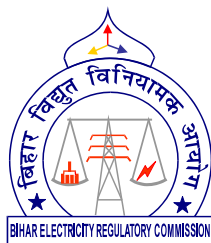


Bihar Electricity Regulatory Commission



Case No. 42 of 2017

Tariff Order

**True up for FY 2016-17,
Annual Performance Review (APR) for FY 2017-18 and
Determination of Annual Revenue Requirement (ARR) and
Generation Tariff for the FY 2018-19
for**

**Bihar State Power Generation Company Limited
(BSPGCL)**

Issued on 7th March, 2018

(With effect from 1st April, 2018)

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ABBREVIATIONS

A&G	Administration and General Expenses
ACT	Electricity Act. 2003
ARR	Annual Revenue Requirement
BERC	Bihar Electricity Regulatory Commission
BSHPS	Bihar State Hydro Power Station
BSEB	Bihar State Electricity Board
BSPHCL	Bihar State Power (Holding) Company Limited
BSPTCL	Bihar State Power Transmission Corporation Limited
BTPS	Barauni Thermal Power Station
CAGR	Compounded Annual Growth Rate
CAPEX	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGS	Central Generating Station
CTU	Central Transmission Utility
CWIP	Capital Work in Progress
DISCOM	Distribution Company
FC	Fixed Charges
FPPCA	Fuel and Power Purchase Cost Adjustment
FY	Financial Year
GFA	Gross Fixed Asset
KBUNL	Kanti Bijlee Utpadan Nigam Limited
KVA	Kilo Volt Ampere
KVAH	Kilo Volt Ampere Hour
KWH	Kilo Watt Hour
MoP	Ministry of Power
MU	Million Unit
MVA	Mega Volt Ampere
MW	Mega Watt
MYT	Multi-Year Tariff
NBPDCL	North Bihar Power Distribution Company Limited
NFA	Net Fixed Asset
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance
PLF	Plant Load Factor
R&M	Repair and Maintenance
RE	Revised Estimates
RoE	Return on Equity
SAC	State Advisory Committee
SBPDCL	South Bihar Power Distribution Company Limited
SERC	State Electricity Regulatory Commission
TPS	Thermal Power Station



Bihar Electricity Regulatory Commission

Ground floor, Vidyut Bhawan –II
Jawaharlal Nehru Marg,
Patna – 800021

Case No: 42 of 2017

In the matter of:

True up for Financial year 2016-17, Annual Performance Review (APR) for FY 2017-18 and determination of Annual Revenue Requirement (ARR) and Generation Tariff for the FY 2018-19 for Bihar State Power Generation Company Limited (BSPGCL).

AND

Bihar State Power Generation Company LimitedPetitioner

Present:

Shri S. K. Negi	-	Chairman
Shri Rajeev Amit	-	Member
Shri R. K. Choudhary	-	Member

ORDER

(Passed on 7th March, 2018)

Bihar Electricity Regulatory Commission (Terms and Conditions for determination of Tariff Regulations, 2007) specify that the Generation Companies shall file Annual Revenue Requirement (ARR) and the Tariff Petition complete in all respects along- with requisite fee as specified in the BERC (Fees, Fines and charges) Regulations, 2005 on or before 15th November of the preceding year. Accordingly, the BSPGCL has filed the petition on 8th December, 2017 for true up for FY 2016-17, annual performance review of for FY 2017- 18 and determination of ARR and Generation tariff for FY 2018-19.

In exercise of the powers vested in Bihar Electricity Regulatory Commission under Section 62(1)(a) read with Section 64 (3) of the Electricity Act, 2003 and Bihar Electricity Regulatory Commission (Terms and conditions for Determination of Tariff) Regulations 2007 (hereinafter referred to as 'Tariff Regulations') and other enabling provisions in this behalf, the Commission has issued this order, trueing up ARR for FY 2016-17, reviewing ARR for FY 2017-18 and determining the ARR and Generation Tariff for FY 2018-19 for supply of electricity by Bihar State Power Generation Company Limited to NBPDC and SBPDCL.

As per Regulation 6(5) of the Tariff Regulations and for providing adequate opportunities to all stakeholders and general public for making suggestions/objections on the petitions as mandated under section 64(3) of the Electricity Act, 2003, the Commission directed BSPGCL to publish the petition in an abridged form as "Public Notice" in newspapers having wide circulation in the State inviting suggestions/objections on the tariff petition. Accordingly, BSPGCL published the tariff petition in the abridged form as public notice in various newspapers. The petition was also placed on the BSPGCL's website. The last date of submission of suggestions/objections was fixed as 12.02.2018. The Commission, vide Advertisement No.5/BERC dated 12.02.2018, has extended the last date up to 20.02.2018 for submission of suggestions/objections by the stakeholders.

The Commission, in order to ensure transparency in the process of dealing with the above petition and for providing proper opportunity to all stakeholders and general public for making suggestions/objections on the tariff petition, decided to hold the public hearing in its office at Patna and accordingly the Commission held public hearing in the Court Room of BERC office at Patna on 22.02.2018.

The above petition submitted by BSPGCL was also placed before the State Advisory Committee on 06.02.2018 and the various aspects were discussed by the Committee. The Commission took the advice of the State Advisory Committee on the petition of BSPGCL during the meeting of the Committee.

The Commission taking into consideration the facts presented by the BSPGCL in its petition

and subsequent various filings and Comments/ suggestions/objections of general public & other stakeholders, response of the Bihar State Power Generation Company Limited and suggestions of State Advisory Committee, has trued up ARR for FY 2016-17, reviewed the ARR for FY 2017-18 and determined the ARR and Generation tariff for FY 2018-19.

BSPGCL has only one thermal power station at Barauni namely Barauni Thermal Power Station (BTPS) having 9 (nine) numbers of Units out of which five units (3x15 MW + 2x50 MW) were retired and removed from service. Out of the four remaining units, Unit no. 6 of 110 MW is under Renovation and Modernisation (R&M) and was stated to be commissioned on 28.02.2018. Unit no.7 of 110 MW is generating power since 4th November 2016 after undergoing R&M and is presently under shutdown since 07.05.2017 and was stated to be synchronised on 15.02.2018. The Unit no. 8 and Unit no.9 of 250 MW each are scheduled (revised) to be commissioned on 28.02.2018 and 01.04.2018 respectively.

BSPGCL has claimed net Annual Revenue Requirement of Rs.126.01 Crore for FY 2016-17 in truing up stating that Unit 7 is generating power w.e.f 4th November, 2016 as against which the Commission has approved Rs. 24.65 Crore.

BSPGCL has projected annual revenue requirement (ARR) of Rs. 177.46 Crore in review for FY 2017-18 considering the unit-6 will generate power for 32 days and unit-7 will generate power for 81 days. The Commission has accordingly considered ARR of Rs.99.94 Crore in review for FY 2017-18.

BSPGCL has projected that after R&M, Unit-6 & 7 of 110 MW will generate power for full year during FY 2018-19 and accordingly estimated the annual revenue requirement of Rs.592.04 Crore for FY 2018-19 against which the Commission has approved ARR of Rs. 475.42 Crore. The Commission has also provisionally approved net generation tariff of Rs.4.00 per kWh against Rs 4.987 per kWh.

BSPGCL has submitted that the Units 8 & 9 (2 x 250 MW) of BTPS extension project is

scheduled for commercial operation by the end of FY 2017-18. Estimating that both these Units 8 & 9 will generate power for full year during FY 2018-19, BSPGCL has projected the annual revenue requirement of Rs.2054.27 Crore for FY 2018-19 against which the Commission has provisionally approved ARR of Rs.1730.38 Crore.

The Commission has provisionally considered the capital cost of the extension project at Rs. 5308.07 Crore against the Capital cost of Rs. 6302.16 Crore projected by the petitioner. The final capital cost of the project shall be decided by the Commission on receipt of complete information of the project with cost over run and time over run. As such the Commission has provisionally approved net generation tariff of Rs. 5.53 per/kWh as against Rs. 6.442 per/kWh projected by BSPGCL to facilitate for billing of the power sold to the DISCOMs after CoD of the Units.

This order shall be effective from 1st April 2018 and shall remain in force till 31st March 2019 or till the next tariff order of the Commission.

This order will be placed on the website of the Commission and copies will be sent to BSPHCL, BSPGCL, BSPTCL, BGCL, NBPDC, SBPDCL, Department of Energy of Government of Bihar, Central Electricity Regulatory Commission and Central Electricity Authority.

Pronounced in the open Court on this day of 7th March, 2018

Sd/-
(R.K.Choudhary)
Member

Sd/-
(Rajeev Amit)
Member

Sd/-
(S.K.Negi)
Chairman

1. Introduction

1.1 Bihar Electricity Regulatory Commission (BERC)

The Bihar Electricity Regulatory Commission (hereinafter referred to as “Commission” or “BERC”) was constituted by the Government of Bihar under Section 17 of the Electricity Regulatory Commission Act, 1998 vide Government of Bihar notification No.1284 dated 15th April, 2002. The Electricity Regulatory Commission Act, 1998 along with Indian Electricity Act, 1910 and Electricity (Supply) Act, 1948 was repealed by Section 185 (1) of the Electricity Act, 2003 (hereinafter referred to as the “Act”). The first proviso of Section 82(1) has envisaged continuance of the Bihar Electricity Regulatory Commission by laying down that the State Electricity Regulatory Commission established by the State Government under Section 17 of Electricity Regulatory Commission Act, 1998 and functioning as such, immediately before the appointed date, shall be the State Electricity Regulatory Commission for the purpose of the Act.

1.2 Functions of BERC

As per Section 86 of the Electricity Act 2003, the State Commission shall discharge the following functions, namely:

- a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State. Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- c) facilitate intra-state transmission and wheeling of electricity;
- d) issue licenses to persons seeking to act as transmission licensees, distribution

- licensees and electricity traders with respect to their operations within the State;
- e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
 - f) adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
 - g) levy fee for the purposes of this Act;
 - h) specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;
 - i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
 - j) fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
 - k) discharge such other functions as may be assigned to it under this Act.

1.3 Bihar State Power Generation Company Limited (BSPGCL)

The Government of Bihar under the provision of Bihar Electricity Reforms Transfer Scheme 2012 notified vide Notification No.17 dated 30.10.2012 of the Energy Department, Government of Bihar restructured the Bihar State Electricity Board with effect from 1st November, 2012. The Generation, Transmission and Distribution Businesses of the erstwhile Bihar State Electricity Board were transferred to four successor companies with one Holding Company as listed below:

- 1) Bihar State Power Holding Company Limited (BSPHCL)
- 2) Bihar State Power Generation Company Limited (BSPGCL)
- 3) Bihar State Power Transmission Company Limited (BSPTCL)
- 4) North Bihar Power Distribution Company Limited (NBPDC) and
- 5) South Bihar Power Distribution Company Limited (SBPDCL)

The Government of Bihar vide notification No. 17 dated 30th October 2012, notified the provisional opening assets and liabilities of the transferee companies based on the audited accounts of erstwhile BSEB as on 1st April 2011. The value of assets and liabilities stand transferred from the erstwhile Bihar State Electricity Board to the transferee companies, including the Bihar State Power Generation Company Limited.

Assets and liabilities (gross block, loans and equity), as on the date mentioned in the notification, have been considered by the Commission in line with the Financial Restructuring Plan (FRP) as approved by the Government of Bihar.

1.4 Profile of BSPGCL

BSPGCL is a registered company under the Companies Act 1956 created under Bihar State Electricity Reforms Transfer Scheme, 2012 vide notification dated 30.10.2012 and is a fully owned subsidiary company of Bihar State Power Holding Company Limited (BSPHCL).

Barauni Thermal Power Station (BTPS) is the only power station under the aegis of BSPGCL. The Barauni Thermal Power Plant was constructed in the following three stages of 3x15 MW (Unit 1, 2 & 3), 2x50 MW (Unit 4 & 5), 2x110 MW (Unit 6 & 7) and 2x250 MW (Unit 8 & 9). The units of 3x15 and 2x50 MW were retired from service and the Unit 6 & 7 of 2x110 MW were under Renovation and Modernisation (R&M) from 21.06.2010 and 15.03.2012 respectively. R&M is being executed by BHEL under supervision of NTPC. After completion of R&M, Unit-7 was working since 04.11.2016 and is presently under shutdown since 07.05.2017 due to orders of Central Pollution Control Board (CPCB) and was stated to be synchronised on 15.02.2018. The Unit 6 was stated to be commissioned on 28.02.2018. The Unit 8 & 9 of 250 MW each of Extension project are stated to be commissioned on 28.02.2018 and 01.04.2018 respectively. In nutshell, the status of BTPS is as under:-

Present status of units of BTPS, Barauni

Generating Unit	Capacity (MW)	CoD	Present Status
Unit-1	15 MW	26.10.1966	Retired on 16.02.1983
Unit-2	15 MW	16.01.1963	Retired on 26.11.1985
Unit-3	15 MW	20.10.1963	Retired on 05.10.1985
Unit-4	50 MW	09.11.1969	Retired on 12.03.2012
Unit-5	50 MW	01.12.1971	Retired on 12.03.2012
Unit-6	110 MW	01.05.1983	Schedule for commissioning on 28.02.2018
Unit-7	110 MW	31.03.1985	Commissioned on 04.11.2016. Presently under shut down from 07.05.2017 as per CPCB orders and stated to be synchronised on 15.02.2018
Unit 8	250 MW	28.02.2018	Stated to be commissioned
Unit 9	250 MW	01.04.2018	Stated to be commissioned

1.5 Admission of Current Petition and Public Hearing Process

BSPGCL has filed the present petition on 8th December, 2017 for Truing-up for FY 2016-17 and Annual Performance Review (APR) for FY 2017-18 for Unit 6&7 and Annual Revenue Requirement (ARR) for FY 2018-19 and determination of generation charges for FY 2018-19 for Unit 6&7 and Unit 8&9 under Section 62 of Electricity Act 2003 read with Bihar Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2007.

After preliminary verification of the petition, the Commission has admitted the petition as Case No.42 of 2017. In accordance with section 64 of the Electricity Act, 2003 and sub clause 6(5) of BERC (Terms and Conditions of Determination of Tariff) Regulations, 2007, the Commission directed BSPGCL to publish the petition in an abridged form in at least two daily newspapers (one in English and the other in Hindi) having wide circulation in the State inviting objections and suggestions from its stakeholders on the ARR and Tariff Petition.

BSPGCL was also directed to publish the schedule for Public hearings along with the public notice inviting objections/suggestions.

The public notices were published in the following newspapers as given below:

Sl. No	Name of the Newspaper	Language	Date of Publication
1	Hindustan (Hindi)	English	19.01.2018
2	Dainik Jagran (Hindi)	English	19.01.2018
3	Hindustan (Hindi)	English	26.01.2018

The tariff petition was also placed on the website of BSPGCL and the Commission for inviting objections and suggestions on the petition and copies of the petition along with Annexure were also made available in the office of the Deputy General Manager (Finance), BSPGCL. The interested parties/stakeholders were asked to file their objections/ suggestions on the Petition on or before 12.02.2018. The Commission, vide Advertisement No.5/BERC dated 12.02.2018, has extended the last date up to 20.02.2018 for submission of suggestions/objections by the stakeholders. The Commission also uploaded the petition on its website.

The Commission has received one written objections/suggestions from M/s.Bihar Industries Association, Patna.

The proposal of BSPGCL was also placed before the State Advisory Committee (SAC) in its meeting held on 06.02.2018 and various aspects of the petition were discussed by the Committee. The Commission took the advice of the SAC on the petition filed by BSPGCL during the meeting of the Committee. The minutes of the meeting are placed in **Annexure-I**.

The public hearing was conducted as scheduled in the Court Room of BERC on 22.02.2018.

A note on the main issues raised by the objectors in the public hearing in respect of the petitions, along with the response of BSPGCL and the Commission's views on the response are given in Chapter-3.

1.6 Approach of this order

The BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 provides for truing up of previous year (FY 2016-17), Review of current year (FY 2017-18) and

determination of ARR and generation charges for the ensuing year i.e. FY 2018-19.

The BSPGCL has now approached the Commission with the present petition for Truing-up for FY 2016-17, Annual Performance Review for FY 2017-18, Annual Revenue Requirement for FY 2018-19 and determination of generation charges for FY 2018-19. As stated before, the petition has been listed as Case No.42 of 2017.

The Commission has examined the petition and observed that certain additional data/information and clarifications are required for conducting detailed analysis of the petition. The Commission directed the petitioner to submit the additional data/information and clarifications vide the following references:

1. Lr.No.BERC Case No.42/2017-1446 dated 18.12.2017
2. Lr.No. BERC Case No.42/2017-1473 dated 27.12.2017
3. Lr.No. BERC Case No.42/2017-54 dated 12.01.2018
4. Lr.No. BERC Case No.42/2017-88 dated 19.01.2018
5. Lr.No. BERC Case No.42/2017-98 dated 19.01.2018

The Petitioner has submitted additional information/data/clarifications in the following Letter No's:

1. Lr. No. 13 dated 06.01.2018
2. Lr. No. 14 dated 08.01.2018
3. Lr. No. 29 dated 18.01.2018
4. Lr. No. 37 dated 23.01.2018
5. Lr. No. 60 dated 03.02.2018
6. Lr. No. 67 dated 08.02.2018

The Commission has undertaken Truing-up for FY 2016-17, Annual Performance Review (APR) for FY 2017-18, determination of Annual Revenue Requirement (ARR) for FY 2018-19 and Tariff for generation for FY 2018-19 based on the provisions under BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 and its amendments made from time to time.

1.7 Contents of this order

The order is divided into Seven (7) chapters as detailed below:

1. The **First Chapter** provides a background of BSPGCL, Commission's Orders in earlier years, admission of the Petition, details of public hearing process, and the approach adopted for this order.
2. The **Second Chapter** contains a summary of Tariff petition.
3. The **Third Chapter** provides a brief account of the public hearing process, objections raised by stakeholders, Petitioner's response and Commission's views on the same.
4. The **Fourth Chapter** deals with the Truing-up for FY 2016-17 filed by BSPGCL.
5. The **Fifth Chapter** deals with the Annual Performance Review for FY 2017-18 filed by BSPGCL.
6. The **Sixth Chapter** deals with the Annual Revenue Requirement and determination of Generation Charges for FY 2018-19.
7. The **Seventh Chapter** deals with the Directives

2. Summary of Petition for Truing-up for FY 2016-17, Annual Performance Review for FY 2017-18 and Annual Revenue Requirement for FY 2018-19

2.1 Summary of the petition for Truing up for FY 2016-17, Annual Performance Review for FY 2017-18 and Annual Revenue Requirement (ARR) for FY 2018-19

The summary of Truing up for FY 2016-17, Annual Performance Review (APR) for FY 2017-18 and Annual Revenue Requirement (ARR) projected for FY 2018-19 are as given in Tables below:

Table 2.1: Annual Revenue Requirement claimed in Truing-up for FY 2016-17

Sr. No.	Particular	Approved for FY 2016-17 Tariff Order dated 21.03.2016	Approved in Tariff order dated 09.03.2017	Projected by BSPGCL in truing up for FY 2016-17
1	Fuel Cost	299.19	63.67	51.01
2	O&M expenses (Gross)	51.29	47.20	62.73
3	Interest and finance charges	-	3.28	-
4	Interest on working capital	18.25	5.59	5.70
5	Depreciation	-	-	9.58
6	Return on Equity	44.41	7.19	8.53
7	Less: Expenses Capitalized	-	-	-
8	Annual Revenue Requirement	413.14	126.93	137.55
9	Less: Non-tariff income	0.20	0.50	13.36
10	Net Annual Revenue Requirement	412.94	126.43	124.19
11	Carry Forward: Deficit of FY 2015-16 as per Accounts	-	-	(1.82)
12	Final Annual Revenue Requirement	412.94	126.43	126.01

Table 2.2: Revised ARR proposed in APR for FY 2017-18

Sr. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Fuel cost	287.74	94.29
2	O&M expenses	66.25	51.86
3	Interest and finance charges	15.59	11.28
4	Interest on working capital	18.72	2.25

Sr. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
5	Depreciation	15.59	6.47
6	Return on Equity	22.71	11.96
7	Less: O&M Expenses Capitalised	-	-
8	Total Annual Revenue Requirement	426.59	178.12
9	Less: Non-tariff income	0.50	0.66
10	Net Annual Revenue Requirement	426.09	177.45

Table 2.3: Revised generation Cost proposed in APR for FY 2017-18

Sr. No.	Particulars	Unit	Approved for FY 2017-18 in Tariff Order 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Gross Generation	MU	1180.87	395.47
2	Net Generation	MU	1039.17	348.02
3	Energy Charges	Rs. Crore	287.74	94.29
4	Annual Fixed Charges	Rs. Crore	138.35	83.16
5	Revenue Recoverable	Rs. Crore	426.09	177.45
6	Net Energy Charges	Rs / kWh	2.77	2.71
7	Net Fixed Charges	Rs / kWh	1.33	2.39
8	Net Generation Cost	Rs / kWh	4.10	5.10

Table 2.4: Annual Revenue Requirement projected for FY 2018-19

(Rs. Crore)			
Sr. No.	Particular	Projected by BSPGCL for Units 6 & 7	Projected by BSPGCL for Units 8 & 9
1	Fuel cost	331.20	740.00
2	O&M expenses	53.40	121.78
3	Interest and finance charges	69.86	477.91
4	Interest on working capital	23.71	73.99
5	Depreciation	50.47	373.84
6	Return on Equity	61.55	267.24
7	Less: O&M Expenses Capitalised	-	-
8	Total cost	590.19	2054.77
9	Less: Non-tariff income	0.50	0.50
10	Add: Deficit for FY 2016-17 carried forward	1.82	-
11	Add: Holding cost for 2 years for deficit	0.53	-
12	Net ARR	592.04	2054.27

Table 2.5: Generation Cost Projected for FY 2018-19

Sr. No.	Particular	Unit	Projected for Units 6 & 7	Projected for Units 8 & 9
1	Gross Generation	MU	1349	3504
2	Net Generation	MU	1187	3189
3	Energy Charges	Rs. Crore	331.20	740.00
4	Annual Fixed Charges	Rs. Crore	260.85	1314.26
5	Revenue Recoverable	Rs. Crore	592.04	2054.27
6	Average Energy Charges	Rs / kWh	2.790	2.321
7	Net Fixed Charges	Rs / kWh	2.197	4.122
8	Net Generation Cost	Rs / kWh	4.987	6.442

2.2 Request to the Commission

BSPGCL has requested the Commission to:

- a) Admit this petition;
- b) Condone the delay in filing this Petition in view of time extension sought by the Petitioner.
- c) Examine the proposal submitted by the Petitioner in the enclosed petition for a favourable dispensation;
- d) Pass suitable orders with respect to the Truing up for FY 2016-17 for unit of existing plant.
- e) Pass suitable orders with respect to Annual Performance Review (APR) for FY 2017-18 as per revised estimates;
- f) Pass suitable orders with respect to ARR for FY 2018-19 to be recovered from Distribution Licensees towards supply of power from power plant;
- g) Pass separate tariff order for the Petitioner against the present petition;
- h) Condone any inadvertent omissions/errors/shortcomings and permit Petitioner to add/change/modify/alter this filing and make further submissions as may be required at a future date; and
- i) Pass such Order, as the Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

3. Stakeholder's Objections/Suggestions, Petitioners Response and Commission's Observations

3.1 Background

In response to the public notice (abridge form of the petition) published by the petitioner inviting objections / suggestions from the general public / stakeholders on the Tariff Petition filed by BSPGCL, no written objections were received before the stipulated last date i.e. 12th February 2018. The Commission, vide Advertisement No.5/BERC dated 12.02.2018, has extended the last date up to 20.02.2018 for submission of suggestions/ objections by the stakeholders.

3.2 Public Hearing

The Petitioner has published the 'Notice' on 19th January 2018 in two daily Hindi Newspapers i.e. Dainik Jagran (English version) and Hindustan (English version) and again on 26.01.2018 in Hindustan (English version) intimating that the Commission will hear the case on 22.02.2018 at 3.00 PM in its Court Room of BERC office at Patna and the suggestions/objections/comments of the general public/stakeholders on the petition filed by the BSPGCL (Case on 42 of 2017).

The public hearing, as scheduled was held in the Court Room of BERC office, Patna on 22nd February 2018. The hearing was attended by the officials of the BSPGCL. Further, the representative of Bihar Industries Association (BIA), Patna has participated in the hearing. The list of participants in the public hearing is appended to this order as **Annexure-II.**

The representative of Bihar Industries Association (BIA), Patna submitted written objections/suggestions on the tariff petition filed by the BSPGCL which was forwarded to petitioner to submit their response. BSPGCL has submitted its response vide letter no 96 dated 28.02.2018.

The Commission has examined the issues and concerns of the BIA in writing and also the response of BSPGCL thereon. The comments/suggestions submitted by BIA, replies furnished the BSPGCL and the views of the Commission have been summarised hereunder:

Issue 1 : Delay in commissioning of Unit 6, 7, 8 and 9

The Units 6, 7, 8 and 9 are stated to be commissioned towards the end of FY 2017-18, which appears optimistic. There have been, several time and cost overruns, leading to inevitable burden on consumers. The Commission should ascertain reasons for the delays and allow extra cost to be passed on only, if these are due to uncontrollable factors.

Response of the Petitioner

The Commission was appraised the most realistic CoD of the Unit 6 after completion of R&M activities, Units 8 & 9 after completion of commissioning activities and resynchronisation of Unit 7 after obtaining consent to operate from Bihar Pollution Control Board along with the reasons for delay in CoD of the Units of BTPS which were majorly beyond the control of BSPGCL.

Commission's view:

The Commission has noted the comments and suggestions of the stakeholder and the response of the Petitioner. The Commission has provisionally considered the dates of CoD of relevant Units and accordingly arrived at provisional generation tariff for FY 2018-19.

Issue 2 : Disallow the operational cost claimed for FY 2016-17 and FY 2017-18

The Unit 7 was run on experimental basis during FY 2016-17 and was shut down. No significant energy generation was there during FY 2017-18. Stipulated operational parameters such as PLF have not been achieved. Passing on generation cost as projected is against the interest of public. If cost is paid by the Discoms they should be refunded with carrying cost.

Response of the Petitioner

The Unit 7 achieved its CoD on 4.11.2016 and was in commercial operation till May 2017 until it had to be shut down on Government directions and was ordered to install online effluent and emission monitoring system before resynchronisation. The variable charges incurred by the Petitioner are directly proportional to the energy generated by the plant and fixed charges are towards the expenses which are fixed in nature.

The true up for FY 2016-17 include the actual expenses borne by the Petitioner for operating the BTPS project. The fuel expenses are towards cost of coal, oil and other consumable for generating electricity in the Plant and the fixed expenses include RoE, depreciation, interest on working capital, etc. calculated on normative basis.

Commission's view:

The Commission has noted the suggestions of the stakeholder and response of the petitioner. The Commission has considered the fuel and fixed costs in true up for FY 2016-17 based on actual generation cost and other parameters in terms of BERC Tariff regulations 2007.

Issue 3 : Defer fixing of tariff for FY 2018-19

Defer fixing of tariff for Unit 6, 7, 8 and 9 till all the units are actually commissioned. There is no economic logic and rationale to start these units as the fixed charges are very high. Scrap the whole project as presently power is available at lower rates through energy exchange. If these plants are allowed, it will lead to burdening the consumers.

