sr. No.	Activity planned to be carried out	Estimated Cost (Rs. Crores)	Funds required in the Financial Year				
			2015-16	2016-17	2017-18	2018-19	2019-20
Schemes already approved vide order dated 31.03.2016							
1	Increase in the height of Ash Dyke of RGTPP	25.33	23.33	2.00	-		
2	Additional Capital Expenditure at RGTPP – Setting up Zero Discharge system	19.08	17.58	1.5	-		
3	Increase in the height of Ash Dyke of DCRTPP	64.0	-	32.0	32.0		
4	Capital Overhauling at WYC	40.34	4.34	11.00	14.00	11.00	
5	ERP System and allied works	35.00	-	15.0	20.0		
Schemes submitted in capital investment plan vide petition no. 23 of 2016 on 01.08.2016							
6	Procurement of one no. heat exchanger for Boiler Circulation Pump for RGTPP, Hisar	2		2.0			
7	Balance Payment to R-Infra against EPC contract for RGTPP, Hisar	56.31	40.88	9.43	6.00		
8	Procurement of one set of PA fan blades for RGTPP Hisar	1.4			1.4		
9	Procurement of 2 No. Air Driers for Transport Compressors for RGTPP Hisar	1.5			0.75	1.75	
10	Trunion Bearing Housing and adopter sleeves support and guide side of APH for RGTPP Hisar	2			2		
11	Up-gradation of C&I system for RGTPP Hisar	3				1.5	1.5
12	additional oxygen probes at	1.25			1.25		

	APH inlet and outlet of Unit- I & II for RGTPP Hisar						
13	Monitoring of flue gas temperature across furnace for RGTPP Hisar	0.4			0.2	0.2	
14	Arrangement of Dust Suppression system at ash dyke for RGTPP Hisar	4.5		0.2	1	0	1.3
15	Construction of 2 no. Barracks for CISF for RGTPP Hisar	1.28			1.28		
16	Installation of CCTV surveillance System in RGTPP Hisar	2			1.44	0.36	0.2
17	Construction of DAV school in power plant colony for RGTPP Hisar	6.87		0.2	3	3.67	
18	Up-gradation of PTPS Unit-6, Centum-CS HMI to Centum-VPHMI by Yokogawa India	2.65	2.65				
19	Continuous Monitoring Emission System (CEMS) and Effluent Quality Monitoring System (EQMS) for Units 5-8, PTPS	1.01	1.01				
20	Installation of 100MT Weigh Bridge at PTPS	0.19	0.19				
21	Extra Work carried out in PTPS Unit-7&8 Ash Handling & DM Plant	11.67	11.67				
22	Replacement of PTPS Unit-7's PA Fan Blade	1.35	1.35				
23	Rectification / repair work of ESP of PTPS Unit# 7 & 8, PTPS, Panipat	10.3	5.3	5			
24	Installation of On-Line Stator End Winding Vibration Monitoring System in Unit# 7&8 PTPS	1.53	0.76	0.77			
25	Revival of Fire Fighting System of Unit-6,PTPS,Panipat	0.6		0.6			
26	Change of LP Piping in Unit-5 PTPS Panipat	0.75		0.75			
27	RLA Study of Unit-5 PTPS	1.5		1.5			
28	Replacement of PTPS Unit-6 AD Line in Ash Handling & repair D2 of ESP Field	2.2		2.2			
29	Replacement of damaged floor and Construction of Roads in PTPS Colony, Panipat as per new norms of Government of Haryana	1.55		1.55			
30	Installation of CCTV in PTPS,	0.30		0.30			

	Panipat						
31	Replacement of CTs and CVTs in 220 KV Switchyard Unit#5&6 PTPS	1.7			1.7		
32	Up-gradation of DCS System in Unit 7&8 PTPS Panipat	16.81		5	11.81		
33	Purchase of Fire Tenders for PTPS	0.8		0.4	0.4		
34	Up-gradation of PTPS Unit-6 HMI System of pro-control supplied by M/s BHEL	1.5			1.5		
35	Up-gradation of PTPS Unit-7&8 PLC system of DM Plant & Ash Handling System	0.45				0.45	
36	Energy Management System PTPS Unit- 7-8	0.7			0.7		
37	Replacement of PTPS Unit-7&8 Fire Fighting, Hydrant and Spray pipelines	3.0			3.0		
38	Replacement of PVC fills of PTPS Unit-7 & 8 Cooling Tower	16.55	8.05	5.00	3.50		
39	Online Energy Management System (EMS) for DCRTTP	0.40		0.40			
40	Up gradation of existing DCS system for DCRTTP 1 & 2	4.25		4.25			
41	Installation of CCTV Camera System in DCRTTP Plant area	0.60		0.60			
42	Revival of 20 no ESP fields and repairing of balance 36 no. ESP fields of Unit-1& 2 DCRTTP Yamunanagar	45		12.5	22.5	10	
43	Providing of 2 No. VFD on Unit-1 DCRTTP ,6.6KV Motor of CEP	2.3			2.3		
44	Purchase of LP Turbine Blades of DCRTTP Unit 1&2	8.45		8.45			
45	Township for DCRTTP, Yamunanagar	19.00	15.50	1.75	1.75		
46	Civil Works for WYC Hydel Project	7.50		2.30	2.90	2.30	
Schemes Being Submitted in This Petition							
47	Raw Water Intake Channel	14.96		14.96			
48	Mobile Coal Sampling System	0.66		0.66			
Total		446.49	132.61	142.27	136.28	32.23	3

In response to the Commission memo no. 7132/HERC/Tariff dated 29.09.2016, HPGCL has replied vide memo no 1170/HPGC/Fin/Reg-416 dated 08.11.2016 providing justification for the following:-

- i) deferment of the liability of Rs. 56.31 Cr. in respect of R-infra;
- ii) up gradation of DCS and DEH of RGTPPS;
- iii) up gradation of DCS of DCRTPS;
- iv up gradation of DCS of Unit-7&8 PTPS;
- v) dust Suppression System at RGTPS;
- vi) failure of Cooling Tower Unit-7&8 PTPS Panipat;
- vii) of rates for award of work of replacement of damaged PVC fill packs along with other accessories of cooling tower of 250 MW, Unit 7 at PTPS Panipat to M/s Paharpur Cooling Tower Ltd. on proprietary (turnkey basis).
- viii) design Engineering;
- ix) ESPs of DCRTPS ;

The details of the justifications provided, for the sake of brevity, are not being reproduced here.

New Environmental norms: Action initiated by HPGCL

The status of action taken and details of work along with cost proposed or undertaken to meet the new environmental norms is as under:-

- a) The plants were got inspected by the respective OEM's for checking the feasibility for installation of equipments to meet new environmental norms.
- b) The Samples of various HPGCL Plants were got tested from NABL Lab i.e Shree Ram Institute for Industrial Research (SIIR) to find out the actual position of Plants viz-a-viz New Environmental Norms.

- c) It has been decided to engage NTPC being pioneer in the field of Thermal Power Plants and having vast experience as consultant and Administrative approval has been obtained from State govt. on this account. Accordingly, HPGCL is in the process of appointing NTPC as Consultant for studying the feasibility aspect in respect of HPGCL Thermal Power Plants. NTPC submitted their offer to Control only SO_x Problem in respect of 2x600 MW, RGTPP, Khedar, Hisar and 2x250 MW, PTPS, Panipat. NTPC has been asked to submit complete offer for SPM, NO_x and mercury at the earliest.
- d) The matter regarding extension of time limit to achieve new norms and financial grant to state utilities for modification in existing structure being taken up rigorously with CEA. However, response is still awaited.

