



**ORDER  
OF THE  
WEST BENGAL ELECTRICITY REGULATORY  
COMMISSION**

**IN CASES NO:**

**FPPCA – 85 / 16 – 17 AND  
APR – 65 / 17 - 18**

**IN RE APPLICATIONS OF CESC LIMITED FOR  
FUEL & POWER PURCHASE COST  
ADJUSTMENT (FPPCA) AND ANNUAL  
PERFORMANCE REVIEW (APR) FOR  
THE FINANCIAL YEAR 2016- 2017**

**SRI SUTIRTHA BHATTACHARYA, CHAIRPERSON  
SRI PULAK KUMAR TEWARI, MEMBER**

**DATE: 01.08.2022**



## Chapter 1

### PREAMBLE

- 1.1 Regulation 2.6 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended from time to time (hereinafter referred to as the 'Tariff Regulations'), mandates that licensees are required to undergo an Annual Performance Review (in short 'APR') process. Accordingly, CESC Limited (hereinafter referred to as 'CESC') submitted their application for Annual Performance Review for 2016 - 17 on 30.11.2017 and Fuel and Power Purchase Cost Adjustment (in short 'FPPCA') application for 2016 - 2017 on 25.09.2017 in pursuance to regulations 2.8.7 and 5.8 of the Tariff Regulations. The applications were registered as APR-65/17-18 and FPPCA-85/16-17.
- 1.2 CESC has submitted their application of APR for the third year of the fourth control period, i.e., for 2016 - 17. The review of this instant application on the basis of the audited annual report and accounts of CESC for 2016 - 2017 with reference to the Commission's MYT order of fourth control period dated 04.03.2015 and tariff order dated 28.10.2016 of CESC in Case No. TP- 56 / 13-14 will result into adjustment of different heads. The net adjustment arising out of such adjustment on different heads will be considered for giving effect to while determining the amount of revenue recoverable/payable through tariff order of further ensuing year or through separate order as specified in regulation 2.6.6 of the Tariff Regulations.
- 1.3 The APR covers the areas of determination of permissible annual fixed charges admissible to the applicant, permissible incentives and the effect of gain sharing as per Schedule-9B and Schedule 10 to the Tariff Regulations respectively. In the APR for the year 2016 - 17, therefore, the review of the different elements of fixed charges, categorized as controllable and uncontrollable have been done to find out the amounts to be permitted to CESC against each head of element vis-a-vis the amount allowed for 2016-17 under MYT order of fourth control period dated 04.03.2015 and tariff order dated 28.10.2016.



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- 1.4 In the application of APR for 2016 - 17, CESC submitted the required data and information and also a copy of its audited Annual Report and Accounts for 2016 - 17. The application of APR for 2016 - 17 had been admitted by the Commission on 07.09.2021 vide letter No. WBERC/APR-65/17-18/1113 dated 10.09.2021.
- 1.5 On admission of the APR application, CESC was directed to publish the gist of the APR and FPPCA application of 2016 - 17 as approved by the Commission. Accordingly, the gist was published simultaneously on 15.09.2021 in 'The Telegraph', the 'Bartaman', the 'Aajkaal', and the 'Dainik Vishwamitra'. The publication requested for submission of suggestions and objections from the members, if any, on the applications to the Commission by 21 days (inclusive of the date of publication) from the date of publication of the gist, i.e. within 4<sup>th</sup> October 2021. The approved gist along with the APR petition for 2016 - 17 was also published in the website of CESC. Opportunities were also afforded to all to inspect the application and take copies thereof.
- 1.6 On 16-09-2021 the Commission also asked for certain additional information from CESC through its letter No. WBERC/APR-65/17-18/1139 dated 16.09.2021 and CESC submitted its response through letter vide memo No.ED(F): 74625 dated 29.09.2021.
- 1.7 Against the gist publication dated 15.09.2021 All Bengal Electricity Consumer's Association submitted their certain objections /suggestion vide their letter no ERC/FPPCA/CESC/Obj./02 dated 04.10.2021 along with a prayer for extension of last date of submission so that item wise detailed objections can be submitted by them.
- 1.8 Commission vide the letter reference no WBERC/APR-65/17-18/1310 dated 28-10-2021 directed CESC to publish a notice in a form as provided by the Commission regarding extension of date for submission of suggestions, objection and comments against the FPPCA and APR application for the year 2016-17 within two working days from date of receipt of the letter dated 28-10-2021 by CESC. According to such notice the last date of submission is hereby extended upto 5PM on 04.11.2021. Accordingly such notice had been published in 'The Telegraph', the 'Bartaman', the 'Aajkaal', and the 'Dainik Vishwamitra' on 30<sup>th</sup> October 2021.



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- 1.9 Against such extension of date upto 4<sup>th</sup> November 2021 a mail has been received at Commission end on 02-11-2021 from Ganatantrik Nagarik Samity where the copy of an affidavit raising objections to APR and FPPCA petition of CESC for the year 2016-17 is being provided with an intimation that the hard copy is despatched through the speed post which was received on 03.11.2021.
- 1.10 The instant application of CESC for the year 2016 – 17 is being analysed in the subsequent parts of this order.



## Chapter 2

### COMMENTS AND OBJECTIONS

- 2.1 CESC Limited submitted their application for Annual Performance Review for 2016-17 on 30.11.2017 and Fuel and Power Purchase Cost Adjustment (in short 'FPPCA') application for 2016 - 17 on 25.09.2017 in pursuance to regulations 2.8.7 and 5.8 of the Tariff Regulations and claimed the redetermined Variable Cost and Fixed Cost of Rs. 406366 lakhs and Rs. 325092 lakhs respectively.
- 2.2 CESC has made certain prayers and submissions through the APR and FPPCA petition for 2016-17 and the accompanying forms. It has also submitted audited accounts, auditors' certificates, supporting data, documents and compliance reports. CESC has submitted that its net aggregate revenue requirement allowed by the Commission was Rs.656869 lakhs. Against the same, it has submitted an aggregate revenue requirement of Rs.731458 lakhs, i.e. a net amount of Rs.55535 lakhs has been claimed. It has made the submissions as follows:
- 2.2.1 CESC is in the business of electricity distribution for nearly 120 years and serves more than 31 lakh consumers in its licensed area extending over Kolkata and parts of North and South 24 Parganas, Howrah and Hooghly districts. Apart from reliable power availability from its own generating stations, CESC procures power from external agencies, particularly from long-term sources. Its peak requirement in 2016 - 17 was frequently over 2000 MW. According to CESC the distribution system of CESC has certain legacy driven characteristics, including high voltage distribution system at 6 kV, continuity of supplies at voltage levels of 20 kV and 3.3 kV, significant space constraints for its network, RoW challenges, limited space for sub-stations, incidences of other public utilities damaging its cables etc.
- 2.2.2 CESC has furnished details of risks of the distribution business. It has quoted from the National Electricity Policy which observes that "distribution is the most critical segment of the electricity business chain". It has stated that distribution business is beset with problems of increasing



consumer expectations, huge investment requirement for upgradation requirements and risks and challenges on combatting power theft. It has more than 17 lakh consumers with an average sale of around 45 units a month per consumer; 55% of its consumers are in this category but account for only 10% of the units sold. Yet all costs for servicing these consumers remain fixed. Spiralling inflation has also distorted all projections.

- 2.2.3 According to CESC, this distribution business suffers from huge external risks which adversely affects the Company's operational costs. Regulatory licenses are statutorily required to provide critical services often under hostile circumstances. CESC has listed macro-economic factors affecting the business including inflationary trend far outstripping CESC tariff, creation of significant amount of NPAs in power sector making availability of fresh loans difficult together with problems of the coal sector affecting the generation business. It is of vital importance that regulatory uncertainty needs mitigation. Considering that it has recorded good performance in a difficult scenario, has major investment plans, has augmented its network as well as technology at all levels of distribution system and has enhanced its consumer services, CESC has requested for favourable consideration of its prayers.
- 2.2.4 CESC has given details of its three generating stations namely, Budge Budge (750 MW), Titagarh (240 MW) and Southern (135 MW). It has provided data on its generation performance. Budge Budge Generating Station of CESC was in the list of the top stations in the country. However, extreme volatility of fuel prices has crippled the sector. CESC also purchased power to meet the requirements of its licensed area, following principles of merit order dispatch, subject to technical considerations, in terms of the regulations.
- 2.2.5 CESC has reiterated the problems of the distribution system including the issue of universal service obligation to low consumption segment, significant addition to consumer base, challenges in metering, etc. It has taken performance improvement measures by strengthening the distribution backbone, improving reliability of services, reducing feeder trippings, reducing average restoration time after HT / LT fault, prudent maintenance management system and



inspection and replacement of defective meters. CESC has also outlined a number of consumer related initiatives undertaken by it.

2.2.6 CESC has given details on treatment of specific items. Energy input to the system is both from generation from own plants and external power procurement, particularly from HEL, Energy Exchange and also from WBSEDCL in terms of the relevant Order of the Commission. Dispatch schedule is planned considering operating conditions, load availability, coal and ash conditions, and demand in lean period. Widely varying evening / night lean demand necessitates power procurement to the extent necessary / available / affordable. Status report on renewable power purchase has been furnished by CESC. Net metering arrangements with roof-top solar photovoltaic sources have been made. Special arrangements are made for facilitating procurement from such sources. CESC has also stated that the possibility of extensive renewable sources coming up in its urban area of supply may not be feasible excepting roof-top solar sources.

2.2.7 In its claim for O&M expenses, CESC has detailed its maintenance programme. It has also stated that its ageing plant and equipment require regular maintenance and its underground distribution network is often damaged by excavation by other utilities necessitating incurrence of added repairs and maintenance costs. Sizeable increase in peak power requirement is contributed by unplanned / unrestricted power guzzling equipment throughout its licensed area, which puts considerable pressure on its distribution network. CESC has supported its claim on employee cost with necessary auditors' certificates. Interest and finance charge details have been furnished with due certification. CESC has made a prayer for interest on normative loan capital as well. Arrangement of funds through temporary accommodation became necessary due to mismatch of expenditure and recovery of the same. Prayers for income tax has been supported with due certification. There has been no appropriation towards unforeseen exigencies reserve in terms of the MYT Order. Interest on unforeseen exigencies reserve investment has been ploughed back as directed. Prayer for security deposit is supported by auditors' certificate.



- 2.2.8 Performance based incentive has been prayed by CESC for, adopting “the principles rewarding efficiency in performance” as recognised in the Electricity Act, 2003. All certificates in this respect has also been submitted by CESC.
- 2.2.9 On distribution loss, CESC has detailed out the measures undertaken. It has stated that there is a consistent erosion of HT sale base, adversely impacting distribution loss. All actions, both technical and commercial, to the extent beneficial, have been practiced by CESC to combat the menace of pilferage of electricity. Details have been furnished in the petition.
- 2.2.10 CESC has also submitted other auditors' certificates. The accounts drawn under the Companies Act, cost audit reports and energy audit reports have been furnished. Status reports with reference to the directions of the Commission have been submitted.
- 2.2.11 CESC has also furnished the requisite forms for APR. It has ended with a prayer for confirmation and approval of the amount contained in Annex 1 of the petition, adjustment of the differential amount through APR by adding the same with the Aggregate Revenue Requirement of the subsequent year or separate allowance of such amount as considered appropriate by the Commission, allowance of additional amounts for increase in power purchase cost beyond the amounts considered in the Petition, if applicable, and passing of any other order deemed fit and proper by the Commission.

## 2.3 Objections and Comments

Objections have been received from Ganatantrik Nagarik Samity, Howrah and All Bengal Electricity Consumers' Association against the FPPCA and APR Petitions filed by CESC. Observations and comments have been dealt with hereunder.

### 2.3.1 All Bengal Electricity Consumers' Association

Objections / suggestions / Comments received from All Bengal Electricity Consumers' Association (ABECA) are dealt with hereunder.



**2.3.1.1 Time lag issue**

ABECA is of opinion that, due to significant time lag between submission of APR / FPPC application and proposed implementation of the same, the consumers may be subjected to a significant arrear in the form of enhanced tariff. This process should not be continued further.

Commission's view

Observations of ABECA have been noted by the Commission and the APR and FPPCA petition will be dealt in accordance with the Tariff Regulations.

**2.3.1.2 Submission of information**

ABECA enquired whether information sought by the Commission in respect of the tariff order for 2017-18 has been furnished by CESC.

Commission's view

The Commission is of the opinion that the information sought through tariff order for 2017-18 relates to a separate proceeding and thus will be treated under that proceeding only. Due consideration of requisite and relevant information submitted by CESC has been made in this order.

**2.3.1.3 APR Adjustment**

ABECA expressed their objection about APR adjustments through tariff orders for 2018-19 and subsequent years.

Commission's view

The Commission has taken note of the above and proceeds to determine APR order in accordance with the Tariff Regulations.

**2.3.1.4 Extension of consultation period**

ABECA has prayed for extension of submission of comments by one month.



### Commission's view

Timeline for submission of objections / comments was extended. However, no further objection / comment was received within the extended timeline from ABECA.

### **2.3.2 Ganatantrik Nagarik Samity**

Objections / suggestions / Comments received from Ganatantrik Nagarik Samity are dealt with hereunder.

#### **2.3.2.1 Renewable and environmental issues :**

GNS has cautioned against over-exploitation of fossil fuels and thus, protection of environment through active measures by the Hon'ble Commission has been recommended by GNS. As a suggestion, it has stated that a benchmark consumption can be fixed for domestic and commercial consumers. Such consumers could be incentivised for consuming less power than the benchmark. According to GNS while CESC's statements show that it has complied with governing environmental standards, it is required to move ahead and step out of merely compliance mode of operation. GNS is of view that there is no reflection of CESC's active participation in creating public awareness on environmental issues. CESC should be directed to promote environmental projects like undertaking forestation and awareness programmes. Beside these points GNS has also highlighted following points :

- i) Achievable targets of renewable power procurement based on availability has been suggested by GNS. Direction of the Commission has been sought on CESC for setting up its own renewable and non-conventional power units. Lowest cost options of renewable electricity generation should be explored, including from co-generation sources. Use of REC has not been recommended for RPO fulfilment, as it is a paper transaction according to GNS and does not help the environmental concerns.
- ii) CESC has effected net metering arrangements for energy injection from solar roof-top photovoltaic power plants. Such energy is recognised as RPO and should be



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encouraged further as a right step towards environmental responsibility. GNS has also recommended immediate adoption of net billing to help smaller consumers by preventing socialisation of costs.

- iii) Amount expended towards promoting and procurement of renewable power should be levied as "green energy charge" to the consumers through clear disclosure in the consumers' bills. This measure would be a good tool for creating consumer awareness on fuel scarcity issues. It will also compel CESC to undertake the responsibility of renewable power procurement seriously.

Commission's view

Promotion of renewable energy is actively considered by the Commission. The comments of GNS have been noted and will be dealt with in due course as the matters is not directly related to the APR and FPPCA application of CESC for 2016-17.

**2.3.2.2 Encouragement of low fixed cost plants :**

While GNS has appreciated the restricted use of Titagarh plant and accordingly reduced claim by CESC, GNS is of opinion that smaller size older stations with lower fixed costs should be allowed to operate as long as environmental standards are complied with. Notification of MoEF&CC requiring installation of FGD in older stations as per specified guidelines and time is a welcome step according to GNS. In this regard GNS also highlights the following points

- i) Provisions of appropriate fixed cost in this regard may be necessary.
- ii) Alternative sources of power through generators, invertors, etc. are costly, even reaching Rs.12 to Rs.14 per unit.
- iii) Power procurement should be made by CESC within this limit, so that there is no load-shedding in its licensed area.

Commission's view

The Commission has noted GNS's recommendations of encouragement of FGD installation, generation from smaller stations with lower fixed costs as well as judicious power procurement.



**2.3.2.3 Tariff increase only for genuine reasons :**

GNS has pointed out the huge increase in coal prices by public sector giants together with freights, cesses and levies as well as oil price increase. However, as a custodian of the stakeholders' interests, the Commission has been requested by GNS to allow tariff increases where there are genuine reasons for higher costs.

Commission's view

The issues of coal and oil price rise have been noted by the Commission and will be dealt with appropriately in the Order.

**2.3.2.4 Gradual tariff increase :**

GNS highlighted that MVCA mechanism allows for gradual tariff increase to claim the incremental fuel price rise. According to GNS the consumers, however, should not be subjected to tariff shock, as fuel price rises have been unprecedented. GNS is of opinion that where there has been deferral of MVCA to prevent tariff shock, the same can be allowed subject to prudence check. The recommendation of GNS is continuity of MVCA to reduce working capital costs. GNS also recommended that carrying cost due to delayed recovery of tariff should be separately allowed through temporary accommodation.

Commission's view

GNS's observations on MVCA mechanism and allowing legitimate carrying cost for delayed recovery of tariff through temporary accommodation have been noted by the Commission and will be dealt with appropriately.

**2.3.2.5 Captive fuel cost :**

Operation of captive mine has reduced the overall fuel cost noticeably, hence, as per GNS, it is important to balance all interests such that neither the consumers are shocked, nor does the company lose sustainability.