Response of the Petitioner

Tariff approved by the Commission is required for recovery of expenses to be incurred by BSPGCL in FY 2018-19. In view of CoD of all Units, the Commission will take a prudent and justified approach for determining the tariff for FY 2018-19.

Commission's view:

The Commission has noted the suggestions of the stakeholder and response of the petitioner. The Commission has provisionally considered the CoD of all the units and

expected to in operation and generates power during FY 2018-19 and accordingly has considered the fuel and fixed costs for FY 2018-19 in terms of BERC Tariff regulations 2007 and provisional generation tariff for Unit 6&7 and Units 8&9 notified for FY 2018-19.

Issue 4 : Project cost increased due to excessive delays in implementation

Due to excessive delays, the capital cost has gone haywire and GFA value increased without any rationale resulting in heavy expenses of depreciation, interest, RoE, etc. and higher fixed charges are claimed

Response of the Petitioner

GFA has been projected on the basis of tentative cost of R&M units and the Extension project (Units 8 & 9) as well as the actual expenses made till 30.09.2017. All fixed and variable expenses for both the projects have been calculated in accordance with the BERC Tariff Regulations 2007 and its various amendments.

Commission's view:

The Commission has noted the suggestions of the stakeholder and response of the petitioner. The Commission has provisionally considered the capital cost of the R&M units and extension projects. The CoD of all the units are considered provisionally and accordingly expected to be in operation and generates power during FY 2018-19, hence considered the fuel and fixed costs for FY 2018-19 in terms of BERC Tariff regulations 2007 and provisional generation tariff for Unit 6&7 and Units 8&9 notified for FY 2018-19.

4. Truing-up for FY 2016-17

4.1. Background

The commission had approved ARR for the first year of 2nd Control Period i.e 2016-17 and determined the generation tariff for R&M Project (Unit 6 & 7) on 21.03.2016. Subsequently, the Commission has issued the Tariff Order dated 9th March, 2017 for Annual Performance Review (APR) for FY 2016-17 wherein the approval was based on estimates projected by BSPGCL for costs to be incurred during the FY 2016-17.

BSPGCL has submitted the present petition on 8th December, 2017 for Truing-up of ARR for FY 2016-17, Annual Performance Review for FY 2017-18 and Annual Revenue Requirement for FY 2018-19.

Truing-up for FY 2016-17 is to be done according to the Regulation 22(1) & (2) of the BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 which is reproduced below:

“The Commission shall undertake a review, along with next Tariff Order, of the expenses and revenues approved by the Commission in the current year Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/pre-actual of the sale of electricity, income and expenditure for the relevant year and permit necessary adjustments/changes in case such variations are for adequate and justifiable reasons. Such an exercise shall be called ‘Review’.

“After audited accounts of the year are made available, the Commission shall undertake a similar exercise as in sub-clause (1) above based on the final actual figures as per the audited accounts. This exercise based on the audited accounts shall be called ‘Truing-up’. The Truing-up exercise for any year shall not ordinarily be considered after more than one year gap after ‘Review’.

Accordingly the Commission has undertaken Truing-up exercise for FY 2016-17 provisionally on the basis of audited annual accounts for FY 2016-17 and BERC (Terms and conditions for determination of tariff) Regulations 2007.

BSPGCL has submitted that the Unit-6 is undergoing R&M and stated to be commissioned in February, 2018. Unit-7 after completion of R&M was commissioned on 4th November, 2016 but presently under shutdown since 7th May, 2017 on the orders of the Central Pollution Control Board (CPCB). It has been reported that Unit-7 will be synchronised in February 2018.

Regulation 5(3)(a) of BERC (Terms and Conditions for determination of Tariff) regulations, 2007 provides that in case of a generating station or a transmission system or part thereof declared under commercial operation on or after the notified date of these regulations, an application for determination of tariff shall be made in two stages, namely:

Stage I : An integrated utility or a generating company or a transmission licensee may make an application as per the format specified by the Commission for determination of provisional tariff in advance of the anticipated date of completion of the project based on the capital expenditure actually incurred upto the end of the month preceding to the date of the application duly audited and certified by the statutory auditor and the provisional tariff shall be charged from the date of commercial operation of the respective units of the generating station or the transmission system.

Stage II : An integrated utility or a generating company or a transmission licensee shall make a fresh application in the same format as above, for determination of final tariff based on the actual capital expenditure incurred upto the date of commercial operation of the generating station or the transmission system, duly audited or certified by the statutory auditor.

The Commission has not approved the final project cost of the R&M units 6&7 vis-a-vis the year wise capital expenditure, funding of project cost (loan/equity/grant), loan drawn (transaction wise), utilization of funds drawn, cost over-run, time over-run etc.

The Commission has directed BSPGCL vide letter no.98 dated 19.01.2018 to furnish the details of the original project cost, revised cost (alongwith copy of approval), source of funding, drawl of funds, utilization, cost over-run, time over-run, IDC expenses charged to work etc. The petitioner has not submitted such details.

The Commission, in view of above and in absence of such detailed actual capital cost has decided to true-up its order for FY 2016-17 provisionally for the purpose of determination of onward ARR and generation tariff.

4.2. Fuel Cost

Petitioner's Submission

BSPGCL has submitted that the Commission had approved fuel cost of Rs. 66.10 Crore in the Annual Performance Review for FY 2016-17 in the tariff order dated 09.03.2017 and the fuel cost i.e. cost of coal and oil as per audited annual accounts for FY 2016-17 is Rs.51.01 Crore. BSPGCL has submitted the actual plant operating parameters for FY 2016-17 as shown in the Table below:

Table 4.1: Plant Operating Parameters submitted for FY 2016-17

Sl. No.	Month/Year	PLF (%)	SHR (Kcal/kWh)	SFC			Auxiliary Consumption (MU)	Gross Generation (MU)	Coal Consumption (MT)
				Secondary fuel consumption (LDO) (KL)	Specific Fuel Consumption (coal) (Kg/kWh)	Specific Fuel Consumption (LDO) (MI/kWh)			
1	Nov'16	21.80	4767.85	523.31	0.80	30.31	2.07168	23.044	18713
2	Dec'16	40.52	4516.28	796	0.77	24	3.97896	33.149	25758
3	Jan'17	55.71	4195.397	406	0.75	8.9	5.4714	45.595	34206
4	Feb'16	20.93	4068.125	67	0.75	4.33	1.85688	15.474	11611
5	Mar'17	24.35	4564.209	319.48	0.75	16.033	2.39112	19.926	14948
6	Total			2111.79			15.77004	137.188	105236

Commission's Analysis

The Petitioner has furnished the gross generation at 137.188 MU and auxiliary consumption at 15.77004 MU which is working out to 11.50% of gross generation. However, it is observed from the month-wise data the auxiliary consumption during Nov'16 is at 8.99% and from Dec'16 to March'17 it is at 12% month on month.

During interaction with the officials of BSPGCL, the Commission also came to know that BSPGCL has not installed meters at Auxiliary input points despite direction of the

commission in the tariff order dated 09.03.2017. The Commission, in the absence of actual data and keeping in view the hardship in completion of units after R&M, had approved PLF at 12% with above directions to install energy meter at auxiliary points so as to assess the actual auxiliary consumption. However, BSPGCL has not installed such meter and no actual data is available to assess the actual auxiliary consumption. The Commission reiterates its directive to ensure installation of energy meters at auxiliary inputs points before 01st April, 2018.

It is observed from the audited accounts for FY 2016-17, the Petitioner has billed/received Rs.51.36 crore on the Discoms i.e. NBPDC and SBPDCL. The Commission in Tariff Order dated 21.03.2016 had fixed/notified the generation tariff at Rs.3.97/kWh for FY 2016-17. On prudence check, it was found that the amount billed/received includes the net infirm generation of 8.35296 MU (total generation 9.492 MU – auxiliary consumption 1.13904 MU @12%) during the period from 03.08.2016 to 31.10.2016.

On a query regarding quantum of infirm power and associated revenue billed to the SBPDCL and NBPDC, the petitioner has submitted that a total of 9.435 MU were generated by Unit no. 7 as infirm power, out of which 8.303 MU were injected into grid and a total of Rs. 3.30 Crore against infirm power was billed at the rate of Rs. 3.97 per unit (approved rate by BERC for FY 2016-17). The detailed calculation is given here under:

Sl. No.	Month	Gross Generation (MU)	Auxiliary Generation (MU)	Net Generation (MU)	Billed Units NBPDC (MU)	Billed Units SBPDCL (MU)	Total Billed Units	Billed Amount NBPDC (Rs. Cr)	Billed Amount SBPDCL (Rs. Cr)	Total Billed Amount (Rs. Cr)
1	2	3	(4=3*12%)	(5=3-4)	6	7	8=6+7	9	10	11=9+10
1	Till COD	9.435	1.132	8.303	3.341	4.962	8.303	1.32	1.97	3.30
2	Sub-Total	9.435	1.132	8.303	3.341	4.962	8.303	1.32	1.97	3.30
3	Nov 16	23.429	2.811	20.617	8.227	12.391	20.617	3.27	4.92	8.19
4	Dec 16	33.158	3.979	29.179	11.672	17.507	29.179	4.63	6.95	11.58
5	Jan 17	45.595	5.471	40.124	16.049	24.074	40.124	6.37	9.56	15.93
6	Feb 17	15.474	1.857	13.617	5.447	8.170	13.617	2.16	3.24	5.41
7	Mar17	19.926	2.391	17.535	7.014	10.521	17.535	2.78	4.18	6.96

Sl. No.	Month	Gross Generation (MU)	Auxiliary Generation (MU)	Net Generation (MU)	Billed Units NBPDCCL (MU)	Billed Units SBPDCL (MU)	Total Billed Units	Billed Amount NBPDCCL (Rs. Cr)	Billed Amount SBPDCL (Rs. Cr)	Total Billed Amount (Rs. Cr)
1	2	3	(4=3*12%)	(5=3-4)	6	7	8=6+7	9	10	11=9+10
8	Sub total	137.582	16.510	121.072	48.409	72.663	121.072	19.22	28.85	48.07
9	Total (2+8)	147.017	17.642	129.375	51.750	77.625	129.375	20.54	30.82	51.36

The Regulation 36 of BERC (Terms and conditions for determination of Tariff) Regulations 2007 specifies;

“36 Sale of infirm power

Any revenue (other than the recovery of fuel cost) earned by the generating company from sale of infirm power, shall be taken as a reduction in capital cost and shall not be treated as revenue”.

According, to the regulation 36, the revenue earned from sale of infirm power in excess of fuel cost shall be adjusted against capital cost and shall not be recognised as revenue. However, the Petitioner has not furnished the details of trial period cost, involving cost of fuel incurred in generation of infirm power, the Commission has found that the SBPDCL & NBPDCCL have submitted invoices of such infirm power in their tariff petition wherein the bill of the infirm power generation during the period from 03.08.2016 to 31.10.2016 was raised DISCOMs for Rs. 3.32 Crore for 8.35296 MU

The Commission, accordingly, has considered Rs.3.32 crore towards sale of infirm power and Rs. 48.04 Crore (51.36 -3.32) towards revenue earned through sale of infirm power after COD. The Commission in accordance with Regulations 36 of BERC (Terms and conditions for determination of tariff) Regulations , 2007 has considered the excess revenue earned by the BSPGCL towards infirm power (other than the recovery of fuel cost) Rs. 0.91 Crore (as computed in para 4.12) for reduction in capital cost capitalised during FY 2016-17and has adjusted Rs. 48.04 Crore along with the revenue earned towards recovery of fuel cost of infirm power from the ARR for FY 2016-17 to arrive the net gap/surplus, as discussed in the foregoing paras.

The Commission vide its letter dated 18.12.2017 directed BSPGCL to furnish the details of the actual performance parameters and the cost parameters considered for arriving at the fuel cost of Rs. 51.01 crore. BSPGCL vide its reply dated 06.01.2018 submitted the details of fuel cost for FY 2016-17 as given below:

Sl. No.	Consumption of Coal (MT)	Cost of coal (Rs/MT)	Total Cost of coal (RS)	Consumption of Oil (KL)	Cost of Oil (Rs/KL)	Total Cost of Oil(Rs.)	Total Cost of Generation (Rs)
1	2	3	4=(2x3)	5	6	7=(5x6)	8=4+7
Nov 16	18713	3960	74103480	523.31	42243	22106184	96209664
Dec 16	25758	4058	104525964	796	42243	33625428	138151392
Jan 17	34206	3960	135455760	406	42243	17150658	152606418
Feb 17	11611	4100	47605100	67	42243	2830281	50435381
Mar 17	14948	3960	59194080	319.48	42243	13495794	72689874
Total	105236		420884384	2112		89208345	510092729

*Generation from April 2016 to October 2016 is NIL

*Only LDO included in Oil consumption

The Commission, based on the above details of fuel cost furnished by the Petitioner, has computed the cost of Coal per MT and cost of Oil per KL as given below:

1. Weighted average cost of Coal = $420884384/105236 = \text{Rs. } 3999.43 / \text{MT}$
2. Weighted average cost of Oil = $89208345/2112 = \text{Rs. } 42238.80 / \text{KL}$

The Commission observes that the actual performance parameters like Station Heat Rate and Specific Oil consumption are on higher side when compared with the approved heat rate and specific oil consumption in the Tariff Order dated 09.03.2017, which are as shown in the Table below:

Table 4.2: Approved Parameters for FY 2016-17

S. No.	Parameters	Approved for FY 2016-17 in Tariff Order dated 09.03.2017
1	Station Heat Rate (Kcal/kWh)	3000
2	Specific Oil consumption (ml/kWh)	3
3	Auxiliary consumption (%)	12%
4	GCV of oil (kcal/litre)	10153
5	GCV of coal (Kcal/kg)	5672
6	Cost of oil (Rs./kl)	52171
7	Cost of coal (Rs./MT)	4114.69

BSPGCL has not furnished reasons for deviation of actual operational parameters from the normative approval by the Commission. BSPGCL is expected to operate its plant within the approved parameters. The Commission does not find any reason to deviate from its approval and hence approves the Fuel cost for FY 2016-17, in truing up as given in the Table below, considering actual rates and calorific values of Coal, Oil and performance parameters as approved by the Commission.

Table 4.3 : Fuel and Generation Cost for FY 2016-17

Sl. No.	Item	Derivation	Unit	Approved for FY 2016-17
1	Gross Generation	A	MU	137.582
2	Station Heat Rate	B	Kcal/kWh	3,000.00
3	Sp. Oil Consumption	C	ml/kWh	3.00
4	Calorific Value of Oil	D	kcal/l	10,153.00
5	Gross Calorific Value of coal	E	kcal/kg	5,672.00
6	Overall Heat	$F=A*B$	G Cal	412,746.00
7	Heat from Oil	$G=(A*C*D)/1000$	G Cal	4,190.61
8	Heat from Coal	$H=(F-G)$	G Cal	408,555.39
9	Actual Oil Consumption	$I=A*C$	Kl	412.75
10	Actual Coal Consumption	$J=(H*1000)/E$	MT	72,030.22
11	Coal Consumption including Transit Loss	$J1=J/(1-0.008)$	MT	72,611.11
12	Cost of Oil per KL	K	Rs./Kl	42,238.80
13	Cost of Coal per MT	L	Rs./MT	3,999.43
14	Cost of Oil	$M=I*K/100000$	Rs. Lakh	174.34
15	Cost of Coal	$N=J1*L/100000$	Rs. Lakh	2,904.02
16	Total Fuel Cost	$O=M+N$	Rs. Lakh	3,078.36
17	Other Fuel related cost	P	Rs. Lakh	0.00
18	Total Fuel Cost	$Q=O+P$	Rs. Lakh	3,078.36
19	Fuel Cost/Unit Gross	$Q/(A*10)$	Rs. Lakh	2.24
20	Auxiliary Consumption	R	%	12%
21	Auxiliary Consumption	$S=A*R$	MU	16.51
22	Net Generation	$T=A-S$	MU	121.07
23	Fuel Cost/Unit Net	$Q/(T*10)$	Rs./kWh	2.54

4.3. Capital Investment

Petitioner's submission

The Petitioner has furnished the breakup of the scheme-wise capital expenditure relating to R&M units for FY 2016-17 as detailed in the Table below:

Table 4.4: Break-up of Net opening CWIP proposed for FY 2016-17

(Rs. Crore)			
Sl. No.	Particulars	Project cost	Capex relating to R&M units till FY 2016-17
1	Cost associated with R&M of BTPS units	581.20	539.63
2	Cost allocated to Ganga Water Scheme	173.00	31.71
3	Cost allocated to BTPS Railway siding	25.64	22.02
	Total	779.84	593.36

BSPGCL has submitted the capital investment proposed for truing up for FY 2016-17 as shown in the Table below:

Table 4.5: Capital investment and CWIP proposed in truing up for FY 2016-17

(Rs. Crore)				
Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17
1	Opening CWIP	927.00	763.21	936.78
2	Add: New Investment	61.00	62.26	135.18
3	Total (1+2)	988.00	825.47	1071.96
4	Less: Capitalisation	--	532.16	146.19
5	Closing CWIP (3-4)	988.00	293.31	925.77

BSPGCL has submitted the reasons for the deviations as follows:

- a) The Opening CWIP has got revised due to finalization of the annual accounts of FY 2016-17.
- b) As per the annual account for FY 2016-17, complete investment for existing project and 21.65% of investment for works shared between existing and extension project i.e Rs.176.27 Crore for development , office and other expenses have formed part of the CWIP for existing project for FY 2016-17
- c) The capitalization as reflected in the table above is only for the existing project

BSPGCL requested the Commission to approve the revised capital investment and CWIP as proposed for FY 2016-17.

Commission's Analysis:

The Commission has approved closing CWIP at Rs.763.21 crore in true up for FY 2015-16 in Tariff order dated 09.03.2017.

The CWIP relating to R&M units is at Rs.760.51 crore at the end of FY 2015-16, as per the audited accounts for FY 2015-16. The Commission has approved Rs.2.71 crore net O&M expenses in true up for FY 2015-16 and charged to capex. The Commission thus had approved closing CWIP of Rs.763.21 crore in true up for FY 2015-16.

The Petitioner, on query of the Commission, further clarified revised figures of opening CWIP Rs.936.78 crore detailed below:

Description	Balance as per Audited A/c (Rs. Crore)	Allocated to Unit 6&7	
		%	Rs. in Crore
Opening balance of Extension Project	4156.56	--	--
Opening balance of Existing Project	760.51	100%	760.51
Opening balance of Development Expenses (i.e Expenses Capitalized, Trial run and IDC)	663.21	21.65%	143.58
Opening balance of Badam Coal Block	99.78	21.65%	21.60
Opening balance of Enabling Work Expenses	50.57	21.65%	10.96
Opening balance of Office building	0.62	21.65%	0.13
Total	5731.25		936.78

The petitioner has submitted that due to finalization of annual accounts for FY 2016-17, the opening CWIP has got revised and has requested the Commission to approve Rs.936.78 crore as opening CWIP relating to R&M units. It has been further informed by the Petitioner that R&M of Unit 6 & 7 and Extension project (Unit 8 & 9 of 250 MW each) works are being undertaken simultaneously, where lot of capital is being invested having common assets, which led to shifting of capex from one project to other. However, the total CWIP has remained same for the year.

The Commission has observed that the Petitioner has incurred and allocated the development expenses (i.e IDC and Expenses capitalized) and Other expenses (Ash Dyke, Coal Block and enabling works) at 21.65% to the R&M units 6 & 7 and balance to the

extension project (Unit 8 & 9). The details of equipment cost, development expenses (IDC and Expenses capitalised) and Other expenses (Ash Dyke, Coal Block and enabling works) incurred during the FY 2016-17 allocated between R&M units and extension project based on the audited accounts for FY 2016-17 and further clarification submitted by the petitioner on dated 6th January 2018, is given in the table below:

Table No.4.6:Capital expenditure relating to R&M units and Extension project for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	CWIP addition as per audited accounts for FY 2016-17	Cost allocated to R&M units	Cost allocated to Extension project
1	CWIP – EPC	322.01	--	322.01
2	CWIP - Development expenses (a+b+c) (allocated @21.65% to R&M units)	550.84	119.26	431.58
	a. IDC	468.17	101.36	366.81
	b. Expenses capitalised	65.41	14.16	51.25
	c. Trial cost	17.26	3.74	13.52
3	CWIP-Other expenses (i+ii+iii) (allocated @21.65% to R&M units)	73.56	15.92	57.64
	i. Ash Dyke	0.55	0.12	0.43
	ii. Coal Block	124	0.27	0.97
	iii. Enabling works	71.77	15.53	56.24
4	Total (1+2+3)	946.41	135.18	811.23

The Commission has directed the BSPGCL vide letter dated 19.01.2018 to furnish the details of the original project cost, revised cost (along with copy of approvals), source of funding, drawal of funds, utilization, cost overrun, time overrun, IDC/expenses charged to works, etc. The Petitioner has not submitted the details.

However, the Petitioner has informed that the project is funded through Grant from Gol and Equity from GoB. The grant received for R&M units is at Rs.581.20 crore and balance through equity.

The Commission, in view of the observations as above and in absence of proper information with respect to details of the original project cost, revised cost, cost overrun, time overrun, IDC etc, has not considered the request of the Petitioner for

adoption of revised opening CWIP Rs.936.78 Cr and addition during FY 2016-17 Rs.135.18 Cr for R&M units. As such, the Commission has provisionally considered the CWIP of R&M units at Rs.763.21 crore based on the closing CWIP approved in truing up for FY 2015-16 subject to approval of the actual capital cost, approving/rejecting cost over-run and time over-run; if any after commissioning of both units (Unit 6&7) of R&M Project.

The Petitioner has submitted that Unit 7 of R&M units has started commercial operations with effect from 4th November 2016 and expenses incurred subsequent to date of CoD has been proportionately apportioned at 8.33% considering the period of generation. Accordingly, the expenses are claimed in the truing up for FY 2016-17.

It is observed from the audited accounts for FY 2016-17 and petitioner submissions on dated 6th January 2018 that Rs. 184.91 Cr has been capitalized during the year detailed below:

Description	Rs. in Crore
Capitalization to Existing(R&M) Project form part of opening CWIP	146.19
Direct Capitalization of Pre-commissioning expenses incurred during the year	27.64
Direct Capitalization of expenses incurred during the year on purchase of Furniture & Office equipment	11.09
Total Capitalization	184.91

The Commission, in view of above observation has considered entire assets capitalization Rs.184.91 Cr made during the year out of which Rs.146.19 Cr has been provisionally considered to be part of opening CWIP Rs.763.21 Crore as detailed in the Table below:

Table 4.6: Capital investment approved in truing up for FY 2016-17**(Rs. Crore)**

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff order dated 21.03.2016	Approved for FY 2016-17 (RE) in T.O dated 09.03.2017	Claimed by BSPGCL in True up for FY 2016-17	Approved in Truing up for FY 2016-17
1	Opening CWIP	707.00	763.21	936.78	763.21
2	Add: New Investment	220.00	62.26	135.18	--
3	Total (1+2)	927.00	825.47	1071.96	763.21
4	Less: Capitalisation	--	532.16	146.19	146.19
5	Closing CWIP (3-4)	927.00	293.31	925.77	617.02

4.4. Gross Fixed Assets**Petitioner's submission:**

BSPGCL has submitted that opening and closing GFA for FY 2016-17 do not include capitalisation of capex relating to Extension project. The capitalisation includes assets capitalised directly without forming part of CWIP. BSPGCL has accordingly, proposed the value of GFA for FY 2016-17 as detailed in the Table below:

Table 4.7: Gross Fixed Assets proposed in truing up for FY 2016-17**(Rs. Crore)**

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17
1	Opening GFA	69.28	395.12	395.12
2	Additions during the year	988.00	532.16	184.91
3	Less: Asset retirements	--	105.00	--
4	Closing GFA (1+2-3)	1057.28	822.28	580.03

Commission's Analysis:

The Commission has examined the gross fixed assets proposed by the Petitioner for FY 2016-17.

As discussed in paragraph 4.12, BSPGCL has earned excess revenue of Rs. 0.91 Crore (Other than the recovery of fuel cost in FY 2016-17.

Regulations 36 of BERC (Terms and Conditions for determination of tariff) Regulations, 2007 specified as below:

“Any revenue (other than the recovery of fuel cost) earned by the integrated utility / generating company from sale of infirm power, shall be taken as a reduction in capital cost and shall not be treated as revenue.”

As such the commission has reduced Rs. 0.91 Crore from the capital cost capitalized during FY 2016-17.

The Commission has considered opening GFA at Rs.395.12 crore based on the closing GFA approved in true up for FY 2015-16 in Tariff Order dated 09.03.2017. Addition to GFA is considered based on the capitalisation of CWIP of Rs.146.19 crore in Table 4.6 above. Further, the petitioner has capitalised Rs.38.72 crore (Rs.27.64 Cr and Rs.11.09 Cr as elaborated in paragraph 4.3 above) directly without routing through CWIP during FY 2016-17. Thus the total capitalisation considered is at Rs.184.00 Crore (184.91-0.91) for FY 2016-17. The Commission, accordingly, considers the GFA as detailed in the Table below:

Table 4.8: Gross Fixed Assets approved in truing up for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17	Approved in Truing up for FY 2016-17
1	Opening GFA	69.28	395.12	395.12	395.12
2	Additions during the year from CWIP	988.00	532.16	184.91	146.19
3	Direct addition to assets	--	--	--	37.81
4	Total capitalization (2+3)	988.00	532.16	184.91	184.00
5	Less: Asset retirements	--	105.00	--	--
6	Closing GFA (1+4-5)	1057.28	822.28	580.03	579.12

4.5. Depreciation

Petitioner’s submission:

BSPGCL has submitted that depreciation is claimed as per the annual accounts for FY 2016-17 as detailed in the Table below:

Table 4.9: Depreciation proposed in truing up for FY 2016-17
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17
1	Opening GFA	69.28	395.12	395.12
2	Less: Value of Land		135.66	135.66
3	Net GFA (1-2)	69.28	259.46	259.45
4	Less: Asset retirements	--	105.00	105.00
5	Additions during the year	988.00	532.16	184.91
6	Closing GFA (3-4+5)	1057.28	686.62	444.37
7	Average GFA (3+6)/2	563.28	473.04	351.91
8	Weighted average rate of depreciation	4.99%	6.00%	6.00%
9	Gross Depreciation (7*8)	28.11	46.81	21.11
10	Opening Grants	2487.93	534.39	534.39
11	Add: Grants during the year	988.00	46.81	46.81
12	Closing Grants (10+11)	3475.93	581.20	581.20
13	Average Grants (10+12)/2	2981.93	557.80	557.80
14	Weighted average rate of depreciation	4.99%	6.00%	6.00%
15	Depreciation on Grants utilised for GFA (13*14)	148.80	33.47	33.47
16	Depreciation for GFA on loans (9-15)	--	--	9.58

Commission's Analysis:

The Commission has examined the computation of the depreciation claimed by the Petitioner. It is observed that despite the fact that the depreciation on grants utilised for GFA is higher than the depreciation on gross GFA, the Petitioner has wrongly claimed depreciation of Rs.9.58 Crore in truing up for FY 2016-17.

The Commission has also observed that the petitioner has also computed depreciation for the whole year despite of fact that unit 7 has been commissioned on 4th November, 2016. The Commission, based on COD, has computed depreciation w.e.f. 4th November, 2016.