HPGCL has submitted the details of progress made in respect of its various power plants as under:-

No action is envisaged in respect of Unit 5&6, PTPS Panipat as Unit-5 is more than 25 years old and its R&M is due and Unit-6 is 16 years old and is running on low PLF due to figuring low in the merit order. Regarding ESPs of Unit-5 to 8, PTPS, Panipat commercial proposal is yet to be received. Technical Proposal for Units- 5 to 8, PTPS, Panipat for installation of FGD will be scrutinized in Consultation with NTPC after finalization of Contract with NTPC. DCRTPS, Yamunagar comply with new Environmental Norms and as such no action is envisaged, however, to control SPM levels the ESP retrofit shall required to be carried out. A firm for ESP retrofit will be engaged through open bidding process. Accordingly, the e- tender for units 1&2 has been floated and same will be processed. Regarding RGTPS, Hisar, it has been submitted that these Units do not comply with the new norms of SPM, SO_x and NO_x. However, the Specific water consumption is within the prescribed limit. The OEM, SEC/China has submitted budgetary offer amounting to Rs. 643 Crore for installation of FGD in both units of RGTPS to control SO_x levels, SEC has also submitted Technical Proposal for installation of low NO_x burners to control NO_x levels. The commercial proposal is yet to

be received. The proposal of OEM i.e SEC, China in respect of RGTPS, Khedar will be scrutinized in consultation with NTPC after finalization of Contract with NTPC.

20 The Commission, in its order dated 31.03.2016 had considered the proposal of HPGCL, and approved the revised capital expenditure for FY 2014-15, FY 2015-16 and FY 2016-17 as proposed by HPGCL. Regarding the additional proposed capital expenditure of Rs. 3.25 Crore on RLA of PTPS Unit 5, the Commission felt that such PTPS Unit-5 will need substantial amount of capital expenditure to meet the emission standards. As such, there appears no justification to go for Renovation and Modernization of PTPS Unit-5. Accordingly, it is felt that RLA study is not required and proposed capital expenditure of Rs. 3.25 Crore for RLA of PTPS Unit-5 was not allowed.

The Commission had approved the revised capital expenditure for the control period as under:-

Capital Expenditure Work	Approved Capital Expenditure (Rs Crore)			
	2014-15	2015-16	2016-17	Total
Increase in the height of Ash Dyke of DCRTTP			32	32
Increase in the height of Ash Dyke of RGTPP	13.14	11.98	2	27.12
Capital Overhauling at WYC	1.35	4.16	23.85	29.36
Increase of Ash Dyke height at PTPS	37.09	7.76	6.6	51.45
ERP System and allied works	0	9.23	13	22.23
Additional Capital Expenditure at RGTPP- Setting up Zero Discharge system	17.04	1.59	1.5	20.13
Total	68.62	34.72	78.95	182.29

Further, Commission had directed that all the Capex work relating to handling/utilization of Fly Ash should be met out of Fly Ash Fund maintained by HPGCL and no further depreciation & interest etc. in respect of the same shall be allowed by the Commission. HPGCL was also directed that all the expenditure on replacement of old assets shall be capitalized after excluding the entire depreciated value or value of scrap, whichever is higher, of the original assets from the original capital cost of the assets replaced. Despite specific Order of the Commission disallowing Capex for RLA study of PTPS unit 5, HPGCL has again proposed Rs 1.5 Crore Capex for FY 2016-17. Further, while deciding the matter, the Commission in its order dated 31.03.2016 had felt that such old unit as PTPS Unit-5 will need substantial amount of capital expenditure to meet new emission standards. As such, there appears no justification to go for Renovation and

Modernization of PTPS Unit-5. Accordingly, the Capital Expenditure in respect of change of LP piping and RLA study for unit 5 PTPS amounting to Rs. 2.25 crore (Rs 0.75 +1.5) are not considered. If still required and felt essential for running the plant, the same may be managed by HPGCL through the O&M cost allowed for the respective plant.

HPGCL has proposed Capex works and fund requirement for the FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19 and FY 2019-20. After considering the same, the Commission observe that since the MYT Regulations for the second control period is under consideration of the Commission, the capex relating to FY 2015-16, FY 2016-17 and FY 2017-18 has only been considered in this Order. HPGCL is directed to file the CIP for the next control period separately after finalization of the MYT Regulations for the second control period. As such, the following Capex works, as proposed by the petitioner and allowed by the Commission for the FY 2015-16, the FY 2016-17 and the FY 2017-18 are as under:-

Sr. No.	Activity planned to be carried out	Funds required (Rs. Crore)		
		2015-16	2016-17	2017-18
1	Increase in the height of Ash Dyke of RGTPS	23.33	2.00	-
2	Additional Capital Expenditure at RGTPP– Setting up Zero Discharge system	17.58	1.5	-
3	Increase in the height of Ash Dyke of DCRTPS	-	32.0	32.0
4	Capital Overhauling at WYC	4.34	11.00	14.00
5	ERP System and allied works	-	15.0	20.0
6	Procurement of one no. heat exchanger for Boiler Circulation Pump for RGTPP, Hisar		2.0	
7	Balance Payment to R-Infra against EPC contract for RGTPP, Hisar	40.88	9.43	6.00
8	Procurement of one set of PA fan blades for RGTPP Hisar			1.4
9	Procurement of 2 No. Air Driers for Transport Compressors for RGTPP Hisar			0.75
10	Trunion Bearing Housing and adopter sleeves support and guide side of APH for RGTPP Hisar			2
11	Up-gradation of C&I system for RGTPS Hisar	-	-	-
12	additional oxygen probes at APH inlet and outlet of Unit- I & II for RGTPP Hisar			1.25
13	Monitoring of flue gas temperature across furnace for RGTPP Hisar			0.2
14	Arrangement of Dust Suppression system at ash dyke for RGTPP Hisar		0.2	1
15	Construction of 2 no. Barracks for CISF for RGTPP Hisar			1.28
16	Installation of CCTV surveillance System in RGTPP Hisar			1.44
17	Construction of DAV school in power plant colony for RGTPS Hisar		0.2	3
18	Up-gradation of PTPS Unit-6, Centum-CS HMI to Centum-VPHMI by Yokogawa India	2.65		

19	Continuous Monitoring Emission System (CEMS) and Effluent Quality Monitoring System (EQMS) for Units 5-8, PTPS	1.01		
20	Installation of 100MT Weigh Bridge at PTPS	0.19		
21	Extra Work carried out in PTPS Unit-7&8 Ash Handling & DM Plant	11.67		
22	Replacement of PTPS Unit-7's PA Fan Blade	1.35		
23	Rectification / repair work of ESP of PTPS Unit# 7 & 8, PTPS, Panipat	5.3	5	
24	Installation of On-Line Stator End Winding Vibration Monitoring System in Unit# 7&8 PTPS	0.76	0.77	
25	Revival of Fire Fighting System of Unit-6,PTPS,Panipat		0.6	
26	Replacement of PTPS Unit-6 AD Line in Ash Handling & repair D2 of ESP Field		2.2	
27	Replacement of damaged floor and Construction of Roads in PTPS Colony, Panipat as per new norms of Government of Haryana		1.55	
28	Installation of CCTV in PTPS, Panipat		0.30	
29	Replacement of CTs and CVTs in 220 KV Switchyard Unit#5&6 PTPS			1.7
30	Up-gradation of DCS System in Unit 7&8 PTPS Panipat		5	11.81
31	Purchase of Fire Tenders for PTPS		0.4	0.4
32	Up-gradation of PTPS Unit-6 HMI System of pro-control supplied by M/s BHEL			1.5
33	Up-gradation of PTPS Unit-7&8 PLC system of DM Plant & Ash Handling System	-	-	-
34	Energy Management System PTPS Unit- 7-8			0.7
35	Replacement of PTPS Unit-7&8 Fire Fighting, Hydrant and Spray pipelines			3.0
36	Replacement of PVC fills of PTPS Unit-7 & 8 Cooling Tower	8.05	5.00	3.50
37	Online Energy Management System (EMS) for DCRTTP		0.40	
38	Up gradation of existing DCS system for DCRTTP 1 & 2		4.25	
39	Installation of CCTV Camera System in DCRTTP Plant area		0.60	
40	Revival of 20 no ESP fields and repairing of balance 36 no. ESP fields of Unit-1& 2 DCRTTP Yamunanagar		12.5	22.5
41	Providing of 2 No. VFD on Unit-1 DCRTTP ,6.6KV Motor of CEP			2.3
42	Purchase of LP Turbine Blades of DCRTTP Unit 1&2		8.45	
43	Township for DCRTTP, Yamunanagar	15.50	1.75	1.75
44	Civil Works for WYC Hydel Project		2.30	2.90
45	Raw Water Intake Channel		14.96	
46	Mobile Coal Sampling System		0.66	
Total		132.61	140.02	136.38