Commission's view

GNS's observations on captive mine fuel cost has been noted by the Commission and will be dealt with appropriately.

**2.3.2.6 Flight of consumers through Open Access :**

GNS is of opinion that as since the flight of bigger consumers through open access is to the detriment of the smaller consumers, it is necessary that the outgoing consumers pay wheeling charge and additional surcharge. GNS also emphasise the following :

- i) While the Commission allows average wheeling charge on all consumers, the wheeling charge on these exiting consumers shall be adequately charged so that small consumers do not suffer.
- ii) The wheeling charges payable by large high voltage consumers should be actually higher and the Commission should seriously think of introducing a levy or surcharge for higher voltage consumers over and above average cost of wheeling and average distribution losses for the system.
- iii) An environment surcharge, as a proportion of wheeling charge should also be immediately levied upon the high voltage consumers who are pollutant.
- iv) For partial power drawn from the licensees / over-drawal, a separate sub-category with higher tariff than the applicable tariff for embedded consumers should be created.
- v) Back-up power is also required to be priced such that it is not to the detriment of the embedded consumers.

Commission's views

Observations of GNS have been noted by the Commission and will be dealt with appropriately.

**2.3.2.7 Other Concerns :**

GNS highlighted the following issues :

- i) The need of improvement of distribution system and according to GNS investment should continuously receive the serious attention of CESC.



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- ii) The upgradation of consumer service should always be balanced with the need of the consumers.
- iii) Costs should not outweigh the benefits and wasteful expenditure are to be discouraged.
- iv) Captive generation using high pollutants should be discouraged.
- v) for the viability of the sector, prudent cost should be allowed in easy arrears to CESC and
- vi) CESC should be recompensed for the long delay through temporary accommodation at average interest rate.

Commission's views

Observations of GNS have been noted by the Commission.

- 2.4 The Commission has taken a comprehensive view of the APR Petition submitted by CESC, the observations and comments of ABECA and GNS and additional information data and reports sought from and furnished by CESC in terms of the Tariff Regulations. Detailed analysis and view of the Commission is provided in the subsequent Chapters. The adjustment, as may arise out of the review of the instant application for 2016 – 2017 will be considered for giving effect while determining the amount of revenue recoverable through tariff order of any ensuing year or through separate order as specified in regulation 2.6.6 of the Tariff Regulations.



## Chapter 3

### COMPUTATION OF THE ALLOWABLE AMOUNT OF FUEL & POWER PURCHASE COST

- 3.1 CESC submitted its application for ascertaining the fuel and power purchase cost adjustments (FPPCA) for the financial year 2016 - 17 on 25 September, 2017 in terms of regulation 2.8.7 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended (hereinafter referred to as the 'Tariff Regulations'). The instant application is to be dealt with as per the provisions of the Tariff Regulations along with the amendment thereof. Such admissible fuel and power purchase costs are to be worked out with reference to the actual quantum of energy sold to its own consumers and to other licensee(s) during the concerned adjustment period applying the following formula specified in Schedule – 7A to the Tariff Regulations on the basis of normative parameters as was used in the tariff order for 2016 - 2017 and also on the basis of regulation 5.8.1 of the Tariff Regulations.
- 3.2 The Fuel and Power Purchase Cost (FPPC) during the referred adjustment period, i.e., financial year 2016 – 2017, is to be admitted in terms of the following formula as specified by the Commission in schedule 7A to the Tariff Regulations.
- 3.3 The schedule – 9B to the Tariff Regulations, contains provisions for sharing gains derived by the licensee, if any, on account of its better performances over the operating and fuel consumption norms set by the Commission for the concerned year. The operational parameters which are to be considered for such sharing of gains accrued to the licensees are:
- i) Oil consumption rate,
  - ii) Rate of Auxiliary Consumption,
  - iii) Gross Station Heat Rate.
- 3.3.1 The referred schedule 9B to the Tariff Regulations also provides that in case availability of a generating station falls below the availability norm, then the total gains meant to be passed on



to the consumers under the items (i) to (iii) above, is first to be used to compensate the deficit in the recovery of the fixed charges, if any, by the licensee and only thereafter the balance, if any, shall be passed on to the consumers.

- 3.4 Before ascertaining the amount of admissible fuel and power purchase cost as well as the amount of gains to be shared with the consumers and other licensees under the provisions of the Tariff Regulations explained in earlier paragraphs, it needs to view the actual performances of CESC in comparison to the operational and fuel efficiency norms set by the Commission in the Tariff Order for the concerned year. Such comparisons of actual values are made here.

SI No	Power Station	Particulars	Unit	As per Tariff Order / Norms	As per Actual
1	Budge Budge	Rate of Auxiliary Consumption	%	9.00	8.06
		Specific Consumption of Oil	ml/kWh	1.30	0.25
		Station Heat Rate	kCal/kWh	2470	2138.22
2	Titagarh	Rate of Auxiliary Consumption	%	9.00	9.62
		Specific Consumption of Oil	ml/kWh	2.10	1.82
		Station Heat Rate	kCal/kWh	2910	3820.77
3	Southern	Rate of Auxiliary Consumption	%	9.00	9.48
		Specific Consumption of Oil	ml/kWh	2.10	2.23
		Station Heat Rate	kCal/kWh	2900	3464.24

The actual station heat rate as determined has been provided in Annexure 3E.

- 3.5 As is seen from the above statement, CESC succeeded in performing better than norms for oil consumption in the generating stations at Budge Budge and Titagarh. Part of the benefits accrued to it in financial terms will, therefore, need to be passed on to its consumers and other licensees in terms of the provisions of Schedule 9B to the Tariff Regulations.



- 3.6 The actual performances of CESC in respect of auxiliary consumption and gross station heat rate in the generating station at Budge Budge is found better than the norms considered in the tariff order for the concerned year. It is therefore, required to share the benefits (in the financial terms) accrued to it in that respect in the manner as provided in paragraphs A2 and A3 of the Schedule 9B to the Tariff Regulations.
- 3.7 The norm for distribution loss of CESC for the year 2016 – 17 was considered to be 14.30% under the Regulations. As it comes out from the data as provided by CESC for the year 2016 – 17, the actual rate of distribution loss experienced by CESC on the quanta of sales to consumers, sales to WBSEDCL and on its own consumption works out at 11.09% as shown below:

SI No	Particulars	Figures in Million Units
<b>Inputs to System</b>		
(a)	Gross Generation	6053.307
(b)	Less: Actual Auxiliary consumption	497.614
(c)	Net Sent Out Energy [(a) – (b)]	5555.693
(d)	Energy purchased during the year	5145.639
(e)	Less: Sale to persons other than Consumers and WBSEDCL including Transmission loss to effect that sale	4.898
(f)	Less: Swap-out energy including permissible loss	137.163
(g)	Add: Unscheduled Interchange (Net)	51.898
(h)	<b>Delivered to the system [(c) + (d) – (e) – (f) + (g)]</b>	<b>10611.169</b>
<b>Utilization</b>		
(i)	Sales to Consumers and WBSEDCL	9409.702
(j)	Energy consumed in own premises	24.219
(k)	Distribution loss to effect sale to consumers, sale to WBSEDCL and own consumption. [(h) – (i) – (j)]	1177.248
(l)	Distribution loss in % [(k)/x100]	11.09%
(m)	<b>Total Utilisation [(i) + (j) + (k)]</b>	<b>10611.169</b>

- 3.8 The actual sale to consumers and WBSEDCL is 9409.702 MU. Energy consumed in the own premises is 24.219 MU as against the admitted energy of 20.00 MU in the Tariff order for the concerned year. The allowable quantum of distribution loss as per norms @ 14.30% on actual quanta of sales to consumers and WBSEDCL as well as the energy consumed in own premises works out at 1574.155 MU  $\{[(9409.702 + 24.219) / (1.00 - 0.1430)] - (9409.702 + 24.219)\}$  and



actual quanta of distribution loss against that sale and own consumption works out at 1177.248 MU. The savings in this regard thus comes to 396.907 MU (1574.155 MU – 1177.248 MU). As provided in paragraph C of Schedule – 9B to the Tariff Regulations, entitled gain in this regard is required to be shared with the consumers.

3.9 The amount of fuel and power purchase cost that can be allowed to CESC, after carrying out the adjustments towards gain sharing and the accrual of benefits for savings in the quanta of distribution loss, is being taken up in the next chapter..

3.10 The Commission now proceeds to determine the fuel and power purchase costs allowable to CESC in terms of the formula specified in Schedule 7A of Tariff Regulations.

3.11 **F.C.: FUEL COST:**

3.11.1 Fuel cost of own generation is to be allowed as per normative parameters fixed by the Commission, or on actual basis in absence of any norms, and heat value of coal as may be allowed under regulation, commensurate with actual level of energy sales to own consumers and / or licensees during the adjustment period. The fuel costs to be allowed to CESC for the year 2016 – 17 for its different power stations shall be based on the following fuel consumption norms:

Particulars	Unit	Budge Budge	Titagarh	Southern
Station Heat Rate	Kcal/Kwh	2470	2910	2900
Specific Oil Consumption	MI/Kwh	1.30	2.10	2.10
Transit loss of Coal	%	0.75	0.75	0.75

3.11.2 On the basis of normative parameters as stated above and normative rate of auxiliary consumption as referred to in paragraph 3.4, the amount of fuel cost allowable to CESC for effecting sales to its consumers and WBSEDCL comes to Rs. 137481.12 lakh as per computations given in Annexure – 3A. The explanatory notes in this regard are as under:



3.11.3 Out of the total ex-bus generation of 5555.693 MU, CESC utilized 4.898 MU to effect sales to persons other than its consumers and WBSEDCL. This quantum has been reduced from ex-bus generation of Budge Budge generating station.

3.11.3.1 The weighted average calorific values of coal and oil are, however, variable factors for assessing the quantity of coal and oil requirements and depend on the actual grade mix of their use in the power stations. Moreover, the declared Heat Value of each grade of coal varies between ranges. The weighted average heat value of coal for each generating station of CESC, as considered in the tariff order, was based on the lower value of the range of the proposed grade mix of use. With reference to actual grade mix of coal and oil at different generating stations, heat value of coal and heat value of oil are as under:

Generating Station	Heat Value of Coal (Kcal/Kg)	Heat Value of Oil (Kcal/Litre)
Budge Budge	3634.00	9612
Titagarh	5249.00	9624
Southern	4307.00	9669

Above heat values of coal have been considered with reference to the grade-wise coal consumption of the concerned generating stations, as per documents submitted by CESC, the declared heat value of different grades of coal varying within a range and the minimum allowable heat value in terms of provision of regulation 5.8 of the Tariff Regulations. The weighted average heat value of coal for each generating station as claimed by CESC has been compared with the station wise actual weighted average heat value of coal duly certified by the auditors and the minimum weighted average heat value of coal as per formula given in regulation 5.8.1 of the Tariff Regulations. The computations of the minimum allowable heat value of coal for different generating stations vis-à-vis the actual heat value of coal have been shown in Annexure – 3D to this chapter. In this context it is to be mentioned that the minimum allowable heat value of coal is considered as per provisions of the Tariff Regulations. As is observed from the aforesaid annexures, the actual heat value of coal received by CESC is lower than the minimum allowable heat value in terms of the Tariff Regulations and thus the Commission considers the minimum allowable heat value of coal for different generating stations as computed.



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3.11.3.2 The weighted average price of coal and oil, as certified by the auditors in Annexure C3 of Volume-1 of the FPPC application, came as under:

Generating Station	(Rs/MT)	Price of Oil (Rs/KL)
Budge Budge	3509.39	46799.03
Titagarh	5218.19	43146.14
Southern	4344.03	46829.09

The above prices are inclusive of freight charges which also includes demurrage charges and payment made to Kolkata Port Trust for Southern generating station.

CESC Limited has claimed demurrage charges in the above landed price of coal with Auditor's certificate as follows:

Rs lakh

Budge Budge	Southern	Titagarh	Total
164.26	14.56	18.94	197.76

From the submissions of CESC Limited, the generating station wise claim of demurrage for the year 2016 – 17 in Rs/MT comes as follows:

Description	Budge Budge	Southern	Titagarh
Claim of Demurrage in Rs Lakh	164.26	14.56	18.94
Coal Qty (MT)	3180064	327477	168737
Demurrage (Rs/MT)	5.17	4.45	11.22

It is noticed that demurrage charges in Rs/MT for the year 2016 – 17 could be reduced consistently with respect to 2013 – 14 only in Southern generating station as follows:

Rs/MT

Description	Budge Budge	Southern	Titagarh
Demurrage for the year 13-14	6.43	5.96	7.08
Demurrage for the year 14-15	6.50	5.29	9.00



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Demurrage for the year 15-16	8.05	4.81	12.49
Demurrage for the year 16-17	5.17	4.45	11.22

Therefore, as per provision of regulation 5.8.1(vi), the Commission finds it prudent to allow the minimum demurrage charge incurred since 2013 – 14 as follows:

Rs/MT

Sl. No	Description	Budge Budge	Southern	Titagarh
1	Demurrage for the year 13-14	6.43	5.96	7.08
2	Demurrage for the year 14-15	6.50	5.29	9.00
3	Demurrage for the year 15-16	8.05	4.81	12.49
4	Demurrage for the year 16-17	5.17	4.45	11.22
5	Admissible Demurrage (Min since 13-14)	5.17	4.45	7.08
6	<b>Disallowance of Demurrage [4 – 5]</b>	<b>0.00</b>	<b>0.00</b>	<b>4.14</b>

Following Coal Mines (Special Provisions) Act, 2015 a coal block has been allocated to Budge Budge Generating Station against reverse auction and it has become necessary to adjust the cost of captive coal. Only the fixed rate of Rs. 100 per Tonne is payable for coal procured from this mine, apart from all statutory duties/ levies/ cess/ royalty / taxes and other applicable charges. Necessary adjustment has been given effect to in subsequent paragraphs.

The mining cost along with additional premium paid for usage of captive coal in Budge Budge is disallowed by the Commission as follows:

(Rs/MT)

Sl. No.	Particulars	Budge Budge
A	Mining/Basic cost (ROM)	462
B	Additional Premium (ROM)	370
C	<b>Disallowance rate (ROM) [A+B]</b>	<b>832</b>
D	Yield of Washing	70.007%
E	<b>Disallowance rate (Wash) [C / D ]</b>	<b>1188</b>



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The usage from the captive mine is 471603 MT ROM and 693890 MT washed in Budge Budge. The Commission has determined the deductible amount for captive coal in Rs/MT from the landed coal cost of the respective stations as follows:

Sl. No	Particulars	Value
1	<b>Grade Mix %</b>	
a)	Captive ROM Coal	14.83%
b)	Captive Washed Coal	21.82%
2	<b>Quantity in MT</b>	3180064
a)	Captive ROM in MT [ 1(a) x 2]	471603
b)	Captive Washed in MT [ 1(b) x 2]	693890
3	Ex bus generation in MU	5466
4	Disallowance rate (ROM) in Rs/MT [Previous table]	832
5	Disallowance rate (Washed) in Rs/MT [Previous table]	1188
6	Disallowance - Rs. Lakh [ (2a x 4 + 2b x 5)/10 <sup>5</sup> ]	12166
7	Disallowance - Rs./MT [2 x 6]	<b>382.58</b>

Also, CESC Limited has not considered adjustment of value of rejects for the year 2015 – 16 as stated by them through affidavit dated 22.01.2020. Thus, the Commission finds it prudent to adjust the value from sale of rejects from washing of coal from captive mine as follows:

Sl. No.	Particulars	Unit	Budge Budge
1	Annual quantity of raw coal used for washing	MT	1089030
2	Annual quantity of washed coal derived from above	MT	762398
3	Annual quantity of rejects (1 - 2)	MT	326632
4	% of Yield by washing	%	70.01%
5	Sale Price of Washery rejects	Rs/MT	400
6	<b>Revenue earned from sale of rejects (3 x 5)</b>	<b>Rs lakh</b>	<b>1306.53</b>
7	Quantity of coal as per Auditor's certificate	MT	3180064
8	<b>Deductible amount for Washery rejects (6 / 7)</b>	<b>Rs/MT</b>	<b>41.08</b>



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Accordingly, the admitted coal cost in Rs/MT comes as follows after disallowing non admissible cost on account of captive coal and demurrage charge:

Rs/MT

Sl. No	Particulars	Budge Budge	Southern	Titagarh
1	Coal cost as per Auditor's Certificate	3509.39	4344.03	5218.19
2	Disallowance for captive coal	382.58		
3	Disallowance for Sale of washery rejects	41.08		
4	Disallowance for Demurrage	0.00	0.00	4.14
5	Average Cost of coal Net of Captive, rejects and Demurrage disallowance [1 - 2 - 3 - 4]	<b>3085.73</b>	<b>4344.03</b>	<b>5214.05</b>

### 3.12 PPC: POWER PURCHASE COST:

3.12.1 The power purchase requirement of CESC during 2016 –17 was considered 4006.00 MU; vide the statement of Energy Balance at paragraph 4.7 of the Tariff Order dated 4 March, 2015 for the concerned year, which was revised to 3531 MU vide the Tariff Order dated 28 October 2016. The total quanta of actual purchase and the cost incurred thereon as submitted in the petition with Auditor's certificate are as under:

Sources	Quantum (MU)	Cost (Rs in lakh)	Average Rate (p/kwh)
WBSEDCL	14.200	1118.32	787.55
HEL	3604.945	206159.01	571.88
RPGPTCL (Other than Cogeneration)	295.811	13987.69	472.86
Other Short Term	47.890	1520.91	506.65
Banking	110.130	5579.94	317.58
Exchange	969.160	29133.28	300.60
RPGPTCL (Cogeneration) including Solar	103.500	3937.51	380.44
<b>Total</b>	<b>5145.639</b>	<b>261436.66</b>	<b>508.07</b>
Less: Energy charge of Banking		5201.37	
<b>Net Power purchase cost claimed</b>		<b>256235.29</b>	



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The Commission derives the power purchase cost excluding Swap-in as follows:

Particulars	Quantum (MU)	Cost (Rs in lakh)	Average Rate (p/kwh)
Total power purchase including Swap-in	5145.639	261436.66	508.07
Swap-in	110.133	5579.94	506.65
Power Purchase Cost excluding Swap-In	5035.506	255856.720	<b>508.11</b>

From the submission of CESC, it is found that it has made power swapping arrangement to manage its surplus / shortfall during the year and has not considered the cost for such swap-in power in its claim of total power purchase cost for the year, in view of no-gain no-loss arrangement. However, the Commission decides to adjust the cost of swap-in and swap-out power with the total power purchase cost in terms of clause (iv) of regulation 5.15.2 of the Tariff Regulations as below:

Sl no	Nature of swapping arrangement	Swap-out		Swap-in	
		MU	Rs. lakh	MU	Rs. lakh
A	Swap-in within the year against swap-out within the year (swap-out energy including loss at average power purchase cost of the year)	131.26	5579.94	110.133	5579.94
B	Swap-in during the year against swap-out energy in previous year (equal to the cost of swap-out energy of previous year based on average power purchase cost of previous year)				
C	Swap-out during the year as initial transaction followed by return of energy (swap-in) in succeeding year (swap-out energy including loss at average power purchase cost of the year)	5.91	300.20		
	Total	137.16	5880.14	110.133	5579.94



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Sl no	Nature of swapping arrangement	Swap-out		Swap-in	
		MU	Rs. lakh	MU	Rs. lakh
Cost of Swap out of 131.26 MU during the year is considered at Rs 5579.94 lakh for Swap-in of 110.133 MU during the year (Sl. No-A) consists of 5201.37 lakh for Energy charge and Rs 378.57 lakh for other charge.					
Cost of Swap out of 5.91 MU for Swap-in in succeeding year is considered at the average power purchase cost excluding Swap-in i.e $508.11 \text{ p/kwh} \times 5.91 \text{ MU} = 300.20 \text{ lakh}$					

3.12.2 CESC in its petition considered surplus sale to persons other than consumers and licensee from its Budge-Budge power plant. The Commission in the MYT order for fourth control period for 2014-15, 2015-16 and 2016-17 dated 04.03.2015, has already not considered similar proposal of CESC while computing fuel cost of Budge-Budge power plant and considered the entire generation of power plants for primarily meeting the demand of consumers in the CESC supply area. The Commission is of considered opinion that, primary responsibility of a distribution licensee is to supply power to its consumers from its own generating plants and/or from other sources through PPA on merit order basis. During the process of managing the load-generation balance, licensee may require to sale its incidental surplus power or arrange for banking, etc in such a way that ultimate consumers are get benefitted. This has been clearly mentioned in paragraph 4.6.2 of the tariff order for 2014-15, 2015-16 and 2016-17.

From the energy balance of 2016 – 17 mentioned in paragraph 3.7 above, it is observed that, CESC has sold 4.898 MU (including loss) to persons other than licensee & consumers. The Commission decides to adjust the cost of sale of surplus power at the average variable cost of power purchase cost excluding Solar, Cogeneration, exchange and other short term but including own generation of the licensee to ensure ultimate benefit of the end consumers as tabulated below:



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Sources	MU	Energy Charges (Rs Lakh)	Energy Charge Rate (p/kwh)
WBSEDCL	14.200	1118.32	787.55
Haldia	3604.945	97922.76	271.63
RPGPTCL (Other than Cogeneration)	295.811	13798.42	466.46
Banking (Swap-in/Swap-out)	110.130	5201.37	472.29
Other Short Term	47.890	1377.5	287.64
Exchange	969.160	26065.72	268.95
RPGPTCL (Cogeneration) including solar	103.500	3640.53	351.74
Budge Budge	4974.377	118255.71	237.73
Sourhern	370.837	12326.21	332.39
Titagarh	210.479	6899.2	327.79
<b>Total</b>	<b>10701.329</b>	<b>286605.740</b>	<b>267.82</b>
Less: Co-Gen, Solar, Exchange, Short term, Swap-in	1230.68	36285.12	294.84
Net Variable cost of power purchase	9470.649	250320.620	<b>264.31</b>

Therefore, the cost of sale to others comes Rs 129.46 lakh for 4.898 MU @ 264.31 P/kwh. Gain, if any, on account of revenue earned shall be shared in subsequent chapter in terms of clause (iv) of regulation 5.15.2 of the Tariff Regulations.

In view of above, the admissible power purchase cost for sale to consumers and WBSEDCL is worked out as below:

Sl. No	Particulars	Energy (MU)	Amount (Rs lakh)	Rate (p/kwh)
1	Total Power Purchase as in para 3.12.1 above including Swap-in	5145.639	261436.66	508.07
2	Less: Swap out for Swap-in during the year	131.255	5579.94	425.12
3	Less: Swap out for Swap-in following year	5.908	300.20	508.11
4	Less: Sale to other than consumer & licensee	4.898	129.46	264.31
5	Net Power Purchase for to sale consumers and WBSEDCL (1 – 2 – 3 – 4)	<b>5003.578</b>	<b>255427.06</b>	<b>510.49</b>



### 3.13 **C<sub>D</sub> : COST DISALLOWABLE:**

3.13.1 Factor C<sub>D</sub>, as referred to in the FPPCA formula mentioned in paragraph 3.2, stands for cost as to be found disallowable by the Commission as per the methodology specified in the FPPCA formula referred to herein. It has been observed that CESC succeeded in sending out generation from each of its generating stations a considerable quantum in excess of the target set for the concerned year. It also succeeded in keeping the rate of distribution loss much below the norm set out for the year. Paragraph 3.7 may be referred to in this regard. No part of the fuel and power purchase cost is found disallowable and hence, value of factor C<sub>D</sub> is nil.

### 3.14 **(+) A: PRIOR PERIOD'S ADJUSTMENTS:**

3.14.1 Factor A in the referred FPPCA formula signifies the adjustment, if any, to be made in the current period to account for any excess / shortfall in the recovery of fuel and power purchase cost for the past period. CESC did not ask for any such adjustment and no such adjustment is also found necessary. The value of this factor is, therefore, considered nil.

### 3.15 **Computations of the aggregate allowable amount of fuel and power purchase cost:**

3.15.1 The aggregate amount of fuel and power purchase cost, commensurate with the actual quantum of sale to the consumers and to the licensee (WBSEDCL), that can be allowed to CESC works out to Rs. 398752.21 lakh with the break-up as given hereunder. The detailed computations in this regard are shown in Annexure – 3B and Annexure – 3C. This amount, however, is inclusive of the amounts of gains derived to CESC on account of its better performances on different parameters of operations and fuel consumption norms:

Sl. No	Particulars/Factors	Rs. in Lakh
1	FC: Fuel cost	143325.15
2	PPC: Power purchase cost	255427.06
3	C <sub>D</sub> : Cost disallowable	0.00
4	±A: Adjustment relating to earlier period	0.00
5	<b>FC+(PPC-C<sub>D</sub>) + (± A)</b>	<b>398752.21</b>



3.16 The amount of fuel and power purchase cost of Rs. 398752.21 lakh, as shown in paragraph 3.15, computed as per FPPCA formula specified in Tariff Regulations is inclusive of the amounts of gains derived by CESC on account of its better performances on different parameters of operational and fuel consumption norms. As mentioned in paragraphs 3.5 and 3.6, CESC is required to pass on part of such gains derived by it to its consumers and WBSEDCL. The amounts of gains attributable to the consumers and WBSEDCL are being viewed and ascertained hereafter.

### 3.17 Gain Sharing for better Oil Consumption Rate:

3.17.1 The actual specific oil consumption rates for Budge Budge, Titagarh generating stations are found better than the normative rate as considered in tariff order. The actual rate of oil consumption vis-à-vis rate of specific oil consumption as per tariff order / norms for the respective year for Budge Budge, Titagarh and Southern Generation Stations are given hereunder:

Figures in MI/kWh

Generating Station	As per Tariff Order/ Norms	Actual as per submission	Savings
Budge Budge	1.30	0.25	1.05
Titagarh	2.10	1.82	0.28
Southern	2.10	2.23	(0.13)

3.17.2 With reference to actual generation for effecting supply to the consumers and to WBSEDCL, the normative and actual consumption of oil at above mentioned specific consumption rate works out as under:

SI No	Particulars	Unit	Budge Budge	Southern	Titagarh	Total
1	Gross generation with normative auxiliary consumption (refer table in Annexure 3A)	MU	5466.348	407.513	231.296	
2	Normative Oil consumption rate	MI/kwh	1.30	2.10	2.10	
3	Oil Consumption at normative rates	KL	7106.25	855.78	485.722	
4	Actual Oil Consumption	KL	1349.44	913.96	423.690	
5	Actual Oil consumption rate (refer table under paragraph 3.4)	MI/kwh	0.25	2.23	1.82	
6	Savings / difference	KL	5756.81	(58.18)	62.03	



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SI No	Particulars	Unit	Budge Budge	Southern	Titagarh	Total
7	Category		B	C	C	
8	Percentage of gain sharing attributable to consumers and WBSEDCL	%	26%	45%	45%	
9	Average price of Oil	Rs./KL	46799.03	46829.09	43146.14	
10	Gains accrued on saving of Oil	Rs. in Lakh	2694.13	(27.25)	26.76	
11	Share of gains attributable to consumers and WBSEDCL (In terms of categorization and criteria as per para A1 of Schedule 9B to Tariff Regulations)	Rs. in Lakh	700.47	0.00	12.04	712.51

### 3.18 Gain Sharing for Better Rate of Auxiliary Consumption:

3.18.1 As shown in Annexure – 3C, the savings arising out of difference between normative quanta of auxiliary consumption on generation meant for supply of power to the consumers and WBSEDCL and actual such consumption were found as given hereunder. The entire benefits of savings in the quanta of auxiliary consumption have been passed on to CESC while computing the amount of allowable fuel and power purchase cost as shown in Annexure – 3B. Such benefits have been valued in monetary terms at the average rate of cost of generation of the respective generating station. In terms of paragraph A2 of Schedule 9B to the Tariff Regulations, part of the gains so derived by CESC requires to be passed on to the consumers and WBSEDCL. Share to be passed on works out as under:

Generating Station	Savings in Auxiliary Consumption (MU)	Cost of Generation (Paise / kWh)	Monetary value of Savings (Rs. in Lakh)	Category	Share to consumers & WBSEDCL	
					Percentage	Amount (Rs. in Lakh)
Budge Budge	55.888	216.33	1209.05	B	25%	302.26
Southern	0.000	302.47	0.00	B	25%	0.00
Titagarh	0.000	298.28	0.00	B	25%	0.00
Total	55.888		1209.05			302.26



### 3.19 Share of Savings in Cost of Coal for achieving better Station Heat Rates:

- 3.19.1 The normative Station Heat Rates considered in the tariff order for different generating stations of CESC Limited with reference to their respective design station heat rates and vintages were as under:

Generating Station	Station Heat Rates as per Norm set (Kcal/kWh)
Budge Budge	2470.00
Titagarh	2910.00
Southern	2900.00

- 3.19.2 The allowable cost of fuel at different generating stations, as per computations shown in Annexure – 3A, was ascertained based on such normative station heat rates. It has been seen that CESC Limited succeeded in achieving better Station Heat Rate in its Budge Budge generating station as already explained in paragraph 3.4. CESC Limited, thus, could derive some gains by way of saving the fuel cost in the generating station at Budge Budge. In terms of Schedule 9B to the Tariff Regulations, part of such gains derived on account of the savings in the cost of coal are to be passed on to the consumers and to WBSEDCL.
- 3.19.3 Following the methodology enunciated by the Commission in paragraph A3 of Schedule 9B to the Tariff Regulations, share of such gains attributable to the consumers and WBSEDCL is 14% for Budge Budge Generating Station. The total amount so to be passed on to consumers comes to Rs. 2352.27 lakh as computed in Annexure 3E with the following station wise break-up:

Generating Station	Savings in Coal Cost attributable to consumers and WBSEDCL (Rs in Lakh)
Budge Budge	2352.27
Titagarh	0.00
Southern	0.00
<b>Total</b>	<b>2352.27</b>

### 3.20 Benefits for savings in Distribution Loss:

- 3.20.1 As analysed in paragraph 3.7 and 3.8, CESC Limited saved 396.907 MU by making improvements in the extent of distribution loss. In terms of paragraph C of the Schedule 9B to



the Tariff Regulations, 25% of benefits of such savings are required to be passed on to the consumers. The computations in monetary terms work out as under:

Sl. No.	Particulars	Quantum (MU)	Amount (Rs. in Lakh)
1	Ex-bus generation for sale and Fuel cost thereon (Vide Annexure 3A)	5555.693	137481.12
2	Purchase of Energy (vide paragraph 3.12.1)	5003.578	255427.06
3	<b>Total</b>	<b>10559.27</b>	<b>392908.18</b>
4	Average cost per unit in the Distribution System		372.10 Paise / KWh
5	Cost of quantity saved (vide paragraph 3.8)	<b>396.907</b>	<b>14768.90</b>

3.20.2 Out of the amount of Rs. 11076.68 lakh (75% of 14768.90 lakh computed above), a total amount of Rs. 5844.03 lakh (Rs. 143325.15 lakh – Rs. 137481.12 lakh) has already been passed on to CESC while computing the allowable fuel costs for sales to WBSEDCL and the consumers by way of adopting the normative rate of distribution loss in the denominator of the fraction for such computation. The balance amount of Rs. 5232.65 lakh (Rs. 11076.68 lakh – Rs 5844.03 lakh) is now being allowed. Benefit of 3692.23 lakh (Rs 14768.90 lakh - Rs 11076.68 lakh) is passed on to the consumers of CESC.

3.21 The analyses show that the amount of fuel cost computed on the basis of normative parameters and in terms of the specified FPPCA formula comes to Rs. 143325.15 lakh. The amount is inclusive of the gains accrued on to CESC for its better performances in regard to fuel consumption norms. In terms of Schedule 9B to the Tariff Regulations, a part of such gains is to be passed on to the consumers and WBSEDCL. Such shares attributable to them have been worked out in this chapter. The net amount of fuel cost allowable to CESC after carrying out adjustments of the shares of gains attributable to the consumers and WBSEDCL comes as under:

Sl. No.	Particulars	Amount (Rs. in Lakh)	Amount (Rs. in Lakh)
1	Fuel Cost on normative basis		143325.15
2	Less: Shares of gains attributable to consumers and WBSEDCL		
	i) cost saving on use of Oil	712.51	



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	ii) on improvement in the rate of Auxiliary Consumption	302.26	
	iii) for achieving better Station Heat Rate	2352.27	3367.04
3	Net amount of allowable fuel cost		<b>139958.11</b>

3.22 Station-wise break-up of the allowable fuel cost is given below:

Sl. No.	Particulars	Budge Budge	Southern	Titagarh	Total
1	Fuel cost on normative basis	123282.51	12850.17	7192.47	143325.15
	Less: Share of Gains attributable to consumers and WBSEDCL				
	i) Cost saving on use of OIL	700.47	0.00	12.04	712.51
2	ii) On improvement in the rate of Auxiliary Consumption	302.26	0.00	0.00	302.26
	iii) For achieving better Station Heat Rate	2352.27	0.00	0.00	2352.27
	<b>Total (2)</b>	<b>3355.00</b>	<b>0.00</b>	<b>12.04</b>	<b>3367.04</b>
3	Net amount of allowable fuel cost (1-2)	<b>119927.51</b>	<b>12850.17</b>	<b>7180.43</b>	<b>139958.11</b>

3.23 The amount of power purchase cost considered for purchasing 5003.578 MU from different sources, for the consumers and licensee in the state, as enumerated in paragraph 3.12.1 is Rs 255427.06 lakh.

3.24 An additional amount of Rs. 5232.65 lakh is found admissible to CESC on account of savings in the rate of distribution loss as shown in paragraph 3.20.2.