The Commission has approved closing GFA at Rs.395.12 crore and closing grants at Rs.534.39 crore in truing up for FY 2015-16 and accordingly these values are adopted as opening GFA and opening grants respectively for FY 2016-17. The addition to GFA is considered at Rs.184.00 crore as discussed in forgoing para and addition to grants is

considered as proposed by the Petitioner. The BERC (Terms and conditions for determination of Tariff) Regulations 2007, Regulation 38 (2)(a) Depreciation specify, for purpose of tariff, depreciation shall be computed in the following manner:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on the straight line method over the useful life of the asset and at rates prescribed by the CERC.

The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical cost of the asset. The land is not a depreciable asset and its cost shall be excluded from the capital cost while computing depreciation.

The Commission, in view of regulation above, has reduced the value of land for computation of depreciation for FY 2016-17. The Land value is at Rs.135.66 crore as per the audited accounts of FY 2016-17 and is allocated to R&M units, accordingly, the same (Rs.135.66 crore) is reduced from the GFA for computation of depreciation.

The regulation provides for calculation of depreciation based on the straight line method over the useful life of the asset and at the rates prescribed by the CERC Regulations 2014. The rate of depreciation on steam-electric NHRB & waste heat recovery boilers/plants, cooling towers, switchgear, etc. is at 5.28% (rate of depreciation as per CERC Regulations 2014) and accordingly adopted for computation of depreciation for FY 2016-17. Depreciation is considered for 5 months on prorata for the period of operation of Unit 7 in truing up as detailed in the Table below:

Table 4.10: Depreciation approved in truing up for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17	Approved in Truing up for FY 2016-17
1	Opening GFA	69.28	395.12	395.12	395.12
2	Less: Value of Land		135.66	135.66	135.66
3	Net GFA (1-2)	69.28	259.46	259.45	259.46
4	Less: Asset retirements	--	105.00	105.00	--
5	Additions during the year	988.00	532.16	184.91	184.00
6	Closing GFA (3-4+5)	1057.28	686.62	444.37	443.46
7	Average GFA (3+6)/2	563.28	473.04	351.91	-*
8	Weighted average rate of depreciation	4.99%	6.00%	6.00%	5.28%
9	Gross Depreciation (7*8)	28.11	46.81	21.11	9.76 #
10	Opening Grants	2487.93	534.39	534.39	534.39
11	Add: Grants during the year	988.00	46.81	46.81	46.81
12	Closing Grants (10+11)	3475.93	581.20	581.20	581.20
13	Average Grants (10+12)/2	2981.93	557.80	557.80	-*
14	Weighted average rate of depreciation	4.99%	6.00%	6.00%	5.28%
15	Depreciation on Grants utilised for GFA (13*14)	148.80	33.47	33.47	12.79*#
16	Depreciation for GFA on loans (9-15)	--	--	(9.58)	(3.03)
17	Depreciation allowed in truing up	--	--	--	NIL

*Not Applicable

Closing GFA* Weighted average rate of depreciation*5/12

Closing Grants Weighted average rate of depreciation*5/12

As can be observed from the table above the proportionate depreciation on grant is higher than the depreciation on gross assets and depreciation is resulted in negative for FY 2016-17.

The Commission, accordingly, has approved depreciation as Nil in truing up for FY 2016-17.

4.6. Interest and Finance Charges

Petitioner's submission:

BSPGCL has submitted that no interest and finance charges were actually incurred during FY 2016-17 and accordingly no interest charges are claimed in the truing up for FY 2016-17.

Commission’s analysis:

Regulation 37 of BERC (Terms and conditions for determination of Tariff) Regulations 2007 specify:

“37. Debt – equity ratio

(1) In case of all generating stations, the debt – equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff.

.....

(2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity, Advance Against Depreciation and foreign exchange rate variation”.

Regulation 38 (1) of BERC (Terms and conditions for determination of Tariff) Regulations 2007 specify;

“38. Computation of capacity (Fixed) charges

The capacity (fixed) charges shall be computed on the following basis and their recovery shall be related to target availability:

(1) Interest on Capital

(a) Interest on loan capital shall be computed loan – wise on the loans indicated in Regulation 37.

(b) In the case of existing projects, the actual debt-equity ratio shall be used for tariff determination and interest on loans shall be paid at actuals. However any expansion shall be governed as per Regulation 37.

(c)

(d)

(e)

(f), depreciation provided in the tariff during the period of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

The above regulations explicitly specify that interest shall be provided on actual debt in case of existing projects and at 70% of the project cost for new projects.

The Commission has not approved any closing loan in truing up for FY 2015-16 and hence no opening loan is considered for FY 2016-17. However, for the purpose of computing normative loan in terms of regulation 37(1) of BERC Tariff Regulations 2007, the total capital assets value and total grant for the project is considered for FY 2016-17. The Commission, for the purpose of computation of interest, has considered the normative loan @70% of the net value of assets capitalised in terms of Regulation 37 (1) of the BERC Regulations, 2007 as given below:

Table 4.11: Capitalisation and Debt Equity considered for FY 2016-17

Sl. No.	Particulars	Amount (Rs. Crore)
1	Total value of assets for FY 2016-17 (Rs.395.12 Cr + Rs.184.00 Cr)	579.12
2	Less: Total Grants utilised for assets	581.20
3	Net value of asset	(2.08)
4	Equity considered (@30% of 3)	Nil
5	Debt considered (@70% of 3)	Nil

As can be observed from the table above, the grant is higher than the total value of assets, hence, the debt considered is NIL.

Accordingly, the Commission has approved interest on loan for FY 2016-17 as Nil in truing up for FY 2016-17.

4.7. Interest on working capital Petitioner's submission

BSPGCL has submitted that interest on working capital is claimed on normative basis as per the actual base parameters as given in the table below:

Table 4.12: Interest on working capital claimed in true up for FY 2016-17

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17
1	Cost of coal & secondary fuel oil for 2 months	49.87	10.61	8.50
2	O&M expenses (1 month)	4.27	3.93	5.23
3	Maintenance spares @1% of opening GFA with 6% escalation	0.73	4.19	4.19
4	Receivables – 2 months	68.82	21.07	20.70
5	Total working capital	123.70	39.80	38.62
6	Rate of interest	14.75%	14.05%	14.75%
7	Interest on working capital	18.25	5.59	5.70

Commission’s analysis:

The Commission has examined the computation of interest on working capital claimed by the petitioner. The Commission observes that the petitioner has computed interest on working capital for whole year despite the fact that unit 7 has been commissioned on 4th November, 2016. The Commission, based on COD, has computed interest on working capital w.e.f. 4th November, 2016.

The Regulation 38 (5)(a) Working capital for purposes of calculation of interest shall be:

(I) For Coal based / Lignite fired generating stations:

- “(i) Cost of coal or lignite for one and half months for pit-head generating stations and two months for non pit-head generating stations, corresponding to the target availability;
- (ii) Cost of secondary fuel oil for two months corresponding to target availability;
- (iii) Operation and maintenance expenses for one month;
- (iv) Maintenance spares at 1% of the historical cost escalated at 6% per annum from the date of commercial operation; and
- (v) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability”.

The Commission, in terms of Regulation 38(5)(a)(i) of BERC Tariff Regulations 2007 and based on the ARR cost parameters considered has computed interest on working capital for FY 2016-17. The cost of coal and secondary fuel oil represent the cost for 5 months only and is considered for 2 months at Rs. 12.31 crore [(total fuel cost of Rs.30.78 cr/5 month)*2 months]. The Commission, accordingly, has computed working capital requirement and interest on working capital for FY 2016-17 as detailed in the table below:

Table 4.13: Interest on working capital approved in true up for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17	Approved for FY 2016-17
1	Cost of coal & secondary fuel oil for 2 months	49.87	10.61	8.50	12.31
2	O&M expenses (1 month)	4.27	3.93	5.23	1.19
3	Maintenance spares @1% of opening GFA with 6% escalation	0.73	4.19	4.19	4.19
4	Receivables – 2 months	68.82	21.07	20.70	4.11
5	Total working capital	123.70	39.80	38.62	21.80
6	Rate of interest	14.75%	14.05%	14.75%	14.05%
7	Interest on working capital	18.25	5.59	5.70	1.28*

Sl. No.5 Sl. No.6*5Months/12Months

The Commission accordingly approved interest on working capital at Rs.1.28 crore for FY 2016-17.

4.8. Return on Equity

Petitioner's submission

BSPGCL has submitted that RoE is calculated on normative basis for FY 2016-17 for plant operational period of 5 months as given in the Table below:

Table 4.14: Return on Equity claimed in true up for FY 2016-17**(Rs. Crore)**

Sl. No.	Particulars	Approved for FY 2016-17 in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in true up for FY 2016-17
1	Opening GFA		290.12	395.12
2	Opening equity (30% of GFA)		87.04	118.54
3	Add: Equity during the year (30% of capitalisation)		72.47	55.47
4	Closing equity (2+3)		159.51	174.01
5	Average equity (2+4)/2		123.27	146.27
6	Closing GFA	1057.28		580.03
7	Equity to be considered (30% of sl.no.6)	317.18	123.27	146.27
8	Rate of return on equity	14%	14%	14%
9	Return on equity $((7*8)/12)*5$	44.41	7.19	8.53

Commission's Analysis:

The Regulation 37 of BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 specify as below;

“(1) in case of all generating stations, the debt - equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. The Commission may in appropriate cases consider equity higher than 30% for purpose of determination of tariff, where the integrated utility / generating company is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of general public.

Provided that

- (i) in case of a generating station, the actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff*
- (ii) in case of existing projects the actual debt : equity ratio shall be used for tariff determination. However, any expansion shall be governed by clause (1) above.*

(2) the debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation”.

The Regulation emphasizes that debt : equity in respect of the generating station shall be considered at 70:30 of the project cost.

The Commission has not approved any closing equity in truing up for FY 2015-16 and hence no opening equity is considered for FY 2016-17. However, for the purpose of computing normative equity for FY 2016-17, the total capital assets value and total grant for the project is considered. The Commission, for the purpose of computation of RoE, has considered the normative equity @30% of the net value of assets capitalised in terms of Regulation 37 (1) of the BERC Regulations, 2007 as given below:

Table 4.15: Capitalisation and Debt Equity considered for FY 2016-17

Sl. No.	Particulars	Amount (Rs. Crore)
1	Total value of assets for FY 2016-17	579.12
2	Less: Total Grants utilised for assets	581.20
3	Net value of asset	(2.08)
4	Equity considered (@30% of 3)	Nil
5	Debt considered (@70% of 3)	Nil

The Commission, accordingly, has approved the return on equity as Nil in Truing up for FY 2016-17.

4.9. Operation and Maintenance Expenses

4.10.1. Employee cost

Petitioner’s submission:

The Petitioner has submitted that the actual employee expenses for FY 2016-17. The Petitioner has reduced the cost of employee expenditure pertaining to Extension Project to the extent of 30%. The Petitioner has claimed the employee cost in the truing up for FY 2016-17 as detailed in the Table below:

Table 4.16: Employee Expenses proposed for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17
1	Employee cost	27.72	29.46	29.62
2	Add: Indexation	1.29	--	--
3	Add: New Man power cost	6.00	5.00	--
4	Gross employee cost (1+2+3)	35.01	34.46	29.62
5	Less: Manpower cost for extension project (30% of cost (1+2))	8.71	10.34	8.89
6	Net Employee cost (4-5)	26.30	24.12	20.73

Commission's Analysis:

The Petitioner has claimed total employee cost of Rs.29.62 crore in truing up for FY 2016-17. It is observed from the audited accounts of the Petitioner for FY 2016-17, the Petitioner has charged Rs.27.14 crore to the capital works in progress and Rs.2.47 crore charged to Profit & Loss account. The Petitioner is claiming Rs.27.14 crore towards employee cost and also towards capital working in progress. As such, the Commission has considered Rs.2.47 crore as pass through in the ARR for FY 2016-17 in truing up based on audited annual accounts as indicated in the Table below:

Table 4.17: Employee Expenses approved FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17	Approved in truing up for FY 2016-17
1	Employee cost	27.72	29.46	29.62	2.47
2	Add: Indexation	1.29	--	--	--
3	Add: New Man power cost	6.00	5.00	--	--
4	Gross employee cost (1+2+3)	35.01	34.46	29.62	2.47
5	Less: Manpower cost for extension project (30% of cost (1+2))	8.71	10.34	8.89	--
6	Net Employee cost (4-5)	26.30	24.12	20.73	2.47

The Commission, accordingly, approved the employee cost at Rs.2.47 Crore for FY 2016-17.

4.10.2. Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

BSPGCL has submitted that the Repairs and Maintenance expenses reported through audited accounts for FY 2016-17 solely belongs to Unit 6 & 7 and accordingly claimed in truing up for FY 2016-17 as given in the table below:

Table 4.18: Repairs and Maintenance Expenses claimed in truing-up FY 2016-17
(Rs. Crore)

Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17
1	R & M expenses	5.00	5.00	18.07
2	Add: Water charges	2.00	1.00	--
3	Total R&M expenses (1+2)	7.00	6.00	18.07

Commission's analysis:

The Petitioner has claimed R&M expenses of Rs.18.07 crore in truing up for FY 2016-17. It is observed from the audited accounts of the Petitioner for FY 2016-17, the Petitioner has charged Rs.16.56 crore to the capital works in progress and Rs.1.51 crore charged to Profit & Loss account being 8.33% of the total R&M expenses. The Petitioner is claiming Rs.16.56 crore towards R&M expenses through ARR and also through capital working in progress. As such, the Commission has considered Rs.1.51 crore as pass through in the ARR for FY 2016-17 based on audited annual accounts as indicated in the Table below:

Table 4.19: Repairs & Maintenance Expenses approved for FY 2016-17
(Rs. Crore)

Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17	Approved in truing up for FY 2016-17
R & M expenses	5.00	5.00	18.07	1.51

The Commission, accordingly, approved R&M expenses at Rs.1.51 crore for FY 2016-17

4.10.3. Administration & General (A&G) Expenses

Petitioner's submission:

BSPGCL has submitted that the actual A&G expenses incurred, based on audited accounts in FY 2016-17 is claimed in true up. The Petitioner has further submitted that A&G expenses pertaining to Extension Project to the extent of 30% has been reduced and net A&G expenses claimed in the truing up for FY 2016-17 as detailed in the Table below:

Table 4.20: Administration and General Expenses proposed for FY 2016-17

(Rs. Crore)				
Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17
1	A & G Expenses (excluding CISF expenses)	2.50	3.60	7.44
2	Add: Indexation @4.65%	0.12	--	--
3	CISF expenses	--	--	16.25
4	Gross A&G expenses (1+2+3)	2.62	3.60	23.69
5	Less: A&G expenses for extension project @30%	0.79	1.08	2.23
6	Add: Payment to CISF	7.00	8.50	11.38
7	Total A&G cost (1+2-5+6)	8.83	11.02	16.58

Commission's Analysis:

The Petitioner has claimed A&G expenses of Rs.23.69 crore in truing up for FY 2016-17. The audited accounts depict Rs.23.69 crore towards A&G expenses for FY 2016-17. It is observed that the A&G expenses of Rs.23.69 crore includes Holding Company expenses for FY 2016-17.

It is observed from the audited accounts of the Petitioner for FY 2016-17, the Petitioner has charged Rs.21.72 crore to the capital works in progress and Rs.1.97 crore charged to Profit & Loss account being 8.33% of the total A&G expenses. The Petitioner is claiming

Rs.21.72 crore towards A&G expenses through ARR and also through capital working in progress. The Commission has not considered Rs.21.72 crore as pass through in the ARR and allowed Rs.1.97 crore in the ARR for FY 2016-17 based on audited annual accounts as indicated in the Table below:

Table 4.21: Administration and General Expenses approved for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17	Approved in truing up for FY 2016-17
1	A & G Expenses (excluding CISF expenses)	2.50	3.60	7.44	1.97
2	Add: Indexation @4.65%	0.12	--	--	--
3	CISF expenses	--	--	16.25	--
4	Gross A&G expenses (1+2+3)	2.62	3.60	23.69	1.97
5	Less: A&G expenses for extension project @30%)	0.79	1.08	2.23	--
6	Add: Payment to CISF	7.00	8.50	11.38	--
7	Less: Holding company expenses	--	--	--	--
8	Total A&G cost (1+2-5+6-7)	8.83	11.02	16.58	1.97

The Commission, accordingly, approved the Administration & General Expenses at Rs.1.97 Crore for FY 2016-17.

4.10.4. Holding company Expenses

Petitioner's submission:

BSPGCL has submitted that as per audited accounts it has incurred Rs.7.35 crore towards holding company expenses in FY 2016-17 and requested the Commission to approve the same in truing up for FY 2016-17 as detailed in the Table below:

Table 4.22: Holding Company Expenses claimed for FY 2016-17

(Rs. Crore)

Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17
Holding Company Expenses	9.16	6.05	7.35

Commission's Analysis:

The Commission has considered the total A&G expenses of Rs.23.69 crore which includes Holding company expenses also. The A&G expenses considered in two parts i.e. Rs.21.72 crore in Capex and Rs.1.97 crore as pass through in ARR for FY 2016-17. The Commission accordingly, has not considered Holding company expenses separately for FY 2016-17.

4.10.5. Total O & M expenses

The total O&M expenses approved in truing up for FY 2016-17 is summarized in the Table below:

Table 4.23: Total O&M Expenses approved for FY 2016-17

(Rs. Crore)					
Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17	Approved in truing up for FY 2016-17
1	Employee cost	26.30	24.12	20.73	2.47
2	R&M expenses	7.00	6.00	18.07	1.51
3	A & G Expenses	8.83	11.02	16.58	1.97
4	Holding company expenses	9.16	6.05	7.35	--
5	Total O&M cost	51.29	47.19	62.73	5.95

The Commission approved the total O&M expenses at Rs.5.95 Crore for FY 2016-17.

4.10. Non-Tariff Income**Petitioner's submission**

BSPGCL has submitted that it has earned a non-tariff income of Rs.13.36 crore, as per audited accounts in FY 2016-17.

Commission's analysis:

The Commission observed that as per the annual accounts for FY 2016-17 the non tariff income is at Rs.13.36 crore and accordingly the same is considered and adjusted against the revised ARR of the R&M units for FY 2016-17.

The Commission approved the non tariff income at Rs.13.36 Crore for FY 2016-17.

4.11. Annual Revenue Requirement

Petitioner's submission

BSPGCL has proposed the revised annual revenue requirement recoverable from the distribution licensees for FY 2016-17 in trueing up as detailed in the Table below:

Table 4.24: Annual Revenue Requirement proposed in true up for FY 2016-17

(Rs. Crore)				
Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in trueing up for FY 2016-17
1	Fuel Cost	299.19	63.67	51.01
2	O&M expenses	51.29	47.19	62.73
3	Interest and finance charges	--	3.28	--
4	Interest on working capital	18.24	5.59	5.70
5	Depreciation	--	--	9.58
6	Return on equity	44.41	7.19	8.53
7	Total	413.13	126.92	137.55
8	Less: Non-Tariff Income	0.20	0.50	13.36
10	Gross ARR	412.93	126.42	124.19
11	Surplus of FY 2015-16 adjusted	--	--	1.82
12	Net ARR	412.93	126.42	126.01

Commission's Analysis:

Based on the detailed analysis, the annual revenue requirement considered by the Commission in true up for FY 2016-17 are as detailed in the Table below:

Table 4.25: ARR approved in truing up for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved in Tariff Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed in truing up for FY 2016-17	Approved in truing up for FY 2016-17
1	Fuel Cost	299.19	63.67	51.01	30.78
2	O&M expenses	51.29	47.19	62.73	5.95
3	Interest and finance charges	--	3.28	--	-
4	Interest on working capital	18.24	5.59	5.70	1.28
5	Depreciation	--	--	9.58	--
6	Return on equity	44.41	7.19	8.53	--
7	Total	413.13	126.92	137.55	38.01
8	Less: Non-Tariff Income	0.20	0.50	13.36	13.36
10	Gross ARR	412.93	126.42	124.19	24.65
11	Surplus of FY 2015-16 adjusted	--	--	1.82	--
12	Net ARR	412.93	126.42	126.01	24.65

The Commission has approved revised annual fixed charges for FY 2016-17.

4.12. Revenue Gap / (Surplus) for FY 2016-17

Commission's analysis:

According to the audited accounts for FY 2016-17, the Petitioner has received Rs.51.36 crore (NBPDCCL Rs.20.54 crore & SBPDCL Rs.30.82 crore) towards sale of energy charges from DISCOMs during FY 2016-17. It is observed from the Discoms audited accounts for FY 2016-17, the Discoms have accounted for cost of energy purchases from BSPGCL as given below:

NBPDCCL – Rs.21.98 crore
SBPDCL – Rs.29.38 crore
Total – Rs.51.36 crore

The Commission has accordingly considered Rs.51.36 Crore towards revenue received from energy charges from the DISCOMs during FY 2016-17.

The Commission in Tariff Order dated 21.03.2016 had fixed/notified the generation tariff at Rs.3.97/kWh for FY 2016-17 (Fixed charge component Rs. 1.09/kWh and Energy charges component Rs.2.88/kWh). It is observed from the audited accounts for FY 2016-17, the Petitioner has billed/received Rs.51.36 crore on the Discoms i.e. NBPDC and SBPDCL. On prudence check, it was found that the amount billed/received includes the net infirm generation of 8.35296 MU during the period from 03.08.2016 to 31.10.2016. BSPGCL has billed these infirm units at Rs.3.97/kWh generation tariff rate notified by the Commission through Tariff order dated 21.03.2016 and considered as revenue from sale of power.

The Regulation 36 of BERC (Terms and conditions for determination of Tariff) Regulations 2007 specifies;

“36 Sale of infirm power

Any revenue (other than the recovery of fuel cost) earned by the generating company from sale of infirm power, shall be taken as a reduction in capital cost and shall not be treated as revenue”.

According, to the regulation 36, the revenue earned from sale of infirm power in excess of fuel cost shall be adjusted against capital cost and shall not be recognised as revenue.

The Commission has considered the sale of infirm power units (generation during the period from 03.08.2016 to 31.10.2016) based on the bills raised on Discoms at 8.35296 MU and the revenue at Rs.3.32 crore (as per bills raised on Discoms). The Commission in terms of Regulation 36 has computed the fuel cost of such infirm power at Rs.2.41 Crore (8.35296 MU x 2.88) to be adjusted along with Rs. 48.04 Crore (51.36-3.32) against the revenue realised Rs.51.36 crore (as per audited accounts for FY 2016-17), subject to final adjustment based on prudence check of trial run cost with reference to cost of generation (fuel cost Coal/Oil). Further, the Commission has reduced excess revenue

earned from sale of infirm power Rs.0.91 Crore from the capital cost capitalised during the year as discussed in forgone paras.

The Commission, based on the detailed analysis, has considered the annual fixed charges/Transmission charges and the revenue gap for FY 2016-17 as detailed in the Table below:

Table 4.26: Revenue Gap approved for FY 2016-17

(Rs. Crore)					
Sl. No.	Particulars	Approved for FY 2016-17 in Tariff order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 09.03.2017	Claimed by BSPGCL in truing up for FY 2016-17	Approved in truing up for FY 2016-17
1	Aggregate Revenue Requirement	412.93	126.42	126.01	24.65
2	Less: Energy charges recovered	412.93	63.67	51.36	50.45
3	Revenue Gap / (Surplus) for the year (1-2)	--	62.75	74.65	(25.80)

The Commission, accordingly, has approved trued up **revenue surplus** of Rs.25.80 crore for FY 2016-17 as detailed in the table above.

The Regulation 22(3) of the BERC Tariff Regulations, 2007, specify *“the revenue gap of next year shall be adjusted as a result of Review and Truing up exercises”*.

However, the Commission has not considered for adjustment of the revenue surplus of Rs.25.80 crore in the ARR of FY 2018-19, as the final project cost of the R&M units is yet to be approved by the Commission. The revenue surplus shall be adjusted on finalization and approval of the Project cost of the R&M units and consequential effect on the other ARR parameters based on the revision of project cost considered in this order vis-à-vis project cost to be finally approved.

5. Annual Performance Review for FY 2017-18

5.1. Background

The Commission had issued order for Annual Revenue Requirement and Generation Tariff for FY 2017-18 on 09.03.2017 for Bihar State Power Generation Company Limited (BSPGCL). The approval of ARR for FY 2017-18 was based on the estimates projected by BSPGCL for costs to be incurred in FY 2017-18.

BSPGCL has now submitted the present petition on 8th December, 2017 which includes Annual Performance Review (APR) for FY 2017-18 also. The Petitioner has submitted that the APR for FY 2017-18 is based on the actual expenses incurred in the last six (6) months (April 2017 to September, 2017) and further projections for entire year as applicable for various heads of expenditure.

Review for FY 2017-18 is to be done according to the Regulation 22 (1) of BERC (Terms and Conditions for Determination of Tariff Regulations), 2007 which is reproduced below:

“The Commission shall undertake a review along with next Tariff Order of the expenses and revenues approved by the Commission in the current year Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates / pre-actuals of the sale of electricity, income and expenditure for the relevant year and permit necessary adjustments / changes in case such variations are for adequate and justifiable reasons. Such an exercise shall be called Review”.

Accordingly, the ‘Review’ exercise for FY 2017-18 has been undertaken by the Commission on the basis of annual accounts for FY 2016-17, revised estimates for FY 2017-18 submitted by the Petitioner and in accordance with the BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007. However, wherever deemed necessary, the Commission has considered expenses based on prudence check.

5.2. Status of Barauni Thermal Power Station – R&M Units 6 & 7

The Units 6 and 7 of BTPS were under Renovation and Modernisation (R&M) from 15th March, 2012 and 21st June, 2010 respectively. R&M is being executed by BHEL under supervision of M/s. NTPC. After completion of R&M, Unit-7 is working since 4th November, 2016 till 7th May 2017 (7.00 AM) and is under shutdown due to orders from Central Pollution Control Board (CPCB). The Unit 7 is scheduled to be resynchronised on 15.02.2018, as intimated by the BSPGCL vide letter no.37 dated 23.01.2018.

The R&M of Unit-6 is scheduled to be completed in first week of February 2018 and the Unit-6 may start generation from 28th February, 2018, as intimated by the BSPGCL vide letter no.37 dated 23.01.2018.

5.3. Status of BTPS Extension Project (2 x 250 MW)

In order to cater to the growing energy demand of the State, the erstwhile BSEB had proposed to augment the generating capacity of BTPS by installing 2 x 250 MW units, known as BTPS Extension Project (Unit 8 & 9). These Units are scheduled for CoD during FY 2017-18. The ARR for fixed and variable charges for generation during FY 2017-18 from these Units has been claimed in a separate Petition for approval of provisional Tariff, which is considered separately and not as a part of the APR.

BSPGCL vide letter no.37 dated 23.01.2018 has intimated the revised CoD of Unit 8 as 28.02.2018 and Unit 9 as 01.04.2018.

5.4. Generation from BTPS Units 6 & 7**Petitioner's submission:**

BSPGCL has submitted that the Commission in Tariff Order dated 9th March 2017 approved the Annual Revenue Requirement for FY 2017-18 based on the estimates proposed by BSPGCL. The Petitioner now seeks revision in the estimated expenses for the FY 2017-18 which are based on the actual expenses incurred, during the first 6 months of FY 2017-18 (April 2017 to September 2017).