21 Mid-Year Performance Review for FY 2015-16 and Generation Tariff for FY 2016-17

HPGCL has submitted mid-year performance review for the FY 2016-17 and Generation Tariff for the FY 2017-18 in-line with regulation 11 of the HERC MYT Regulations, 2012, in the main petition filed on 26.11.2016 and additional submission dated 24.01.2017, as under:-

Technical Parameters

The Commission has considered the technical and financial parameters proposed

by HPGCL and the rationale thereto as also earlier re-produced in the present Order and allows as under:-

Plant Load Factor (PLF%)

HPGCL has provided the actual performance of the generating stations for the past years including first six months of FY 2015-16 and sought revision of its earlier approved technical parameters for the control period FY 2014-15 to FY 2016-17 based on actual performance of its plants. The Plant Load Factor of HPGCL Units for the last five years is given as under:-

HPGCL Units PLF (%) for Last 5 years

PLF (in %)	2012-13	2013-14	2014-15	2015-16	2016-17 (up to Sept.)
PTPS – 5	63.05	25.75	28.29	8.84	11.87
PTPS – 6	100.05	46.9	36.39	8.33	17.09
PTPS – 7	88.61	79.46	60.68	23.6	42.82
PTPS – 8	91.19	79.24	64.27	37.15	30.58
DCRTPS-1	9.39	83.05	75.34	75.89	66.73
DCRTPS-2	27.26	49.08	58.44	77.96	59.54
RGTPS-1	34.48	52.87	67.02	43.76	43.47
RGTPS-2	60.51	30.5	41.85	45.2	39.64
HPGCL	53.65	47.04		34.45	45.64

HPGCL has submitted that the PLF of most of the Units (especially) the new ones, shows a consistent trend. Though, the generating stations remained available for generation, the actual PLF has shown a decline primarily due to backing down of majority of the stations for considerable period of time leading to deterioration in the performance of certain units over the past few years. The petitioner has provided the unit wise deemed Plant Load Factor of its various power plants, as under:-

Deemed PLF (%) in last 5 Years

	2012-13	2013-14	2014-15	2015-16	2016-17 (till sept.)
PTPS – 1	78.29	97.12	56.84	Unit desynchronized (taken out of service)	
PTPS – 2	50.76	79.06	59.62		
PTPS – 3	69.36	98.13	58.03		
PTPS – 4	68.49	97.53	60.51		
PTPS – 5	76.32	72.68	97.86	87	98.6
PTPS – 6	101.65	98.13	98.02	79.8	98.04
PTPS – 7	93.96	93.99	94.98	80.4	93.15
PTPS – 8	94.79	100.32	92.44	96.4	96.93
DCRTPS-1	14.11	95.49	85.53	94.8	95.88
DCRTPS-2	30.13	59.57	70.51	97.46	81.45
RGTPS-1	40.33	78.23	90.55	76.17	99.89
RGTPS-2	63.99	43.1	62.13	88.71	96.81
HPGCL	60.1	77.48	84.7	34.4	

HPGCL has submitted that deemed PLF for its units except PTPS units-7, RGTPS and WYC are higher than the normative PLF. The PLF of PTPS unit 7, RGTPS and WYC remains lower due to the reasons beyond control of HPGCL. PTPS units 7 had to go bi-annual maintenance of 45 days 15.02.2016 to 31.03.2016. The RGTPP Units-I suffered a major break down of its boiler on 01.07.2015 and took 55 days to repair and put back in service. It has been further added that the WYC Hydel plants could not achieve their Normative PLF during 2015-16 as it was a drought year for areas adjoining Yamunanagar and no sufficient head was available for generating adequate power. Additionally WYC Hydel plant having achieved their commercial life and have been put under planned renovation of the machines. The Commission has also agreed for the plant to be put under maintenance and has accordingly allowed CUF keeping in view the available installed capacity for FY 2015-16 and thereafter for FY 2016-17 vide its Order dated 31.03.2016 in Case no. HERC/PRO 30 of 2015.

Also the Commission in its last order considering intermittent operation of PTPS Units 5-6 and the demand scenario of the State, had suo-motu reduced normative PLF of PTPS Units 5-6 from 85% to 35%.

Considering all above submissions HPGCL has proposed PLF of its power plants for the FY 2016-17 and FY 2017-18 in line with the Commission's Order dated

31.03.2016 in Case no. HERC/PRO 30 of 2015 regarding Generation Tariff for FY 2016-17. In view of the position explained above by the petitioner in its Annual Performance Review Petition for FY 2016-17, the PLF for HPGCL Plants for the year FY 2016-17 & FY 2017-18, the PLF, proposed by the HPGCL, has been allowed as under :-

Plant	Proposed		Approved	
	FY17	FY 18	FY17	FY 18
PTPS-5-6	35.00%	35.00%	35.00%	35.00%
PTPS-7-8	85.00%	85.00%	85.00%	85.00%
DCRTPP-1-2	85.00%	85.00%	85.00%	85.00%
RGTPP-1-2	85.00%	85.00%	85.00%	85.00%
WYC Hydel	37.00%	37.00%	37.00%	37.00%

Auxiliary Energy Consumption (%)

The table given below provides the unit wise Auxiliary Consumption (%) for last five years as filed by the Petitioner:-

Auxiliary Energy Consumption (%)

	2012-13	2013-14	2014-15	2015-16	2016-17 (up to Sept.)
PTPS -5	11.34	12.28	12.67	14.33	15.34
PTPS -6	9.71	10.78	11.24	14.34	11.87
PTPS -7	9.52	9.56	10.1	10.84	10.04
PTPS -8	9.49	9.53	9.67	9.34	10.67
DCRTPS-1	13.07	8.7	8.66	8.45	8.86
DCRTPS-2	9.56	9.65	8.97	8.66	9.2
RGTPS-1	5.85	5.67	5.99	5.88	6.12
RGTPS-2	5.98	6.12	5.65	5.75	6.21
HPGCL	8.96	8.49			

HPGCL has submitted that despite its best efforts, auxiliary energy consumption is historically higher than the normative levels approved by the Commission especially for PTPS unit 6-8. The reasons for which are primarily attributable to the factors beyond

the control of HPGCL such as backing down wherein the key auxiliaries have to be kept functioning despite the fact that there is no generation for which there is no provision in the HERC MYT Regulations, 2012. In case of partial backing down also, auxiliary equipment power requirement is not necessarily reduced proportionate to reduction in power generation.

HPGCL in its generation tariff petition for FY 2016-17 submitted on 20.11.2015, had requested the Commission for relaxed norms of auxiliary energy consumptions for its plants on account of high backing down, frequent start-stop conditions, poor quality of coal and also ageing of PTPS Units 5-6. The same has been reiterated.