3.25 Summing up the findings as stated above, the net amount of fuel and power purchase cost allowed to CESC for the year 2016 – 17 comes as under:

	Rs. in Lakh
Fuel Cost	139958.11
Power Purchase Cost	255427.06



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Additional amount on account of savings in the rate of Distribution loss	5232.65
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<b>Re-determined Fuel and Power Purchase Cost</b>	<b>400617.82</b>
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- 3.26 The Commission decides, in terms of regulation 2.8.7.1 of the Tariff Regulations, to consider this amount of Rs. 400617.82 lakhs allowable towards fuel and power purchase cost along with the Annual Performance Review for the year 2016 – 17.



## Annexure 3A

## Admissible Fuel Cost

Sl. No	Particulars	Unit	Budge Budge	Southern	Titagarh	Total
1.	Ex Bus Generation	MU	4974.377	370.837	210.479	5555.693
2.	Rate of Normative Auxiliary Consumption	%	9.00	9.00	9.00	
3.	Normative Auxiliary Consumption	MU	491.971	36.676	20.817	549.464
4.	Gross Generation to effect sales to consumers and WBSEDCL (1+ 3)	MU	5466.348	407.513	231.296	6105.157
5.	Normative Station Heat Rate	kCal/kWh	2470.00	2900.00	2910.00	
6.	Station Heat Rate Required (4 x 5)	M. Kcal	13501879.560	1181787.700	673071.360	15356738.620
7.	Specific Oil Consumption	ml/kWh	1.30	2.10	2.10	
8.	Normative Oil Consumption on generation (4 x 7)	KL	7106.252	855.777	485.722	8447.751
9.	Weighed Average Heat Value of Oil	kCal/Ltr	9612.00	9669.00	9624.00	
10.	Heat from Oil [8x9)/1000]	M. Kcal	68305.298	8274.511	4674.585	81254.394
11.	Heat from Coal (6-10)	M. Kcal	13433574.262	1173513.189	668396.775	15275484.226
12.	Weighed Average Heat Value of Coal	kCal/Kg	3,634.00	4,307.00	5,249.00	
13.	Coal required for consumption [(11/12) x 1000]	MT	3696635.735	272466.494	127337.926	4096440.155
14.	Coal required with transit loss	MT	3724570.010	274525.435	128300.178	4127395.623
15.	Weighted Average Price of Oil	Rs./KL	46,799.03	46,829.09	43,146.14	
16.	Weighted Average Price of Coal	Rs./MT	3,085.73	4,344.03	5,214.05	
17.	Cost of Oil (8 x 15)	Rs. in Lakh	3325.66	400.75	209.57	3935.980
18.	Cost of Coal (14 x 16)	Rs.in Lakh	114930.05	11925.46	6689.63	133545.140



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Sl. No	Particulars	Unit	Budge Budge	Southern	Titagarh	Total
19.	Admissible Cost of fuel (17 + 18)	Rs. in Lakh	118255.71	12326.21	6899.20	137481.120
20.	Average cost of Generation at Generation Bus (19 / 4)	Paise/kWh	216.33	302.47	298.28	225.19

Sales to persons other than own consumers and WBSEDCL is adjusted in power purchase cost, hence, not considered separately in fuel cost calculation as claimed by CESC Limited



**Annexure – 3B**  
**Computations of allowable fuel and power purchase cost**

Factor Notation	Nomenclature	Unit	Value
t	Norms of Transmission and Distribution loss considered for sale to licensee	%	14.30
D	Norms of distribution loss for sale to consumers	%	14.30
E <sub>O</sub>	Admitted energy for own consumption	MU	24.219
E <sub>SL</sub>	Energy sale to licensee (WBSEDCL)	MU	39.764
E <sub>SC</sub>	Energy sale to consumer	MU	9369.938
Fuel Cost	Fuel cost for generation on normative parameters (Refer Annexure – 3A)	Rs. in Lakh	137481.12
FC <sub>IUC</sub>	Per unit Fuel Cost at distribution input (Refer para A of Annexure – 3C)	Paise/Kwh	130.20
FC <sub>Adm_d</sub>	Admissible Fuel Cost for sale to licensee (Refer para B of Annexure – 3C)	Rs. in Lakh	604.12
FC <sub>Adm_C</sub>	Admissible Fuel Cost for sale to consumer (Para – C of Annexure 3C)	Rs. in Lakh	142721.03
FC	Allowable fuel cost (Refer para D of Annexure 3C)	Rs. in Lakh	143325.15
PPC	Power Purchase Cost (Refer Para 3.12)	Rs. in Lakh	255427.06



## Annexure – 3C

A. Fuel Cost per Unit (Kwh) at Distribution Input		Unit	Amount
(i)	Fuel Cost (As per Annexure – 3A)	Rs. in Lakh	137481.12
(ii)	Energy sent out from own generation (refer sl. No. 3 in Annexure-3A)	MU	5555.693
(iii)	Purchase (refer para 3.7)	MU	5003.578
(iv)	$FC_{IUC} [(i)/\{(ii)+(iii)\} \times 10]$	Paise/Kwh	130.20

B. Admissible Fuel Cost for Sale to Licensee		Unit	Amount
(i)	$\frac{E_{SL}}{(1 - t \times 0.01)} \times FC_{IUC} = \frac{39.764 \text{ MU} \times 10}{0.8570} \times \frac{130.20}{100}$	Rs. in Lakh	604.12

C. Admissible Fuel Cost for sale to Consumers		Unit	Amount
(i)	$\frac{E_{SC} + E_O}{(1 - d \times 0.01)} \times FC_{IUC} = \frac{(9369.938 + 24.219) \text{ MU} \times 10}{0.8570} \times \frac{130.20}{100}$	Rs. in Lakh	142721.03

D. Allowable Fuel Cost for Sale to Licensee and to Consumers		Unit	Amount
(i)	B + C	Rs. in Lakh	143325.15

E. Excess/Savings (in Auxiliary Consumption)						
Generating Station	Figures in MU					
	Energy sent out for Licensee and Consumers	Normative Rate of Auxiliary Consumption	Normative Auxiliary Consumption	Actual Rate of Auxiliary Consumption	Actual Auxiliary Consumption	Savings
Budge Budge	4974.377	9.00%	491.971	8.06%	436.083	55.888
Southern	370.837	9.00%	36.676	9.48%	38.837	0.000
Titagarh	210.479	9.00%	20.817	9.62%	22.403	0.000
<b>Total</b>	<b>5555.693</b>	<b>-</b>	<b>549.464</b>	<b>-</b>	<b>497.323</b>	<b>55.888</b>



Order on APR of CESC for the year 2016 – 2017

# Annexure 3D

Budge Budge Generating Station 2016-17

Grades	Grade wise coal consumption in (%) for the period April, 2016 to March, 2017 (A)	Min GCV (G1)	Max GCV of Band (X2)	Min GCV of Band (X1)	Max UHV of Band (Y2)	Min UHV of Band (Y1)	Mean UHV Interpolation $U = Y1 + (G1 - X1) / (X2 - X1) * (Y2 - Y1)$	Product = A X U
G3	0.01	6401	6454	6049	6200	5600	6121	61.21
G4	3.21	6101	6454	6049	6200	5600	5677	18223.29
G5	2.04	5801	6049	5597	5600	4940	5238	10685.27
G6	3.71	5501	5597	5089	4940	4200	4800	17808.58
G7	6.27	5201	5597	5089	4940	4200	4363	27356.95
G8	3.48	4901	5089	4324	4200	3360	3994	13897.62
G12	3.45	3701	3865	3113	2400	1300	2160	7452.37
G13	4.91	3401	3865	3113	2400	1300	1721	8451.47
WIII	2.06						4714	9710.84
WIV	30.46						3854	117392.84
Non CIL Indigenous	14.83						2699	40026.17
Non CIL Indigenous Washed	21.82						3294	71875.08
Imported	3.75						5447	20426.25
Weighted Average / Minimum Allowable Heat Value for the period								3634.00



Order on APR of CESC for the year 2016 – 2017

Titagarh Generating Station 2016-17

Grades	Grade wise coal consumption in (%) for the period April, 2016 to March, 2017 (A)	Min GCV (G1)	Max GCV of Band (X2)	Min GCV of Band (X1)	Max UHV of Band (Y2)	Min UHV of Band (Y1)	Mean UHV Interpolation $U = Y1 + (G1 - X1) / (X2 - X1) * (Y2 - Y1)$	Product $= A \times U$
G3	1.42	6401	6454	6049	6200	5600	6121	8692.50
G4	29.37	6101	6454	6049	6200	5600	5677	166734.58
G5	3.61	5801	6049	5597	5600	4940	5238	18908.73
G6	12.65	5501	5597	5089	4940	4200	4800	60721.99
G7	3.12	5201	5597	5089	4940	4200	4363	13613.03
G13	7.76	3401	3865	3113	2400	1300	1721	13357.11
WIII	0.05						4714	235.70
WIV	0.14						3854	539.56
Imported	41.88						5780	242066.40
Weighted Average / Minimum Allowable Heat Value for the period								5249.00



Order on APR of CESC for the year 2016 – 2017



Southern Generating  
Station

2016-17

Grades	Grade wise coal consumption in (%) for the period April, 2016 to March, 2017 (A)	Min GCV (G1)	Max GCV of Band (X2)	Min GCV of Band (X1)	Max UHV of Band (Y2)	Min UHV of Band (Y1)	Mean UHV Interpolation $U = Y1 + (G1 - X1) / (X2 - X1) * (Y2 - Y1)$	Product = A X U
G4	32.13	6101	6454	6049	6200	5600	5677	182403.20
G5	10.46	5801	6049	5597	5600	4940	5238	54788.18
G6	7.16	5501	5597	5089	4940	4200	4800	34369.13
G7	5.28	5201	5597	5089	4940	4200	4363	23037.43
G8	0.49	4901	5089	4324	4200	3360	3994	1956.85
G10	3.39	4301	4324	3865	3360	2400	3312	11227.33
G12	10.29	3701	3865	3113	2400	1300	2160	22227.49
G13	17.28	3401	3865	3113	2400	1300	1721	29743.66
WIV	2.23						3854	8594.42
Imported	11.29						5521	62332.09
Weighted Average / Minimum Allowable Heat Value for the period								4307.00



## Annexure 3E

## Computations of the share of savings in cost of coal on account of achieving better station heat rate

Sl No	Particulars	Unit	Budge Budge	Southern	Titagarh
1	Gross Generation	MU	5410.733	409.695	232.879
2	Oil consumed	KL	1349.44	913.96	423.69
3	Coal consumed	MT	3180064	327477	168737
4	HV of Oil	KCal/Ltr.	9612	9669	9624
5	HV of Coal	KCal/Kg	3634	4307	5249
6	Heat from Oil released	M. Kcal	12970.82	8837.08	4077.59
7	Heat from Coal released	M. KCal	11556352.58	1410443.44	885700.51
8	Total Heat	M. KCal	11569323.40	1419280.52	889778.10
9	Station Heat Rate	KCal/kWh	2138.22	3464.24	3820.77
10	Design Station Heat Rate (D)	Kcal/Kwh	2247	2707	2659
11	Gross Station Heat Rate considered for the year ( $SHR_n$ )	Kcal/Kwh	2470	2900	2910
12	Ratio of $SHR_n$ to D	-	1.099	1.071	1.094
13	Categorization of Generating Stations as per Regulations	-	B	B	B
14	$SHR/SHR_n$	-	Less than 0.96	greater than 1	greater than 1
15	Generation (Annexure – 3A)	MU	5466.348	407.513	231.296
16	Cost of Coal (Vide Annexure – 3A)	Rs in Lakh	114930.05	11925.46	6689.63
17	Proportionate actual use of coal in generation for supply to consumers and WBSEDCL (As per audit certification)	MT	3180064.19	327477.02	168737.13
18	Actual cost of Coal used for supply to consumers and WBSEDCL	Rs. in Lakh	98128.09	14225.70	8798.03
19	Savings in cost of Coal for achieving better Station Heat Rate (8-10)	Rs. in Lakh	16801.96	(2300.24)	(2108.40)
20	Share of Savings in cost attributable to consumers and WBSEDCL	%	14%	0%	0%
21	Share of Savings in cost attributable to consumers and WBSEDCL	Rs. in Lakh	2352.27	-	-



## Chapter 4

### FIXED CHARGES

4.1 In terms of regulation 2.5.5 of the tariff Regulations and Table 2.5.5-1, items of expenditure are categorised as uncontrollable / controllable. The amounts of actual expenses / charges under such different heads of accounts are, therefore, to be considered on prudence check for carrying out positive or negative adjustments, as the case may be. The review of each of such controllable and uncontrollable heads of fixed charges with reference to the amounts allowed through tariff and the actuals based on the audited accounts of CESC is being taken up hereunder one by one on the basis of principles laid down in Tariff Regulations / Tariff Order.

In its order dated 04.03.2015 in the tariff application of CESC for the years 2015-16, the Commission considered some specific principles of calculation for determination of some elements of fixed charge during projection of ARR. The basic premises of such principles of calculation were:

- (1) Wholesale Price Index (WPI) and Consumer Price Index (CPI),
- (2) Business volume change namely Distribution line length and number of consumers, and
- (3) Sensitivity of expenditure elements to business volume change

The actual figures of above premises for computation of elements of fixed charge computations are provided in Table 4.5-1 and Table 4.5-2.

4.2 The rationale behind the Commission's disposal of relevant item heads, after prudence check, is detailed in subsequent paragraphs.

#### 4.3 Water Charges & Coal and Ash Handling Charges:

Water charges and coal and ash handling charges being uncontrollable items of expenditure are allowed in proportion to actual generation, as furnished through Auditors' Certificate in Annex 14. Actual expenses have also been furnished through Auditors' Certificate in Annex 6. The details are in Table 4.3-1 and Table 4.3-2 respectively.

**Table 4.3-1 : Water Charges**

Rs. Lakh

Generating Station	Target Generation (MU)	Admitted in Tariff Order	Actual Generation (MU) related to actual sale to Consumer and WBSEDCL	Expenses proportionate to Actual generation related to actual sale to Consumer and WBSEDCL	Actual Expenses	Expenses admitted in APR in 2016-17
Budge Budge	5590	13	5405.405	12.57	6	6.00
Titagarh	1685	141	232.879	19.49	18	18.00
Southern	950	86	409.695	37.09	26	26.00
<b>Total</b>	<b>8225</b>	<b>240</b>	<b>6047.979</b>	<b>69.15</b>	<b>50</b>	<b>50.00</b>

**Table 4.3-2 : Coal and Ash Handling Charges**

Rs in Lakh

Generating Station	Target Generation (MU)	Admitted in Tariff Order	Actual Generation (MU) related to actual sale to Consumer and WBSEDCL	Expenses proportionate to Actual generation related to actual sale to Consumer and WBSEDCL	Actual Expenses	Expenses admitted in APR in 2016-17
Budge Budge	5590	619	5405.405	598.56	752	598.56
Titagarh	1685	987	232.879	136.41	92	92.00
Southern	950	10	409.695	4.31	95	4.31
<b>Total</b>	<b>8225</b>	<b>1616</b>	<b>6047.979</b>	<b>739.28</b>	<b>939</b>	<b>694.87</b>

**4.4 Operation and Maintenance Charges for Generation function :**

Operation and maintenance expenses for generation include any cost of consumables, legal and professional fees, audit fees, administration and general expenses, and repair & maintenance works. Expenses for Titagarh Generating Station have been admitted at 50% of normative amount, as claimed by CESC, considering its operational regime. Details of Generation O&M expenses is in Table 4.4-1.



**Table 4.4-1** : Generation O&M Expenses (as per Norms)

Generating Station	Amount (Rs Lakh)
Budge Budge	9840
Titagarh	1830
Southern	2097
<b>Total</b>	<b>13767</b>

#### 4.5 Determination methodology of permissible expenses sensitive to business volume parameters

:

4.5.1 In the multi-year tariff order of fourth control period for different years inclusive of 2016-17 the expenditures for different heads which are sensitive to business volume parameters had been projected by the Commission on the basis of trend of inflation as well as the business volume growth of the previous years vis-à-vis the expenditure projected by CESC. For this purpose, a hybrid index (HI) consisting of 60% and 40% weightage on WPI (Wholesale Price Index) and CPI (Consumer Price Index) respectively has been used by the Commission. Using such hybrid index Commission find out the principle of cost determination of different items in the following steps :

- When expense growth rate or CAGR of past period exceeds the concerned inflation rate of the said period in such case annual escalation rate for projected expenditure of any year due to business volume increase is computed from past trend of growth rate by reducing it with the concerned inflation rate of the relevant past period. Thus, the annual escalation rate for 2016-17 is as per following formula:

$$\text{Annual escalation rate (\%)} \text{ for any ensuing year} = A + R \times \text{BGR} + \text{Ad\_F}$$

Where

A = Inflation rate (%) based on CPI or WPI or HI as applicable for the fixed charge element.



R = Ratio of percentage annual increase in expenses in the past period and percentage increase in business volume parameter during the same period.

BGR = Projected growth rate (%) for ensuring year of the business volume parameter to which the fixed charge element under consideration is sensitive.

Ad\_F = Additional float in % as decided by commission to provide insulation against uncertainty in projected inflation or business volume growth.