In the present petition, as mentioned in Para 5.2 above, it is submitted that Unit -7 has been working since 4th November 2016 till 7th May 2017 (7.26 AM) during FY 2017-18 and presently under shut down due to orders from Central Pollution Control Board (CPCB). In response to the query, the BSPGCL vide letter no.37 dated 23.01.2018 has communicated the revised dates of commissioning of R&M units as given in the Table below:

Table 5.1: BTPS (Unit – 6 and 7 Completion Schedule – Revised)

BTPS Unit	Revised CoD
Unit – 06	Stated to be commissioned on 28 th February 2018
Unit – 07	Operational since Nov – 2016 and presently under shutdown since 7:26 AM, 7 th May 2017 Stated to be synchronization : 15 th February 2018

After completion of R&M, the Unit 6 will require some time to stabilize to pass some performance tests and then scheduled maintenance thereafter, before the declaration of CoD.

As per the current status, Unit -7 was operational from April 1st 2017 to May 7th 2017 of the FY 2017-18. Unit 7 has been shut down due to orders from Central Pollution Control Board. Unit 7 was stated to start its generation again from the date as mentioned in the table above i.e. from 15th February 2018.

Commission’s analysis:

The Commission provisionally considers the scheduled dates of commission/synchronisation of the Units 6 & 7 as submitted by the petitioner. Accordingly, the Commission considers all the generation parameters as discussed in the subsequent paragraphs. The Petitioner has submitted separate petition for approval of project cost and generation tariff in respect of Extension project and hence, the cost of generation relating to extension project is not considered for FY 2017-18.

5.5. Performance and Cost parameters

5.5.1 Plant Availability Factor (PAF)

Petitioner's submission:

BSPGCL has requested for considering, the Plant Availability at 81 days for Unit-6 and 133 days for Unit – 7 as mentioned below:

Table 5.2: Projected Availability Factor for FY 2017-18

Unit	PAF approved in TO for FY 2017-18	Projected Available Days for FY 2017-18
6	70%	81
7	70%	133

Commission's analysis:

As discussed in the preceding para 5.4, BSPGCL vide letter no.37 dated 23.01.2018 has communicated the revised dates of commissioning resynchronisation of R&M units 6&7 respectively as shown in the table 5.1.

Accordingly, the Commission considers the Plant availability factor based on the revised CoD resynchronisation furnished by BSPGCL (as mentioned in Table 5.1), at for Units 6&7 respectively. The Unit 7 has been commissioned on 4.11.2016 and was in operation from 4.11.2016 to 7.05.2017 and is under shut down due to CPCB order. The Unit 7 is expected to be resynchronised on 15.02.2018. The Unit 6 was stated to be commissioned on 28.02.2018. The Commission had approved PAF for Unit-6&7 in the tariff order dated 09.03.2017 at 70%. As such the PAF for both the units are considered at 70% for FY 2017-18. However, the PLF is considered for number of days of operation as shown in the table below:

Table 5.3: Approved Plant Availability Factor for FY 2017-18

Unit	PAF approved for FY 2017-18 in Tariff Order dated 09.12.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved PAF in review for FY 2016-17 (RE)	Approved number days of operation in review for FY 2016-17 (RE)
6	70%	81 days	70%	32 days
7	70%	133 days	70%	81 days

5.5.2 Plant Load Factor (PLF)

Petitioner's submission:

BSPGCL has requested for considering the Plant Load Factor (PLF) of 70% for Units 6&7 for FY 2017-18 in view of the vintage of the units and PLF achieved by similar size power plants that had undergone Renovation & Modernisation as given in the table below:

Table 5.4: Projected plant Load Factor for FY 2017-18

Unit	PLF approved for FY 2017-18 in TO dated 09.03.2017	Projected for FY 2017-18	Operational days considered
6	70%	70%	32 days
7	70%	70%	81 days

Commission's analysis:

The Commission considers the projection of PLF of 70% reasonable as it is in line with the one approved in the last Tariff Order dated 09.03.2017. Accordingly, the Commission approves the PLF for Units 6&7 for FY 2017-18 as projected by the Petitioner as given in the table below:

Table 5.5: Approved Plant Load Factor for FY 2017-18

Unit	PLF approved for FY 2017-18 in TO dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6 & 7	70%	70%	70%

5.5.3 Auxiliary Consumption**Petitioner's submission:**

BSPGCL has projected the auxiliary consumption of 12% for FY 2017-18 for Units 6&7 as approved by the Commission for FY 2017-18 in Tariff order dated 09.03.2017 as given in the table below:

Table 5.6: Projected Auxiliary Consumption for FY 2017-18

Unit	Approved for FY 2017-18 in TO dated 21.03.2016	Projected for FY 2017-17 (RE)
6&7	12%	12%

Commission's analysis:

The Petitioner has projected auxiliary consumption at 12% for FY 2017-18 in line with the target approved in the Tariff Order dated 09.03.2017.

The Commission considers the auxiliary consumption at 12% at the same level as approved for FY 2017-18 in the Tariff order dated 09.03.2017. Accordingly, the Commission approves the auxiliary consumption for Units 6 & 7 for FY 2017-18 as given in the Table below:

Table 5.7: Auxiliary Consumption approved for FY 2017-18

Units	Approved for FY 2017-18 in TO dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6&7	12%	12%	12%

5.5.4 Gross and Net Generation

Petitioner's submission:

BSPGCL has projected Gross and Net Generation for Units 6 & 7 for FY 2017-18 as given in the Table below:

Table 5.8: Projected Gross and Net Generation for Units 6 & 7 for FY 2017-18

Particulars	Unit No	Revised Estimated Generation in MU for FY 2017-18
Gross Generation	6	150
Gross Generation	7	246
Total Gross Generation	All Units	395
Auxiliary consumption	All Units	47
Net generation	All Units	348

Commission's analysis:

The Commission approve the gross and net generation for Units 6&7 put together as 208.824 MU and 183.765 MU respectively as given in the Table below:

Table 5.9: Gross and Net Generation approved for Units 6 & 7 for FY 2017-18 (MU)

Particulars	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
Gross Generation	395.00	208.824
Auxiliary consumption (12%)	47.00	25.059
Net generation	348.00	183.765

5.5.5 Station Heat Rate (SHR)

Petitioner's submission:

BSPGCL has projected Station Heat Rate of 3000 kcal/kWh for Units 6&7 for FY 2017-18 as approved by the Commission in Tariff Order dated 09.03.2017.

Commission's analysis:

The Commission considers the Station Heat Rate for Units 6&7 as projected by the Petitioner since it is in accordance with that approved in the last tariff order dated 09.03.2017 as given in the Table below:

Table 5.10: Station Heat Rate approved for FY 2017-18

(Kcal/kWh)

Unit	Approved for FY 2017-18 in order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6	3000	3000	3000
7	3000	3000	3000

5.5.6 Specific Oil Consumption

Petitioner's submission:

BSPGCL has projected Specific Oil consumption of 3.00 ml/kWh for Units 6&7 for FY 2017-18 as approved by the Commission in Tariff Order dated 09.03.2017.

Commission's analysis:

The Commission considers the Specific Oil consumption, as projected by the Petitioner, since it is in accordance with that approved in the last tariff order dated 09.03.2017 as given in the Table below:

Table 5.11: Specific Oil consumption approved for FY 2017-18

(ml/kWh)

Units	Approved for FY 2017-18 in order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6&7	3.00	3.00	3.00

5.5.7 Transit Loss of Coal

Petitioner's submission:

BSPGCL has projected transit loss of coal at 0.80% for Units 6&7 for FY 2017-18 as approved by the Commission in Tariff Order dated 09.03.2017.

Commission's analysis:

The Commission considers the Transit Loss of Coal as projected by the Petitioner since it is in line with that approved in the last tariff order as given in the Table below:

Table 5.12: Transit Loss of Coal approved for FY 2017-18

Units	Approved for FY 2017-18 in order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6&7	0.80%	0.80%	0.80%

5.5.8 Cost of Oil

Petitioner's submission:

The Petitioner has relied on the actual bills received from Indian Oil Corporation Limited (IOCL) and Hindustan Petroleum Corporation Limited (HPCL) for determination of Landed Cost of Oil as per the table below:

Table 5.13 : Landed price of Oil (LDO and industrial Oil) projected by the Petitioner for FY 2017-18

Sl. No.	Particulars	Rate	Quantity (KL)	Amount (in Rs.)
1	LDO Basic Price (IOCL)	32524.17	3151.27	102492441.20
2	Net Transportation Charge (Rail)	1267.10		3992973.00
3	Taxable Value (1+2)			106485414.20
4	Integrated Tax	18%		19167374.56
5	Gross Landed Cost (3+4)			125652788.76
6	Landed Cost/ KL			39873.70
	Industrial Diesel Oil (HPCL)			-
1	Total Value		22 KL	817857.92
2	Discount			14300
3	Taxable Value (1-2)			803557.92
4	Tax	18%		144640.43
5	Gross Landed Price (3+4)			948198.35
6	Landed Cost/ KL			43099.95
	Average Price of Oil			41,486.83

The Petitioner submitted that both LDO and Industrial Oil are used in the generation units for firing the boilers. Accordingly, the Petitioner has considered the average landed price of both the oils as per the table above, for the purpose of APR of FY 2017-18.

Commission's analysis:

Considering that LDO Oil and IDO Oil are being used equally in the generation Units for firing the boilers, the Commission considers the cost of oil as projected by BSPGCL as per actuals.

Table 5.14: Cost of Oil approved for FY 2017-18

Units	Approved in the Tariff Order dated 09.03.2017 for FY 2017-18	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
6&7	Rs.52171/KL	Rs.41486.83/KL	Rs.41486.83/KL

5.5.9 Cost of Coal

Petitioner's submission:

The Commission in its Tariff Order dated 09.03.2017 for determination of tariff for FY 2017- 18, has approved the GCV and cost of coal @ 5672 Kcal/Kg and Rs. 4320 /MT respectively.

In order to assess the present price of coal, the Petitioner has obtained copies of recent bills of M/s Eastern Coalfields Limited (ECL) for supply of coal from its various utilities to Barauni Thermal Power Station. Following is the summary of the coal bills:

Table 5.15: Price of Coal being supplied by ECL

Invoice Number	Invoice Date	Net Weight (MT)	GCV (kcal/kg)	Basic Price (Rs /MT)	Total landed cost (Rs)	Wt. Average Price (Rs/MT)
081018C512300460	11/9/2017	1056	5950	2750	4926778.56	4666.51
081018C512300461	11/9/2017	660	5350	1600	2127040.74	3222.29
081018C512300462	11/9/2017	858	5950	2750	4003007.58	4666.51
081018C512300463	11/9/2017	660	5950	2750	3079236.60	4666.51
081018C512300464	11/9/2017	528	5950	2750	2463389.28	4666.51
		3762	5844.74		16599452.76	4412.40

Commission's analysis

BSPGCL has furnished the details of calculations of cost of coal as given in the Table below:

Table 5.16: Cost of Coal projected by the Petitioner for FY 2017-18

Sl. No.	Particulars	Rates	Grade G5	Grade G7
			(5950 GCV)	(5350 GCV)
1	ROM Price		2750	1600
2	Wagon Loading Charge		0	0
3	Weighment / Sizing Charges	87	87	87
4	Surface Transportation Charges	57	57	57
5	RE Cess: 20% on Basic ROM notified price	0	0	0
6	PE Cess: 5% of Basic ROM notified price	0	0	0
7	Bazaar Fee: (Only Mugma area)	1%	27.5	16
8	Royalty	14%	385	224
9	NMET:	2%	7.7	4.48
10	DMFT:	30%	115.5	67.2
11	Silo Loading charges			
12	AMBH Cess (For Bengal Field)	1.00	-	-
13	PWD Road (For Bengal Field)	1.00	-	-
14	Total Value of goods:		3429.70	2055.68
15	Discount (if any):			
16	SGST		0	0
17	CGST		0	0
18	IGST	5%	171.49	102.78
19	Compensation cess	400.00	400.00	400.00
20	Total value of Goods with Tax:		4001.19	2558.46
21	Less: Under loading charges	618.37	0	0
22	TCS	0	0	0
23	Net Payable Amt		4001.19	2558.46
24	Railway Freight	649.28	649.28	649.28
25	Coal Sampling Fee/ MT (Rs 4.25 at loading + Rs 8.50 at unloading)	12.75	12.75	12.75
26	Service Tax on Sampling Fee	18%	2.30	2.30
27	Gross Landed Price of Coal for Units 6 & 7		4665.51	3222.79

After verification of the coal bills and Railway Freight charges the commission approves the weighted average cost of coal as projected by the Petitioner at Rs. 4412.40/MT.

5.5.10 GCV of Coal and Oil**Petitioner's submission:**

BSPGCL, in its petition has projected the Gross Calorific Value (GCV) of Coal at 5844.74 kCal/kg against 5672 kCal/kg approved in Tariff Order dated 09.03.2017. The GCV of Oil is projected at 10153 kCal/L, same as that approved in the Tariff Order dated 21.3.2016.

Commission's analysis:

The Commission obtained the actual GCV of Coal based on the Coal bills. The GCV of coal is approved as projected by BSPGCL after verifying the Invoices. The GCV of Oil is approved as projected as it is in line with in the approved one in the Tariff Order dated 09.03.2017.

Table 5.17: Weighted average GCV of Coal and LDO Oil approved for FY 2017-18

Unit	Projected by BSPGCL for FY 2017-18 (RE)		Approved in review for FY 2017-18 (RE)	
	Wt. Avg. GCV of coal	Wt. Avg. GCV of Oil	Wt. Avg. GCV of coal	Wt. Avg. GCV of Oil
6&7	5845 kCal/kg	10153 kCal/l	5844.74 kCal/kg	10153 kCal/l

5.5.11 Fuel Cost/Variable cost

Petitioner's submission:

BSPGCL has projected the variable cost in review for FY 2017-18 as given in the table below:

Table 5.18: Projected Variable Cost of Generation for FY 2017-18

Sl. No.	Item	Derivation	Unit	Approved for FY 2017-18	Revised Estimate for FY 2017-18
1	Gross Generation	A	MU	1,181	395.47
2	Station Heat Rate	B	KCal/KWH	3,000	3,000
3	Sp. Oil Consumption	C	ml/kWh	3	3
4	Calorific value of Oil	D	kcal/l	10,153	10,153
5	Gross Calorific Value of coal	E	kcal/kg	5,672	5,845
6	Overall Heat	$F = A * B$	G Cal	35,42,616	1,186,416
7	Heat from Oil	$G = (A * C * D) / 1000$	G Cal	35,968	12,045.68
8	Heat from Coal	$H = (F - G)$	G Cal	35,06,648	1,174,370
9	Actual Oil Consumption	$I = A * C$	Kl	3,543	1,186
10	Actual Coal Consumption	$J = (H * 1000) / E$	MT	6,18,238	200,928
11	Coal Consumption Transit Loss	$J1 = J / (1 - 0.008)$	MT	6,23,224	202,548
12	Cost of Oil per KL	K	Rs/kl	52,171	41,487

Sl. No.	Item	Derivation	Unit	Approved for FY 2017-18	Revised Estimate for FY 2017-18
13	Cost of Coal per MT	L	Rs/MT	4,320.43	4,412.40
14	Cost of Oil	$M=I*K/100000$	Rs Lakh	1,848.00	492
15	Cost of Coal	$N=J1*L/100000$	Rs Lakh	26,926	8,937
16	Total Fuel Cost	$O= M+N$	Rs Lakh	28,774	9,429
17	Other Fuel related cost	P	Rs Lakh	-	-
18	Total Fuel Cost	$Q= O+P$	Rs Lakh	28,774	9,429
19	Fuel Cost/Unit Gross	$Q/(A*10)$	Rs/kWh	2.44	2.38
20	Auxiliary Consumption	R	%	12%	12%
21	Auxiliary Consumption	$S=A*R$	MUs	142	47
22	Net Generation	$T=A-S$	MUs	1,039	348
23	Fuel Cost/Unit Net	$Q/(T*10)$	Rs/kWh	2.77	2.71

Commission's analysis

Based on the parameters considered above, the Fuel Cost for Units 6&7 for FY 2017-18 for 208.82 MU of generation considered in paragraph 5.5.4 are as given in the Table below:

Table 5.19: Fuel cost and Variable cost of Generation approved for FY 2017-18

Sl. No.	Item	Derivation	Unit	Projected by BSPGCL for FY 2017-18 (RE)	Revised Estimate approved for FY 2017-18 (RE)
1	Gross Generation	A	MU	395.47	208.82
2	Station Heat Rate	B	KCal/KWH	3,000	3000.00
3	Sp. Oil Consumption	C	ml/kWh	3	3.00
4	Calorific value of Oil	D	kcal/l	10,153	10153.00
5	Gross Calorific Value of coal	E	kcal/kg	5,845	5844.74
6	Overall Heat	$F= A*B$	G Cal	1,186,416	626472.00
7	Heat from Oil	$G=(A*C*D)/1000$	G Cal	12,045.68	6360.57
8	Heat from Coal	$H = (F-G)$	G Cal	1,174,370	620111.43
9	Actual Oil Consumption	$I=A*C$	Kl	1,186	626.47
10	Actual Coal Consumption	$J=(H*1000)/E$	MT	200,928	106097.35
11	Coal Consumption including Transit Loss	$J1=J/(1-0.008)$	MT	202,548	106952.97
12	Cost of Oil per KL	K	Rs/kl	41,487	41486.83
13	Cost of Coal per MT	L	Rs/MT	4,412.40	4412.40
14	Cost of Oil	$M=I*K/100000$	Rs Lakh	492	259.90
15	Cost of Coal	$N=J1*L/100000$	Rs Lakh	8,937	4719.19
16	Total Fuel Cost	$O= M+N$	Rs Lakh	9,429	4979.10

Sl. No.	Item	Derivation	Unit	Projected by BSPGCL for FY 2017-18 (RE)	Revised Estimate approved for FY 2017-18 (RE)
17	Other Fuel related cost	P	Rs Lakh	-	--
18	Total Fuel Cost	Q= O+P	Rs Lakh	9,429	4979.10
19	Fuel Cost/Unit Gross	Q/(A*10)	Rs/kWh	2.38	2.38
20	Auxiliary Consumption	R	%	12.00%	12.00%
21	Auxiliary Consumption	S=A*R	MUs	47	25.06
22	Net Generation	T=A-S	MUs	348	183.76
23	Fuel Cost/Unit Net	Q/(T*10)	Rs/kWh	2.71	2.71

5.6. Capital Investment

Petitioner's submission:

BSPGCL has submitted that Ganga water scheme is envisaged to provide water supply to both existing as well as Extension Project. Based on the cost apportionment, in the ratio of capacities of the units, proposed by the Petitioner, the Commission has approved the costs in the Tariff Order dated 12th March, 2015 as detailed in the Table below:

Table 5.20: Cost allocation matrix for Ganga Water Scheme

Sl. No.	Description	Unit	Amount
1	Total project cost	Rs. Crore	173.00
2	Capacity of existing plant	MW	220
3	Capacity of proposed plant	MW	500
4	Total BTPS capacity	MW	720
5	Allocation Ratio for existing plant	%	31%
6	Allocation Ratio for extension plant	%	69%
7	Project cost allocation for existing plant	Rs. Crore	52.86

BSPGCL has submitted details of total expenditure for BTPS as detailed in the Table below:

Table 5.21: Capital expenditure proposed for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Total Project Cost	Fund released till FY 2016-17	Capex for 2017-18		Total capex (FY 2017-18)
				Up to sept'17	Oct'17 to March 2018	
1	Cost associated with R&M of BTPS units 6 & 7	581.20	539.63	5.00	36.57	41.57
2	Cost allocated to Ganga Water Scheme	25.64	22.02	--	--	--

Sl. No.	Particulars	Total Project Cost	Fund released till FY 2016-17	Capex for 2017-18		Total capex (FY 2017-18)
				Up to sept'17	Oct'17 to March 2018	
3	Cost allocated to BTPS Railway Siding	52.86	31.71	--	5.78	5.78
4	Total investment	659.70	593.36	5.00	42.35	47.35

BSPGCL has requested the Commission to approve the revised capex and capitalisation for FY 2017-18 as provided in the Table below:

Table 5.22: Revised CWIP proposed by the Petitioner for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Opening CWIP	293.31	925.77
2	Add: New investment	15.45	47.35
3	Less: Capitalisation from CWIP	308.76	967.34
4	Net Closing CWIP (1+2-3)	--	5.78

Commission's analysis:

The Commission has examined the computations of capital expenditure furnished by BSPGCL.

The Petitioner has submitted that a separate petition was filed for Extension project for fixed and variable cost for FY 2017-18 and accordingly capitalisation, fixed and variable cost relating to extension project are not considered as part of the ARR petition filed for FY 2017-18. The Petitioner vide letter no.37 dated 23.01.2018 had intimated that Unit 8 and Unit 9 of extension projects are scheduled to be commissioned on 20.02.2018 and 15.04.2018 respectively. However, the Petitioner has communicated the revised dates of commissioning of Unit 8 as 28.02.2018 and Unit 9 as 01.04.2018. The Commission in view of uncertainty of commissioning of the units as scheduled has not considered

capitalisation of extension project cost and also the ARR relating to extension project for FY 2017-18 in review.

The Commission has considered the opening CWIP of Rs.617.02 Crore (relating to R&M units) for FY 2017-18 based on the closing CWIP considered for FY 2016-17.

The Commission has provisionally considered total capital cost of R&M units at Rs.763.21 crore in the true up for FY 2016-17 subject to approval of the actual capital cost, approving/rejecting cost over-run and time over-run; if any after commissioning of both units (Unit 6&7) of R&M Project. The Unit 7 of R&M units was commissioned on 4.11.2016 and accordingly, part of CWIP has been capitalized based on the audited accounts for FY 2016-17 in truing up. The unit 6 of R&M units was stated to be commissioned on 28.02.2018 i.e. during FY 2017-18. As such in absence of any specific information from the Petitioner, the Commission does not consider further Capex in FY 2017-18 and the balance CWIP (Rs.617.02 crore) of R&M units till FY 2016-17 is considered for capitalization during FY 2017-18 treating the CWIP relating to Unit 6.

The capex during FY 2017-18 as projected by the Petitioner has not been considered due to the reason explained under para 4.3. The Commission has considered the commissioning of Unit-6 (28th February 2018) during FY 2017-18 and accordingly, considered capitalization of entire capex Rs.617.02 Crore relating to Unit 6 of R&M units during FY 2017-18. The opening CWIP, addition during the year, capitalisation and closing CWIP is given in the table below are subject to approval of the actual capital cost, approving/rejecting cost over-run and time over-run; if any after commissioning of both units (unit 6&7) of R&M Project.

**Table 5.23: Capex and capitalisation considered for FY 2017-18
(Rs. Crore)**

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Opening CWIP	293.31	925.77	617.02
2	Add: New investment	15.45	47.35	--
3	Total (1+2)	308.76	973.12	617.02
4	Less: Capitalisation	308.76	967.34	617.02
5	Closing CWIP (4-5)	--	5.78	-

5.7. Funding of Capital Expenditure

Petitioner's submission:

BSPGCL has submitted that the funding of the project cost of R&M of Units-6 & 7 is by way of grants and equity and funding of Ganga Water scheme and BTPS Railway siding schemes by way of equity infusion in the Company by the Government of Bihar.

Commission's analysis

The Petitioner has submitted that the entire project cost of R&M Units 6 & 7 is through Grants and equity. The Commission accordingly, considers the funding of capex through Grants (Rs.581.20 crore) and balance through Equity.

5.8. Gross Fixed Assets

Petitioner's submission:

BSPGCL has submitted that opening GFA for FY 2017-18 is considered based on the closing GFA approved in truing up for FY 2016-17.

BSPGCL has submitted opening GFA, addition GFA and Closing GFA for FY 2017-18 as detailed in the Table below:

Table 5.24: Gross Fixed Assets Projected for FY 2017-18

(Rs. Crore)			
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Opening Gross Fixed Assets	822.28	580.03
2	Less: Cost of land assigned to extension project	--	92.41
3	Net opening GFA for R&M units (1-2)	822.28	487.62
4	Add: Additions during the year	308.76	967.34
5	Closing GFA (3+4)	1131.04	1454.96

Commission's analysis

The Commission has considered opening GFA for FY 2017-18 based on the closing GFA considered for FY 2016-17, the commission has also considered reduction of Rs.92.41 Cr from opening GFA as proposed by the petitioner for Cost of land of existing project allocated to extension project. The Commission has considered capitalisation as shown in the Table 5.23 above. Accordingly, the Commission has considered the GFA as detailed in the following Table below:

Table 5.25: Gross Fixed Assets considered for FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Opening Gross Fixed Assets	822.28	580.03	579.12
2	Less: Cost of land assigned to extension project	--	92.41	92.41
3	Net opening GFA for R&M units (1-2)	822.28	487.62	486.71
4	Add: Additions during the year	308.76	967.34	617.02
5	Closing GFA (3+4)	1131.04	1454.96	1103.73

5.9. Depreciation**Petitioner's submission:**

BSPGCL has submitted that based on actual GFA, actual additions to GFA vis-à-vis Grants for FY 2017-18 depreciation is claimed for FY 2017-18, prorated for period of operation, as detailed in the Table below:

Table 5.26: Depreciation Projected for FY 2017-18

(Rs. Crore)			
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Opening GFA	686.62	444.37
2	Additions during the year	308.76	967.34
3	Closing GFA (1+2)	995.38	1411.71
4	Average GFA $\{(1+3)/2\}$	841.00	928.04
5	Weighted average rate of depreciation	6.00%	6.00%
6	Gross Depreciation (4*5)	50.46	55.68
7	Opening Grants	581.20	539.63
8	Add: Grants during the year	--	41.57
9	Closing Grants (7+8)	581.20	581.20
10	Average Grants $\{(7+9)/2\}$	581.20	560.42
11	Weighted average rate of depreciation	6.00%	6.00%
12	Depreciation for GFA on Grants (10*11)	34.87	33.62
13	Depreciation for GFA on loans (6-12)	15.59	6.47

Commission's analysis:

The Commission has approved opening GFA, additions to GFA and closing GFA for FY 2017-18 in Table 5.25.

The Commission has considered closing grants at Rs.581.20 crore for FY 2016-17 relating to R&M units. The Unit 6 of R&M units is being put in to service during FY 2017-18, accordingly the capital expenditure relating to Unit 6 of R&M units is proposed to be capitalised in FY 2017-18 as shown in Table 5.25 above, subject to true up based on audited accounts for FY 2017-18 and finalization of capital cost..