It has been mentioned that due to low variable cost, the generation from 300 MW Units of DCRTPP, Yamunanagar is scheduled to the maximum extent among the HPGCL Units. Depending upon the requirement during various slots of the day, the DCRTPP Units are operated under partially backed down conditions i.e. they operate between 60% to 80% PLF and are rarely closed down. The auxiliary power consumption of a Unit during partial load operation is much higher as compared to that during full back down (close down).

It has been further submitted that the DCRTPP Units are equipped with Motor Driven Boiler Feed Pumps (MDBFP) which consumes higher auxiliary power as compared to Turbine Driven Boiler Feed Pumps (TDBFP), which are installed in RGTPS, Khedar. This difference in technology also contributes to slightly higher auxiliary energy consumption.

As an illustration, following empirical data has been provided by the Petitioner regarding impact of partial backing down on auxiliary energy consumption.

Auxiliary Energy Consumption (%) & PLF – DCRTPS

PLF	100%	92%	90%	88%
APC (%)	8.33	8.52	8.58	8.79

It has been submitted that the Commission, in its Order dated 27.03.2015, had agreed to the above contentions. However, it only considered relaxation in auxiliary

energy consumption for PTPS Units 1-6 due to their ageing which was also extended for the FY 2016-17 vide Commission's order dated 31.03.2016 in case no. HERC/PRO 30 of 2015. HPGCL has prayed that the same relaxation may also be extended for the FY 2017-18.

It has been submitted that HPGCL has not been able to achieve the normative auxiliary energy consumption for PTPS Units 7 & 8 in the last five years. The auxiliary energy consumption was higher than norms even in the years, when it did not face high backing down. As per clause 5.11 (f) of National Tariff Policy, 2016 norms should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies. HPGCL has prayed that the Commission may relax auxiliary energy consumption norms of PTPS Units 7 & 8 to 9%. Due to high auxiliary energy consumption of the DCRTPS even above 85% the norm may be relaxed to 9% as from 8.5%.

HPGCL has further submitted that they have filed removal of difficulty petition in the Commission i.e. petition bearing no. HERC/PRO 29 of 2016) for amendment in Haryana Grid Code (HGC), 2009 regarding incorporating amendments in line with CERC IEGC regulations notified on 06.04.2016. As per the said amendment, a generator is to be compensated in its Auxiliary Energy Consumption for backing down on instruction of beneficiaries. HPGCL again requested the Commission to consider the petition and allow relaxation in case of high backing down on the instructions of Discoms.

HPGCL proposed the auxiliary consumption (%)

Auxiliary Consumption (%)	Approved Norm	Proposed	
		FY17	FY 18
PTPS-5-6	10.00%	10.00%	10.00%
PTPS-7-8	8.50%	9.00%	9.00%
DCRTPS-1-2	8.50%	9.00%	9.00%
RGTPS-1-2	6.00%	6.00%	6.00%
WYC Hydel	1.00%	1.00%	1.00%

The Commission observes that the auxiliary energy consumption of all the power

plants except RGTPS Units 1 and 2 is quite high as compared to the norms during the FY 2015-16 and 2016-17(ending Sept.). However, the Commission had allowed Auxiliary Energy Consumption in its Order dated 31st March, 2016, 1% over and above the norms in case of PTPS (5-6) and for other Units of PTPS and other plants of HPGCL the auxiliary energy consumption was kept as per the Regulation 28 (2) of the MYT Regulations, 2012, for Units 5 and 6 at 10% for PTPS Units- 7 and 8 and DCRTPS Units-1 and 2 was allowed at 8.5 % and that for RGTPS Units 1 and 2 at 6 % and WYC & Kakroi Hydel Plants as 1 % (inclusive of transformation loss). **The Commission is of the view that HPGCL must continue to put in sincere efforts to bring down the auxiliary energy consumption of its generating units as per the norms. The Commission do not intend to alter or relax the norms as approved in its last Order for FY 2016-17 at this stage i.e. pending disposal of the petition filed by HPGCL on this issue.**

Secondary Fuel Oil Consumption

HPGCL has submitted Unit-wise specific oil consumption for past 5 years as under:-

Oil Consumption (ml/kwh)	2012-13	2013-14	2014-15	2015-16	2016-17
					(up to Sept.)
PTPS - 5	1.75	2.09	1.6	1.95	2.66
PTPS - 6	0.62	1.26	1.63	3.91	2.88
PTPS - 7	0.63	0.54	0.72	1.39	1.26
PTPS - 8	0.74	0.54	0.61	0.91	1.56
DCRTPS-1	3.06	0.54	0.51	0.5	0.68
DCRTPS-2	2.59	1.28	1.05	0.48	1.04
RGTPS-1	1.66	0.54	0.28	0.66	0.61
RGTPS-2	1.08	0.72	0.56	0.69	0.75
HPGCL	1.78	0.85			

It has submitted, that the specific oil consumptions of relatively new generating Units have improved over the years. The table given above reveals that the new generating stations of the HPGCL are able to achieve the normative level of specific oil consumption when allowed to run at the optimum level. However, the backing down of

Units increases the specific oil consumption of Units especially the old ones as the Units need to be run on oil support during the start-ups and while running at partial capacity. Even in the new Units, if the running of the power plants is below the minimum technical run, it leads to higher oil consumption. Further, oil support is frequently required for stability of the furnace and to prevent the Units from tripping due to poor quality of coal. However, secondary fuel consumption is proposed by HPGCL in line with the Commission Order dated 31.03.2016 in Case no. HERC/PRO 30 of 2015 as under:-

Proposed SFC (ml/kWh)

SFC (in ml/kWh)	Approved	Proposed	
	FY17	FY17	FY18
PTPS – 5-6	1	1	1
PTPS –7-8	1	1	1
DCRTPP-1-2	1	1	1
RGTPP-1-2	1	1	1

HPGCL has submitted that the above proposition has been given considering the normal operation of the HPGCL generating plants. There is no specific provision/ criteria given in the HERC MYT Regulation, 2012 to govern the abnormal running i.e. massive backing down and frequent start and stop operation of the generating plant on the instructions of the beneficiaries. HPGCL has submitted Removal of Difficulty Petition (Petition no. HERC/PRO 29 of 2016) for amendment in Haryana Grid Code (HGC), 2009 regarding incorporating amendments in CERC IEGC regulations notified on 06.04.2016. As per the amendment a generator is to be compensated in its SFC for start and stop operation on instruction of beneficiaries and has further requested the Commission to consider the petition and allow relaxation in case of high backing down on instruction of Discoms.

The commission observes that the HPGCL has been able to achieve the normative level of specific oil consumption when allowed to run its plants at the optimum level. However the old units PTPS 5-8 the specific oil consumption is still higher than the norms which needs to be improved upon with focus to achieve the bench mark. The commission approves the specific oil consumption of the HPGCL power plants for the

FY 2017-18 as proposed by the Petitioner which is in line with the MYT Regulations 2012 as amended from time to time.

Station Heat Rate (SHR)

The unit wise station Heat rate of the HPGCL plants for the past 5 years is as under:-

Station Heat Rate (in Kcal/kwh)

	2012-13	2013-14	2014-15	2015-16	2016-17 (up to Sept.)
PTPS-5	2568	2577	2537	2548	2491
PTPS-6	2570	2579	2546	2514	2521
PTPS-7	2523	2494	2482	2495	2475
PTPS-8	2517	2497	2464	2491	2438
DCRTPS-1	23895	2383	2337	2331	2326
DCRTPS-2	2395	2392	2341	2328	2328
RGTPS-1	2592	2375	2387	2384	2434
RGTPS-2	2537	2369	2395	2392	2413
HPGCL	2608	2447			

HPGCL has submitted that as a result of good O&M practices, despite adverse conditions of high backing down and low quality of coal, plants of HPGCL have exceeded the performance parameters set by the Commission with regards to SHR. It has been submitted that there has been a sudden jump in SHR of RGTPS in the FY 2016-17. The SHR for FY 2015-16 was lower than normative as there was error in coal stock accounting and all the coal consumed could not be accounted for calculation of SHR and hence it was calculated below normative level. HPGCL has submitted that it had to suffer loss on account of the discrepancy which reflected in balance sheet of the FY 2015-16 as loss of Rs 26 Crore on account of coal verification. HPGCL has further submitted that RGTPS is operated at the lowest slab of PLF (55-65%) and hence it is very difficult to achieve the norm.