- b) When expense growth rate or CAGR of past period is less than the concerned inflation rate of the said period in such case annual escalation rate trend of past simply used for future projection without considering any inflation rate.
- c) As per paragraph 8.10 of the MYT order in 2014-15 it has been mentioned that the value of R used in the MYT order will also be applicable in this APR order for 2016-17.

4.5.2 In this APR stage regarding expenses of those heads the Commission considers actual line length in Circuit Kilometre (CKM) of the network and Consumer strength as the business volume parameters on which expenses are sensitive and the actual inflation rate based on hybrid index (WPI+CPI) or WPI index or CPI index, as may be applicable, in line with principles of the tariff order for the fourth control period. In same line with the principles adopted in the tariff order sensitivity of different elements of fixed charges is also considered in this APR. The business volume parameter on which expenses are sensitive and inflation rate considered in the evaluation under Tariff order and APR are given in Table 4.5-1 below:

**Table 4.5-1**

Particulars	Tariff Order	Actual Value of 2016-17	Variation in %
Distribution Line Length in CKM	23587	21866	(7.30%)
Consumer strength in number	3207400	3115021	(2.88%)
WPI in %	6.62%	3.70%	(44.11%)
CPI in %	9.15%	4.15%	(54.64%)
Inflation in hybrid index [WPI : CPI (60 : 40)] in %	7.63%	3.88%	(49.15%)
Please see WPI and CPI detail in Annexure-4F			



4.5.3 The distribution line length and consumer strength in base year of 2013-14 under the MYT order and as per annual accounts of 2013-14 has been provided in the Table 4.5-2:

**Table 4.5-2**

Particulars	Unit	MYT Order	Annual Accounts
DLL	CKM	20480	20480
Consumers (CSM)	(Number)	2857000	2810197

Since the actual figure of distribution line length and consumer strength for 2013-14 as per annual accounts is less than the corresponding value (i.e. estimated value of 2013-14) considered in MYT order for 2013-14 thus no adjustment is required to be done for target business volume parameter for 2016-17 in line with paragraph 5.5.2.5 of MYT Order dated 04.03.2015.

Since there is no increase in the actual business volume parameter with respect to what has been estimated in the MYT order thus there is no necessity of revision of business volume parameters for 2016-17

4.5.4 The determination process of all the expense for controllable item of CESC distribution does not require any normative parameters. Thus, in such case if the actual expense of any item is less than the amount admitted for that item in tariff order then in such case actual expenses will be admitted in this APR order for that item in pursuance of the regulation 2.6.10(i) and 2.5.5(ii). Accordingly, for controllable items for 2016-17 the permissible expenses as admitted are shown in the following paragraphs:

**4.5.4.1 Repair and Maintenance (R&M) Charges for Distribution function :**

Following Regulation 2.6.8 of Tariff Regulations, as same principle adopted in tariff order is to be followed in determination of Annual Performance Review, Service & Entry Tax has been considered under rates and taxes. In APR application the actual expenditure shown by CESC is Rs. 19282 Lakh. In the tariff order the amount admitted is Rs 19338 Lakh. Against such admitted amount CESC claimed Rs 19282 lakh including Rs 813.02 lakh for security expense in the APR



petition for 2016-17. Security expenses not being a part of R&M is to be excluded from R&M expenses and is to be dealt with under the head Admirative and general expenses. As R&M expenses is controllable item without any role of any norms of operating parameter in computation of the permissible expenses and as the line length in 2013-14 has not increased and as the combine inflation index has not exceeded the projected combine inflation index for the related periods, thus the R&M expenses has been ceiling at, the actually claimed amount, i.e., of Rs 19282 lakhs. This claimed amount of Rs 19282 lakhs includes the security expenses of Rs 813.02 lakhs which is basically the part of A&G expenses . Thus, the admitted amount of R&M expenses is Rs 18468.98 lakhs (Rs 19282 lakhs – Rs 813.02 lakhs)

As R&M expenses for distribution is not normative parameter based item but controllable expenses, the actual expenses on R&M head for distribution is being admitted in this APR order as such expenses is less than the admitted amount on this head in MYT order of fourth control period. Details of R&M expenses for distribution and selling functions are furnished in Table 4.5-3, Table 4.5-4 and Table 4.5-5 considering principles mentioned in this order. R&M expenses include repairs & maintenance, consumption of stores & spares.

**Table 4.5-3: R&M Expenses (Distribution & Supply / Selling)**

Particulars	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Repairs & maintenance	19338	19282	18468.98
Total	19338	19282	18468.98

The above figures are allocated to Distribution and Selling functions as in Table 4.5-4 and 4.5-5 in proportion of claimed amount in Form E(b) of APR petition.

**Table 4.5-4: R&M Expenses (Distribution)**

Particulars	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Repairs& maintenance	18271	18218	17450.00
Total	18271	18218	17450.00



**Table 4.5-5: R&M Expenses (Supply / Selling)**

Particulars	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Repairs & maintenance	1067	1064	1018.98
Total	1067	1064	1018.98

**4.5.4.2 Administrative & General (A&G) Expenses for distribution function:**

A&G expenses has four major elements such as Rent, Legal Charges, Audit fees & expenses and Other Administrative & General Expenses. As per regulation the other administrative & General expenses together with rent, legal charges, audit fees & expenses are part of the A&G expenses and the variation of actual expenses corresponding to the admitted amount in tariff order is permissible to the extent allowed under regulation 2.5.5(iv) only.

The features of Administrative and General Expenses is a simple controllable item where no normative parameter is used. From the petition it has been seen that the actual A&G expenses incurred in 2016-17 is Rs 17289 lakhs on A&G head as per form E(b) of Volume 2. Considering the security expenses of Rs 813.02 Lakh under this A&G expenses head as mentioned in paragraph 3.4.4.1 the total expenses under this head comes to Rs 813.02 Lakh (Rs 17289 Lakh + Rs 813.02 Lakh). However, the approved amount as per Tariff Order being Rs. 14691 lakhs. But as A&G expenses is a controllable item but not based on normative parameter thus in pursuance of the regulation 2.6.10(i) and 2.5.5(ii), the permissible expenses under this APR cannot exceed the value of Rs 14691 lakhs. In fact, the Table 4.5-1 shows that the parameters of inflation and business volume parameters has already given advantage to the licensee. Thus, the admitted expenses under this APR for A&G expenses in 2016-17 is Rs 14691 lakhs.

Detail of expenses claimed in APR petition for four referred elements are given in Table 4.5-6. On scrutiny of the table it has been found that out of four elements, only in legal & professional head the expense has been reduced by Rs 416 lakhs whereas in other three elements expenses have



exceeded by Rs 794 lakhs. Thus, the re-distribution of excess expenses from all the three items to legal & professional head has not been shown separately by applying regulation 2.5.5(iv) of this Tariff Regulation which was required if the actual total expenses would have been less than Rs 14691 lakhs.

Thus, the admitted amount on A&G expenses for APR of 2016-17 is as per detailed out in Table 4.5-6, 4.5-7 and 4.5-8 considering principles discussed above.

**Table 4.5-6: A&G Expenses (Distribution & Supply / Selling)**

Particulars	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Legal & Professional Charges	809	393	393.00
Audit Fee	85	154	85.00
Other Administrative & General expenses	12905	13413 + 813.02	12905.00
Rent for distribution function	892	1109	892.00
Adjustment under regulation 2.5.5 (iv)			416.00
<b>Total</b>	<b>14691</b>	<b>15882</b>	<b>14691.00</b>
Rs 813.02 lakh of Security expenses is included in claim of Other A&G			

The above figures are allocated to Distribution and Selling functions as in Table 4.5-7 and 4.5-8 in proportion of claimed amount in APR petition.

**Table 4.5-7: A&G Expenses (Distribution)**

Particulars	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Legal & Professional Charges	627	305	627.00
Audit Fee	66	119	66.00
Other Administrative & General expenses	8514	8849	8514.00
Rent for distribution function	691	859	691.00
<b>Total</b>	<b>9897</b>	<b>10132</b>	<b>9898.00</b>

**Table 4.5-8: A&G Expenses (Supply / Selling)**

Particulars	Amount claimed in MYT Petition for 2016-17	Allowed in Tariff Order	Claimed in APR Petition	Now admitted in APR
Legal & Professional Charges	165	182	89	182.00
Audit Fee	26	19	35	19.00
Other Administrative & General expenses	4007	4391	4564	4391.00
Rent for distribution function	183	201	250	201.00
<b>Total</b>	<b>4381</b>	<b>4794</b>	<b>4937</b>	<b>4793.00</b>

**4.6 Other Operational expenses for generation**

Rent of Rs 35 lakhs for generation as provided in form E(B) of the petition, being uncontrollable, has been allowed at actuals in terms of regulations.

**4.7 Other Operational expenses:**

In respect of allowance of expenses such as, Rates & Taxes, Insurance, Lease Rental, Cost of outsourcing, the principle adopted in the Tariff Order has been followed and the admitted expenses are discussed in the following paragraphs based on submitted forms and Auditors' Certificate.

4.7.1 CESC has claimed an amount of Rs. 768 lakhs on account of Rates and Taxes in APR application for 2016 – 17 against approved amount of Rs 918 lakh in tariff order. As it is an expenditure which is statutory in nature, therefore the claimed amount of Rs. 768 lakhs has been admitted under this head. The segregation of such amount on different business functions has been done as proposed by CESC.

4.7.2 CESC has claimed an amount of Rs. 954 lakhs on account of Service Tax & entry Tax in APR application for 2016 – 17 against approved amount of Rs 1219 lakhs in tariff order. As it is an expenditure which is statutory in nature, therefore the claimed amount of Rs. 954 lakhs has been admitted at Rs. 920.92 lakhs under this head, which is the prorated amount based on the proportional admission of O&M expenses. The segregation of such amount on different business function has been done in proportion of the amount proposed by CESC. This admitted service tax is also booked as a part of Rates & Taxes. Accordingly, the admitted amount under Rates and Taxes is Rs 1689 lakhs (Rs 768 lakhs + Rs 921 lakhs).



4.7.3 CESC has claimed an amount of Rs. 798 lakhs on account of insurance in APR application for 2016 – 17 against approved amount of Rs 1058 lakhs in MYT order. CESC's claim of Rs. 798 lakhs, being lower than the approved amount in MYT order, is thus admitted for this APR order on CESC for 2016-17. The segregation of such amount on different business functions has been done as proposed by CESC.

4.7.4 CESC has claimed an amount of Rs. 1158 lakh on account of lease rental charges in APR application for 2016 – 17 against approved amount of Rs 1111 lakhs in tariff order. The principle adopted in the MYT order is applied for determination of the amount under this head. For admitting the value for lease rental the escalation rate is determined by using the formula of 4.5.1 comes to 3.70% ( $3.70\% + 0 \times 1.56\% + 0$ ) on the basis of actual inflation rate of 3.70% as per WPI index (the index on which such expenses is sensitive) as well as considering nil value for Ad\_F in terms of principles set out in paragraph 8.10 of the MYT order and value of Ad\_R in the tariff order. The value of BGR in this APR order is 1.56% on the basis of actual Line length of 21531 CKM for 2015-16 and 21866 CKM in 2016-17 against the value of 4.82% considered for BGR in tariff order. Considering the above growth on the value of expenditure on lease rental charges of Rs 1072 lakhs considered for 2015-16 in APR order, the lease rental charges for 2016-17 comes to Rs. 1111.66 lakhs. Thus, against CESC's claim of Rs 1158 lakhs, the admitted amount is Rs 1111.66 lakhs for this APR order on CESC for 2016-17. The segregation of such amount on different business functions has been done as proposed by CESC.

4.7.5 CESC has claimed an amount of Rs. 1229 lakhs on account of cost of Outsourcing in APR application for 2016 – 17 against approved amount of Rs 1007 lakhs in tariff order and Rs 891 Lakh approved in the APR order of 2015-16. The principle adopted in the MYT order is applied for determination of the amount under this head. For admitting the value under this head the escalation rate is determined by using the formula of 4.5.1 comes to 3.88% ( $3.88\% + 0 \times 1.56\% + 0$ ) on the basis of actual inflation rate of 3.88% as per combined / hybrid index (the index on which such expenses is sensitive) as well as considering nil value for Ad\_F in terms of principles set out in paragraph 8.10 of the MYT order and value of Ad\_R in the tariff order. The value of BGR in this APR order is 1.56% on the basis of actual Line length of 21531 CKM for 2015-16 and 21866 CKM in 2016-17 against the value of 4.82% considered for BGR in tariff order.



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Considering the above escalation rate on the value of expenditure on outsourcing of Rs 891 lakhs considered for 2015-16 in APR order, the lease rental charges for 2016-17 comes to Rs. 925.57 lakhs. Thus, against CESC's claim of Rs 1229 lakhs, the admitted amount is Rs. 925.57 lakhs for this APR order on CESC for 2016-17. The segregation of such amount on different business functions has been done as proposed by CESC.

4.7.6 Item wise expenses on the head of other operational expenses is being provided in Table 4.7-1

**Table 4.7-1 : Other Operational expenses linked to activity level and inflation**

Particulars	Units	Inflationary Basis	Sensitivity Parameter	Allowed in Tariff Order	2016-17 (Accounts & APR Petition)	2016-17 (Admitted)
Rates & Taxes	Rs Lakh	WPI+CPI	DLL	918	768	768.00
Service Tax & Entry Tax	Rs Lakh	WPI+CPI	DLL	1219	954	920.92
Insurance	Rs.Lakh	WPI+CPI	DLL	1058	798	798.00
Lease Rental	Rs Lakh	WPI	DLL	1111	1158	1111.66
Outsourcing expenses	Rs.Lakh	WPI+CPI	DLL	1007	1229	925.57

#### 4.8 Employee cost:

4.8.1 The own employee cost determined on the basis of annual accounts and submitted petition is as follows in Table 4.8-1:

**Table 4.8-1 – Own Manpower Cost**

Particulars	Amount (Rs. Lakh)
Own Employee cost claimed as per Note 36 of the audited statement of Profit and Loss account for the year ended 2016-17 (after allocation/ transfer to capital account of Rs. 14296 Lakh) and auditors' certificate	78068
Add : Remeasurement of defined benefit plan transferred to Other Comprehensive Income (This is an IndAS disclosure in respect of actuarial gain/loss forming part of	4973



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Particulars	Amount (Rs. Lakh)
actuarial valuation which was earlier included in Employee cost, but required to be separately disclosed pursuant to the IndAS Accounting Standard, details provided in communication no. ED(F): 74625 dated 29 September 2021)	
Less : Shared cost relating to non-licensed business as per Petition (also provided in communication no. ED(F): 74625 dated 29 September 2021)	411
Less : IND AS adjustment of employee loan (Notional assessment as per INDAS, details provided in communication no. ED(F): 74625 dated 29 September 2021)	36
CESC own employee cost in this APR petition	<b>82594</b>

4.8.2 As per Form E(B) the claimed amount by CESC is 82594 lakhs as follows:

Sl. No	Particulars	Amount (Rs lakh)
A	<b>Generation Function</b>	
	Budge Budge	6069
	Titagarh	6389
	Southern	4605
	<b>Sub Total of Generation function (A)</b>	<b>17063</b>
B	Distribution Function	48783
C	Supply / Selling Function	16749
D	<b>Sub total of Distribution function (B + C)</b>	<b>65531</b>
D	<b>Total (A+B+C+D)</b>	<b>82594</b>

Accordingly, the amount admitted for APR of CESC for the year 2016-17 is Rs 82594 lakhs and has been segregated between generation and distribution function as proposed in the E(B) form.

Table 4.8-2

Item heads	Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016- 2017	As admitted in APR 2016- 17
Generation Employee Cost (Rs. lakh)	14442	17063	17063.00
Distribution Employee Cost (Rs. lakh)	64040	65531	65531.00

4.8.3 In Tariff Order for 2016 - 2017, 75% of the amount projected for contractual manpower cost amounting to Rs 3771 lakh in regular establishment of generation was admitted. In APR petition of



2016 -17, CESC Limited has claimed Rs 4797 lakh for such costs in Form E(b) but they did not furnish any such claim in the Form 1.17(h). In terms regulation 5.9.1 of the Tariff Regulations employee cost of own and contracted manpower in regular establishment shall be shown separately. As per regulation 5.9.6, the licensee or generating company shall provide the information under regulation 5.9.3 and 5.9.4 for regular employees and contracted manpower in regular establishment separately. But during the scrutiny of APR petition, this is noticed that the contractual manpower cost is a part of repair & maintenance cost as per submitted auditor's certificate in Annexure 6 of Volume 3 of APR Petition.

However, in subsequent submission through affidavit dated 10.05.2022, CESC Limited has furnished the cost and number of contractual manpower at regular establishment for each generating station as per the required format of Tariff Regulations which is summarized as below:

Generating Station	Cost of Contractual employee (Rs Lakh)	Number of Contractual employees (No)	per capita cost of Contractual employee (Rs Lakh)	Normative Man/MW	Normative Manpower (No.)	Number of Own Employee (No.)	Allowable number of Contractual Employee (No)
(1)	(2)	(3)	(4)=(2)/(3)	(5)	(6)	(7)	(8)=(6)-(7)
Budge Budge	4367	799	5.47	1.58	1185	695	490
Titagarh	916	137	6.69	3.65	876	519	357
Southern	932	297	3.14	3.5	473	440	33

The Commission further noticed that Allowable number of Contractual Employee of a generating station was multiplied by per capita own employee cost to arrive at the claim amount in Form E(b) for Budge Budge and Southern. For Titagarh generating station, respective per capita own employee cost is multiplied by 25% of allowable number of contractual employees.