Regulation 38 (2)(a) Depreciation specify, *for purpose of tariff, depreciation shall be computed in the following manner:*

- (i) *The value base for the purpose of depreciation shall be the historical cost of the asset.*
- (ii) *Depreciation shall be calculated annually based on the straight line method over the useful life of the asset and at rates prescribed by the CERC.*

*The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical cost of the asset. **The land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset.***

The Commission has considered opening value of depreciable assets at Rs.443.46 crore for FY 2017-18 based closing value considered for FY 2016-17. The capitalization of Rs.617.02 Crore has been considered as explained under para 5.6. The rate of depreciation is 5.28% as per CERC Regulations 2014, accordingly the commission has considered rate of depreciation at 5.28% for R&M units. Since Unit no. 6 of 110 MW was stated to be commissioned on 28.02.2018, depreciation on addition to assets which related to unit 6 has been considered for only one month. The Commission accordingly considered depreciation on assets at Rs. NIL as given in the table below:

Table 5.27: Depreciation approved for FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Opening GFA	686.62	444.37	443.46
2	Additions during the year	308.76	967.34	617.02
3	Closing GFA (1+2)	995.38	1411.71	1060.48
4	Average GFA $\{(1+3)/2\}$	841.00	928.04	751.97
5	Weighted average rate of depreciation	6.00%	6.00%	5.28%
6	Gross Depreciation (4*5)	50.46	55.68	26.13
7	Opening Grants	581.20	539.63	581.20
8	Add: Grants during the year	--	41.57	--
9	Closing Grants (7+8)	581.20	581.20	581.20
10	Average Grants $\{(7+9)/2\}$	581.20	560.42	581.20
11	Weighted average rate of depreciation	6.00%	6.00%	5.28%
12	Depreciation for GFA on Grants (10*11)	34.87	33.62	30.69
13	Depreciation for GFA on loans (6-12)	15.59	6.47	(4.56)
14	Depreciation allowed for FY 2017-18	15.59	6.47	Nil

The Commission, accordingly, considers depreciation at Rs. Nil for FY 2017-18 (RE).

5.10. Interest and Finance Charges

Petitioner's submission:

BSPGCL has submitted that entire project cost of R&M units is funded through Grant from Government of India and Equity from Government of Bihar. The interest is computed on normative loan in terms of BERC Tariff Regulations 2007. The Petitioner has computed interest on loans for FY 2017-18 as given in the table below:

Table 5.28: Interest on loans Projected for FY 2017-18

(Rs. Crore)			
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Opening Loan	169.09	--
2	Additions during the year	12.72	648.04
3	Less: Repayment	15.59	6.47
4	Closing Loan (1+2-3)	166.22	641.57
5	Average loan (1+4)/2	167.66	320.79
6	Rate of interest	12.00%	12.00%
7	Interest on loans (5*6)	15.59	11.28

Commission's analysis

The Commission has considered capitalization at Rs.617.02 crore and reduction of Rs.92.41 Cr from opening GFA as proposed by the petitioner for Cost of land of existing project allocated to extension project in Table 5.25 above. The opening loan is considered at Rs.Nil for FY 2017-18 based on the closing loan considered for FY 2016-17.

The Commission in terms of Regulation 37 (1) of the BERC Tariff Regulations 2007 has considered debt : equity ratio of 70 : 30 in respect of capitalization during FY 2017-18 as shown hereunder.

Table 5.29: Funding of Capitalisation for FY 2017-18

Sl. No.	Particulars	FY 2017-18 (Rs. Crore)
1	Capitalisation during the year adjusted for land allocated to extension project (Rs.617.02 Cr-Rs.92.41 Cr)	524.61
2	Less: Grants	2.08
3	Net capitalization	522.53
4	Equity considered (@30% of 3)	156.76
5	Debt considered (@70% of 3)	365.77

The Commission has considered rate of interest equivalent to SBI Base Rate @ 9.10% as on 1st April 2017 as normative rate of interest for the purpose of computation of interest on loans. Repayment of loan is considered equivalent to depreciation allowed for the year in terms of regulation 38.

The Petitioner has claimed interest on loan on average operational days of Unit-6 and Unit-7 during the year i.e. for 107 days. The Commission has considered the interest on loan on normative basis taking into consideration of the capital expenditure of R&M units which were capitalised during FY 2017-18, opening loan and loans bear interest irrespective of operations of the units and interest shall be allowed after capitalisation/CoD. Since Unit no. 6 of 110 MW is expected to be synchronized on 28.02.2018, interest on addition to loan which relate to unit 6 has been considered for only one month. The Commission accordingly considered interest on opening Loan at Rs. NIL and one month interest on addition to loan (after adjustment of normative repayment of Nil) as Rs.2.77 Cr i.e 365.77 Cr*9.10%*1/12 as detailed in the table below:

Table 5.30: Interest on loans considered for FY 2017-18**(Rs. Crore)**

Sl. No.	Particulars	Approved in review for FY 2017-18 (RE)	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening loan	169.09	--	-
2	Additions during the year	12.72	648.04	365.77
3	Normative Repayment	15.59	6.47	-
4	Closing Loan (1+2-3)	166.22	641.57	365.77
5	Average Loan $\{(1+4)/2\}$	167.66	320.79	-
6	Interest rate	9.30%	12.00%	9.10%
7	Interest & Finance Charges (5*6)	15.59	11.28 (for 107 days)	2.77*

* Interest calculated for one month on addition adjusted for normative repayment during the year

The Commission, accordingly, considers interest on loans at Rs.2.77 crore in review for FY 2017-18 (RE).

5.11. Return on Equity

Petitioner's submission:

BSPGCL has submitted that RoE is claimed for FY 2017-18 in accordance with BERC Tariff Regulations 2007 as detailed in the Table below:

Table 5.31: Return on Equity projected for FY 2017-18**(Rs. Crore)**

Sl. No.	Particulars	Approved for 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Opening Equity (30% of GFA)	159.50	146.29
2	Addition to equity	5.45	290.20
3	Closing equity (1+2)	164.95	436.49
4	Average equity (1+3)/2	162.23	291.39
5	Closing GFA	--	1454.96
6	Equity to be considered @30% of GFA	162.23	436.49
7	Rate of Return per annum %	14.00%	14.00%
8	Return on equity	22.71	11.96

Commission's analysis:

The Commission in terms of Regulation 37 (1) of the BERC Tariff Regulations 2007 has considered the capitalisation in debt : equity ratio of 70 : 30 for FY 2017-18. The opening equity is considered at Rs.NIL crore for FY 2017-18 based on the closing equity considered for FY 2016-17.

The addition to equity i.e Rs.156.76 Cr is considered at 30% of the capitalisation during FY 2017-18 and after considering the value of land apportioned to extension project as elaborated in para 5.10.

The Regulation 38 (3) (a) of BERC Terms and Conditions for Determination of Tariff Regulations, 2007 specify as below:

“the return on equity shall be computed on the base determined in accordance with Regulation 37 @ 14% per annum”.

The Petitioner has claimed RoE for average operational days of Unit-6 and Unit-7 during the year i.e. for 107 days. The Commission has considered the RoE taking into consideration of the capital expenditure of Unit 7 which was capitalised in FY 2016-17 and Unit 6 during FY 2017-18. Since Unit no. 6 of 110 MW was stated to be synchronized on 28.02.2018, Return on equity on addition to equity which relate to unit 6 has been considered for only one month. The Commission accordingly considered Return on equity on opening equity at Rs. NIL and one month RoE on addition during the year as Rs.1.83 Cr i.e $156.76 \text{ Cr} * 14\% * 1/12$ as detailed in the table below:

The Commission, accordingly, has computed the return on equity as detailed in the Table below:

Table 5.33: Return on Equity approved for FY 2017-18**(Rs. Crore)**

Sl. No.	Particulars	Approved for 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening Equity	159.50	146.29	-
2	Addition to equity	5.45	290.20	156.76
3	Closing equity (1+2)	164.95	436.49	156.76
4	Average equity (1+3)/2	162.23	291.39	-
5	Rate of Return per annum %	14.00%	14.00%	14.00%
6	Return on equity	22.71	11.96	1.83*

* Return on Equity calculated for one year on opening equity and for one month on addition during the year

The Commission, accordingly, approves Return on Equity at Rs.1.83 Crore for FY 2017-18 in the review.

5.12. Operation and Maintenance (O&M) Expenses

5.12.1. Inflationary Index / Escalation factor/rate

Petitioner's submission:

The Petitioner has submitted that it had followed the inflation index methodology considered in Tariff order dated 9.3.2017 based on CPI and WPI for projection of Employee expenses, Repairs and Maintenance Expenses and Administration & General expenses. The Petitioner has furnished the computation of indexation based on CPI and WPI as given in the table below:

Table 5.34 : Weightage of indexation/inflation factor projected by BSPGCL

Sl. No.	Particulars	WPI	CPI	Total
1	Weightage	0.45	0.55	1.00
2	Index points for FY 2016-17	113.20	275.00	
3	Indexation n (index point * weightage)	50.94	151.25	202.19
4	Index points for FY 2017-18 (Sept'2017)	114.30	285.00	
5	Indexation n-i (index point * weightage)	51.44	156.75	208.19
6	Combined inflation (5-3) / 3)			2.97%

Commission's Analysis:

The Commission has examined the computation of inflation index submitted by the Petitioner. It is observed that the Petitioner has not adopted the escalation factor i.e. inflationary index for FY 2017-18, however has adopted for FY 2018-19.

Regulation 73(3) of BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 specify;

“Norms for operation and maintenance expenses per ckt km and per bay shall be as under

(a) The Commission shall, for the purpose of fixing normative rates for operation and maintenance expenses, study the O&M expenses incurred over the last 4 to 5 years and fix appropriate rates per ckt-km of transmission line and per bay. The norms so fixed for 2008-09 shall be escalated at 4% per annum.

(b) The total allowable O&M expenses for a transmission licensee shall be calculated by multiplying the numbers of bays and ckt-km of line length with the applicable norms for O&M expenses per bay and per ckt-km respectively”.

The Commission in the Tariff Order dated 21.03.2016 had observed that;

“..... As per the regulation, the norms shall be determined based on last/previous 4 to 5 years of O&M expenses. Since the BSPTCL has only two years of audited annual accounts of FY 2013-14 and FY 2014-15, the Commission observes that the norms shall be determined from the next MYT control period to be notified by the Commission at a later date. Hence, the Commission considers appropriate to follow the methodology adopted for the 1st MYT control period of FY 2013-14 to FY 2015-16 for determination of O&M expenses for the 2nd MYT control period of FY 2016-17 to FY 2018-19.

The Commission has proposed following inflation index methodology for 1st MYT control period for computation of O&M expenses.

$$\mathbf{INDX_n = 0.55 * CPI_n + 0.45 * WPI_n}$$

- *CPI is the consumer price index increase for immediate preceding year over previous year.*
- *WPI is the wholesale price index increase for immediate preceding year over previous year”.*

The Commission has adopted the methodology as above and projected the O&M expenses for 2nd MYT control period of FY 2016-17 to FY 2018-19 in Tariff order dated 21.03.2016.

The Commission opines that, since no norm for O&M expenses are fixed, the methodology adopted for 1st and 2nd MYT control period may be appropriate to be adopted for FY 2017-18 (RE) also, subject to true up based on the audited accounts of FY 2017-18.

The Commission, accordingly, has followed the inflation index methodology, based on the available full financial year CPI on official website www.labourbureaunew.nic.in and WPI on official website www.eaindustry.nic.in, for computation of employee expenses, Repairs & Maintenance expenses and Administration & General expenses for FY 2017-18 (RE) as detailed in the table below:

Table 5.35: Weightage of indexation/inflation factor approved

Sl. No.	Particulars	WPI	CPI	Total
1	Weightage	0.45	0.55	1.00
2	Index points for FY 2016-17	111.62	275.92	
3	Indexation n (index point * weightage)	50.23	151.75	201.98
4	Index points for FY 2015-16	109.72	265.01	
5	Indexation n-i (index point * weightage)	49.37	145.75	195.13
6	Combined inflation (3-5) / 5)			3.51%

5.12.2. Employee Cost

Petitioner’s submission:

BSPGCL has submitted that based on the actual expenses incurring in the last six months (April 2017 to September 2017) the employee cost is revised for FY 2017-18. BSPGCL has further submitted that it has deducted 50% employee expenses pertaining to Extension Project. BSPGCL has claimed Rs.5.50 crore towards pay commission impact and additional man power cost at Rs.6.00 crore in review for FY 2017-18.

The Petitioner has projected the employee expenses for FY 2017-18 (RE) as detailed in the table below:

Table 5.36: Employee Cost projected for FY 2017-18

(Rs. Crore)			
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Employee cost	34.46	39.51
2	Add: Indexation @2.59%	0.89	--
3	Impact of pay commission	--	5.50
4	New man power cost	--	6.00
5	Sub-total (1+2+3+4)	35.35	51.01
6	Less: Manpower cost for extension project (30% cost) (on 5)	12.14	25.50
7	Employee cost (5-6)	28.35	25.50

The Petitioner requested the Commission to approve the revised employee expenses for FY 2017-18 as proposed in the table above.

Commission's analysis:

The Commission has examined the employee cost projected by the Petitioner for FY 2017-18.

The Petitioner has submitted the 1st half year (April 2017 to September 2017) employee cost for FY 2017-18. The Petitioner has incurred Rs.19.75 crore (HO Rs.14.17 crore and BTPS Rs.5.58 crore) towards employee cost during 1st half year of FY 2017-18. The Commission has considered 1st half year employee cost and further projected full year

employee cost at Rs.39.50 crore ($19.75 \times 2 = 39.50$) and the same is considered for FY 2017-18 for R&M units and Extension project.

The Commission has not considered additional man power cost as the Petitioner had claimed the same during the course of processing of Tariff order for FY 2016-17 and the employee cost reported in audited accounts of FY 2016-17 includes the additional man power cost, which is considered as base expenses for FY 2017-18.

The Petitioner, in view of expected commissioning of extension project in FY 2017-18, has apportioned 50% of employee cost to extension project for FY 2017-18. The Commission, accordingly, considers 50% of the employee cost apportioned to extension project and 50% of the employee cost for R&M units Unit 6 & 7 for FY 2017-18.

The Commission observes that the pay commission impact of Rs.5.50 crore is claimed by the Petitioner and it works out to around 14% of the base employee cost $[(5.50/39.51) \times 100]$ projected by the Petitioner. The Commission observes that the pay commission impact of 14% is reasonable and accordingly, considers Rs.5.50 crore towards pay commission impact on the base employee cost, subject to true up based on audited accounts for FY 2017-18. No inflationary indexation is considered as the 1st half year employee cost already factor in the inflationary increase.

The Commission has accordingly approved the employee cost, subject to true up based on audited accounts for FY 2017-18, as detailed in the table below:

Table 5.37: Employee Cost considered for FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Base Employee cost	34.46	39.51	39.50
2	Indexation	2.59%	--	--
3	Add: Inflationary increase (1*2)	0.89	--	--
4	Impact of pay commission @14% on base employee cost	--	5.50	5.50
5	New man power cost	--	6.00	--
6	Sub-total (1+3+4+5)	35.35	51.01	45.00
7	Less: Manpower cost for extension project (50% cost) (on 6)	12.14	25.50	22.50
8	Employee cost (5-6)	28.35	25.50	22.50

The Commission, accordingly, considers the employee cost at Rs.22.50 Crore in review for FY 2017-18 (RE).

5.12.3. Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

The Petitioner has submitted that considering 6 months actual expenses has projected for FY 2017-18 and claimed the R&M expenses as detailed in the Table below:

Table 5.38: R&M expenses projected for FY 2017-18

(Rs. Crore)				
Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Actual April'17 to Sept'17 (6 months)	Projection for Oct'17 to March'18 (6 months)	Projected by BSPGCL for FY 2017-18 (RE)
R&M Cost	20.00	5.68	5.68	11.36

Commission's analysis:

The Commission has examined the R&M expenses proposed by the Petitioner for FY 2017-18. The Petitioner has submitted based on the actual expenses of Rs.5.68 crore

(HO Rs.0.01 crore and BTPS Rs.5.67 crore) for 6 months i.e. April'17 to Sept'17 of FY 2017-18 has projected the full year R&M expenses at Rs.11.36 crore (5.68 x 2=11.36).

The Commission, provisionally, considers the R&M expenses at Rs.11.36 for FY 2017-18 for R&M units as the extension project is yet to be commissioned/expected to be commissioned at the end of FY 2017-18. The Commission has not considered inflationary indexation/increase as the 1st half year expenses already factor in the inflationary increase.

The Commission, accordingly, has considered the R&M expenses for FY 2017-18 in review subject to true up based on audited accounts for FY 2017-18 as detailed in the Table below:

Table 5.39: R&M expenses considered for FY 2017-18

Particulars	(Rs. Crore)		
	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
R&M Cost	20.00	11.36	11.36

The Commission, accordingly, considers the R&M expenses at Rs.11.36 Crore in review for FY 2017-18 (RE).

5.12.4. Administration and General (A&G) Expenses

Petitioner's submission

BSPGCL has submitted that based on the 6 months (April 2017 to September 2017) actual expenses incurred during FY 2017-18, the A&G expenses for full year of FY 2017-18 has been projected. BSPGCL has further submitted that it has deducted 50% expenses pertaining to Extension Project.

BSPGCL requested the Commission to approve the A&G expenses for FY 2017-18 (RE) as furnished in Table below:

Table 5.40: Administration and General Expenses projected for FY 2017-18
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	A&G Expenses	3.60	6.44
2	Add: indexation	0.09	--
3	Sub-total (1+2)	3.69	6.44
4	Less: A&G cost for extension project	1.11	3.22
5	Add: Payment to CISF	9.00	7.29
6	A&G Expenses	11.58	10.51

Commission's analysis:

The Commission has examined the A&G expenses projected by BSPGCL for FY 2017-18. The Petitioner has submitted that it has considered the 6 months (April'17 to September'17) actual A&G expenses and projected for full year of FY 2017-18 and 50% of the A&G expenses were allocated to extension project. However, it is not so and the projected A&G expenses does not match with their submission.

The actual A&G expenses for 1st half year (i.e. April'17 to Sept'17) of FY 2017-18 is at Rs.6.66 crore (HO Rs.1.45 crore and BTPS Rs.5.21 crore) and projected the full year A&G expenses at Rs.13.32 crore (6.66 x 2=13.32). These expenses are excluding Holding company expenses which are considered separately in succeeding paragraph.

The Commission does not consider payment to CISF separately as the six month actual expenses includes this also.

The Commission, provisionally, considers the A&G expenses at Rs.13.22 for FY 2017-18 and allocated 50% of the A&G expenses to Extension project. The Commission has not considered inflationary indexation/increase as the 1st half year expenses already factor in the inflationary increase.

The Commission considers the A&G expenses for FY 2017-18 in review, subject to true up based on audited accounts for FY 2017-18 as detailed in the table below:

Table 5.41: Administration & General Expenses considered for FY 2017-18
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	A&G Expenses	3.60	6.44	13.22
2	Less: A&G cost for extension project	1.11	3.22	6.61
3	Add: Payment to CISF	9.00	7.29	--
4	A&G Expenses	11.58	10.51	6.61

The Commission, accordingly, considers the A&G expenses at Rs.6.61 Crore in review for FY 2017-18.

5.12.5. Allocation of Holding Company Expenses

Petitioner's submission

BSPGCL has submitted that based on the 1st Half year (April 2017 to September 2017) actual expenses of the Holding company are at Rs.4.14 Crore. The Petitioner has submitted that post reorganization process; BSPHCL has decided to allocate all net expenses on the basis of equity deployed ratio among the four companies as given in Table below:

Table 5.42: Holding Company Expenses projected for FY 2017-18

(Rs. Crore)					
Holding Company expenses allocated on the basis of equity deployed ratio					
	BSPHCL	BSPGCL	BSPTCL	NBPDCL	SBPDCL
Equity Deployed Ratio	100.00%	18.32%	26.11%	28.47%	27.10%

BSPGCL has requested the Commission to approve Rs.4.50 crore (50% of estimated total holding company expenses) towards R&M units for holding company expenses as part of overall O&M expenditure for FY 2017-18 (RE).

Commission's analysis:

BSPGCL has estimated Rs.4.50 crore towards holding company expenses for R&M units for FY 2017-18. It is observed from the trial balance furnished for 1st half year of FY

2017-18, the Company has incurred Rs.4.14 crore towards Holding Company expenses. The Commission, accordingly, considers Rs.4.14 crore towards holding company expenses for FY 2017-18, subject to true up based on audited accounts for FY 2017-18.

The Commission, accordingly, considers Rs. 4.14 Crore towards holding company expenses in review for FY 2017-18 (RE).

5.12.6. Summary of Operations and Maintenance (O&M) Expenses for FY 2017-18 (RE)

The Summary of the O&M Expenses projected by the Petitioner and approved by the Commission in review for FY 2017-18 (RE) is tabulated below:

Table 5.43: O&M Expenses approved for FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Employee cost	28.35	25.50	22.50
2	A&G Expenses	11.58	10.51	6.61
3	R&M expenses	20.00	11.36	11.36
4	Holding Company Expenses allocated	6.32	4.50	4.14
5	Total O& M cost (1+2+3+4)	66.25	51.87	44.61

The Commission considers O&M costs at Rs.44.61 Crore for FY 2017-18 (RE).

5.13. Interest on working capital

Petitioner's submission:

BSPGCL has submitted that interest on working capital is claimed on prorated average operation period for the units during FY 2017-18 (RE) as detailed in the Table below:

Table 5.44: Interest on working capital Projected for FY 2017-18

(Rs. Crore)			
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	Cost of coal & secondary fuel Oil for 2 months	47.96	15.72
2	O&M expenses (1 month)	5.52	4.32
3	Maintenance spares @1% of opening GFA with 6% escalation	8.72	6.15
4	Receivables - 2 months	71.01	29.58
5	Total working capital	133.21	55.76
6	Rate of interest	14.05%	13.75%
7	Interest on working capital	18.72	2.25

Commission's analysis:

The Commission has examined the working capital computations projected by the Petitioner for FY 2017-18.

The Regulation 38 (5)(a) Working capital for purposes of calculation of interest shall be:

(I) For Coal based / Lignite fired generating stations:

- “(i) Cost of coal or lignite for one and half months for pit-head generating stations and two months for non pit-head generating stations, corresponding to the target availability;*
- (ii) Cost of secondary fuel oil for two months corresponding to target availability;*
- (iii) Operation and maintenance expenses for one month;*
- (iv) Maintenance spares at 1% of the historical cost escalated at 6% per annum from the date of commercial operation; and*
- (v) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability”.*

The BTPS is a non-pit head generating station and hence the cost of coal is considered for two months in terms of regulation above. The fuel cost considered for Unit 6 & 7 represent 56 days average operational days i.e (36 days from 1.04.2017 to 06.05.2017 for unit 7, 45 days for unit 7 from 15.02.2018 to 31.03.2018, 32 days for unit 6 from 28.02.2018 to 31.03.2018)/2, which is less than two months of average fuel cost. Hence, the Commission has considered total fuel cost for working capital requirement for FY

2017-18 in review and accordingly interest on working capital has been calculated for 56 days i.e. for average operational days.

The Commission, in respect of R&M units, has considered opening GFA at Rs.486.71 crore [net of land assigned to Extension project Rs.92.41 crore (579.12 - 92.41)] for the purpose of computing spares at 1% of opening GFA with escalation at 6% in terms of regulation 38(5)(a)(i)(iv)..

Regulation 38(5)(b) specify “the rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on 1st April of the year in which the generating station or a unit there of is declared under commercial operation. Interest on working capital shall be payable on normative basis notwithstanding that the integrated utility or generating company has not taken working capital loan from any outside agency”.

The Commission, in terms of regulation 38(5)(b), has adopted the interest rate of 13.85% as per SBI BPLR rate prevailing as on 1st April 2017.

The Commission has considered interest on working capital based on the expenses considered in review for FY 2017-18. The Commission, accordingly, has considered normative interest on working capital as detailed in the Table below:

Table 5.45: Interest on working capital approved FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Cost of coal & secondary fuel Oil for 2 months	47.96	15.72	49.79
2	O&M expenses (1 month)	5.52	4.32	3.72
3	Maintenance spares @1% of opening GFA with 6% escalation	8.72	6.15	5.16
4	Receivables - 2 months	71.01	29.58	16.66
5	Total working capital	133.21	55.76	75.33

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
6	Rate of interest	14.05%	13.75%	13.85%
7	Interest on working capital	18.72	2.25 (for average 107 days)	1.60*

*Total working capital i.e Rs.75.33 Crore*13.85%*56 days/365 days

The Commission approves Rs.1.60 Crore towards Interest on working capital in review for FY 2017-18 (RE).

5.14. Non Tariff Income

Petitioner's submission:

BSPGCL has submitted that the actual non-tariff income during the 1st half of FY 2017-18 is at Rs.0.33 crore, therefore, has considered Rs.0.66 crore for FY 2017-18 for the purpose of ARR.

Commission's analysis:

The Commission considers the non-tariff income at Rs.0.66 crore in review for FY 2017-18 as projected by the Petitioner subject to true up based on actuals as per audited annual accounts of BSPGCL for FY 2017-18.

The Commission approves Rs.0.66 Crore towards non tariff income in review for FY 2017-18 (RE).

5.15. Annual Fixed charges

Petitioner's submission

BSPGCL has submitted the total annual fixed charges for FY 2017-18 as detailed in the Table below:

Table 5.46: Annual Fixed Charges projected for FY 2017-18
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)
1	O&M expenses (Gross)	66.24	51.86
2	Interest and finance charges	15.59	11.28
3	Interest on working capital	18.72	2.25
4	Depreciation	15.59	6.47
5	Return on Equity	22.71	11.96
6	Less: Expenses capitalised	--	--
7	Total Fixed cost	138.85	83.82
8	Less: Non-tariff income	0.50	0.66
9	Net Fixed cost	138.35	83.16

Commission's analysis:

Based on the detailed analysis, the fixed charges considered by the Commission for FY 2017-18 (RE) are as detailed in the Table below:

Table 5.47: Annual Fixed Charges approved for FY 2017-18
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	O&M expenses (Gross)	66.24	51.86	44.61
2	Interest on loan	15.59	11.28	2.77
3	Interest on working capital	18.72	2.25	1.60
4	Depreciation	15.59	6.47	--
5	Return on Equity	22.71	11.96	1.83
6	Less: Expenses capitalised	--	--	--
7	Total Fixed cost	138.85	83.82	50.81
8	Less: Non-tariff income	0.50	0.66	0.66
9	Net Fixed cost	138.35	83.16	50.15

5.16. Energy Charges

Petitioner's submission

BSPGCL has submitted that since, generation is expected to take place for a duration, the fuel cost of Rs.94.29 crore is being claimed for FY 2017-18

Commission's analysis

The Commission has considered the fuel cost/energy charges at Rs.49.79 crore (Table 5.19) and accordingly has considered fuel cost/energy charges in ARR for FY 2017-18 in review.

5.17. Annual Revenue Requirement (ARR)**Commission's analysis:**

Based on the above analysis, the Commission considers the revised ARR for FY 2017-18 in review as summarized in the Table below:

Table 5.48: Summary of Revised ARR considered for FY 2017-18

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected by BSPGCL for FY 2017-18 (RE)	Approved in Review for FY 2017-18 (RE)
1	Fuel cost	287.74	94.29	49.79
2	O&M expenses (Gross)	66.24	51.86	44.61
3	Interest and finance charges	15.59	11.28	2.77
4	Interest on working capital	18.72	2.25	1.60
5	Depreciation	15.59	6.47	--
6	Return on Equity	22.71	11.96	1.83
7	Gross ARR (1 to 6)	426.59	178.11	100.60
8	Less: Non-tariff income	0.50	0.66	0.66
9	Net ARR (7-8)	426.09	177.45	99.94

5.18. Revenue Gap / (Surplus) for FY 2017-18 (RE)**Commission's analysis:**

The R&M Units 6 & 7 are not generating power during FY 2017-18 as approved in the Tariff Order dated 09.03.2017 for FY 2017-18. Against approved generation of 1180.87 MU (gross) only 395.47 MU (gross) is projected by the Petitioner for FY 2017-18 (RE). Actual revenue received from sale of generated energy will be considered in truing up for FY 2017-18 and actual revenue gap / surplus shall be arrived at for FY 2017-18 based on audited accounts as and when made available.