HPGCL has submitted that the normative station heat rate has been calculated by multiplying degradation factor of 1.065 to the *Designed Heat rate* of the plant. Designed Heat rate of the plant is a ratio of *Design Turbine Heat rate and Boiler Efficiency*. Design

Turbine Heat rate is dependent upon PLF at which plant is operating and the Boiler Efficiency depends upon the GCV of the coal fed into the boiler. As such PLF and the GCV are the two constraints which affect the SHR of the plant. In case of the HPGCL both the factors are affecting the SHR adversely due to excessive backing down and low GCV of coal.

The impact of variation in GCV on the Boiler Efficiency corresponding to design GCV of 4000 Kcal/Kg has been given as under:

	Impact on Boiler Efficiency (%)			
Variation in GCV (Kcal/Kg)	DCRTPP	RGTPP (87.21%)	PTPS Unit6 (87.28%)	PTPS Unit 7-8 (86.90%)
	-87.11%			
-400	-0.8	-1	-0.5	-0.7
-600	-1.8	-1.7	-0.9	-1.1
-800	-2.7	-2.3	-1.2	-1.6
-1000	-	-	-1.65	-2.9

The impact of the variation in the PLF on the Design Turbine Heat Rate has been given as under as per the OEM M/s Shanghai Electric Co.

PLF and Design Turbine Heat Rate (kCal/kWh)				
PLF%	DCRTPP	RGTPP	PTPS Unit-5&6	PTPS Unit-7&8
100%	1916.6	1952.9	1989	1954
80%	1952.5	1971	2050	-
75%	-	-	-	2016
60%	2021.2	2035	2097	2052
50%	-	2086	-	-

HPGCL has submitted that the calorific value of coal received is less than designed value by around 400 kCal/kg and due to backing down on instructions of SLDC/Discoms the plants operates at PLF of around 60%. If Boiler Efficiency and Turbine Cycle Heat rate corresponding to given deviation as per the above tables is used in equation for deriving values of SHR of plant then SHR obtained would be as per below table:

SHR at 60% PLF and Coal GCV deviation of 400 kCal				
Plant	Boiler Efficiency at Calorific Value (%)	Turbine Cycle Heat Rate (kCal/kWh)	Station Heat Rate (kCal/kWh)	Normative Station Heat Rate (kCal/kWh)
PTPS 5-6	86.78%	2097	2573.53	2550
PTPS 7-8	86.20%	2052	2535.24	2500
DCRTPP	86.31%	2021	2493.76	2344
RGTPP	86.21%	2035	2513.95	2387

It has been submitted that the actual SHR corresponding to values of calorific value of coal received and PLF is much higher than normative value of SHR. There is no express provision in the HERC MYT Regulation, 2012 to govern the variation of SHR due to poor quality of coal and running of the power plants at partial load.

HPGCL got the Turbine Performance Evaluation Test performed from NTPC for RGTPS in October 2016. In the said test NTPC measured Turbine cycle heat rate at partial loads. The results of tests are tabulated below:-

Heat Rate (kCal/kWh) at % Turbine MCR

Sl. No.	Test details	Test Heat Rate (kCal/kWh)	Corrected Heat rate (kCal/kWh)
1	100 % TMCR	2077.89	2030.38
2	80 % TMCR	2108.83	2077.28
3	70 % TMCR	2140.06	2115.84
4	60 % TMCR	2141.69	2107.76

The design Turbine Cycle Heat Rate of RGTPS is 1953 kCal/kWh, hence there is a deviation of around 6% at loading of 60% of MCR.

HPGCL has submitted that a removal of difficulty petition (Petition no. HERC/PRO 29 of 2016) for amendment in Haryana Grid Code (HGC), 2009 regarding incorporating amendments in CERC IEGC regulations notified on 06.04.2016 and has been filed. As per the amendment a generator is to be compensated in its SHR for low PLF resulting from backing down instruction of beneficiaries. The Commission has been requested to consider the petition and allow relaxation in case of high backing down on

instruction of Discoms.

Relaxation in SHR due to operation of RGTPS & DCRTPS at lower than normative PLF in line with relaxations extended by CERC in IEGC Regulation has also been calculated by HPGCL in the table below for first five months of FY 2016-17.

Relaxation in SHR of RGTPS as per CERC IEGC Regulations

S No.	PLF(%)	% of Operation Time (A)	% Relaxation in SHR Admissible as per IEGC (B)	Relaxed SHR in kCal/kWh (C=2387x(1+B))	Relaxed SHR in kCal/kWh Σ (Ax C)
1	85-100	24.8	0	2387	2491.2
2	75-84.99	3.6	2.25	2441	
3	65-74.99	0.3	4	2482	
4	55-64.99	71.3	6	2530	
Total		100			

Relaxation in SHR of DCRTPS as per CERC IEGC Regulations

S No.	PLF(%)	% of Operation Time (A)	% Relaxation in SHR Admissible as per IEGC (B)	Relaxed SHR in kCal/kWh (C=2344x(1+B))	Relaxed SHR in kCal/kWh Σ (Ax C)
1	85-100	14.07	0	2344	2424.6
2	75-84.99	39.14	2.25	2396.7	
3	65-74.99	12.42	4	2437.8	
4	55-64.99	34.37	6	2484.6	
Total		100			

From above table the relaxed SHR of RGTPS and DCRTPS works out to 2491.2 kCal/kWh and 2424.6 kCal/kWh respectively. The same is less than SHR as calculated by correction curve provided by OEM, as amendment in CERC IEGC regulation does not incorporate effect of reduction in GCV of coal.

It has been submitted that despite the above , HPGCL owing to its good O&M practices, has been able to restrict SHR of RGTPS to 2434 kCal/kWh and for DCRTPS

within normative level (2344 kCal/kWh).

It has been submitted that though HPGCL in the present petition has restricted itself to the normative SHR for determination of generation tariff. However, it has been prayed that the Commission may provide for in its order for compensating the higher SHR as per methodology submitted in Petition no. HERC/PRO 29 of 2016.

HPGCL has proposed the Station Heat Rate line with the Commission Order dated 31.03.2016 in Case no. HERC/PRO 30 of 2015 regarding Generation Tariff for the FY 2016-17 as under:-

SHR (kCal/kWh)	Approved	Proposed	
	FY 17	FY 17	FY 18
PTPS – 5-6	2550	2550	2550
PTPS –7-8	2500	2500	2500
DCRTPP-1-2	2344	2344	2344
RGTPP-1-2	2387	2387	2387

HPGCL has requested the Commission to approve the SHR for the various plants/ units as proposed above, considering the historical performance, operational issues and regulatory norms.

The Commission observes that HPGCL has been able to achieve SHR norms for its plants during the FY 2015-16 and FY 2016-17 (end/Sept.) except for RGTPS units I & II in FY 2016-17 which has been reported as 2434 Kcal/Kwh & 2413 Kcal/Kwh respectively. HPGCL is required to continue its efforts for further improvement in its critical performance parameter. Further, in view of the fact that there is no specific provision in the HERC MYT Regulations, 2012 to compensate for the degradation of the performance. Parameters like SHR in line with CERC IEGC Regulation, 2016 cited by the petitioner. Since a separate petition has been filed seeking removal of difficulty and hearing has been held in the matter, the Commission shall pass a separate Order. As far as the present petition is concerned, the Commission observes that, HPGCL has prayed that the SHR may be pegged as per the Commission's Order dated 31st March, 2016 for the FY 2016-17 in case no. HERC/PRO-30 of 2015 regarding generation tariff. Hence, the Commission for

determination of HPGCL's generation tariff for the FY 2017-18 approves the same i.e. as proposed by the HPGCL.