Therefore, the Commission finds it prudent to admit cost under this head as shown below:



Generating Station	Cost of Contractual employee (Rs Lakh)	Number of Contractual employees	per capita cost of Contractual employee (Rs Lakh)	Normative Man/MW	Normative Manpower (No.)	Number of Own Employee (No)	Allowable number of Contractual Employee (No)	Allowable cost of Contractual Employee (Rs lakh)
(1)	(2)	(3)	(4)=(2)/(3)	(5)	(6)	(7)	(8)=(6)-(7)	(9)=(8)x(4)
Budge Budge	4367	799	5.47	1.58	1185	695	490	<b>2678.14</b>
Titagarh	916	137	6.69	3.65	876	519	357	<b>916</b>
Southern	932	297	3.14	3.5	473	440	33	<b>103.56</b>

Thus, the cost of Contractual manpower cost in regular generation establishment is admitted as summarized in Table below

**Table 4.8-3 – Contractual manpower cost in regular generation establishment**

Generating Station	Amount admitted in Tariff Order	Amount claimed in APR 2016-17	As admitted in APR 2016-17
Budge Budge	2557	3401	2678
Titagarh	1154	863	863
Southern	60	533	104
<b>Total</b>	<b>3771</b>	<b>4797</b>	<b>3645</b>

## 4.9 Corporate Social Responsibility (CSR)

4.9.4 The claim of Rs. 1747 lakhs as furnished in Form 1.17 towards Corporate Social Responsibility has not been allowed since the same is an allocation of profit and a statutory obligation.

## 4.10 Borrowing cost

4.10.1 From the submitted Form-C the interest on capital borrowings that have been allowed after prudence check of loan details furnished in Form – C as shown in Table 4.10-1 :

**Table 4.10-1 : Interest Expenses**

Sl No	Particulars	Amount (Rs. Lakh)
1	Interest (audited annual accounts – Note 37)	45746
2	Less : Amount capitalized (Form C of petition)	1392
3	Total Amount of interest allowable as above (1-2)	44354
4	Less : Total amount of actual interest on short term loan paid on revenue account under temporary accommodation (Form C of petition)	15375
5	Total Amount of Interest towards capital borrowing	28979

4.10.2 The interest claimed on different heads in Form – C are shown in Table 4.10-2 :

**Table 4.10-2 : Interest claimed**

Sl. No.	Particulars	Amount (Rs. Lakh)
A. Interest on Capital Borrowings		
1	Gross amount of interest on capital Borrowings (vide detailed computations submitted in Form - C)	30372
2	Less : Amount capitalised (Form - C)	1392
	<b>Total amount of interest claimed towards capital borrowings (1-2)</b>	28979
<b>B. Interest claimed on normative borrowings in terms of Tariff Regulations [Form 1.20(b)]</b>		476
<b>C. Interest on Working Capital [Form 1.17(b)]</b>		6866
<b>D. Interest on temporary accommodation [Form 1.17(a)]</b>		28101
<b>Total (A+B+C+D)</b>		64423

4.10.3 The computation for admitted amount of interest on normative loan has been determined as per Table 4.10-3 below :

**Table 4.10-3 : Calculation of normative debt**

Particulars	Derivative	Amount (Rs. Lakh)
Opening balance before adjustment of normative debt	A1	14008.40



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Particulars	Derivative	Amount (Rs. Lakh)
Less : Cumulative Repayment of Normative Debt upto previous year	A2	5088.77
Opening balance of net normative debt	$a = A1 - A2$	8919.63
Actual addition to debt this year	b	45000.00
Addition to the fixed asset during the year	c	60888.00
Normative addition to debt @70% of c above	$d = c \times 0.7$	42621.49
Addition to debt for the year to be considered to APR	e = higher of b and d	45000.00
Additional gross normative debt for the year	$F1 = e - b$	-
Repayment of normative debt during the year on actual	F2	891.96
Net additional gross normative debt during the year	$G = F1 - F2$	-891.96
Closing balance of net normative debt	$h = a + g$	8027.67
Average balance of Normative Debt	$i = (a+h)/2$	8473.65
Weighted average rate of interest paid on term loan during the year	j	10.06%
Interest on normative debt allowed in APR for 2016-2017	$k = j \times i$	852.45
Closing Balance of Gross Normative Debt	$B1 = A1 + F1$	14008.40
Cumulative Repayment of Normative Debt upto the end of the year	$B2 = A2 + F2$	5980.73

CESC has claimed interest on normative debt for Rs 476 lakh in form 1.20b of APR-2016-17 petition as mentioned at SI B of Table 4.10-1 above. Commission accordingly admits a sum of Rs 476 lakh as interest on normative debt in APR-2016-17 being the minimum of admissible amount of Rs 852 lakh computed above at Table 4.10-3 and Rs 476 lakh as claimed by CESC Ltd.

4.10.4 Computation of interest on admissible Working Capital has been shown under Table 4.10.4 below.

**Table 4.10-4:** Calculation of normative interest on Working Capital

SI No	Particulars	Amount Rs. Lakhs
A1	Gross Fixed Cost	287923.52
A2	Fuel and Power Purchase Cost	400617.82
A	Annual fixed Cost, fuel cost and power purchase (A1 + A2)	688541.33
B1	Less : Depreciation including Advance Depreciation	51698.99
B2	Less : Deferred Revenue Expenditure	0.00
B3	Less : Return on Equity including Performance Incentive etc.	58166.92



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SI No	Particulars	Amount Rs. Lakhs
B4	Less : Bad Debt	3293.00
B5	Less : Reserve for unforeseen exigencies	0.00
B	Total Deductions : (sum B1:B5)	113158.91
C.	Allowable Gross Sales for Working Capital	575382.42
D.	Allowable Working Capital @ 10% on C (A - B)	<b>57538.24</b>

The Commission has viewed the requirement of working capital as per provision of regulations 5.6.5.1 and 5.6.5.2 of the Tariff Regulations as Rs 57538.24 lakh. Considering the security amount held by CESC being Rs. 169928 lakh, there was no further need of working capital by CESC during the year 2016 – 2017. Thus, no interest on working capital is being admitted in the APR for 2016 – 2017.

- 4.10.5 Interest on temporary accommodation as claimed by CESC in Form 1.17 (a) is Rs 28101 lakhs @ SBI PLR of 10.81% on unrealised arrears from sale of power arising out of Commission Orders, claim for recoverable amount out of sale of power for the year 2016-17 considering actual expenditure prior to truing up exercise by the Commission along with requirement of fund for statutory additional levy incurred by CESC Ltd up to the year 2013-14 as submitted at page 42 of their petition in Volume 2. CESC Ltd submitted one petition before the Commission for allowing Rs 89673 lakh incurred by them as an additional levy on coal which was admitted by the Commission in case No OA-211/15-16. CESC Ltd revised their claim for interest on temporary accommodation as per submission dated 10.05.2022 to Rs 16921 lakh updated with admitted recoverable amount of APR 2013-14. Commission has since rejected claim of additional levy on coal vide Order dated 30.07.2022 in Case No. OA-211/15-16. Accordingly, such claim is not considered for the purpose of computation of interest on temporary accommodation. CESC has shown detailed computation of Interest on Temporary Accommodation for Rs 16921 lakh as claimed @10.81% on Average balance of Rs 156532 lakh. Requirement of fund has arisen out of different tariff orders and APR Orders of the Commission which remained unrealised in 2016-17. As per regulation 5.6.5.4 of WBERC Tariff Regulations, 2011 interest on temporary accommodation becomes due on unrealised arrears from the consumers / beneficiaries. The claim of CESC Limited for temporary



accommodation includes recoverable amounts for the period 2013-14 to 2016-17. Accordingly, interest on temporary accommodation has been computed following Regulation 5.6.5.4 considering admitted recoverable amounts and refundable amounts in respective APR orders for the years 2010 – 2011, 2011 – 2012, 2012 – 2013, 2013 – 2014, 2014 – 2015, 2015 - 2016 and recovery directions of such recoverable amounts in Tariff Order for the years 2014 – 2015 to 2016-2017 besides adjustment of recoverable amount in APR 2016-17. Considering the weighted average interest of temporary accommodation at 9.68 %, the admissible interest on temporary accommodation works out to Rs. 2499.36 lakh. As evidenced from Form C read with additional submission dt 10.05.2022 the borrowing cost incurred to meet various short-term requirements is Rs. 15375 Lakh. Thus Rs 2499.36 lakhs being lower than the claim is admitted in APR 2016-17 for interest on temporary accommodation.

**Table 4.10.5** : Calculation of normative interest on Temporary Accommodation

Sl. No.	Particulars	Rs. Lakhs
<b>A</b>	<b>Opening balance on 1.4.2016</b>	<b>21269.85</b>
<b>B</b>	Addition during the year	
i	Recoverable as per Tariff Order 2016-17	6311.00
ii	Recoverable as per APR Order 2016-17	11326.94
	<b>Total Recoverable</b>	<b>17637.94</b>
<b>C</b>	<b>Adjustment for 2016-17</b>	
i	Adjustment for recovery related to APR 2012-13	4573.00
ii	Adjustment for recovery related to Tariff Order 2016-17	3965.00
	<b>Total Adjustments (i + ii)</b>	<b>8538.00</b>
<b>D</b>	<b>Closing Balance of Regulatory Assets as on 31.3.2017 (A+B-C)</b>	<b>30369.79</b>
<b>E</b>	<b>Average Balance of Regulatory Assets in 2015-16 requiring temporary accommodation (A+D) / 2</b>	<b>25819.82</b>
<b>F</b>	Rate of interest in 2016-17	9.68%
<b>G</b>	Interest on Temporary Accommodation (E x F)	<b>2499.36</b>

4.10.6 Based on above discussions different components of borrowing cost are as per the following table.

**Table 4.10-6** : Approved borrowing costs

Particulars	Amount (Rs. Lakh)
Amount of Interest towards capital expenditure	28979.00
Interest on normative debt	476.00



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Particulars	Amount (Rs. Lakh)
Interest cost on capital borrowing	29455.00
Interest cost on working capital	-
Interest on Temporary Accommodation	2499.36

#### **4.11 Interest on Consumers' Security Deposits**

The total amount of interest paid to the consumers on their security deposits was found to be Rs. 10989 lakh as against an amount of Rs. 9882 lakh allowed in the tariff order for the concerned year. The total amount of such security deposit at the beginning of the year was Rs. 155446 lakh and at the end of the year was Rs. 167764 lakh as per balance sheet ended 31 March, 2017.

CESC Limited submitted a certificate from their auditors at Annex 16 of Volume 3 of the petition. As per that certificate an amount of Rs.10989 lakh has been settled during the year 2016- 2017 in the following manner:

(a) Credit to consumers' account	Rs. 7437 lakh
(b) Addition to security deposit of Existing consumer	Rs. 3087 lakh
(c) Payment of Tax as per I. T. Act 1961	Rs. 465 lakh
Total	Rs. 10989 lakh

The Commission admits an amount of Rs. 10989 lakh in the APR 2016 - 2017 under this head of expense under with allocation to distribution function only.

#### **4.12 Other Finance Charges**

Other Finance charges of Rs. 1196 lakhs based on auditors' certificate under Annex 11 of Volume 3 of the petition are allowed on actual basis and distributed among different functions as per form E(B) of the APR Petition.



#### 4.13 Bad Debt

Amount actually written off as per Auditors' Certificate amounting to 3293.00 lakh has been found to be within the limit of 0.5% as provided in the regulations, of the earning from the sale of electricity of Rs 692493 lakh in Form 1.25, Annexure 1 of the APR petition. Hence, an amount of Rs. 3293.00 lakh is admitted as per limit specified in the Regulations.

#### 4.14 Depreciation & Amortisation charges

The total amount of depreciation as charged in the books of accounts was Rs. 40883 lakh including an amount of Rs. 750 lakh being the depreciation against trademark which is to be excluded. An amount of Rs. 305 lakh out of the total depreciation is on assets created by utilizing the proceeds from sale of old assets and has not been claimed in terms of regulation 5.15.1(iv). Amounts of Rs. 31 laks, Rs. 649 lakh and Rs. 14 lakh pertain to adjustment due to Ind-AS, depreciation of coal mine and depreciation on inoperative assets. The chargeable amount of depreciation for determination of tariff, therefore, comes to Rs. 39133 lakh (Rs. 40883 lakh - Rs. 750 lakh - Rs. 305 lakh – Rs.31 lakh – Rs. 649 lakh – Rs. 14 lakh) as against an amount of Rs. 38063 lakh allowed in the tariff. Details furnished in communication no. ED(F): 74625 dated 29 September 2021.

As the capitalization programme vis-a-vis amount of depreciation cannot be precisely determined at tariff order stage, the Commission, thus, stipulated in the tariff order that the amount of depreciation found chargeable as per audited books of accounts, shall be considered for carrying out necessary adjustment in APR for the concerned year.

Thus, in terms of the Tariff Regulations, the Commission admits the amount of Rs. 39133 lakh towards depreciation in the APR for the year 2016 - 2017. The cost center-wise breakups of the amount admitted are as follows:

Particulars	Amount (Rs. in Lakh)
(A) Generation function	
Budge Budge	9318.02
Titagarh	598.92



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Particulars	Amount (Rs. in Lakh)
Southern	312.75
<b>Total (A)</b>	<b>10229.69</b>
<b>(B) Distribution Function</b>	25789.51
<b>(C) Supply / Selling Function</b>	3114.18
<b>Total (A+B+C)</b>	<b>39133.38</b>

Depreciation and amortisation charges have been allowed on the basis of assets capitalised and are detailed in Table 4.14-1 and Table 4.14-2

**Table 4.14-1** : Depreciation expenses

Particulars	Amount (Rs. Lakh)
Depreciation as per accounts (P&L Accounts)	40883
Less : amount for Trademark (Note 6 of Annual Accounts)	750
Less: depreciation on assets created by utilising proceeds from one-time sale of old assets (Form B of Petition)	305
Less: Ind-AS adjustment (provided in communication no. ED(F): 74625 dated 29 September 2021)	31
Less: Depreciation on coal mine (provided in communication no. ED(F): 74625 dated 29 September 2021)	649
Less : Depreciation on inoperative assets (provided in communication no. ED(F): 74625 dated 29 September 2021)	14
Chargeable amount of depreciation	39133

**Table 4.14-2** : Advance Against Depreciation

Sl No.	Particulars	Amount (Rs. Lakh)
(a)	Repayment of Loan (Form C of petition)	51699.00
(b)	1/10 <sup>th</sup> of original loan amount (Form C of petition)	54818.60
(c)	Maximum permissible amount of loan repayment restricted to 1/10th of original loan amount	51699.00
(d)	Depreciation admitted in APR for 2016 – 17 before deduction of Coal Mining Rights	39133.38
(e)	Allowable Advance against depreciation (c-d)	12565.62

**4.15 Return on Equity**

4.15.1 Return on equity is detailed in Table 4.15-1, Table 4.15-2, Table 4.15-3, Table 4.15-4 and Table 4.15-5.

**Table 4.15-1** : Actual Addition to Equity during 2016 - 17 has been arrived as below :

Sl No	Particulars	Amount (Rs. Lakh)
1	Profit for the year (P&L Account)	82375
2	Write off of Misc. Expenditure (Annex 6 of Vol 3 of Petition)	-
3	One time sale amount of assets invested in creation of new asset in terms of regulation 5.15.1(iv) (Form 1.20(a) of petition)	1207
4	Total (1+2+3)	83582
	Less :	
5	Dividend including tax paid (Para (g) of Note 4 of Annual Accounts)	15955
6	Unforeseen Exigencies Reserve (Annex 13 of Vol 3 of petition)	1616
7	Impact of Capital Contribution from Consumers and other adjustments (explanation provided in communication no. ED(F): 74625 dated 29 September 2021)	9204
8	<b>Total (5+6+7)</b>	<b>26775</b>
9	<b>Actual addition to equity base during 2016-17 (4-8)</b>	<b>56806</b>

4.15.2 In terms of Form 1.18 of APR read with Notes 4, 5 & 6 of audited financial statements for 2016-17 the net addition of fixed cost is as per Table 4.15-2

**Table 4.15-2** : Addition to original cost of fixed asset

Particulars	Amount (Rs. Lakh)
Addition to fixed assets	71145
Less : Normal Retirement of Assets (Form 1.18)	8087
Less : Cost of inoperative asset (Form 1.18)	2170
Net addition to fixed asset	60888



- 4.15.3 In terms of regulation 5.15.1 (iv) of the Tariff Regulations, CESC Limited invested proceeds of one time sale of asset to the tune of Rs. 1207 lakh in creation of new assets in the electricity business of the company for which no depreciation has been claimed. This amount of Rs. 1207 lakh is included in actual addition to equity base of Rs. 56806 lakh for 2016-2017 and addition to fixed assets of Rs. 60888 lakh. Return on such equity shall be admissible to the CESC Limited.
- 4.15.4 Equity base for allowing returns to the licensees at the specified rate is an uncontrollable factor in terms of the Tariff Regulations. In tariff order dated 04.03.2015, CESC Limited was allowed return on the projected average equity base of Rs. 362981 lakh comprising generation function and distribution function @ 15.5% and 16.5% respectively and that came to Rs. 19057 lakh for generation function and Rs. 39606 lakh for distribution function aggregating to Rs. 58663 lakh. The average equity base for the purpose of computation of return on equity during the year 2016 - 2017 came to Rs. 359988 lakh as per the computation shown hereunder.
- 4.15.5 In terms of Form 1.18 of APR read with Notes 4, 5, 6 & 21 of audited financial statements for 2016-2017 the net addition of fixed cost and admissible equity base is as per Table 4.15-3 below.