The deficit / (surplus) ARR of FY 2017-18 will be considered in the ARR of FY 2019-20, after truing-up of FY 2017-18 when the audited annual accounts will be made available by BSPGCL.

6. Annual Revenue Requirement and Determination of Generation Tariff for FY 2018-19

6.1. Background

BSPGCL has submitted the present petition on 8th December, 2017 for approval of Annual Revenue Requirement (ARR) for FY 2018-19 and determination of Generation Tariff for FY 2018-19 for the existing Units 6&7 and Extension project Units 8&9 separately for BTPS.

6.2. Generating Stations

Barauni Thermal Power Station, Barauni (BTPS)

The BSPGCL owns and operates only one thermal generating plant (i.e.) Barauni Thermal Power Station (BTPS) located at Barauni. The present status of the Units of BTPS are given in Table 6.1 below:

Table 6.1: Present Status of Units of BTPS

Unit	Capacity	CoD	Present Status
6	110 MW	28.02.2018	Stated to be commissioned
7	110 MW	04.11.2016	In operation w.e.f.4.11.2016 and presently under shutdown since (7.26 AM) 07.05.2017. State to be resynchronised : 15.02.2018
8	250 MW	28.02.2018	Stated to be commissioned
9	250 MW	01.04.2018	Stated to be commissioned

BSPGCL in its revised submission has submitted that Unit 6 is currently under R&M and was stated to be commissioned by 28th February 2018. Unit-7 is presently under shut down since 07.05.2017 and was stated to be re-synchronised on 15th February, 2018.

BSPGCL has also submitted that Unit 8 & 9 of BTPS extension project are stated to be scheduled for commercial operation on 28th February 2018 and 1st April 2018 respectively as mentioned in Table 6.1.:

6.3. Generation from BTPS Units 6 & 7

Petitioner's submission

BSPGCL in the petition has submitted that, Unit-7 will be re-commissioned on 15.02.2018 and R&M of Unit-6 will be completed by 28.02.2018.

BSPGCL has submitted that after completion of R&M, the generating Units-6&7 will be available for full year during FY 2018-19 as they will come into operation before March 2017 itself.

Generation from Units 8 & 9 of BTPS Extension project

BSPGCL has submitted that both the Units are expected to be commissioned as shown in Table 6.1 above and they will be available for full year during FY 2018-19.

Commission's Analysis

The Petitioner vide letter no.37 dated 23.01.2018 has communicated the revised dates of commissioning of R&M units and Extension Project as given below:

Generating Unit	Capacity	CoD
6	110 MW	Stated to be commissioned on 28.02.2018
7	110 MW	Stated to be resynchronised on 15.02.2018
8	250 MW	Stated to be commissioned on 28.02.2018
9	250 MW	Stated to be commissioned on 01.04.2018

Based on the submission of the Petitioner it is considered that all the Units are available for full year during FY 2018-19 except the unit 9 which is considered for 351 days.

6.4. Performance and Cost parameters

6.4.1 Plant Availability Factor (PAF) Petitioner's submission

BSPGCL has submitted that considering the vintage of the Units and performance parameters in terms of PLF achieved by similar sized power plants that had undergone

R&M, the Commission had approved the Plant Availability Factor as 70% for FY 2017-18 in Tariff Order dated 09.03.2017 for Units 6&7. BSPGCL has requested to approve the Plant Availability Factor for FY 2018-19 at 70% considering the impact of R&M activity, in line with the last year's approved PAF. For Units 8&9, of BTPS extension project, BSPGCL has proposed the Plant Availability Factor at 80%.

Table 6.2: Projected Plant Availability Factor for FY 2018-19

Unit	PAF approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected for FY 2018-19
6	70%	70%
7	70%	70%
8		80%
9		80%

Commission's Analysis

The Commission considers the Unit-wise PAF for Units 6 and 7 at 70% for year 2018-19 as projected by the Petitioner, as the Unit 7 has still not stabilised since its commission on 04.11.2016 after R&M and Unit-6 will be in operation after R&M at the fag end of FY 2017-18 which need some time to stabilize. For Units 8 & 9, the PAF of 80% is considered in accordance with the Sub-Regulation-1 of Regulation 33 of BERC Tariff Regulations, 2007. The Commission, accordingly, approves Plant Availability Factor for FY 2018-19 as shown in the Table below:

Table 6.3: Approved Plant Availability Factor (PAF) for FY 2018-19

Unit No.	Projected by BSPGCL for FY 2018-19	Approved by Commission for FY 2018-19
6	70%	70%
7	70%	70%
8	80%	80%
9	80%	80%

6.4.2 Plant Load Factor (PLF) Petitioner's submission

Based on the Plant Availability Factors and considering the Commissioning schedules for each Unit, BSPGCL has requested the Commission to approve the Plant Load factors as

given below:

Table 6.4: Projected Plant Load Factor for FY 2018-19

Unit No	Projected Operational Days	Projected PLF for FY 2018-19
6	365	70%
7	365	70%
8	365	80%
9	365	80%

Commission's analysis

The Commission considers projected PLF of 70% for Units 6 & 7 as reasonable for FY 2018-19, in view of their outage and commissioning recently after R&M. The PLF proposed at 80% for units 8 & 9 of BTPS extension project are in accordance with Regulation 33 (2) (i.e. target plant load factor for incentive) of BERC Tariff Regulations, 2007. Therefore, the Commission approves PLF for FY 2018-19 as projected which are shown in the Table below:

Table 6.5: Approved Plant Load Factor for FY 2018-19

Unit No	Projected by BSPGCL for FY 2018-19		Approved by Commission for FY 2018-19	
	Operational Days	PLF	Operational Days	PLF
6	365	70%	365	70%
7	365	70%	365	70%
8	365	80%	365	80%
9	365	80%	351	80%

6.4.3 Auxiliary Consumption

Petitioner's submission

BSPGCL has projected Auxiliary Consumption for Unit 6&7 of BTPS and Units 8&9 of BTPS extension project for FY 2018-19, as shown in the Table below:

Table 6.6: Projected Auxiliary Consumption for FY 2018-19

Unit	Approved for FY 2017-18 in Tariff Order dated 09.03.2017	Projected for FY 2018-19
6	12%	12%
7	12%	12%
8	-	9%
9	-	9%

Commission's analysis

The Commission had approved auxiliary consumption at 12.00% for R&M units (Unit 6 & 7) for FY 2017-18 in Tariff Order dated 09.03.2017. Considering that the R&M units are refurbished units and the performance of these units with full capacity is yet to be analysed. As such, the Commission advocated to install energy meter at Auxiliary input to record the auxiliary consumption and accordingly issued directive in Tariff order dated 09.03.2017. However, no such meter has been installed and as a result no actual data is available to assess the actual auxiliary consumption and fix a reasonable and achievable norm of auxiliary consumption. The Commission, giving BSPGCL a last opportunity to install energy meters at all auxiliary points before 1st April, 2018, consider normative auxiliary consumption deviating from the regulation at 12% for Unit-6&7 for FY 2018-19 at the same level as approved in the tariff order.

The Regulation 33 (5) of the BERC (Terms and conditions for determination of Tariff) Regulations 2007 specifies auxiliary consumption for Coal based generating stations of 200 MW units with cooling tower at 9%. The Commission has considered auxiliary consumption at 9% for Unit 8 & 9 of extension project for FY 2018-19 as there are newly constructed units.

The Commission accordingly considers auxiliary consumption for Units 6 & 7 and Units 8 & 9 for FY 2018-19 as given in the table below:

Table 6.7: Auxiliary Consumption approved for FY 2018-19

Units	Projected by BSPGCL for FY 2018-19	Approved for FY 2018-19
6	12%	12.00%
7	12%	12.00%
8	9%	9.00%
9	9%	9.00%

6.4.4 Gross and Net Generation of BTPS

Petitioner's submission

BSPGCL has projected Gross and Net Generation from Units 6&7 of BTPS and Units 8&9 of BTPS Extension project as given below:

Table 6.8: Projected Gross & Net Generation for FY 2018-19

Particulars	Unit No	Projected Generation in MU
Gross Generation	6	675
Gross Generation	7	675
Gross Generation	8	1752
Gross Generation	9	1752
Total Gross Generation	Unit 6 and 7	1349
Total Gross Generation	Unit 8 and 9	3504
Total Gross Generation	All Units	4853
Auxiliary consumption	Unit 6 and 7	162
Auxiliary consumption	Unit 8 and 9	315
Gross Auxiliary consumption	All Units	477
Net generation	Unit 6 and 7	1187
Net generation	Unit 8 and 9	3189
Net generation	All Units	4376

Commission's analysis

Based on the aforesaid approvals, the Commission approves the Unit wise Gross and Net Generation for FY 2018-19 as summarized in the Table below:

Table 6.9: Gross and Net Generation approved for FY 2018-19

Particulars	Unit No	Projected Generation in (MU)	Approved for FY 2018-19 (MU)
Gross Generation	6	675	674.52
Gross Generation	7	675	674.52
Gross Generation	8	1752	1752.00
Gross Generation	9	1752	1684.80
Total Gross Generation	Unit 6 and 7	1349	1349.04
Total Gross Generation	Unit 8 and 9	3504	3436.80
Total Gross Generation	All Units	4853	4785.84
Auxiliary consumption	Unit 6 and 7	162	161.88
Auxiliary consumption	Unit 8 and 9	315	309.31
Gross Auxiliary consumption	All Units	477	471.19
Net generation	Unit 6 and 7	1187	1187.16
Net generation	Unit 8 and 9	3189	3127.49
Net generation	All Units	4376	4314.65

6.4.5 Station Heat Rate (SHR) Petitioner's submission

BSPGCL has projected the Station Heat Rate for the generating station for the FY 2018-19 as given in the Table below:

Table 6.10: Projected Station Heat Rate (SHR) for the FY 2018-19

Units	Projected by BSPGCL for FY 2018-19
6&7	3000
8&9	2500

(Kcal/kWh)

Commission's analysis

The Commission agrees with the proposal of BSPGCL. The SHR projected for Units 6&7 of BTPS is in line with that approved for FY 2017-18 and the SHR projected for Units 8&9 of BTPS extension project are in accordance with Sub-3 regulations of Regulation 33 i.e. gross station heat rate of BERC Tariff Regulations, 2007. Hence the SHR is approved as projected by BSPGCL as shown in the Table below:

Table 6.11: Approved Station Heat Rate for the FY 2017-18 (Kcal/kWh)

Units	Projected by BSPGCL for FY 2018-19	Approved by Commission for FY 2018-19
6&7	3000	3000*
8&9	2500	2500

*The SHR norm approved above is subject to review by the Commission after a study of the performance of the Units 6 & 7 after R&M and stabilization.

6.4.6 Specific Oil Consumption

Petitioner's submission

BSPGCL has projected the specific oil consumption at 3.0 ml/kWh for the FY 2018 –19 as given in the table below:

Table 6.12: Projected Specific Oil Consumption for FY 2018-19 (ml/kWh)

Units	Projected by BSPGCL for FY 2018-19
6&7	3.00
8&9	3.00

BSPGCL has submitted that the Commission has approved the specific oil consumption of 3.00 ml/kWh for the FY 2017-18 in the Tariff Order dated 09.03.2017 for Units 6&7. The same value is projected for FY 2018-19 also. For Units 8&9 of extension project, the specific Oil consumption of 3.00 ml/kWh is considered in accordance with BERC Regulations, 2007, considering stabilization period for these Units.

Commission's analysis

The Commission has approved the Specific Oil consumption at 3.00 ml/kWh for FY 2017-18 in the Tariff Order dated 09.03.2017 treating it as the first year of operation for Units 6&7. The same is approved for FY 2018-19 also, considering 2018-19 as first full year of operation after R&M of the Units.

For Units 8&9, of BTPS extension project the specific oil consumption for FY 2018-19 is approved at 3.00 ml/kWh as projected by the petitioner since the same is as per BERC Regulations 2007.

Table 6.13: Approved Specific Oil Consumption for FY 2018-19

Units	Projected by BSPGCL for FY 2018-19	Approved by commission for FY 2018-19
6&7	3.00	3.00
8&9	3.00	3.00

The specific oil consumption approved is subject to review by the Commission after study of the performance of the Units 6 & 7 after R & M and stabilisation.

6.4.7 Transit Loss of Coal

Petitioner's submission

BSPGCL has projected the Transit loss of coal for the FY 2018-19 at 0.80% at the same level as approved for FY 2017-18.

Commission's analysis

BSPGCL has projected the Transit Loss of coal for FY 2018-19 at 0.80%. It is considered reasonable, as it is as per CERC Regulations and as approved in the Tariff Order dated

09.03.2017 for Units 6&7 of BTPS. Hence, the Commission approves the same for FY 2018-19 for both BTPS 6&7 Units and for BTPS extension projects Units 8&9.

Cost Parameters

6.4.8 Cost and GCV of Oil

Petitioner's Submission

BSPGCL has submitted that it has considered the proposed price of oil for FY 2017-18 as the base price and added inflation cost at 2.97% which turns out to Rs. 42717/KL to determine the effective landed price of oil for FY 2018-19. It is also submitted that the variation in price of oil, Tax rates etc., shall be subject to FPPCA from Distribution Licensees on actual basis.

BSPGCL has considered the Gross Calorific Value (GCV) of oil at 10153 Kcal/Litre as approved by the Commission in the Tariff Order dated 09.03.2017.

Commission's analysis

The Commission considers the GCV of oil 10153 at the same level as considered for FY 2017-18 in Chapter 5, of this order. The price of oil is approved considering inflation rate of 2.97% as proposed by the Petitioner as shown in the Table below:

Table 6.14: Approved price and GCV of oil for FY 2018-19

Fuel	Projected by BSPGCL for FY 2018-19		Approved for FY 2018-19	
	Price (Rs./Kl)	GCV (Kcal/L)	Price (Rs./Kl)	GCV (Kcal/L)
Price of Oil	42717	10153	42717	10153

However, any variation in the fuel oil cost due to variation in the cost parameters approved above is to be passed on to the beneficiaries as per the approved FPPA formula.

6.4.9 Cost and GCV of Coal

Petitioner's submission

For Units 6&7, BSPGCL has proposed of cost of coal at Rs.4543/MT, considering inflation rate at 2.97% increase on the projection for FY 2017-18 and the GCV at 5844.74 Kcal/kg which is same as proposed for FY 2017-18.

It is submitted that the present Coal handling plant (CHP) and wagon tippler is not ready to handle the coal requirement for the Extension Units 8&9. A contingency arrangement has been made wherein the crushed coal from the existing CHP of 2X110 MW Units to be transported by Tipper to the Emergency Reclaim Hopper (ERH) of 2X250 MW extension Units. It is expected that a cost of Rs. 114.15 per Tonne Coal would be borne towards transportation of coal from existing CHP to the extension Units.

This expenditure for contingency arrangement for coal transportation was unforeseen in the petition filed for determination of provisional tariff for Extension project for FY 2017-18. However, the same has been considered now for determination of landed cost of coal as Rs. 4657.38/MT for Extension Units for ensuing FY 2018-19.

Commission's analysis

The Commission considers the GCV of coal at 5844.74 Kcal/L for FY 2018-19 at the same level as considered in review for FY 2017-18 (Paragraph 5.5.10) of this order. The price of coal is considered at Rs. 4412.40/MT in review for FY 2017-18 (RE) and the same is considered as base price of coal and further escalated @ 2.97% and accordingly Rs. 4543.23/MT is considered for FY 2018-19 for Units 6&7.

For Extension Project Units 8&9, however, the cost of coal is considered at Rs.4657.38/MT, taking into consideration the expenditure involved in transporting the same from existing CHP of 2X110 MW Units to the extension Units, as projected by the Petitioner.

The Commission has considered the GCV and price of the coal for FY 2018-19 as given in

the table below:

Table 6.15: Approved cost and GCV of coal for FY 2018-19

Item	Projected by BSPGCL for FY 2018-19		Approved by Commission for FY 2018-19	
	Units 6&7	Units 8&9	Units 6&7	Units 8&9
GCV of coal	5844.74 Kcal/Kg	5844.74 Kcal/Kg	5844.74 Kcal/Kg	5844.74 Kcal/Kg
Cost of coal	Rs.4543/MT	Rs.4657.38/MT	Rs.4543.23/MT	Rs.4657.38/MT

Any variations in the cost of coal due to variation of parameters approved above shall be passed on the beneficiaries in accordance with FPPPA formula..

6.4.10 Approved Performance and Cost Parameters for FY 2018-19

Based on the analysis and decisions of the Commission in the earlier paragraphs, the performance and cost parameters approved for arriving at the fuel cost for FY 2018-19 for BTPS station are as given in the Table below:

Table 6.16: Approved Performance and Cost Parameters for the FY 2018-19 for Units 6&7 of BTPS

PLF (%)	Auxiliary Consumption	SHR (Kcal/kWh)	Specific Oil Consumption (MI/kWh)	Transit Loss of Coal	Wt. Av GCV of Coal (Kcal/ kWh)	Wt. Av GCV of Oil (Kcal/L)	Price of Coal (Rs./MT)	Price of Oil (Rs./KL)
70	12%	3000	3.00	0.8%	5844.74	10153	4543.23	42717

Table 6.17: Approved Performance and Cost Parameters for the FY 2018-19 for Units 8&9 of BTPS extension project.

PLF (%)	Auxiliary Consumption	SHR (Kcal/kWh)	Specific Oil Consumption (MI/kWh)	Transit Loss of Coal	Wt. Av GCV of Coal (Kcal/ kWh)	Wt. Av GCV of Oil (Kcal/L)	Price of Coal (Rs./MT)	Price of Oil (Rs./KL)
80	9%	2500	3.00	0.8%	5844.74	10153	4657.38	42717

6.5. Fuel Costs

Based on the parameters approved above, the Fuel costs are arrived at for the Gross

and Net Generation approved in Para 6.4.4 are given the Table below:

Table 6.18: Variable Cost of Generation projected and approved for FY 2018-19 for Units 6&7

Sl. No.	Item	Derivation	UoM	Projected by BSPGCL for FY 2018-19	Approved for FY 2018-19 (Units 6 & 7)
1	Gross Generation	A	MUs	1,349.04	1349.04
2	Station Heat Rate	B	KCal/KWh	3,000	3,000
3	Sp. Oil Consumption	C	ml/kWh	3.00	3.00
4	Calorific value of Oil	D	kcal/l	10,153	10,153
5	Gross Calorific Value of coal	E	kcal/kg	5,845	5,844.74
6	Overall Heat	F= A*B	G Cal	4,047,120	4,047,120
7	Heat from Oil	$G=(A*C*D)/1000$	G Cal	41,090	41,090
8	Heat from Coal	H = (F-G)	G Cal	4,006,030	4,006,030
9	Actual Oil Consumption	I=A*C	Kl	4,047.12	4,047
10	Actual Coal Consumption	$J=(H*1000)/E$	MT	685,408	685,408
11	Coal Consumption including Transit Loss	$J1=J/(1-0.008)$	MT	690,936	690,935
12	Cost of Oil per KL	K	Rs/kl	42,717	42,717
13	Cost of Coal per MT	L	Rs/MT	4,543	4,543.23
14	Cost of Oil	$M=I*K/100000$	Rs Lakh	1,729	1,729
15	Cost of Coal	$N=J1*L/100000$	Rs Lakh	31,391	31,391
16	Total Fuel Cost	O= M+N	Rs Lakh	33,120	33,120
17	Other Fuel related cost	P	Rs Lakh	-	0
18	Total Fuel Cost	Q= O+P	Rs Lakh	33,120	33,120
19	Fuel Cost/Unit Gross	$Q/(A*10)$	Rs/kWh	2.46	2.46
20	Auxiliary Consumption	R	%	12%	12.00%
21	Auxiliary Consumption	S=A*R	MUs	162	161.88
22	Net Generation	T=A-S	MUs	118.16	1,187.16
23	Fuel Cost/Unit Net	Q/(T*10)	Rs/kWh	2.79	2.79

Table 6.19: Variable Cost projected and approved for FY 2018-19 for Units 8 & 9

Sl. No.	Item	Derivation	Unit	Project by BSPGCL for FY 2018-19	Approved for FY 2018-19 (Units 8 & 9)
1	Gross Generation	A	MU	3,504.00	3436.80
2	Station Heat Rate	B	KCal/KWH	2,500	2,500
3	Sp. Oil Consumption	C	ml/kWh	3.00	3.00
4	Calorific value of Oil	D	kcal/l	10,153	10,153
5	Gross Calorific Value of coal	E	kcal/kg	5,844.74	5,845

Sl. No.	Item	Derivation	Unit	Project by BSPGCL for FY 2018-19	Approved for FY 2018-19 (Units 8 & 9)
6	Overall Heat	$F = A * B$	G Cal	8,760,000	8,592,000
7	Heat from Oil	$G = (A * C * D) / 1000$	G Cal	106,728	104,681
8	Heat from Coal	$H = (F - G)$	G Cal	8,653,272	8,487,319
9	Actual Oil Consumption	$I = A * C$	kl	10,512.00	10,310
10	Actual Coal Consumption	$J = (H * 1000) / E$	MT	1,480,524	1,452,129
11	Coal Consumption including Transit Loss	$J1 = J / (1 - 0.008)$	MT	1,492,463	1,463,840
12	Cost of Oil per KL	K	Rs/kl	42,717	42,171
13	Cost of Coal per MT	L	Rs/MT	4,657.38	4,657.38
14	Cost of Oil	$M = I * K / 100000$	Rs Lakh	4,490	4,348
15	Cost of Coal	$N = J1 * L / 100000$	Rs Lakh	69,510	68,177
16	Total Fuel Cost	$O = M + N$	Rs Lakh	74,000	72,525
17	Other Fuel related cost	P	Rs Lakh	-	0
18	Total Fuel Cost	$Q = O + P$	Rs Lakh	74,000	72,525
19	Fuel Cost/Unit Gross	$Q / (A * 10)$	Rs/kWh	2.11	2.11
20	Auxiliary Consumption	R	%	9.00%	9.00%
21	Auxiliary Consumption	$S = A * R$	MUs	315	309.31
22	Net Generation	$T = A - S$	MUs	3,188.64	3,127.49
23	Fuel Cost/Unit Net	$Q / (T * 10)$	Rs/kWh	2.32	2.32

6.6. Capital Expenditure

Petitioner's submission:

BSPGCL has submitted that opening CWIP for R&M units for FY 2018-19 is considered same as closing CWIP for FY 2017-18. The Opening CWIP for extension project is considered as nil taking into account the fact that capitalisation of extension project would happen in FY 2017-18. Addition to CWIP during the year FY 2018-19 is projected at Rs.15.37 crore for R&M units and Rs.120.14 crore for Extension project incurred towards Ganga Water scheme. The Petitioner, accordingly, has projected the capital expenditure and capitalisation for FY 2018-19 for R&M units and extension project as detailed in the Table below:

Table 6.20: CWIP Projected by BSPGCL for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M units	Extension project
1	Opening CWIP	5.78	--
2	Add: New Investment	15.37	120.14
3	Total	21.15	120.14
4	Less: Total Capitalisation	21.15	120.14
5	Opening CWIP capitalisation	5.78	--
6	New Investment capitalisation	15.37	120.14
7	Closing CWIP	--	--

Commission's analysis:

The Commission has examined the computations of capital expenditure and investment proposed for transfer to assets, etc. furnished by BSPGCL.

The Commission has approved the closing CWIP of Rs.Nil Crore for FY 2017-18 in "Review" and the same is considered as opening CWIP for FY 2018-19 in respect of R&M Units 6 & 7. The capex during FY 2018-19 as projected by the Petitioner has not been considered due to the reason explained under para 4.3 for R&M Project and para 6.8 for Extension project.

The Petitioner had submitted that Unit 8 and 9 of extension project are scheduled to be commissioned on 15.12.2017 and 24.02.2018 respectively. However, as per the information ascertained from the Petitioner, the Unit 8 was scheduled to be commissioned on 28.02.2018 (revised) and unit 9 on 01.04.2018 (revised). The Commission in view of uncertainty of date of commissioning of the units as scheduled has not considered, capitalisation of extension project and also the ARR relating to extension project for FY 2017-18. The petitioner has also not proposed any ARR for FY 2017-18 towards extension project however, the Commission considers that the unit 8 of extension project shall be commissioned by the end of FY 2017-18 and Unit 9 shall be capitalised in April 2018 i.e. first month of FY 2018-19 and hence the total capital cost of

extension project is reckoned capitalised by 1st April 2018, subject to true up based on actual dates of commissioning of the extension project (unit 8 & 9).

The Commission has considered capital investment, capitalisation and closing CWIP for FY 2018-19 relating to R&M units and extension project as detailed in the Table below:

Table 6.21: Capex and capitalisation considered by the Commission for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19	
		R&M Units (unit 6 & 7)	Extension project (unit 8 & 9)
1	Opening CWIP	0	--
2	Add: New Investment	0	0
3	Total	0	0
4	Less: Total Capitalisation	0	0
5	Closing CWIP	--	--

6.7. Funding of Capital Expenditure

Petitioner's submission:

BSPGCL has submitted that it has considered the entire funding of the project cost of Ganga Water scheme through equity infusion in the Company by the Government of Bihar and actual segregation of the grants and equity between the Existing and the Extension Project would be submitted to the Hon'ble Commission after the finalisation of Annual Accounts for FY 2018-19.

Commission's Analysis

The Commission has not considered addition to CWIP due to the reason explained under para 4.3 for R&M project and para 6.8 for Extension project. Accordingly no funding of capitalization has been considered for addition made during FY 2018-19 for R&M and Extension project.

6.8. Gross Fixed Assets**Petitioner's submission:**

BSPGCL has submitted that it has considered the opening GFA for FY 2018-19 based on the closing GFA considered for FY 2017-18 in respect of R&M units. The capital cost of Extension was considered capitalised in FY 2017-18 in a separate petition filed before the Commission. The opening GFA in respect of extension project is considered at Rs.6302.78 crore as on 1st April 2018. The Petitioner has projected opening GFA, additions to GFA and closing GFA in respect of R&M units and Extension project as given in the table below:

Table 6.22: Gross Fixed Assets projected for FY 2018-19**(Rs. Crore)**

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M units (Units 6 & 7)	Extension units (Units 8 & 9)
1	Opening GFA	1454.96	6302.78
2	Additions during the year	21.15	120.14
3	Closing GFA (Depreciable Assets)	1476.11	6422.92

Commission's analysis:

The Commission, in respect of R&M units, has considered the opening GFA at Rs.1103.73 crore for FY 2018-19 based on the closing GFA considered for FY 2017-18 in review.

The Regulation 34 of the BERC (Terms and conditions for determination of Tariff) Regulations 2007 specifies;

“34. Capital Cost

Subject to prudent check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for the determination of final tariff. The final tariff shall be based on the admitted capital expenditure actually incurred upto the date of commercial operation of the generating station and shall include capitalised initial spares

Provided:

- (i) where the Power Purchase Agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such a ceiling for determination of tariff.*
- (ii) in case of existing generating station, the capital cost admitted by the Commission prior to the notified date of these regulations as per Regulation 1(2) of these Regulations shall*

form the basis for determination of tariff. The capital cost of the unbundled generating stations shall be the asset value as per the opening balance sheet.