Calorific Value and Price of fuel (Coal & Oil)

HPGCL has submitted that the GCV of Coal has been proposed for the FY 2016-17 and the FY 2017-18 as per the actual weighted calorific value of coal for PTPS, DCRTPS and RGTPS during the FY 2015-16 in accordance with Regulation 33 of HERC MYT Regulations, 2012 as under:-

GCV of coal (kcal/Kg) for FY 2016-17 and FY 2017-18

Calorific Value of Coal(Kcal/kg)			
Particulars	PTPS	DCRTPP	RGTPP
Gross Calorific Value of Coal (kcal/Kg)	3724.33	3630	3544

The petitioner has further submitted that the GCV of secondary fuel (oil) has also been proposed for the FY 2016-17 and the FY 2017-18 as per the actual weighted calorific value of oil for PTPS, DCRTPS and RGTPS during the FY 2015-16 as under:-

GCV of oil (kcal/Kl) for FY 2016-17 and FY 2017-18

Calorific Value of Oil (Kcal/kl)			
Particulars	PTPS	DCRTPP	RGTPP
Gross Calorific Value of oil (kcal/Kl)	10107	10091	10303

HPGCL has proposed the weighted average cost of coal and oil for the FY 2016-17 on the basis of actual weighted average cost of coal of the respective power plant in FY 2015-16. HPGCL has proposed same weighted average coal and oil price for FY 2017-18 since there is no provision of fuel price escalation in HERC MYT Regulations, 2012.

The weighted average landed price of coal and oil has been proposed by the petitioner as under:-

Coal (Rs/MT) for FY 2016-17 and FY 2017-18

Particulars	PTPS	DCRTPP	RGTPP
FY 2016-17	4866.34	4510.66	5018.24
FY 2017-18	4866.34	4510.66	5018.24

Cost of Oil (Rs/KL) for FY 2016-17 and FY 2017-18

Particulars	PTPS	DCRTPP	RGTPP
FY 2016-17	38880.01	42800.4	42120.8
FY 2017-18	38880.01	42800.4	42120.8

In the public hearing held in the case, the petitioner submitted that after pursuing the issue of grade slippage of coal with the Ministry of Coal, GoI, there is significant improvement in the grade / quality of the coal received at the HPGCL's power plant. As directed by the Commission during the public hearing, the petitioner, vide their email dated 17.03.2017, submitted revised landed weighted average GCV of coal and weighted average price of coal as under:-

Cost of Coal (Rs/MT) for FY 2016-17 and FY 2017-18 (revised)

Particulars	PTPS	DCRTPP	RGTPP
FY 2016-17	4487	4399.28	4548
FY 2017-18	4487	4399.28	4548

GCV (kcal/kg) for FY 2016-17 and FY 2017-18 (revised)

Particulars	PTPS	DCRTPP	RGTPP
FY 2016-17	3807	3621	3569
FY 2017-18	3807	3621	3569

The Commission has taken on record the revised proposal filed by the petitioner w.r.t GCV and price of the coal and the same shall be considered for generation tariff determination for the FY 2017-18.

Additionally, the petitioner dwelt at length on the major operational and financial constraints and the efforts being made by HPGCL to reduce or mitigate the impact of these constraints including that arising from frequent backing down of their power plants on the instructions of the Discoms. It has been submitted that the incidence of backing

down and frequent start and stop operations thereto has been continuously increasing i.e. in terms of generation (MUs) it increased from 426.52 MUs in the FY 2011-12 to 6493.8 MUs in the FY 2016-17 (up to September). Hence, HPGCL has prayed that the Commission, while determining generation tariff may give due consideration to the technical and operational constraints being faced by them.

It has been further submitted that as per the Coal Supply Agreement, in case HPGCL does not lift the minimum stipulated quantity, (67% of annual contracts capacity for FY 2015-16) a significant amount (10 to 40% of coal cost) becomes payable as compensation on account of short lifting to the coal companies, considering it as the deemed delivered quantity. Thus impact of the backing down on HPGCL is manifold. On the one hand, HPGCL has to struggle with the problem of excessive coal stock and on the other hand it has to pay compensation for short lifting which increases the effective coal cost per ton as well as apprehension of termination of coal linkage. Further backing down also leads to stacking of coal leading to problems like smoldering of coal stock and moisture ingress which leads to decrease in GCV of coal and increase fuel cost of HPGCL plants.

HPGCL has submitted that though there is a provision in the HERC regulations that PLF of HPGCL shall be calculated considering the backing down impact for recovering annual fixed charges but there is no provision for recovering the consequential loss due to abnormally high auxiliary consumption, Specific oil consumption, SHR and loss of equipment. Also there is no such provision in the HERC, HGC Regulation, 2009. Central Electricity Regulatory Commission (CERC) has amended its IEGC Regulation, 2010 vide notification dated 06.04.2016. The amendments have enabled Inter-State Generators to claim relaxations in technical parameters (like SHR, Auxiliary Consumption, SFC) in case of backing down on instructions of beneficiaries.

In view of the above HPGCL has requested that similar appropriate provision may also be provided in the HERC, HGC Regulation, 2009 and MYT Regulations for relaxing the norms of auxiliary consumption, Specific oil consumption and SHR during the backing down on instruction of beneficiary. It has been further prayed that till the time such amendment are made, the Commission may, provide

suitably for relaxations in technical parameters for FY 2016-17 also. It has been mentioned that CERC has come with the aforesaid notification for relaxing the technical norm during the backing down immediately keeping in view the marginal fall in the PLF of the central generating station from 73.96% in FY 2013-14 to 72.52% in FY 2015-16 whereas HPGCL in Haryana is facing such problem since F.Y. 2012-13 but the corresponding provision is still awaited.

The Commission has considered the above issues emanating from the petition i.e. Case No. 39 of 2016 regarding relaxation in norms as per Indian Grid Code Regulation (CERC). It is reiterated that the said petition shall be separately considered on merit and an appropriate Order will be passed in the said case. Meanwhile, the Commission has proceeded to determine generation tariff for HPGCL's power plants for the FY 2017-18 in the light of MYT Regulations in vogue and the dispensations considered in the preceding paragraphs of the present Order.

22 Determination Generation Tariff for FY 2017-18

While determining the generation tariff for the FY 2017-18, the Commission has considered the followings:-

- i) PLF for PTPS Units 5-6 and WYC (hydro) has been pegged at 35% given the fact that these thermal power plants are expected to be dispatched intermittently i.e. during the peak power demand months only and 37% (given non-availability of two machines) respectively. While PLF of all other power stations have been pegged at 85% line with the HERC MYT Regulations in vogue.
- ii) Auxiliary Energy Consumption for PTPS (Units 5-6) has been relaxed from 9% to 10% in line with the previous Order of the Commission. Further, considering the past trend of Auxiliary Energy Consumption and low PLF of PTPS (Units 7-8), the Commission has considered the proposal of HPGCL for relaxation of the same by 0.50% i.e. from 8.50% to 9%. In the case of all other power plants the auxiliary energy consumption has been considered as per the MYT Regulations in vogue.