**Table 4.15-3 : Admissible Equity Base for 2016 - 17**

Sl No.	Particulars	Amount (Rs. Lakh)
1	Actual equity base at the beginning of the year	557254
2	Admissible equity base at the beginning of the year 2016 – 17	350432
3	Actual addition to equity base during the year (refer to para 4.15.1)	56806
4	Actual equity base at the end of the year (1+3)	614060
5	Net addition to original cost of fixed asset (refer to para 4.15.3)	60888
6	Less : Asset created in terms of regulation 5.15.1(iv) of the Tariff Regulations	1207
7	Net addition to the original cost of fixed assets during the year other than the assets created in terms of regulation 5.15.1(iv) of the Tariff Regulations (5-6)	59681
8	Normative addition to equity base (30% of 7)	17904



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Sl No.	Particulars	Amount (Rs. Lakh)
9	Addition to equity base considered for the year (lower of 3 and 8)	17904
10	Add : Asset created in terms of regulation 5.15.1(iv) of the Tariff Regulations	1207
11	Addition to equity base during the year for the purpose of computation of return as per Tariff Regulations (9+10)	19111
12	Admissible equity base at the closing of the year 2016 - 17 (2+11)	369543
13	Average admissible equity base for allowing returns [(2+12)/2]	359988

4.15.6 In terms of regulation 5.6.1.1 return on equity for generating company and transmission licensee shall be computed on the equity capital at the applicable rate provided by Central Electricity Regulatory Commission and in terms of regulation 5. 6.1.2, the said rate will be one percent higher and will be related to distribution assets only. In terms of Central Electricity Regulatory Commission (Term and Conditions of Tariff) Regulations, 2009, the rate of return on equity for generation and transmission activity is 15.5%.

4.15.7 Allocation of equity base between generation function and distribution function based on the ratio of gross cost of fixed asset at the beginning of the year and addition during the year:

**Table 4.15-4:** Functional Allocation of Equity Base

Particulars	Opening equity base of 2016-17	Addition to equity base during 2016-17	Closing equity base of 2016-17	Average equity base of 2016-17	Return on equity (in percent)	Return admitted in APR for 2016-17
Generation	122144.03	1893	124037	123090.54	15.50	19079.03
Distribution	214516.06	16307	230824	222669.80	16.50	36740.52
Supply / Selling	13771.08	911	14682	14226.48	16.50	2347.37
<b>Total</b>	<b>350431.17</b>	<b>19111</b>	<b>369543</b>	<b>359986.82</b>		<b>58166.92</b>



- 4.15.8 Equity base specifically attributable to a function has been shown under such function. Centrally maintained capitalised expenses have been allocated to Generation and Distribution function on basis of respective capitalisation.

**Table 4.15-5 :** Function-wise allocation of the amount of return admitted in APR for 2016 - 17

Particulars	As admitted in APR for 2016-17 Rs in Lakh
<b>(A) Generation function</b>	
Budge Budge	16307.97
Titagarh	1478.52
Southern	1292.54
<b>Total (A)</b>	<b>19079.03</b>
<b>(B) Distribution Function</b>	36740.52
<b>(C) Supply / Selling Function</b>	2347.37
<b>Total (A+B)</b>	<b>58166.92</b>

Return on Equity has been computed on the basis of equity base furnished in Table 4.15-4 above.

#### 4.16 Appropriation to Reserve for Unforeseen Exigencies

As per MYT Order dated 04.03.15, no amount was allowed to CESC Limited under the head Reserve for Unforeseen Exigencies. The actual amount of such reserve created by CESC Limited at the same rate on the actual gross block of fixed assets as on 1 April, 2016 was Rs. 21208 lakh and amount appropriated towards interest during 2016 - 2017 is Rs. 1616 lakh. The amount of such reserve had separately been invested along with the amount of Rs. 1616 lakh of interest accrued to such investments in accordance with the relevant regulation of the Tariff Regulations of this Commission. As per audited accounts of 2016 - 2017, CESC Limited has a closing balance of Rs. 22824 lakh (Rs. 21208 lakh + Rs. 1616 lakh) in this fund. CESC Limited submitted the necessary audit certificates in Annex 13 of Volume 3 of this petition in this regard.



No such appropriation has been allowed in the tariff order and made except accrued interest in terms of regulations and no amount is therefore due on account of the same. Explanation has also been duly provided in communication no. ED(F): 74625 dated 29 September 2021.

#### 4.17 Tax on Income

The Company has duly furnished Assessment Order for the relevant year before the Commission. Necessary Auditors' Certificate has been furnished by the company for the amount of tax paid for the assessment year 2016 – 17 and is allowed with functional allocation on the basis of respective functional admitted return of equity and furnished in Annexures 4A to 4E. According to clarification through mail dated 24.02.20, CESC has challenged additional claims of Income Tax before competent authorities. CESC has also mentioned that marginal adjustments of tax (if any) may be claimed through APR in the years of settlement. CESC's such claim is for 2013-14. Moreover, according to CESC, no income tax pertaining to any earlier period has been claimed in the APR for the year 2016-17. Thus, Commission decides to admit the claimed amount of Rs 19191.97 lakhs as Income tax payment by CESC in APR of 2016-17. Any additional claim from the IT authority due to challenge of the assessment order, as may be prayed by the Company, shall be allowed in the year of settlement subject to prudence check. Relevant income tax assessment orders are also furnished through communication no. ED(F): 74625 dated 29 September 2021.

#### 4.18 Permitted Incentive

Generation at Budge Budge generating stations was higher than normative generation. Further, performance of this station in terms of specific oil consumptions as well as gross station heat rates are found to be better than norms. As per regulation 6.4.2, for generating stations of licensee, for performance beyond the targeted availability factor it will be entitled to incentive based on actual PLF as per Paragraph - 1 of Schedule - 10 only.

CESC Limited has submitted Plant availability factor (PAF) in the data-format for all the generating but no certificate from SLDC have been provided along with their APR petition. In a separate



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proceeding in Case no B-36/ABT/9 on the issue of installation of ABT meter and DC certification of all the embedded generating stations of CESC by SLDC, CESC Limited has submitted through affidavit that the On-line monitoring display arrangement of generation and sent-out figures as well as dedicated voice communication from CESC Control room and WBSLDC Control room are in place since 2009. The on-line SCADA data records are also available since 01.04.2014 with CESC. It is also submitted by CESC Limited that the Availability Schedule and Injection Schedule on day-ahead basis is being provided regularly by CESC to SLDC in prescribed format of SLDC since 2009. Revision of Schedules on real time are also sent by CESC to SLDC. Initial Schedules are being uploaded on CESC website since 01.04.2014. Commission while dealing the issue in the above case vide order dated 30.07.2022 in case No B-36/ABT/9, has observed that communication and on-line monitoring are in place. Commission has also observed that CESC was never asked for demonstration of availability by SLDC. Commission has thereafter observed in such order that availability submitted by CESC needs to be considered in absence of specific direction for demonstration..

In view of the above decision taken in Case No.B-36/ABT/9 dated 30.07.2022, the Commission now decides to consider the availability for the year 2016-17 for Budge Budge, Southern and Titagarh Generating Station as submitted by CESC in form 1.1 of the APR petition.

The normative PLF, Normative PAF and Declared PLF of generating stations of the licensee is tabulated below from submission of CESC Limited.

SL No	Factors	Unit	Budge Budge	Titagarh	Southern
1	Sent out generation	MU	4974.377	210.479	370.837
2	Normative sent out generation	MU	4782.960	1530.547	860.933
3	PAF Declaired	%	<b>85.2</b>	<b>98.40</b>	<b>96.90</b>
4	Normative PLF	%	80	80	80
5	Normative PAF	%	<b>85</b>	<b>85</b>	<b>85</b>

Incentives become payable only to Budge Budge generating station of CESC Limited on account of generation being higher than annual norms as well as better performance for specific oil



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consumption and gross heat rate better as per regulation 6.14.1 and Schedule-10 of the Tariff Regulations. The consequent incentives have been worked out as under:

**Table 4.18-1 : Incentive for generation higher than Norm**

SL No	Factors	Unit	Budge Budge
1	Sent out generation	MU	4974.377
2	Normative sent out generation	MU	4782.960
3	Additional units (1-2)	MU	191.417
4	Units sold along with permissible losses to persons other than consumers and WBSEDCL (Form 1.24) [\$]	MU	0.000
5	Additional units net off above (3-4)	MU	191.417
6	PLF achieved	%	82.36
7	Normative PLF	%	80.00
8	Additional PLF (6-7)	%	2.36
9	Applicable category		B
10	Applicable rate	Paise/kwh	22
11	Amount eligible (5x10)/10	Rs. In Lakh	<b>421.12</b>
[\$] Sale to others is adjusted in Power Purchase Cost, hence, not considered here			

**Table 4.18-2 : Incentive for Oil consumption better than norms**

SL No	Factors	Unit	Budge Budge
1	Gross Generation for sales to consumers & WBSEDCL	MU	5466.348
2	Oil rate saved	MI/kwh	1.05
3	Applicable Rate of incentive	Paise/kwh	0.40
4	Eligible Amount [(1) x (3) / 10]	Rs. In Lakh	218.65

**Table 4.18-3** : Incentive for better gross station heat rate than norms

SL No	Factors	Unit	Budge Budge
1	Gross Generation for sales to consumers & WBSEDCL	MU	5466.348
2	Applicable Rate of incentive	Paise/kwh	0.50
3	Eligible Amount [(1) x (2) /10]	Rs. In Lakh	273.32

**Table 4.18-4** : Incentive for better gross station heat rate than norms

SI No	Factors	Budge Budge	Total
1	Incentive for higher generation than norms	421.12	421.12
2	Incentive for better oil rate	218.65	218.65
3	Incentive for better heat rate	273.32	273.32
	<b>Total</b>	<b>913.09</b>	<b>913.09</b>

**4.19 Net UI charges paid**

CESC Limited paid an amount of Rs. 1298 lakh [Form E(B) ] during the year on account of unscheduled interchange charges (UI). In terms of regulation 5.17.2 of the Tariff Regulations, net payable UI charges shall be considered as an expenditure and shall be limited to 5% of the total power purchase cost.

The claim on this account of Rs 1298 Lakh is well within the permissible limit of 5% of power purchase cost of Rs 256235.29 lakh as mentioned in paragraph 3.15.1.

**4.20 Written off of intangible assets**

No amount in claimed under this head by CESC Limited in the APR application.



#### 4.21 Income from non-tariff sources

As per note 33 and 34 of audited annual reports and accounts read with submissions in Form 1.26 to Annex 1, such income from non-tariff sources is Rs 28714 lakh for 2016-17 as detailed in Table 4.21-1.

**Table 4.21-1: Non-Tariff Income break-up**

SL No.	Particulars	Amount (Rs. Lakh)
1	Rental of meters and other apparatus hired out	4874.00
2	Sale and repair of lamps etc.	224.00
3	Transfer service connection fees	-
4	Income from investments and bank balance	-
5	Surcharge for late payments	1642.00
6	Other General receipts arising from and ancillary or incidental to the business of electricity	8953.00
7	Consumer contribution	13021.00
8	<b>Net income from non-tariff sources</b>	<b>28714.00</b>

Rental of meters and other apparatus hired out, sale and repair of lamps etc., and surcharge for late payments (items 1, 2 and 5 in Table 4.21-1 above) have been entirely accounted in supply / selling function. Other general receipts arising from and ancillary or incidental to the business of electricity (item 6 in Table 4.21-1 above) is allocated to all functions based on the respective return on equity computed in Table 4.15-5 above. However, consumer contribution (item 7) has been entirely accounted in distribution function. Accordingly, business function-wise allocation of non-tariff income stands as Table 4.21-2.

**Table 4.21-2 : Allocation of non-tariff income**

Particulars	As admitted in APR 2016-17
<b>(A) Generation function</b>	
Budge Budge	2510.11
Titagarh	227.57
Southern	198.95
<b>Total (A)</b>	<b>2936.63</b>
<b>(B) Distribution function</b>	18676.07
<b>(C) Supply / Selling Function</b>	7101.30
<b>Total (A+B)</b>	<b>28714.00</b>

**4.22 Benefits passed on to consumers**

Based on form 1.24 of volume-2 of APR petition and Annual accounts and Benefits passed on to the consumers in terms of the regulations are detailed as under :

**Table 4.22-1** Benefits passed on to the consumers in terms of regulations

SL. No.	Sources	Revenue Received	Related cost	Gains derived	Rate of share of benefit to consumers	Share to Consumers & WBSEDCL
1	2	3	4	5=(3-4)	6	7=5x6
1	Sale of power to persons other than consumers	128.00	129.52	0.00	50%	0.00
2	Auxiliary Services	219.29	96.17	123.12	40%	49.25
3	Other business - consultancy services	114.09	135.10	(21.01)	40%	-
4	Other business - user fee	1210.00	-	1210.00	40%	484.00

Since costs pertaining to consultancy services are not part of the claim, the related revenue is also not shared. No loss is passed on to consumers as well. Auditor's Certificate on Consultancy Services as well as necessary details of other benefits have been furnished through communication no. ED(F): 74625 dated 29 September 2021.

**Table 4.22-2** Cost centre-wise break up of benefits passed on to consumers and WBSEDCL:

Particulars	Sale of power to persons other than consumers	Aux. Services	Other Business - consultancy Services	Other Business - User Fee
Distribution Function (entirely allocated)	-	49.25	-	484.00



#### 4.23 Admissibility of recovery of full Capacity Charges as per provisions of regulation 6.4.2 of the Tariff Regulation

In terms of regulation 6.4.2 of the Tariff Regulations, from the third control period, the recovery of capacity charge for all the generating station of the licensee and generating company shall be against the normative availability. However, for this purpose licensee has to provide schedule of availability for all 15 minute time block of each generating station to SLDC for recording and subsequent demonstration of their declared capacity as mentioned in regulation 6.7 of the Tariff Regulations.

CESC has submitted the availability parameters of their own generating stations in their APR petition at Form 1.1 which was not supported with the certificate by WBSLDC. The Plant Availability Factor (PAF) as declared by the plants and submitted by CESC in their petition are above the normative PAF of the respective plants. As decided in para 4.18 of this order, Commission considers to allow the capacity charge for the generating stations of CESC for the year 2016-17 on the basis of PAF declared by the plants as submitted in Form 1.1 and decides to allow the computed fixed cost of Rs 287923.52 lakh.

Thus, the fixed cost for generating stations, distribution business and overall are admitted as follows:

**Table- 4.23**

(Rs lakh)

SL. No.	Particulars	As admitted on APR in 2016-2017
1	<b>Generation function</b>	
	Budge Budge	56626.83
	Titagarh	11949.51
	Southern	9242.07
	<b>Sub totalGeneration</b>	<b>77818.41</b>
2	<b>Distribution and Selling Function</b>	<b>210105.11</b>
	<b>Total</b>	<b>287923.52</b>



4.24 The element wise fixed cost for all the generating stations, distribution business and overall, as discussed in para 4.1 to 4.22, is given in Annexure 4A to Annexure 4E.