- (iii) The Commission shall scrutiny the project cost estimates by limiting to the reasonableness of the capital cost, financial plan, interest during construction, use of efficient technology and such other matters for determination of tariffs.*
- (iv) An application for the review of the capital cost may be forwarded to the Commission along with a copy of the detailed Project Report by the Project Sponsor's technical advisers".*

26. Generation Tariff

(1) The Commission may approve the tariff for the power purchase except central sector and procurement by the Distribution licensee from the integrated utility or a generating company. On such approval by the Commission, the integrated utility or the generating company shall be entitled to sell the energy to a Distribution licensee as per the tariff and the terms and conditions contained in the Power Purchase Agreement approved by the Commission.

(2) In cases, other than those covered under clause (1) above, the integrated utility or a generating company may file an application before the Commission for determination of tariff for electricity generated by it for the sale of electricity in the State of Bihar giving details of the fixed and variable costs associated with the generation.

(3) The application by an integrated utility or a generating company under clause(2) above may be filed for determination of tariff for sale of electricity to any specific purchaser, including Distribution Licensee or to more than one purchaser or for general sale who may desire to purchase from it.

(4) The Commission may determine the tariff for sale of electricity by an integrated utility or generating company, which may thereafter enter into agreements for the sale based on the tariff determined and subject to the terms and conditions laid down by the Commission.

(5) The determination of tariff for generation, under this regulation shall not entitle an integrated utility or the generating company to sell energy to the Distribution licensee on long term or on short term basis except in accordance with the Power Purchase Agreement or procurement to be finalised by the Distribution licensee subject to the terms and conditions which the Commission may lay down for the purpose from time to time.

The above regulations specify that the Commission based on prudence check of reasonableness of the actual expenditure incurred on completion of the project shall

determine the generation tariff for the project. The actual expenditure of the extension project is yet to be finalized. The Petitioner has projected capital cost of extension project as on 1st April 2018 at Rs.6302.78 crore. Based on additional submissions of petitioner vide Chief Engineer (GEN.) letter no-29 dated 18.01.2018, It is observed that the project cost estimates submitted for Rs.6302.78 crore includes following costs:

Sl. No.	Particulars	Amount (Rs. Crore)
1	IDC	1475.00
2	CSR	22.00
3	Pre-commissioning expenses – Trial run	91.02
4	Pre commissioning establishment expenses	65.00
5	Contingency expenses	20.00
6	Security expenses – CISF	35.00
	Total	1708.02

The Petitioner has filed a separate petition before the Commission for approval of capital cost of extension project and determination of tariff for FY 2017-18.

The Commission had directed the BSPGCL vide letter no 54 dated 12.01.2018, to furnish the details of the original project cost, revised cost (along with copy of approvals), source of funding, drawal of funds, utilization, cost overrun, time overrun, IDC/expenses charged to works, etc. The Petitioner has made available the information vide Chief Engineer (GEN.) Letter no 29 dated 18.01.2018 but submitted information are not satisfactory for finalization of Capital Cost. The Petitioner through Chief Engineer (GEN.) Letter no 29 dated 18.01.2018 has also submitted that the project is funded through Loan and Equity in the Ratio of 70:30 and no grant has been availed for this project and actual equity availed as on 31.10.2017 is 1592.42 Crore.

The Commission, in view of the observations, as above, and in the absence of proper information with respect to details of the original project cost, revised cost, cost overrun, time overrun, IDC etc, has not considered the request of the Petitioner for adoption of opening Capital Cost Rs.6302.78 Cr and addition during FY 2018-19 Rs.120.14 Cr for Extension Project. As such, the Commission has provisionally

considered the total capital cost of Extension Project at Rs.5308.07 crore based on the latest approval of Government of Bihar (GoB) vide Letter No.Govt.02/BSPGCL-51/2013-2762 dated 31.07.2014 as submitted by the Petitioner subject to approval of the actual capital cost, approving/rejecting cost over-run and time over-run, if any after commissioning of both units (unit 8&9) of Extension Project.

The Commission in view of the above has provisionally considered GFA and addition to GFA (capitalisation) for FY 2018-19 for R&M units and extension project as detailed in the following Table below:

Table 6.23: Gross Fixed Assets considered for FY 2018-19
(Rs. Crore)

Sl. No.	Particulars	Considered for FY 2018-19	
		R&M units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening GFA	1103.73	5308.07
2	Additions during the year	--	--
3	Closing GFA	1103.73	5308.07

6.9. Depreciation

Petitioner's submission

BSPGCL has submitted that opening GFA for FY 2018-19 is considered based on the closing GFA of FY 2017-18 (RE) in respect of R&M units and in respect of extension project it is considered that assets have been capitalised during FY 2017-18 and accordingly opening GFA is considered for FY 2018-19. The cost of land is reduced from the GFA value for the purpose of depreciation and rate of depreciation is considered at 6% as per Tariff order for FY 2017-18. The computation of depreciation by BSPGCL is as detailed in the Table below:

Table 6.24: Depreciation projected for FY 2018-19

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening GFA	1454.96	6302.16
2	Less: Value of Land	43.25	132.16
3	Net Opening GFA (1-2)	1411.71	6170.62

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M units (Unit 6 & 7)	Extension project (Unit 8 & 9)
4	Add: Additions during the year	21.15	120.14
5	Closing GFA (3 + 4)	1432.86	6230.68
6	Average GFA $\{(3+5)/2\}$	1422.28	6230.68
7	Weighted average rate of depreciation	6.00%	6.00%
8	Gross Depreciation (6*7)	85.34	373.84
9	Opening Grants	581.20	--
10	Add: Grants during the year	--	--
11	Closing Grants (9+10)	581.20	--
12	Average Grants $\{(9+11)/2\}$	581.20	--
13	Weighted average rate of depreciation	6.00%	--
14	Depreciation for GFA on Grants (12*13)	34.87	--
15	Depreciation for GFA on loans (8-14)	50.47	373.84

BSPGCL has also submitted that actual depreciation shall be claimed in the true up process, based on actual GFA, additions to GFA and value of grants in FY 2018-19.

Commission's analysis

The Commission, in respect of R&M Units, has considered opening GFA at Rs.1103.73 core for FY 2018-19 based on the closing GFA approved in review for FY 2017-18. No addition to GFA is considered as approved in the table 6.23 above and opening grants is considered at Rs.581.20 crore based on the closing grants approved in review for FY 2017-18 (RE). The Commission has considered the rate of depreciation at 5.28% to provide depreciation for FY 2018-19 in respect of R&M units.

In respect of extension project, the GFA is considered as deliberated in paragraph 6.8 and approved in Table 6.23 above. The rate of depreciation is provisionally considered at 5.28% (depreciation rate applicable on Plant and Machinery as the Plant & Machinery consists of around 90% of the total assets value) as the function-wise/group-wise asset details has not been made available by the petitioner in response of the Commission letter no. 54 dated 12.01.2018.

Regulation 38 (2)(a) (ii) specify, “.....**The land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset.**”

The Commission, in view of above regulation, has reduced the value of land (as projected by the Petitioner) for computation of depreciation for FY 2018-19.

The Commission, accordingly, has computed the depreciation for FY 2018-19 as detailed in the Table below:

Table 6.25: Depreciation approved for FY 2018-19

Sl. No	Particulars	(Rs. Crore)	
		Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening GFA	1103.73	5308.07
2	Less: Value of land	43.25	132.16
3	Net opening GFA (1-2)	1060.48	5175.91
4	Additions during the year	0	0
5	Closing GFA (3+4)	1060.48	5175.91
6	Average GFA {(3+5)/2}	1060.48	5175.91
7	Weighted average rate of depreciation	5.28%	5.28%
8	Gross Depreciation (6*7)	55.99	273.29
9	Opening Grants	581.20	--
10	Add: Grants during the year	--	--
11	Closing Grants (9+10)	581.20	--
12	Average Grants {(9+11)/2}	581.20	--
13	Weighted average rate of depreciation	5.28%	5.28%
14	Depreciation for GFA on Grants (12*13)	30.69	--
15	Depreciation for GFA on loans (8-14)	25.30	273.29

The Commission, accordingly, considers Depreciation of Rs.25.30 crore for R&M units and Rs.273.29 crore for extension project totaling to Rs.298.59 crore for FY 2018-19.

6.10. Interest and Finance Charges

Petitioner’s submission:

The Petitioner has submitted that as per CERC (Terms and Conditions of Tariff) Regulations, 2014 under Section 9 (Capital Cost) and Section 19 “(Debt-Equity Ratio) (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of

the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed”.

Further, it is stated that capex of R&M units is done through equity and in accordance with tariff regulations 70% of the capitalisation is considered as normative loan.

The capex of extension project is funded through long term loan from financial institutions and considered 70% of the capitalisation as normative loan.

The interest on normative loan is considered at 11.20% for FY 2018-19.

BSPGCL has claimed interest on loans for FY 2018-19 as given in the table below:

Table 6.26: Interest on loans projected for FY 2018-19

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening Loan	641.57	4411.95
2	Addition to loan during the year	14.81	84.10
3	Repayment of loan	50.47	373.84
4	Closing loan (1+2-3)	605.91	4122.20
5	Average Loan (1+4)/2	623.74	4267.07
6	Interest Rate	11.20%	11.20%
7	Depreciation for GFA on loans (5*6)	69.86	477.91

Commission’s Analysis

The Regulation 37 of BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 specify as below;

“(1) in case of all generating stations, the debt - equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. The Commission may in appropriate cases consider equity higher than 30% for purpose of determination of tariff, where the integrated utility / generating company is able to

establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of general public.

Provided that

(i) in case of a generating station, the actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff

(ii) in case of existing projects the actual debt : equity ratio shall be used for tariff determination. However, any expansion shall be governed by clause (1) above.

(2) the debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation”.

The Regulation emphasizes that Debt : Equity in respect of the generating station shall be considered at 70:30 of the project cost.

The Commission has considered capitalisation for R&M units and extension project in paragraph 6.6. The opening loan, in respect of R&M units, is considered at Rs.365.77 crore based on the closing loan approved for FY 2017-18 in review.

The capital expenditure and capitalization of extension project has been considered at Rs.5308.07 crore as deliberated in para 6.8 above. The Commission, accordingly, has considered GFA at Rs.5308.07 crore. The Commission, in terms of Regulation 37(1) of BERC Tariff Regulations 2007 has considered debt : equity ratio of 70 : 30 and arrived normative debt at Rs.3715.65 crore (5308.07 x 70%) and normative equity at Rs.1592.42 crore (5308.07 x 30%) for the purpose of computing interest on loan and Return on Equity for FY 2018-19.

Repayment of loans is considered equivalent to depreciation allowed for the year in terms of regulation 38 for both the Projects (R&M units and Extension Project). The rate of interest is considered equivalent to SBI Base Rate @ 9.10% as on 1st April 2017 as

normative rate of interest for the purpose of computation of interest on loans in respect of R&M units.

In respect of extension project, the rate of interest is considered at 11.20% based on the project loans details furnished by the Petitioner vide letter no.13 dated 6.1.2018.

The Commission, accordingly, considers interest on normative loan for FY 2018-19 as detailed in the Table below:

Table 6.28: Interest on loans considered for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Considered for FY 2018-19	
		R&M units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening loan	365.77	3715.65
2	Additions during the year	--	--
3	Normative Repayment	25.30	273.29
4	Closing Loan (1+2-3)	340.47	3442.36
5	Average Loan $\{(1+4)/2\}$	353.12	3579.00
6	Interest rate	9.30%	11.20%
7	Interest & Finance Charges (5*6)	32.84	400.85

The Commission, accordingly, considers interest on loan of Rs.32.84 crore for R&M units and Rs.400.85 crore for extension project totaling to Rs.433.69 crore for FY 2018-19.

6.11. Return on Equity

Petitioner's submission:

BSPGCL has submitted that funding of R&M units is through grants and equity and in terms of BERC Regulations 2007 debt equity ratio of 30% of the opening GFA and capitalisation has been considered for RoE for FY 2018-19.

BSPGCL has further submitted that BTPS shall be the only operational power plant of the Petitioner from which revenue generation and the cash flow generation for the entire company will take place.

In order to achieve self sufficiency in development of new projects and to encourage further participation from the potential investors, the Petitioner has requested the Commission to revise the RoE rate of Generation projects from the present 14% to 15.5% as already approved for the Transmission projects to be established in the State.

BSPGCL, however has computed the RoE at 14.00% for FY 2018-19 as detailed in the Table below:

Table 6.29: Return on Equity projected for FY 2018-19

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening equity	436.49	1890.83
2	Add: Equity during the year	6.35	36.04
3	Closing equity (1+2)	442.83	1926.88
4	Average equity (1+3)/2	439.66	1908.85
5	Rate of Return per annum %	14.00%	14.00%
6	Return on Equity (4*5)	61.55	267.24

(Rs. Crore)

Commission's analysis:

The Regulation 38 (3) (a) of BERC Terms and Conditions for Determination of Tariff Regulations, 2007 specify as below:

“the return on equity shall be computed on the base determined in accordance with Regulation 37 @ 14% per annum”.

Further, Regulation 37 of BERC (Terms and Conditions for Determination of Tariff) Regulations, 2007 specify as below;

“(1) in case of all generating stations, the debt - equity ratio as on the date of commercial operation shall be 70:30 for determination of tariffs. The Commission may in appropriate cases consider equity higher than 30% for purpose of determination of tariff, where the integrated utility / generating company is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of general public.

Provided that

- (i) in case of a generating station, where actual equity employed is less than 30%, the actual debt and equity employed shall be considered for determination of tariff*
 - (ii) in case of existing projects the actual debt : equity ratio shall be used for tariff determination. However, any expansion shall be governed by clause (1) above.*
- (2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation”.*

A conjoint reading of the above Regulations emphasize that debt : equity in respect of the generating station shall be considered at 70:30 of the project cost and return @ 14% on the equity shall be allowed / considered for tariff purpose.

The Regulation 38 (3)(a) explicitly specify the rate of return on equity shall be at 14% and accordingly, the Commission has considered RoE at 14%.

The Commission has considered opening equity at Rs.156.76 crore for FY 2018-19 based on the closing equity considered in review for FY 2017-18 (RE) in respect of R&M units. Addition to equity is considered at Rs. NIL Crore based on capitalisation for FY 2018-19 as deliberated in paragraph 6.7 above.

The capital expenditure of extension project was considered capitalised (Rs.5308.07 crore) at the end of FY 2017-18 and no further addition has been considered as elaborated in para 6.8. The Commission, accordingly, has considered opening and closing GFA at Rs.5308.07 crore. The Commission, in terms of Regulation 37(1) of BERC Tariff Regulations 2007 has considered debt : equity ratio of 70 : 30 and arrived normative equity at Rs.1592.42 Crore (5308.07*30%) for the purpose of computing Return on Equity for FY 2018-19.

The Commission, accordingly, has computed the return on equity as detailed in the Table below:

Table 6.30: Return on Equity considered for FY 2017-18

Sl. No.	Particulars	(Rs. Crore)	
		Considered for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Opening equity	156.76	1592.42
2	Add: Equity during the year	-	-
3	Closing equity (1+2)	156.76	1592.42
4	Average equity (1+3)/2	156.76	1592.42
5	Rate of Return per annum %	14.00%	14.00%
6	Return on Equity (4*5)	21.95	222.94

The Commission, accordingly, considers Return on equity of Rs.21.95 crore for R&M units and Rs.222.94 crore for extension project totaling to Rs.244.89 crore for FY 2018-19.

6.12. Operation and Maintenance (O&M) Expenses

6.12.1 Employee Costs

Petitioner's submission:

BSPGCL has submitted that about 25% employees have been temporarily transferred to the other subsidiary companies of BSPHCL, as no project was in operation. It is further submitted that as the generation projects will approach commissioning, the employees would be rolled back into the Petitioner's company. The Petitioner has furnished the present as well as deputed staff of the BSPGCL as on date as given below:

Man power details of BSPGCL

Sl. No.	Description	Officers	Workers	Total
1	Headquarters	52	37	89
2	BTPS	141	211	252
3	Deputation	--	49	49
	Total	193	297	390

BSPGCL has projected the employee expenses for FY 2018-19 as detailed in the table below:

Table 6.31: Employee Cost projected for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Employee cost for FY 2017-18	25.50	57.96
2	Inflation index	2.97%	2.97%
3	Add: Inflationary increase (1*2)	0.76	1.72
4	Total Employee Cost (1+3)	26.26	59.68

Commission's analysis:

The Commission has considered total employee cost of Rs.45.00 Crore for R&M units and extension project in review for FY 2017-18 (RE) and 50% of the cost allocated to extension project and claimed 50% cost for R&M expenses. The Commission based on the Petitioner's submission has considered 50% of the employee cost for R&M units and 50% of the cost for extension project in review for FY 2017-18. The Petitioner has considered the Employee cost of R&M units of FY 2017-18 as base employee cost for FY 2018-19 and projected the Employee cost for FY 2018-19 with inflationary increase at 2.97% (inflation index). However for extension project the Petitioner has followed a different approach and projected Rs.57.96 crore and further escalated for inflationary increase for FY 2018-19.

The Commission has considered employee cost of FY 2017-18 (RE) as base expenditure and further escalated with inflationary increase at 3.51% as arrived in table 5.35 and projected the employee cost for FY 2018-19 as detailed in the Table below:

Table 6.32: Employee Cost considers for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Considered for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Base Employee cost for FY 2017-18	22.50	22.50
2	Inflationary index	3.51%	3.51%
3	Add: Inflationary increase (1*2)	0.79	0.79
4	Employee Cost (1 + 3)	23.29	23.29

The Commission, accordingly, approved employee cost of Rs.23.29 crore for R&M units and Rs.23.29 crore for extension project totaling to Rs.46.58 crore for FY 2018-19.

6.12.2 Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

BSPGCL has projected the R&M expenses for FY 2018-19 as detailed in the Table below:

Table 6.33: Repairs and Maintenance expenses projected for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	R&M Cost	11.36	25.81
2	Inflationary index	2.97%	2.97%
3	Add: Inflationary increase	0.34	0.77
4	Add: Water charges	--	0.41
5	Total R&M Cost	11.69	26.98

Commission's analysis:

The Commission has examined the R&M expenses projected by the Petitioner. The Commission observes that there may not be any repairs expenses as the R&M units are refurbished units are in the 1st year of operation. Similarly, the extension project units are also new and may not require repairs expenses. However, the petitioner may incur expenditure towards maintenance and upkeep of the facilities/units. The Commission, in view of the above, provisionally considers the R&M expenses at Rs.11.36 crore for FY 2018-19 at the same level as considered for FY 2017-18 (RE) for R&M units (existing project) and further escalated at 3.51% for inflationary increase. Similarly, for extension project also the R&M expenses were considered at Rs.11.36 crore as base expenses and further escalated at 3.51% for inflationary increase and projected the R&M expenses for FY 2018-19.

The Petitioner has claimed water charges of Rs.0.41 crore for extension project for FY 2018-19. The Water charges are to be paid to the GoB at the rate specified by the GoB towards water royalty for use of water for the project. The Commission has not

considered water charges in the absence of specific orders from the GoB. However, the same shall be considered in truing up for FY 2018-19 based on the audited accounts for FY 2018-19.

Accordingly, the Commission approved the R&M expenses for FY 2018-19 as detailed in the Table below:

Table 6.34: Repairs and Maintenance expenses approved for FY 2018-19
(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Base R&M Cost for FY 2017-18	11.36	11.36
2	Inflationary index	3.51%	3.51%
3	Add: Inflationary increase (1*2)	0.40	0.40
4	Add: Water charges	--	--
5	Total R&M Cost (1+3+4)	11.76	11.76

The Commission, accordingly, approved R&M expenses of Rs.11.76 crore for R&M units and Rs.11.76 crore for extension project totaling to Rs.23.52 crore for FY 2018-19.

6.12.3 Administration and General (A&G) Expenses

Petitioner's submission

BSPGCL has submitted that A&G expenses are computed considering base year of FY 2017-18 and applying escalation of 2.97%. BSPGCL projected the A&G expenses for FY 2018-19 as furnished in Table below:

Table 6.35: Administration and General Expenses projected for FY 2018-19
(Rs. Crore)

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	A&G Expenses for FY 2017-18	3.22	7.32
2	Add: inflationary increase	0.10	0.22
3	A&G expenses (1+2)	3.32	7.54

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
4	Add: Payment to CISF for FY 2017-18	7.29	16.56
5	Add: Inflationary increase	0.22	0.49
6	Payment to CISF (4+5)	7.50	17.05
7	Total A&G expenses (3+6)	10.82	24.59

Commission's analysis:

The Commission has examined the A&G expenses projected by the Petitioner for FY 2017-18.

The Commission has considered total A&G expenses at Rs.13.22 crore in review for FY 2017-18 and allocated the expenses at 50% each to R&M units and extension project. The Commission, accordingly, has considered the A&G expenses at the same level for R&M units and extension units as base expenses for FY 2018-19 and escalated for inflationary increase by 3.51% and projected the A&G expenses for both the projects for FY 2018-19. The Commission has not considered the CISF expenses, projected by the Petitioner for FY 2018-19, as base expenses considered for FY 2018-19 includes the CISF expenses also.

Accordingly, the Commission has considered the A&G expenses for FY 2018-19 subject to true up based on the audited accounts of FY 2018-19 as detailed in the Table below:

Table 6.36: Administration & General Expenses approved for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	A&G Expenses	6.61	6.61
2	Add: indexation @3.51%	0.23	0.23
3	Sub-total (1+2)	6.84	6.84
4	Add: Payment to CISF	--	--
5	Total A&G expenses (3+4)	6.84	6.84

The Commission, accordingly, approved A&G expenses of Rs.6.84 crore for R&M units and Rs.6.84 crore for extension project totaling to Rs.13.68 crore for FY 2018-19.

6.12.4 Allocation of Holding Company Expenses

Petitioner's submission

BSPGCL has submitted that Holding Company expenses for FY 2018-19 are projected based on expenses considered for FY 2017-18 (RE). The BSPGCL has estimated the Holding Company expenses for FY 2018-19 at Rs.4.63 crore for R&M units and Rs.10.63 crore for extension project.

Commission's analysis:

BSPGCL has projected total Holding Company expenses at Rs.15.16 crore for R&M units (Rs.4.63 crore) and for extension project (Rs.10.63 crore) for FY 2018-19.

The Holding company expenses are allocated on the share holding pattern/ratio of the entities i.e. BSPGCL, BSPTCL, NBPDC and SBPDCL but not on project-wise/generating station-wise. Hence, the projection made for extension project separately is not considered.

The Commission considered Rs.4.14 crore in review for FY 2017-18 and the same is considered for entire Company i.e. BSPGCL as a whole. The same is considered as base expenses and projected for FY 2018-19 with escalation at 3.51% for inflationary increase for FY 2018-19 and allocated in the ratio of 50:50 for both the projects as given in the Table below.

Table 6.37: Holding Company Expenses approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	A&G Expenses	2.07	2.07
2	Add: indexation @3.51%	0.07	0.07
3	Sub-total (1+2)	2.14	2.14
4	Add: Payment to CISF	--	--
5	Total A&G expenses (3+4)	2.14	2.14

The Commission, accordingly, approved Rs.2.14 crore for R&M units and Rs.2.14 crore for Extension project totaling to Rs.4.28 crore towards holding company expenses for FY 2018-19.

6.12.5 Summary of Operations and Maintenance (O&M) Expenses

The summary of O&M expenses approved for FY 2018-19 are tabulated below:

Table 6.38: Total O&M cost considers by the Commission for FY 2018-19

(Rs. Crore)

Particulars	Projected by BSPGCL for FY 2017-18		Considered for FY 2017-18	
	R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)	R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
Employee cost	26.26	59.68	23.29	23.29
A&G Expenses	10.82	24.59	6.84	6.84
R&M expenses	11.69	26.98	11.76	11.76
Holding Company Expenses Allocated	4.63	10.53	2.14	2.14
Total O&M cost	53.40	121.78	44.03	44.03

The Commission approves total O&M expenses at Rs.88.06 Crore for FY 2018-19 for R&M units and extension project as detailed in the table above.

6.13. Interest on working capital

Petitioner's submission:

BSPGCL has submitted that following the methodology approved by the Commission in tariff order, interest on working capital has been computed as detailed in the Table below:

Table 6.39: Interest on working capital projected for FY 2018-19

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19 (Rs. Crore)	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Cost of coal & secondary fuel Oil for 2 months	55.20	123.33
2	O&M expenses (1 month)	4.45	10.15
3	Maintenance spares @1% of opening GFA with 6% escalation	14.76	64.23
4	Receivables for 2 months	98.67	342.38
5	Total working capital	173.08	540.09
6	Rate of interest	13.70%	13.70%
7	Interest on working capital	23.71	73.99

BSPGCL has requested the Commission to approve the computation of working capital and the interest charges thereon for FY 2018-19.

Commission’s analysis:

The Commission has examined the working capital computations projected by the Petitioner for FY 2018-19.

The Regulation 38 (5)(a) Working capital for purposes of calculation of interest shall..... ;

“(iv) Maintenance spares at 1% of the historical cost escalated at 6% per annum from the date of commercial operation”.

The Commission has considered the maintenance spares at 1% on opening GFA with escalation @6% in terms of Regulation 38(5)(a) for computation of working capital requirement and interest on working capital for FY 2018-19.

The Commission, in terms of regulation 38(5)(b), has adopted the interest rate of 13.75% as per SBI PLR rate as on 1st April 2017 and interest on working capital allowed as detailed in the Table below:

Table 6.40: Interest on working capital approved FY 2018-19

Sl. No.	Particulars	(Rs. Crore)	
		Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Cost of coal & secondary fuel Oil for 2 months	55.20	120.88
2	O&M expenses (1 month)	3.67	3.67
3	Maintenance spares @1% of opening GFA with 6% escalation	11.70	56.27
4	Receivables for 2 months	79.24	288.40
5	Total working capital	149.81	469.22
6	Rate of interest	13.75%	13.75%
7	Interest on working capital	20.60	64.52

The Commission considered total interest on working capital at Rs.85.12 Crore for R&M units (Rs.20.60 crore) and extension project (Rs.64.52 crore) for FY 2018-19.

6.14. Non Tariff Income

Petitioner's submission:

BSPGCL has projected Rs.0.50 crore each towards non-tariff income for FY 2018-19 for R&M units and extension project.

Commission's analysis:

The Commission considers the submission of the Petitioner and the non-tariff income is considered at Rs.0.50 crore each for R&M units as well as for extension project for FY 2018-19 subject to true up.