- iii) For working out fuel cost, the Commission has considered GCV and Cost of coal, based on revised data/information provided by HPGCL, on the basis of weighted average of GCV and cost of coal for the period from April, 2016 to December, 2016.
- iv) O&M Expenses have been taken, in accordance with the Commission's Order dated 07.11.2016 amending the MYT Regulations, 2012 i.e. base year, for projecting normative values for annual determination of the ARR/Tariff petition(s) for the FY 2017-18 shall be the FY 2015-16 based on the audited accounts of the licensees and the generating company. O&M expenses of the HPGCL's power plants have been further increased by the apportioned employees cost of PTPS (1-4) as proposed by HPGCL. In the case of PTPS (Units 5&6), the Commission has restricted R&M & A&G expenses to 50% of the normative expenses. Further, the Commission has raised the issue of redeployment of employees rendered surplus due to de-commissioning of PTPS (1-4) and intermittent operation, due to low demand, of PTPS (5&6). HPGCL seems to have made some efforts regarding the same. Continuing with the objective of reducing the employees cost, the Commission has reduced the same by 10% from the norms to further spur the efforts of HPGCL to vigorously pursue re-deployment of the employees so as to reduce the said cost in the cost of generation of PTPS (5&6). The O&M expenses of PTPS (Units 5&6) shall be considered for true-up on actual basis subject to prudence check and the relevant Regulations occupying the field.
- v) The Commission had approved relaxed norms for maintenance spares of RGTPS and DCRTPS @ 15% of the allowed O&M expenses for the control period 2014-15 to 2016-17. The same relaxation has been continued for the FY 2017-18 as prayed for by HPGCL.
- vi) The Commission, in its Order dated 31.03.2016, had disallowed spares capitalized by HPGCL. Accordingly, the depreciation on the same in disallowed for FY 2017-18 also. Further, HPGCL has submitted that

unclaimed depreciation in respect of PTPS Unit 6 as on 31.03.2016 is Rs. 9.90 Crore and depreciation for the FY 2016-17 @ 0.70% of GFA comes to Rs. 7.08 Crore. Thus, unclaimed depreciation in respect of PTPS Unit 6 for the FY 2017-18 shall be Rs. 2.82 Crore. Therefore, depreciation for PTPS Unit 6 has been restricted to Rs. 2.82 Crore for the FY 2017-18. Depreciation on account of additional capitalization in respect of PTPS Unit 6 shall be considered at the time of true-up for the FY 2017-18. Further, it has been observed that while calculating depreciation, HPGCL has sought additions to fixed assets in excess of the Capex approved for the FY 2017-18. HPGCL has submitted that the same is on account of projected capitalisation of the Capex approved in the earlier period. The Commission shall review the additions to fixed assets with the approved Capex plan, at the time of true-up for the FY 2017-18.

- vii) Interest on working capital, in line with the MYT Regulations, has been calculated @ 10.55% p.a. (base rate of SBI i.e. 9.30% + margin of 1.25%).
- viii) The SLDC charges determined by the Commission for the FY 2017-18 shall be billed separately by HPGCL to the beneficiaries.
- ix) As all expenditure relating to petition filing fee including publication of notices etc. and any other statutory fees/regulatory fees etc. is recovered as part of the A&G expenses therefore no separate provision is required for recovery of the same.

Accordingly, the generation tariff (fuel & fixed cost) has been determined by the Commission for the FY 2017-18. The computational details are provided in the tables that follow.

ENERGY/VARIABLE CHARGES FOR PTPS AND RGTPS (FY 2017-18)

Parameters	Unit	Derivation					RG TPS		DCR TPS		WYC	Total HPGCL
			Unit 5	Unit 6	Unit 7	Unit 8	Unit 1	Unit 2	Unit 1	Unit 2		
Installed Capacity (MW)			210	210	250	250	600	600	300	300	62.4	2782.4
Gross Generation	MU	A	643.86	643.86	1,861.50	1,861.50	4,467.60	4,467.60	2,233.80	2,233.80	202.25	18615.77
PLF (%)			35.00	35.00	85.00	85.00	85.00	85.00	85.00	85.00	37	
Auxiliary Energy Consumption	%		10.00%	10.00%	9.00%	9.00%	6.00%	6.00%	8.50%	8.50%	1.00%	7.42%
Generation (Ex-bus)	MU	A1	579.47	579.47	1693.97	1693.97	4199.54	4199.54	2043.93	2043.93	200.23	17234.05
Station Heat Rate (SHR)	Kcal/kwh	B	2550	2550	2500	2500	2387	2387	2344	2344		
Specific Oil Consumption	ml/kwh	C	1	1	1	1	1	1	1	1		
Gross Calorific Value of Oil	Kcal/litre	D	10107	10107	10107	10107	10303	10303	10091	10091		
Gross Calorific Value of Coal	Kcal/Kg	E	3807	3807.00	3807.00	3807.00	3569.00	3569.00	3621.00	3621.00	NA	
Overall Heat	G.cal	F=(A*B)	1641843.00	1641843.00	4653750.00	4653750.00	10664161.20	10664161.20	5236027.20	5236027.20	NA	
Heat from Oil	G.cal	G=(A*C*D)	6507.49	6507.49	18814.18	18814.18	46029.68	46029.68	22541.28	22541.28	NA	
Heat from Coal	G.cal	H= (F-G)	1635335.51	1635335.51	4634935.82	4634935.82	10618131.52	10618131.52	5213485.92	5213485.92	NA	
Oil Consumption	KL	I=G*1000/D	643.86	643.86	1861.50	1861.50	4467.60	4467.60	2233.80	2233.80	NA	
Coal Consumption	MT	J=(H*1000/E)	429560.15	429560.15	1217477.23	1217477.23	2975099.89	2975099.89	1439791.75	1439791.75	NA	
Cost of Oil per KL	Rs/KL	K	38880.01	38880.01	38880.01	38880.01	42120.80	42120.80	42800.40	42800.40	NA	
Cost of Coal	Rs/MT	L	4487.00	4487.00	4487.00	4487.00	4548.00	4548.00	4399.29	4399.29	NA	
Total Cost of Oil #	Rs .Mln	M=(K*I)/10 ⁴	25.03	25.03	72.38	72.38	188.18	188.18	95.61	95.61		
Total Cost of Coal	Rs.Mln	N=(J*L)/10 ⁴	1927.44	1927.44	5462.82	5462.82	13530.75	13530.75	6334.05	6334.05	NA	54510.13
Fuel Cost/Kwh	Rs.	O=N/A1	3.33	3.33	3.22	3.22	3.22	3.22	3.10	3.10	NA	3.16

Cost of Secondary Fuel Oil reduced from Energy Charges and added to the Fixed Charges of the respective Power Plants.

The average fuel / variable cost for HPGCL as a whole, as per their revised submission, is Rs. 3.20 / kWh i.e. Rs. 55,272.21 / 17,211.71. However, as per MYT Regulations in vogue the cost of secondary fuel oil is to form part of the fixed cost of the power plants. Accordingly, the fuel cost reduced by the cost of oil, as per HPGCL's submissions, is Rs. 54,509.82 Million i.e. 3.17 / kWh (rounded off). The marginal difference has arisen due to the fact that the auxiliary energy consumption for DCR TPS have been considered by the Commission as per the approved norms due to the fact that the actual auxiliary energy consumption reported by HPGCL for DCR TPS for the FY 2015-16 (for which full year data was made available) for DCR TPS Unit 1 and Unit – 2 are 8.45% and 8.66% respectively i.e. fairly close to the HERC norms of 8.5% as against the relaxed norms of 9% prayed for by the HPGCL.