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**Annexure 4A**

**Generation**

Rs. in Lakh

Sl. No.	Item heads	Budge Budge Generating Station		
		Amount admitted in Tariff Order 2016-2017	Amount claimed in APR 2016-17	As admitted in APR 2016-17
1	Water Charges/Cess	13	6	6.00
2	Coal & Ash Handling Charges	619	752	598.56
3	Operation & Maintenance Expenses	9840	9840	9840.00
	Repair & Maintenance			
	Administrative & General			
	Lease charges			
	Legal Charges			
	Audit Fees			
	Consultancy Charges			
4	Employee Cost	4648	6069	6069.00
(a)				
(b)	Cost of contractual manpower in regular generation establishment	2557	3401	2678.14
5	Rent for generation	-	-	-
6	Rates & Taxes (other than Income Tax)	348	374	374.00
7	Insurance	548	371	371.00
8	a) Lease Rental	-	-	-
9	b) Cost of Outsourcing	-	-	-
10	Corporate Social Responsibility	-	490	-
11	Interest on Capital Borrowings	3876	3985	3984.86
12	Interest on Temporary Accommodation	645	-	-
13	Interest on Consumer's Security Deposit	-	-	-
14	Foreign Exchange Rate Variations (FERV)	-	-	-



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Sl. No.	Item heads	Budge Budge Generating Station		
		Amount admitted in Tariff Order 2016-2017	Amount claimed in APR 2016-17	As admitted in APR 2016-17
15	Other Finance Charges	259	303	303.50
16	Bad Debt	-	-	-
17	Depreciation	8861	9318	9318.02
18	Advance against Depreciation	4052	2992	2992.03
19	Written off Intangible Assets	17	-	-
20	Return on Equity	16173	16308	16307.97
21	Reserve for Unforeseen Exigencies	-	-	-
22	Income Tax	3235	5381	5380.77
23	Performance Incentive	-	902	913.09
24	<b>Fixed Charges (1 to 23)</b>	<b>55691</b>	<b>60492</b>	<b>59136.94</b>
25	Interest on Working Capital	-	-	-
26	<b>Gross Fixed Charges (24+25)</b>	<b>55691</b>	<b>60492</b>	<b>59136.94</b>
27	Less: Income from Non-Tariff Sources	564	2510	2510.11
28	Less: Income from UI charges receivable	-	-	-
29	Less : Benefits passed on to consumers for sale to persons other than consumers or licensee	-	5	0.00
30	Benefits to pass on to consumers for Auxiliary Services	-	-	-
31	Benefits to pass on to consumers from other business	-	-	-
32	<b>Total Net amount deductible (27 to 31)</b>	<b>564</b>	<b>2515</b>	<b>2510.11</b>
33	<b>Net Fixed Charge for the year 2016 - 17 (26-32)</b>	<b>55127</b>	<b>57977</b>	<b>56626.83</b>

\* Actual expenditure higher. Does not include expenditure heads not claimed in APR petition.



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**Annexure 4B**

Generation

Rs. Lakhs

Sl. No.	Item heads	Titagarh Generating Station		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
1	Water Charges/Cess	141	18	18.00
2	Coal & Ash Handling Charges	987	92	92.00
3	Operation & Maintenance Expenses	3660	1830	1830.00
	Repair & Maintenance			
	Administrative & General			
	Lease charges			
	Legal Charges			
	Audit Fees			
	Consultancy Charges			
4	Employee Cost	5858	6389	6389.00
(a)	Cost of contractual manpower in regular generation establishment	1154	863	863.00
5	Rent for generation	-	-	-
6	Rates & Taxes (other than Income Tax)	208	91	91.00
7	Insurance	113	103	103.00
8	a) Lease Rental	62	-	-
9	b) Cost of Outsourcing	-	-	-
10	Corporate Social Responsibility	-	44	-
11	Interest on Capital Borrowings	631	-	-
12	Interest on Temporary Accommodation	239	-	-
13	Interest on Consumer's Security Deposit	-	-	-



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Sl. No.	Item heads	Titagarh Generating Station		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
14	Foreign Exchange Rate Variations (FERV)	-	-	-
15	Other Finance Charges	97	33	33.50
16	Bad Debt	-	-	-
17	Depreciation	660	598	598.92
18	Advance against Depreciation	302	192	192.31
19	Written off Intangible Assets	-	-	-
20	Return on Equity	1499	1479	1478.52
21	Reserve for Unforeseen Exigencies	-	-	-
22	Income Tax	300	488	487.83
23	Performance Incentive	-	-	-
24	<b>Fixed Charges (1 to 23)</b>	<b>15911</b>	<b>12220</b>	<b>12177.08</b>
25	Interest on Working Capital	-	-	-
26	<b>Gross Fixed Charges (24+25)</b>	<b>15911</b>	<b>12220</b>	<b>12177.08</b>
27	Less: Income from Non-Tariff Sources	52	228	227.57
28	Less: Income from UI charges receivable	-	-	-
29	Less : Benefits passed on to consumers for sale to persons other than consumers or licensee	-	-	-
30	Benefits to pass on to consumers for Auxiliary Services	-	-	-
31	Benefits to pass on to consumers from other business	-	-	-
32	<b>Total Net amount deductible (27 to 31)</b>	<b>52</b>	<b>228</b>	<b>227.57</b>
33	<b>Net Fixed Charge for the year 2016 - 17 (26-32)</b>	<b>15859</b>	<b>11992</b>	<b>11949.51</b>

\* Actual expenditure higher. Does not include expenditure heads not claimed in APR petition.



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**Annexure 4C**

Generation

Rs. in Lakh

Sl. No.	Item heads	Southern Generating Station		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
1	Water Charges/Cess	86	26	26.00
2	Coal & Ash Handling Charges	10	95	4.31
3	Operation & Maintenance Expenses	2075	2097	2097.00
	Repair & Maintenance			
	Administrative & General			
	Lease charges			
	Legal Charges			
	Audit Fees			
	Consultancy Charges			
4	Employee Cost	3936	4605	4605.00
(a)				
(b)	Cost of contractual manpower in regular generation establishment	60	533	103.56
5	Rent for generation	22	35	35.00
6	Rates & Taxes (other than Income Tax)	72	24	24.00
7	Insurance	66	60	60.00
8	a) Lease Rental	208	-	-
9	b) Cost of Outsourcing	-	-	-
10	Corporate Social Responsibility	-	38	-
11	Interest on Capital Borrowings	359	313	312.99
12	Interest on Temporary Accommodation	135	-	-
13	Interest on Consumer's Security Deposit	-	-	-
14	Foreign Exchange Rate Variations (FERV)	-	-	-



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Sl. No.	Item heads	Southern Generating Station		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
15	Other Finance Charges	54	41	40.97
16	Bad Debt	-	-	-
17	Depreciation	331	313	312.75
18	Advance against Depreciation	151	101	100.42
19	Written off Intangible Assets	1	-	-
20	Return on Equity	1385	1293	1292.54
21	Reserve for Unforeseen Exigencies	-	-	-
22	Income Tax	277	426	426.47
23	Performance Incentive	-	-	-
24	<b>Fixed Charges (1 to 23)</b>	<b>9228</b>	<b>10000</b>	<b>9441.02</b>
25	Interest on Working Capital	-	-	-
26	<b>Gross Fixed Charges (24 + 25)</b>	<b>9228</b>	<b>10000</b>	<b>9441.02</b>
27	Less: Income from Non-Tariff Sources	48	199	198.95
28	Less: Income from UI charges receivable	-	-	-
29	Benefits to pass on to consumers for Auxiliary Services	-	-	-
30	Benefits to pass on to consumers from other business	-	-	-
31	<b>Total Net amount deductible (27 to 30)</b>	<b>48</b>	<b>199</b>	<b>198.95</b>
32	<b>Net Fixed Charge for the year 2016 - 2017 (26-31)</b>	<b>9180</b>	<b>9801</b>	<b>9242.07</b>

\* Actual expenditure higher. Does not include expenditure heads not claimed in APR petition.



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**Annexure 4D**

Rs. Lakhs

Sl. No.	Item head	Distribution		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
1	Water Charges/Cess	-	-	-
2	Coal & Ash Handling Charges	-	-	-
3	Repair & Maintenance – Distribution	19338	18469	18468.98
4	Administrative & General – Distribution	14691	15882	14691.00
5	Employee Cost	64040	65531	65531.00
6	Rent for generation	-	-	-
7	Rates & Taxes (other than Income Tax)	1509	1233	1199.92
8	Insurance	331	264	264.00
9	Lease Rental	841	1158	1111.66
10	Cost of Outsourcing	1007	1229	925.57
11	Corporate Social Responsibility	-	1174	-
12	Interest on Capital Borrowings	29002	25158	25157.15
13	Interest on Temporary Accommodation	1866	16921	2499.36
14	Interest on Consumer's Security Deposit	9882	10989	10989.00
15	Foreign Exchange Rate Variations (FERV)	-	-	-
16	Other Finance Charges	749	817	817.72
17	Bad Debt	2674	3293	3293.00
18	Depreciation	28211	28904	28903.69
19	Advance against Depreciation	12901	9281	9280.85
20	Written off Intangible Assets	53	-	-
21	Return on Equity	39606	39088	39087.89
22	Reserve for Unforeseen Exigencies	-	-	-
23	Income Tax	7921	12897	12896.93



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Sl. No.	Item head	Distribution		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
24	Performance Incentive	-	-	-
25	Net UI Payable	-	1298	1298.00
26	<b>Fixed Charges (1 to 25)</b>	<b>234622</b>	<b>253586</b>	<b>236415.73</b>
27	Interest on Working Capital	-	6866	-
28	<b>Gross Fixed Charges (26+27)</b>	<b>234622</b>	<b>260452</b>	<b>236415.73</b>
29	Less: Income from Non-Tariff Sources	7781	25777	25777.37
30	Less: Income from UI charges receivable	-	-	-
31	Less : Benefits to pass on to consumers for Auxiliary Services	100	49	49.25
32	Less : Expenses attributable to Auxiliary Services	-	-	-
33	Less : Benefits to pass on to consumers from other business	440	484	484.00
34	<b>Total Net amount deductible (29 to 33)</b>	<b>8321</b>	<b>26311</b>	<b>26310.62</b>
35	<b>Net Fixed Charge for the year 2016 - 17 (28-34)</b>	<b>226301</b>	<b>234142</b>	<b>210105.11</b>

\* Actual expenditure higher. Does not include expenditure heads not claimed in APR petition.



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**Annexure 4E**

Rs. Lakh

SL. No.	Particulars	Overall		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
1	Water Charges/Cess	240	50	50.00
2	Coal & Ash Handling Charges	1616	939	694.87
3	Operation & Maintenance – Generation	15694	13767	13767.00
4	Repair & Maintenance – Distribution	19338	18469	18468.98
5	Administrative & General – Distribution	14691	15882	14691.00
6	Employee Cost - own employees	82253	87391	86238.70
(a)	Cost of contractual manpower in regular generation establishment			
(b)				
7	Rent	22	35	35.00
8	Rates & Taxes (other than Income Tax)	2137	1722	1688.92
9	Insurance	1058	798	798.00
10	a) Lease Rental	1111	1158	1111.66
	b) Cost of Outsourcing	1007	1229	925.57
11	Corporate Social Responsibility	-	1746	-
12	Interest on Capital Borrowings	33868	29456	29455.00
13	Interest on Temporary Accommodation	2885	16921	2499.36
14	Interest on Consumer's Security Deposit	9882	10989	10989.00
15	Foreign Exchange Rate Variations (FERV)	-	-	-
16	Other Finance Charges	1159	1196	1195.69
17	Bad Debt	2674	3293	3293.00
18	Depreciation	38063	39133	39133.38
19	Advance against Depreciation	17406	12566	12565.61
20	Written off Intangible Assets	71	-	-
21	Return on Equity	58663	58167	58166.92
22	Reserve for Unforeseen Exigencies	-	-	-



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SL. No.	Particulars	Overall		
		Amount admitted in Tariff Order 2016-17	Amount claimed in APR 2016-17	As admitted in APR 2016-17
23	Income Tax	11733	19192	19192.00
24	Performance Incentive	-	902	913.09
25	Terminal Benefit	-	-	-
26	Net UI Payable	-	1298	1298.00
27	<b>Fixed Charges (1 to 26)</b>	<b>315571</b>	<b>336298</b>	<b>317170.76</b>
28	Interest on Working Capital	-	6866	-
29	<b>Gross Fixed Charges (27+28)</b>	<b>315571</b>	<b>343164</b>	<b>317170.76</b>
30	Less: Income from Non-Tariff Sources	8445	28714	28714.00
31	Less: Income from UI charges receivable	-	-	-
32	Less : Benefits passed on to consumers for sale to persons other than consumers or licensee	-	5	0.00
33	Less : Benefits to pass on to consumers for Auxiliary Services	100	49	49.25
34	Less : Expenses attributable to Auxiliary Services	-	-	-
35	Less : Benefits to pass on to consumers from other business	440	484	484.00
36	<b>Total Net amount deductible (30 to 35)</b>	<b>8985</b>	<b>29253</b>	<b>29247.25</b>
37	<b>Net Fixed Charge for the year 2016 - 2017 (29-36)</b>	<b>306586</b>	<b>313912</b>	<b>287923.52</b>

\* Actual expenditure higher. Does not include expenditure heads not claimed in APR petition.



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# Annexure 4F

Distribution O&M parameters:

Inflation

Particulars	Tariff Order	APR Order
WPI	6.62%	3.70%
CPI	9.15%	4.15%
WPI : CPI (60 : 40)	7.63%	3.88%

Monthly Rate of Inflation in CPI number for Industrial Workers ( Source : Labour Bureau, GOI )

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2015-16	256	258	261	263	264	266	269	270	269	269	267	268
2016-17	271	275	277	280	278	277	278	277	275	274	274	275

Monthly Rate of Inflation computed based on CPI number for Industrial workers

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average
2016-17	5.86	6.59	6.13	6.46	5.30	4.14	3.35	2.59	2.23	1.86	2.62	2.61	4.15

Average value is computed

Monthly Inflation Rate based on WPI from Office of the Economic Adviser, GOI

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2015-16	176	178	179	178	177	177	177	178	177	175	174	175
2016-17	178	180	183	184	183	183	184	184	183	185	186	186

Monthly Inflation Rate based on WPI

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average
2016-17	0.79	1.24	2.12	3.72	3.85	3.80	3.79	3.38	3.68	5.53	6.55	5.99	3.70

Average value is computed



## Chapter 5

### AMOUNT ADJUSTABLE ON ANNUAL PERFORMANCE REVIEW

5.1 A summarised position of the fixed cost for four generating stations, distribution and selling/supply functions have been detailed in Table 5.1-1 of this order. Further, the Commission also determined the fuel and power purchase cost allowable to CESC totalling to Rs. 400617.82 lakh, after meeting the amounts relating to shares of various gains attributable to its consumers and WBSEDCL in terms of the Tariff Regulations in chapter 5 of this order. The Commission, in its order dated 04.03.2015 in Case No: TP-56/13-14 had decided to adjust Rs 4573.25 lakh, with the ARR for 2016-17 with the allowable amount entitled to CESC. Revenue recovered by CESC as per Audited Accounts, duly adjusted for share of savings of 396.907 MU in terms of Tariff Regulations net off amount already considered in variable cost determination, is now required to be adjusted against Rs 693114.58 lakh (i.e. 287923.52 + 400617.82 + 4573.25)

5.2 The revenue earned by CESC through sale of power to Consumer and WBSEDCL with reference to its audited accounts as detailed out below:

SL. No.	Particulars	Amount (Rs. In Lakh)
1	Earnings from sale of electricity as per Note 33(a) of audited accounts of CESC Ltd	697969
2	Gross earnings from sale of electricity	697969
3	less: earnings from sale of energy to persons other than own consumers & WBSEDCL including swap-out power and transaction charges of swap-out power	5564
4	Add: Contribution to festivals	88
5	<b>Actual revenue realised from sale of energy to own consumers and WBSEDCL</b>	<b>692493</b>
6	<b>The net adjustment for distribution performance after taking into effect of gain sharing to consumers and benefit already passed through variable cost.</b>	
a	Total Fixed and Variable Cost	688541.33
b	Units saved vide FPPC Order in MU (From Table 3.8)	396.902
c	Energy sold to consumers & WBSEDCL in MU (From para 3.7)	9409.702
d	Rate in p/kwh (a / c)	731.74
e	Savings for improved distribution loss performance (b x d)	<b>29042.73</b>



Order on APR of CESC for the year 2016 – 2017

SL. No.	Particulars	Amount (Rs. In Lakh)
f	25% share of savings with the consumers in terms of Regulations (25% of e)	7260.68
g	Benefit already passed through in Variable Cost (Para 3.20.2)	11076.68
h	Net adjustment with revenue realised from such savings (e – f – g)	10705.37
	Sub Total of 6	<b>10705.37</b>
7	Amount recovered from sale of power (5 – 6)	<b>681787.63</b>

5.3 The amount adjustable on Annual Performance Review is detailed as under in Table 5.1-1

Table 5.1-1

Sl. No	Particulars	Rs. Lakh Amount
1	Fixed Charges	287923.52
2	Fuel & Power Purchase Cost	400617.82
3	Part of recoverable amount in APR 2012-2013, allowed in 2016-2017 Tariff Order	4573.25
4	Total Recoverable (1 + 2 + 3)	<b>693114.58</b>
5	Amount recovered from sale of power	681787.63
6	Balance Recoverable (4 – 5)	<b>11326.94</b>

5.4 In terms of regulation 2.6.6 of the Tariff Regulations, the entire recoverable amount of Rs 11326.94 lakh or a part thereof shall be adjusted with the amount of Aggregate Revenue Requirement for the year 2020 – 21 or that for any other ensuing year or through a separate order, as may be decided by the Commission.

Sd/-  
(PULAK KUMAR TEWARI)  
MEMBER

Sd/-  
(SUTIRTHA BHATTACHARYA)  
CHAIRPERSON

Dated: 01.08.2022

Sd/-  
SECRETARY