6.15. Annual Fixed charges for FY 2018-19

Petitioner's submission

BSPGCL has submitted the total annual fixed charges recoverable from the Distribution licensees for FY 2018-19 pertaining to R&M units and extension project are as detailed in the Table below:

Table 6.41: Annual Fixed Charges projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by BSPGCL for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (unit 8 & 9)
1	O&M expenses	53.40	121.78
2	Interest and finance charges	69.86	477.91
3	Interest on working capital	23.71	73.99
4	Depreciation	50.47	373.84
5	Return on Equity	61.55	267.24
6	Total Fixed cost (1+2+3+4+5)	258.99	1314.76
7	Less: Non-tariff income	0.50	0.50
8	Net Fixed cost (6-7)	258.49	1314.26

Commission's analysis:

Based on the detailed analysis, the fixed charges considered by the Commission for R&M units and extension project for FY 2018-19 are as detailed in the Table below:

Table 6.42: Annual Fixed Charges approved by the Commission for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (unit 8 & 9)
1	O&M expenses	44.03	44.03
2	Interest and finance charges	32.84	400.85
3	Interest on working capital	20.60	64.52
4	Depreciation	25.30	273.29
5	Return on Equity	21.95	222.94
6	Total Fixed cost (1+2+3+4+5)	144.72	1005.63
7	Less: Non-tariff income	0.50	0.50
8	Net Fixed cost (6-7)	144.22	1005.13

6.16. Revenue surplus approved in truing up for FY 2016-17

The Regulation 22(3) of the BERC Tariff Regulations, 2007, specify “the revenue gap of next year shall be adjusted as a result of Review and Truing up exercises”. Accordingly, the revenue gap arising out of the truing up for FY 2016-17 is to be adjusted in the ARR for FY 2018-19 along with carrying cost.

The Commission has approved **revenue surplus of Rs.25.81 crore in truing up for FY 2016-17**. However, the Commission has not considered for adjustment of the revenue surplus of Rs.25.81 crore in the ARR of FY 2018-19, as the final project cost of the R&M units is yet to be approved by the Commission. The revenue surplus shall be adjusted on finalization and approval of the Project cost of the R&M units and consequential effect on the other ARR parameters based on the revision of project cost considered in this order vis-à-vis project cost to be finally approved.

6.17. Annual Revenue Requirement (ARR) for FY 2018-19

Based on the detailed analysis, the fixed and energy charges approved by the Commission for R&M units and extension project for FY 2018-19 are summarized in the Table below:

Table 6.43: Annual Revenue Requirement approved for FY 2018-19

Sl. No.	Particulars	(Rs. Crore)			
		Projected by BSPGCL for FY 2018-19		Approved by the Commission for FY 2018-19	
		R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)	R&M Units (Unit 6 & 7)	Extension project (Unit 8 & 9)
1	Fuel cost	331.20	740.00	331.20	725.25
2	O&M expenses	53.40	121.78	44.03	44.03
3	Interest and finance charges	69.86	477.91	32.84	400.85
4	Interest on working capital	23.71	73.99	20.60	64.52
5	Depreciation	50.47	373.84	25.30	273.29
6	Return on Equity	61.55	267.24	21.95	222.94
7	Gross ARR (1 to 6)	590.19	2054.77	475.92	1730.88
8	Less: Non-tariff income	0.50	0.50	0.50	0.50
9	Net ARR (7-8)	589.69	2054.27	475.42	1730.38
10	Add: Deficit for FY 2016-17	1.82	--	--	--
11	Add: Carrying cost for 2 years	0.53	--	--	--
12	Total (9+10+11)	592.04	2054.27	475.42	1730.38

6.18. Generation Cost

The Fixed and energy charges projected by BSPGCL and approved by the Commission for FY 2018-19 are detailed in the Table below:

Table 6.44: Fixed and Energy Charges considered for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Unit	Projected by BSPGCL		Considered by Commission	
			Generation cost for R&M units for FY 2018-19 (Unit 6 & 7)	Generation cost for R&M units for FY 2018-19 (Unit 6 & 7)	Generation cost considered for R&M units for FY 2018-19 (Unit 6 & 7)	Generation cost considered for Extension project for FY 2018-19 (Unit 8 & 9)
1	Gross Generation	MU	1349.00	3504.00	1349.04	3436.80
2	Net Generation	MU	1187.00	3189.00	1187.16	3127.49
3	Energy Charges	Rs. Crore	331.20	740.00	331.20	725.25
4	Annual Fixed Charges	Rs. Crore	260.85	1314.26	144.22	1005.13
5	Total Charges Recoverable (3+4)	Rs. Crore	592.04	2054.27	475.42	1730.38
6	Net Energy Charges (3/2)*10	Rs / kWh	2.790	2.321	2.79	2.32
7	Net Fixed Charges (4/2)*10	Rs / kWh	2.197	4.122	1.21	3.21
8	Net Generation Cost (6+7)	Rs / kWh	4.987	6.442	4.00	5.53

7. Compliance of Directives

7.1. Background

The Commission in its previous tariff order dated 9th March, 2017 had issued some directives to Bihar State Power Generation Company Limited (BSPGCL). This Chapter deals with the compliance status of directives and Commission's observations there on as well as new directives for compliance and implementation by BSPGCL.

7.2. Directives issued in the Tariff Order dated 9th March, 2017 and their compliance by BSPGCL are dealt below:

7.2.1 Directive-1: CISF personnel engaged for security purpose

Though the security of the men and material is a paramount importance yet the deployment requirement of CISF be worked out by the BSPGCL and CISF officers in order to optimise the cost based on industry norms. During FY 2017-18, Rs.9.00 crore is projected towards payment to CISF which is about 6.30% of total fixed cost projected for FY 2017-18.

Use of modern technology for security at comparable cost may be explored for cost reduction.

Compliance by BSPGCL

- BSPGCL would like to submit that CCTV has been installed at main gate (entry point) for better surveillance. Use of other modern technologies is also being explored.
- Further, it is to submit that the Gupta Bundh which separates the two companies of BTPS (Old Plant & Extension Project) is in the process of being handed over to BTPS by the WRD, Government of Bihar. Once it is effected, both companies may be unified and then CISF deployment may be reviewed for reduction.

Commission's View

The process of early handling over of Gupta Bundh be expedited

The Commission also directs BSPGCL to work out the details of reduction of CISF personnel after commissioning of Gupta Bundh and savings due to this per annum and submit same to the Commission.

7.2.2 Directive-2: Date of Commercial operation of BTPS Units 6

The Commission directs BSPGCL to intimate the dates of commercial operation of Unit No 6 & 7 after they are differently announced.

Compliance by BSPGCL

- It is to humbly submit in this regard that the Unit No. 7 was deemed to have achieved COD on 04.11.2016.
- Unit No. 6 is expected to be brought on COD in January, 2018.
- After achieving COD of Unit No.6 formal announcement will be made by BSPGCL HQ for both units.

Commission's View

It is noted that Unit-7 of BTPS was commissioned on 04-11-2016 and again taken out of service since 07-05-2017. After COD on 04-11-2016, this unit-7 has generated power only for 89 days during 04-11-2016 to 31-03-2017 (in FY 2016-17). COD of Unit-6 is getting delayed. The Commission directs BSPGCL to submit a detailed report on the R & M of Units- 6 & 7 of BTPS since date of entrusting of work to BHEL and expenditure incurred for each Unit so far towards the R & M works and details of performance guarantee assured after completion of R&M by BHEL.

7.2.3 Directive-3: Providing meters to assess auxiliary consumption

Unit No. 7 is already in operation w.e.f 04.11.2016. The Commission directs BSPGCL to expedite commissioning of energy meters to assess the auxiliary consumption. Similar action may be taken for Unit No.6 which is expected to come into operation by July 2017. The compliance and the monthly auxiliary consumption of Unit No. 6 & 7 may be provided in the tariff petition.

Compliance by BSPGCL

- In this regard, it is to submit that Energy meter has been installed in unit Auxiliary Transformer (UAT) and Station Transformer (ST) of Unit No.7 for recording Auxiliary Consumption of Unit No.7.
- Further installation of meters in UAT and ST of Unit No.6 is under progress and it is expected to be completed before start of commercial operation from Unit No 6.

Commission's View

The Commission does not agree with the reply of the petitioner. Has it been installed the metered auxiliary consumption would have been submitted but the petitioner has submitted derived auxiliary consumption @ 12%. During interaction also, the officials of BGCL have revealed the same. The Commission directs BSPGCL to install the Energy meters to record the Auxiliary Energy consumption of all the unit of R&M and extension project before commissioning of respective units and report to the Commission by 30.04.2018. Month-wise details of Gross generation, Auxiliary Consumption and net generation as per the meters, separately for all Units shall be furnished in the first week of following months starting with CoD.

7.2.4 Directive-4: Operational performance parameters

The Commission directs BSPGCL to submit the operational performance like PLF, SHR, SFC and Auxiliary consumption of Unit no.7 for the period November 2016 to March 2017.

Compliance by BSPGCL

Sl. No	M/Y	PLF(%)	SHR (K.CAL/KWh)	SFC			Auxiliary Consumption (MU)
				Secondary fuel Consumption on LDO(KL)	Specific Fuel Consumption on Coal(coal)kg/Kwh	Secondary fuel Consumption on LDO(MI/kWh)	
1	Nov 2016	21.798	4767.85	523.3	0.8	30.31	2.07168
2	Dec 2016	40.516	4516.28	796	0.77	24	3.97896
3	Jan 2017	55.71	4195.397	406	0.75	8.9	5.4714
4	Feb 2016	20.933	4068.125	67	0.75	4.33	1.85688
5	Mar 2017	24.347	4564.209	319.48	0.75	16.033	2.39112

Commission's View

The Commission directs BSPGCL to explain the reasons for very high SHR, Secondary fuel consumption for Unit-7 during 04-11-2016 to 31-03-2107 and action being taken to control the same as per approved norms. The responsibilities of BHEL who are entrusted with R & M works regarding performance of the Units after R & M may also be reported to the Commission.

7.2.5 Directive-5: Status of Commissioning of Unit-8 and Unit-9 of BTPS extension project

The Commission directs BSPGCL to submit the following milestone. Completion dates for unit 8 and unit 9 as per following format by 31st May 2017.

Mile stone date for Completion	Unit 8		Unit 9	
	As per Actual	Actual	As per contract	Actual
Condenser erection				
Boiler hydro Test (drainable)				
Turbine Box up				
Boiler Light up (BLU)				
TG Oil flushing				
Steam Blowing				
Date of Unit synchronization				
Full load				

Compliance by BSPGCL

Mile stone date for Completion	Unit 8		Unit 9	
	As per Actual	Actual	As per contract	Actual
Condenser erection	11.09.2012	05.09.2016	11.12.2012	25.02.2017
Boiler hydro Test (drainable)	22.04.2013	21.08.2014	22.07.2013	21.09.2014
Turbine Box up	11.08.2013	19.06.2017	11.11.2013	To be achieved
Boiler Light up (BLU)	21.10.2013	18.06.2017	21.01.2014	29.08.2017
TG Oil flushing	26.10.2013	30.05.2016	26.01.2014	To be achieved
Steam Blowing	15.12.2013	03.09.2017	15.03.2014	To be achieved
Date of Unit synchronization	11.01.2014	To be achieved	11.03.2014	To be achieved
Full load	10.03.2014	To be achieved	10.06.2014	To be achieved

Commission's View

The reply of BSPGCL is noted. The Commission directs BSPGCL to report the COD as soon as the same is declared for each unit of BTPS Extension project. Further BSPGCL is also

directed to intimate details of arrangement of its own ASH pond and progress of Railway siding for Extension Project

7.2.6 Directive-6: Business Plan

The Commission directs BSPGCL to submit the Business Plan for the remaining year (FY 2017-18 & FY 2018-19) of the second control period FY 2016-17 to FY 2018-19 September, 2016.

Compliance by BSPGCL

- BSPGCL have already requested Hon'ble Commission that once the plant is in operating condition, business plan shall be submitted based on the actual operating conditions.
- Above reply of BSPGCL has been noted by the Hon'ble Commission.

Commission's View

The Commission directs BSPGCL to submit the Business Plan for the next control period of FY 2019-20, to FY 2021-22 by 15th September 2018 with full details.

7.2.7 Directive-7: Unit-7 of BTPS availability and Generation

The Commission directs BSPGCL to furnish month wise details from November, 2016 to March 2017 of number of days and number of hours the unit 7 has generated power during FY 2016-17 and month wise details of Maximum power (MW) and energy generated (MU) by Unit 7 during FY 2016-17.

Compliance by BSPGCL

Sl. No	M/Year	Power Generation during 2016-17 for Unit 7		Maximum Power(MW)	Total Generation (MU)
		No of Days	No. of Hours		
1	November 2016	15	198:35	106	17.264
2	December 2016	23	395:36	102.88	33.158
3	January 2017	28	615:54	90.33	45.595
4	February 2017	12	231:15	77.81	15.474
5	March 2017	11	209:17	110	19.926

Commission's View

The reply of BSPGCL is noted. A detailed report on the unsatisfactory performance of Unit – 7 after R& M be submitted to the Commission by the end of May, 2018.

7.2.8 Directive-8: Maintenance of Asset / Property Register

The Commission directs the BSPGCL to maintain asset/ property register showing details of nature of equipment, value of equipment, detail of land, extent of land, buildings (Office, Generation Plant, residential etc) and other civil works etc and shall submit the details along with tariff petition to be filed every year from FY 2018-19.

Compliance by BSPGCL

- BSPGCL would like to submit that one consultant (PFC) was engaged by the then BSEB for developing software for preparation and maintenance of Asset/ Property register of all companies which were to be formed after restructuring of BSEB. However, this work could not be completed by PFC due to some reasons.
- Further, it is to submit that efforts are being made for hiring of one expert agency for the work of maintaining asset/property register.

Commission's View

The reply of BSPGCL is not convincing. BSPGCL shall understand the importance of Asset register and shall expedite the action to prepare the Asset Register as already directed and submit along with the next tariff petition to be filed from FY 2019-20 onwards.

7.2.9 Directive-9: Ratio of different grades of coal used.

The Commission directs BSPGCL to ensure that different grades of coal shall be used in optimal ratio, so that maximum heat can be generated at less cost of coal.

Compliance by BSPGCL

BSPGCL would like to submit that the directive is noted for future action and after the units will commence operation, the same will be implemented.

Commission's View

The reply of BSPGCL is noted. The Commission directs BSPGCL to maintain the month-wise ratio of mix of different grades of coal to achieve maximum heat rate for each unit separately and submit the same in the next tariff petition to be filed for FY 2019-20.

7.3 New Directives:**7.3.1 Capital cost of completed unit/project**

The actual expenditure incurred and approved by the Commission with due consideration of time and cost over run, if any upto the date of commercial operation of the generating unit / project/ station form the basis of the final tariff of the generating unit / project/ station.

None of the units of R&M projects (Except Unit-7) and extension project have been commissioned. Unit-7 has already been commissioned on 04.11.2016 but its capital cost has not yet been approved due to non-filing of petition seeking approval of capital cost upto the date of COD with due consideration of time and cost over run if any,.

The Commission, therefore directs the petitioner BSPGCL to file in the form of petition, giving details of capital cost incurred upto the date of commission in respect of Units 6&7 of R&M project and Units 8&9 of extension project separately along with the audited accounts duly certified by the statutory auditor and showing unit wise capital expense with details of cost over run and time over run cost; if any, once all the units are commissioned.

7.3.2 BSPGCL shall furnish the action plan along with timeline for retrofitting the relevant technologies for compliance of environment norms issued by Ministry of Environment and Forests, Government of India for 2x110 MW and 2x250 MW units.

Sd/-
(R.K.Choudhary)
Member

Sd/-
(Rajeev Amit)
Member

Sd/-
(S.K.Negi)
Chairman

Bihar Electricity Regulatory Commission (BERC)

Vidyut Bhawan-II, J. L. Nehru Marg, Patna 800 021

Time: 11:00 A.M. Dated: 06th February, 2018

Minutes of the meeting of the State Advisory Committee (SAC) constituted under section 87 of the Electricity Act 2003 held on 06.02.2018 in the Conference Room of the Commission to discuss on the Tariff petition of NBPDC, SBPDCL, BSPGCL, BSPTCL , SLDC and BGCL for FY 2018-19.

1. The meeting of the State Advisory Committee (SAC) was held on 06.02.2017 under the chairmanship of Sri S. K. Negi, IAS (Retd.), Chairman, BERC and SAC. The list of participants present in the meeting is enclosed with the minutes.
2. The Chairman welcomed all the members and participants of the meeting and explained that the State Advisory Committee has been constituted under Section 87 of the Electricity Act 2003. He also stated that the objectives of this committee is to advise the Commission on measures, questions of policy relating to electricity supply, matters related to quality, continuity and extent of services provided by the licensees, protection of consumers interest, overall standard of performance by utilities etc. He said that ideally this meeting should be convened more frequently, which could not be done. It shall be the endeavor of the Commission to conduct more meetings in future. Chairman, BERC shown his concern about the designated members not attending the meeting and once again urged all the members to attend to such meeting personally. He explained that although the agenda of this meeting as circulated is related to the tariff petition for FY 2018-19 submitted by BSPGCL, BSPTCL, SLDC, BGCL, NBPDC and SBPDCL, the members are free to put up any policy matters for discussion which comes under the purview of the State Advisory Committee.
3. The minutes of last State Advisory Committee meeting was approved by the members.
4. It was stated by the Hon'ble Chairman that the NBPDC and SBPDCL have sought significant hike in demand /fixed charges for retail sale of electricity during FY 2018-19. The Chairman

also informed the SAC that the Commission have conducted public hearings at Sherghati, Sasaram & Rajgir, and will conduct Begusarai, Kathihar, Madhubani, Supaul, Siwan, Mothihari and Patna. Objections/suggestions on the petitions shall be considered before finalizing the tariff. It was further stated that the suggestions of SAC shall also be considered in finalization of the tariff for FY 2018-19.

5. The chairman directed the Petitioners to present their petitions before the SAC.
6. The meeting started as per agenda
 1. Confirmation of the Minutes of State Advisory Committee meeting held on 16.02.2017
 2. Follow up action on the Minutes of Meeting
 3. Comments / Suggestion on the Tariff petition filed by Generation, Transmission and Distribution of the State
 4. Renewable Purchase Obligation (RPO)
 5. Tariff Rationalization and Reduction of Cross Subsidy
 6. Effect Utilization of Tariff Subsidy on targeted categories of consumers and introduction of Non-telescopic tariff rates
 7. Proposed BERC Regulations for Compensation to victims of Electrical accidents
 8. Consumer Awareness & Advocacy
 9. Involvement of Self Help Groups (SHGs) for Reduction in T&D Loss and improvement of collection efficiency
 10. Defining a framework (including setting a threshold timing) for developing intrastate transmission project of competitive basis.
7. Presentation by NBPDC and SBPDCL:
 - a. After the presentation, members of Bihar Chamber of Commerce (BCC) and Bihar Industrial Association (BIA) raised that the DISCOMs have not achieved the target norms of Distribution loss trajectory approved for FY 2016-17. Similarly they pointed out that norms related to working capital and return on equity have not been followed in the true up chapter of the petition as per Regulations of Commission.

DISCOMs however, submitted that distribution loss, Interest on working capital, return on equity and interest on security deposit are shown as per Regulations and Norms only

- b. Shri. Rajesh K. Mediratta of IEX has enquired about compliance of DISCOMs in respect of RPO for FY 2017-18 and FY 2018-19 . DISCOMs said that they are purchasing RE power to meet RPO Obligations.
- c. During the discussions it was suggested that DISCOMs are generating bills and they get government subsidy irrespective of the receipt of non subsidized portion of the bill from the consumers. It was observed that it promotes inefficiency in billing& collection system of the organization. Therefore, it is opined that in the interest of billing and collection efficiency, the government subsidy should be reimbursed to the DISCOM only when the consumers pay their respective portion of the bill to DISCOM.

8. Presentation by Bihar State Power Transmission Co. Ltd.

After the presentation BCC representative raised their concern regarding huge Infrastructure development and though the infrastructure is being developed but not being utilized by DISCOMs resulting into increase of retail tariff of the consumer.

In the light of steep increase in Capex of transmission company which will result in increase in retail tariff of the Transco, the Chairman BERC advised that no idle/redundant capacity beyond the approved norms be created. Director BSPTCL has explained that the infrastructure associated with transmission is being developed as per guidelines and norms only.

Director (P) SBPDCL, also explained that network is improving and improvement of infrastructure is required for future purpose.

(i) Renewable Purchase Obligation

Chairman and Members, BERC mentioned that instead of buying certificates they should purchase RE power and plan to put solar plants and other RE plants in the state although CUF in Bihar is less than the other states. Chief Engineer, SBPDCL explained that they are buying solar power to meet RPO. Further, Member, BERC Shri. Rajeev Amit suggested that DISCOMs should verify month-wise sales & corresponding RPO and if

they find any shortfall in meeting the RPO they should immediately buy the RE Certificates on monthly basis to meet their RPO and to avoid likely penal action.

(ii) **Purchase of Power as per Merit Order**

Members of Bihar Chamber of Commerce has raised that the DISCOMs should follow merit order dispatch principle for purchase of power. Members, BEREC mentioned that as per last tariff order merit order dispatch principle has been mandated for purchase of power for FY 2017-18 but till FY 2016-17 it was not mandated in the tariff order, however the Act and Policy envisaged. Director, SBPDCL submitted that they are following Merit Order Dispatch principle while purchasing power.

(iii) **Tariff Schedule**

Members of Bihar Chamber of Commerce and Bihar Industry Association has suggested that the Fixed charges should be removed and only Energy charges should be charged. Members, BEREC mentioned that two part tariff is applicable all over India.

The members also raised their concern over differential tariff rates for rural and urban domestic consumers in the scenario of 24x7hrs electricity supply in rural and urban areas.

Director, SBPDCL requested to continue the differential tariff for urban and rural.

Member of BCC suggested that HT Tariff should be single part tariff.

(iv) **Threshold Limit for Tariff based Competitive Bidding (TBC)**

BSPTCL opined that TBC route for transmission loss is not pragmatic. It assured that they would furnish detailed reason for it.

(v) **Consumer Awareness and Advocacy**

Shri. Rajesh K. Mediratta suggested launching publicity campaign for consumers. Member of BCC and BIA also supported it and added that time limit of complaint redressal should be reduced. Member, BEREC Shri. R. K. Choudhary mentioned about that the feedback received from the consumers with respect to installation of meter, non-billing, overbillings, transformer overloading, fragile network, theft, safety concern etc.

Such types of complaints have increased many times in view of large number of connections given in recent past therefore registration and addressal of such large number of complaints through manual system, toll free number (1912), e-complaint registration through Discom's website are proving to be inadequate. It is giving rise to unrest among consumers. In order to address this issue, it was suggested that an additional and separate **dedicated E-enabled centralized consumer grievances redressal and monitoring system** with features of uploading the relevant supporting documents needs to be created. It will facilitate the timely resolution of the complaints by Discoms. Also keeping in view the consumer profile in Bihar, it would be worthwhile to introduce consumer advocacy initiative highlighting all the options for complaint redressal system as stated above.

Member Sri Rajeev Amit pointed out that during hearings at District levels, it was complained by consumers that in case of default of payment, their service lines are not physically disconnected but it is shown disconnected in the ledger and FIR being lodged giving reason of theft of electricity. He suggested to intimate the consumers through SMS as and when their service line is reported disconnection to handle such situation. In case of any false reporting of disconnection, the concerned consumer will automatically lodge a complaint. The Committee also dwelt on other issues like further reduction of consumer categories/slabs, targeted subsidy to eligible and deserving categories, feasibility of transfer of subsidy through DBT route promoting Open Access in the State, proper and accurate energy forecasting and planning measures to reduce T&D losses through community involvement like SHGs etc.

Due to paucity of time, discussion on proposed BERC Regulations for Compensation to Victims of Electrical Accidents could not be held and the same was postponed for next meeting.

Finally, the Chairman thanked all the Members and officials present in the meeting for attending the meeting and giving valuable suggestions. It was further stated that the

Commission would consider these suggestions while passing the tariff orders of the Generation, Transmission, SLDC and Distribution companies.

**List of participants of the meeting of the STATE ADVISORY COMMITTEE (SAC) held on
06/02/2018 at 11.00 AM.**

Sl. No.	Name	Designation	Organisation
Member of the Committee			
1.	Shri S.K. Negi	Chairman	BERC
2.	Shri Rajeev Amit	Member	BERC
3.	Shri R.K. Choudhary	Member	BERC
4.	Shri Rajesh Kr. Mediratta	Member	Indian Energy Exc. Delhi
5.	Shri Sanjay Bhartiya	Member	B.C.C.I.
6.	Shri K.P.S Keshri	Member	BIA
7.	Shri Sanjay Kanodia	Member	BIAESC
8.	Shri Abhinav Jindal	Member	KBUNL
9.	Shri Surendra Kumar	Member	EC Rly, Hajipur
10.	Shri Umesh Kr. Singh	Member	Industry Dept.
11.	Miss Kusum	Member	BREDA
Officer of the Utilities			
12.	Shri S.K.P. Singh	Director (Project)	NBPDCL
13.	Shri BhaskarSharma	Director (Project)	BSPTCL
14.	Shri Arvind Kumar	G.M. (Fin.)	BSPGCL
15.	Shri Vijay Kumar	G.M. (Rev.)	NBPDCL
16.	Shri PradipMajhi	G.M. (P&A)	SBPDCL
17.	Shri PramodTiwari	G.M.	BSPTCL
18.	Shri H. R. Pandey	Chief Engineer (S.O)	BSPTCL/ BSPHCL
19.	Shri Narendra Kumar	Chief Engineer (Com.)	SBPDCL
20.	Shri S. K. Srivastava	Chief Engineer (Com.)	NBPDCL
21.	Shri C.C. Prasad	Addl. G.M.	BGCL
22.	Shri Ravi Prakash	AO, BSPTCL	BSPTCL
23.	Shri Anup Kumar	Sr. Manager	SBPDCL
24.	Shri Ritesh Kumar	EEE/Comm.	NBPDCL
25.	Shri Purushottam Pd.	EEE/Comm.	SBPDCL
26.	Miss Sudhanshu	AEE	BSPTCL/ BSPHCL
27.	Shri Binod Kumar	AEE/Comm.	SBPDCL
28.	Shri Mukesh Kumar	AEE/Tel+Interstate cell	BSPTCL
29.	Shri Anurag Hingle	Consultant	SBPDCL
30.	Oisik Mishra	RM (ER)	Indian Energy Exc. Ltd.
Officer of the BERC			
31.	Shri Parmanand Singh	Secretary	BERC
32.	Shri Nadeem Ahmad	Dy. Dir.(Dist. Tariff)	BERC
33.	Shri Avinash Kr.	Dy. Dir.(Gen.)	BERC
34.	Shri Pawan Kr.	Dy. Dir.(Com.)	BERC
35.	Shri G. Abhinav Reddy	Consultant, ASCI	BERC

Annexure – II

List of participants who attended Public Hearing at Patna on 22nd February, 2018.**Case No. 42/2017****Appearance on behalf of BSPGCL**

1.	Shri Pradip Kumar	GM (F&A), BSPGCL, Patna
2.	Shri Amar Kant Jha	CE (Gen.), BSPGCL, Patna
3.	Shri Radhe Shyam	ESE, BSPGCL, Patna
4.	Shri Sidh Nath Kumar	EEE, BSPGCL, Patna
5.	Shri Rajeev Kr. Singh	EEE (Gen.), BSPGCL, Patna
6.	Miss Sweety Kumari	AEE, BSPGCL, Patna
7.	Shri Mayank Srivastava	Consultant, BSPGCL, Patna

Appearance on behalf of Stakeholder / Public

1.	Shri Sanjay Bhartiya	Vice President, Bihar Industries Association, Patna
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