Having determined fuel / variable cost as above, the Commission has proceeded to determine fixed cost components of generation tariff as under:-

WORKING CAPITAL AND INTEREST FOR FY 2017-18 (RS. MILLION)

ITEMS	DERIVATION	PTPS				RGTPS	DCR TPS	WYC	TOTAL
		Units 5	Unit 6	Unit 7	Unit 8	Unit 1 & 2	(Unit 1 & 2)		
Coal Stock	2 months	321.24	321.24	910.47	910.47	4510.25	2111.35	0	9085.02
Oil Stock	2 months	4.17	4.17	12.06	12.06	62.726	31.87	0	127.06
O&M Expenses	1 months	46.94	45.547	69.22	59.28	153.84	124.15	29.31	528.28
Maint. Spares	10%/15%/7.5% of O&M	56.32	54.66	83.06	71.13	276.91	223.47	26.38	791.93
Receivables	1 month	219.99	231.63	589.16	578.72	2923.95	1433.10	36.15	6012.70
W/C Requirement		648.66	657.24	1663.97	1631.66	7927.68	3923.94	91.84	16544.99
Int (@10.55%		68.43	69.34	175.55	172.14	836.37	413.98	9.69	1745.50

FIXED COST FOR FY 2017-18 (RS. MILLION)

EXPENSES	PTPS-5	PTPS -6	PTPS -7	PTPS - 8	RGTPS 1	RGTPS 2	DCR TPS 1	DCR TPS 2	WYC	TOTAL
Operation & Maintenance (O&M)										
a) R&M Expenses (50% PTPS 5-6)	131.36	128.87	367.42	294.20	327.02	327.02	247.09	247.09	32.23	2102.31
b) A&G Expenses	6.33	7.14	21.20	18.06	32.93	32.93	33.75	33.75	6.27	192.36
c) Employees Cost	264.00	249.01	279.49	236.55	345.52	345.52	284.73	284.73	192.20	2481.73
d) Employee Cost of PTPS 1-4, as per HPGL	161.54	161.54	162.51	162.51	217.56	217.56	179.33	179.33	121.03	1562.92
Total O & M (a+b+c+d):	563.23	546.56	830.61	711.31	923.04	923.04	744.90	744.90	351.74	6339.32
Depreciation	18.52	28.20	269.51	269.07	1041.02	1041.02	538.45	537.83	32.42	3776.04
Interest & Finance	31.65	31.65	42.75	42.75	954.95	954.95	435.10	435.10	25.20	2954.10
W/C Interest	68.43	69.34	175.55	172.14	418.19	418.19	206.99	206.99	9.69	1745.50
ROE @ 10%	5.60	151.30	216.30	214.20	487.60	487.60	243.80	243.80	14.70	2064.90
Fixed Cost	687.43	827.05	1534.72	1409.48	3824.79	3824.79	2169.24	2168.61	433.74	16879.86
Cost of Oil	25.03	25.03	72.38	72.38	188.18	188.18	95.61	95.61	0.00	762.39
Total Fixed Cost	712.47	852.09	1607.10	1481.85	4012.97	4012.97	2264.84	2264.22	433.74	17642.25

TARIFF	PTPS -5	PTPS -6	PTPS -7	PTPS - 8	RGTPS 1	RGTPS 2	DCR TPS 1	DCR TPS 2	WYC	TOTAL
Fuel Cost Rs/kWh	3.33	3.33	3.22	3.22	3.22	3.22	3.10	3.10	NA	3.16
Fixed Cost Rs. million)	712.47	852.09	1607.10	1481.85	4012.97	4012.97	2264.84	2264.22	433.74	17642.25

The recovery of fixed charges to the extent determined above, by the Commission, for the FY 2017-18 shall be as per the provisions of the MYT Regulations, 2012. It is made clear that as per clause 30(a) of the MYT Regulations, 2012, a generating plant shall recover full capacity charge at the normative annual plant availability factor specified for it by the Commission and the recovery of capacity charge

below the level of target availability i.e. normative PLF shall be on pro-rata basis and further that no capacity charge shall be payable at zero availability.

Accordingly, HPGCL shall ensure that fixed charges recovered for any of its power plants for which fixed charges have been determined by the Commission in its present Order, during the year, do not exceed the fixed charges as determined by the Commission.

Further, in case of annual PLF of any unit, including deemed generation, is lower than the normative PLF given in the order, the recoverable annual fixed charges shall get reduced on pro-rata basis. In view of above, it is ordered that HPGCL shall recover monthly fixed charges in line with the provision of MYT Regulations, 2012, subject to the condition that total recovered fixed charges for a Unit up to the end of a month shall not be more than the admissible approved fixed charges for that Unit as worked out corresponding to the cumulative PLF (after including deemed generation) up to the end of that month. For example at the end of 3rd month, if the deemed PLF is 80% and the normative PLF is 85%, the admissible approved fixed charges would be $AFC/4 \times (0.80/0.85)$ where AFC are the approved annual fixed charges. In case cumulative PLF at the end of 3rd month is more than the normative PLF, the admissible approved fixed charges will be $AFC/4$.

All other terms and conditions not explicitly dealt with in this order shall be as per the relevant provisions of the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012.

The Generation Tariff approved for the FY 2017-18 shall be implemented w.e.f 01.04.2017.

23 Commission's Directive

1. It has been observed that repair & maintenance activities have also been made part of CAPEX by HPGCL. Since, the Commission has approved CAPEX for the FY

2017-18 and HPGCL is required to submit CAPEX plan for the ensuing control period in line with the amended MYT Regulations, it is directed that such like expenditure up to Rs. 50 lacs should be met out of O&M expenses and should not be made part of the Capex.

2. As directed earlier also and given the fact that the HPGCL's power plants i.e. DCRTPS and RGTPS are of foreign make i.e. China, HPGCL is advised to vigorously pursue indigenous vendor development. This is also crucial given the fact that these machines were last of its kind supplied by the Chinese firm. Status and efforts made regarding the same may be submitted to the Commission.

3. It has been observed by the Commission that HPGCL has written off stock amounting to Rs. 89.10 Crore & Rs. 0.283 Crores, pertaining to PTPS (units 1 to 4) and WYC Hydro, respectively, during the FY 2015-16. In this regard, HPGCL is directed to optimize inventory of the Power Plant for spares and other maintenance equipments etc. and restrict itself in piling up of inventory. HPGCL is further advised to take necessary measure and conduct regular stock verification of its inventories.

4. HPGCL's power plant at Panipat (Unit 5 to 8) may continue to be dispatched only intermittently resulting in low PLF and thereby under utilisation of the assets for which fixed cost still remains payable by the electricity consumers of Haryana. Further, due to the comparatively higher fuel cost these power plants may continue to figure low down in the merit order. Hence, it would be in the fitness of things that HPGCL explores the possibilities of getting into medium / long term agreement commensurate with the remaining useful life, with the new Industrial Estates being promoted by HSIDC and SEZs to directly sell power to them under captive mode or user's association mode or even to the deemed licensees i.e. MES, Railways etc. to ensure that the fixed cost burden of these power plants are mitigated to the extent possible.

5. HPGCL is directed to examine the HERC MYT Regulations, 2012 with special reference to determination of generation tariff and submit a proposal to amend the existing norms / incorporate new norms / regulations etc. The proposal shall be submitted within 30 days from the date of this Order.

6. HPGCL is directed to closely examine the Fuel Supply Agreement with the Coal companies regarding incentive / penalty / compensation mechanism. Further, the details of various claims raised by HPGCL and realised / pending with the Coal companies during the last three years may be submitted to the Commission within thirty days from the date of this Order including the efforts made to realise the amount outstanding.

7. Ministry of Environment, Forest & Climate Change (MoFF&CC) has recently announced tighter standards for coal based thermal power plants which may entail huge capital investment. This may virtually make the plants unviable and vintage plants may even have to be closed down. However, decision in the matter shall be taken as and when a proposal is received in the Commission. Meanwhile, the matter may be examined by HPGCL and a status report be submitted to the Commission.

8. To achieve the purpose of having an efficient enterprise, a staff rationalisation exercise may be initiated in a time bound manner and report be submitted to the Commission within three months.

This Order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 26th April, 2017.

Date: 26.04.2017	(Debashish Majumdar)	(M.S. Puri)	(Jagjeet Singh)
Place: Panchkula	Member	Member	Chairman