

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

Shri P.K. Pujari, Chairperson

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No.L-1/236/2018/CERC

Dated 22nd March, 2019

In the matter of

Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 applicable from 1.4.2019 - Statement of Objects & Reasons (SOR) thereof.

Statement of Objects & Reasons

1. Introduction

1.1 The Central Electricity Regulatory Commission (hereinafter referred to as the 'CERC' or 'the Commission') has initiated the process of notifying Terms and Conditions of Tariff for the period commencing from 1.4.2019 to 31.3.2024 exercising powers conferred under the Electricity Act, 2003 (hereinafter referred to as the 'the Act'). The Act provides that the Central Commission shall specify the terms and conditions for determination of tariff of the generating companies and inter-State transmission systems covered under its jurisdiction. The relevant provisions of the Act have been discussed below:

- a) Clauses (a), (b) and (d) of sub-section 1 of the Section 79 read with clauses (a) and (b) of sub-section (1) of Section 62 of the Act vest the Commission to regulate and determine the tariff of the generating companies owned or controlled by the Central Government; regulating the tariff of generating companies having a composite scheme for generation and sale of electricity in more than one State; to regulate inter-state transmission of electricity and to determine the tariff for inter-State transmission in electricity, among others;
- b) Section 61 of the Act empowers the Commission to specify, by regulations, the terms and conditions for determination of tariff in accordance with the provisions of the said section;

- c) In terms of clause (s) of sub-section (2) of Section 178 of the Act, the Commission has been vested with the powers to notify regulations on the terms and conditions of tariff under Section 61 of the Act. Clause 3 of Section 178 of the Act requires the Commission to make previous the regulations after previous publications;
- d) Clause (i) of the Section 61 of the Act provides that the Commission shall be guided by the National Electricity Policy and Tariff Policy while making the regulations on terms and conditions of tariff;
- e) Rule 3 of Electricity (Procedure for Previous Publication) Rules 2005 notified by the Central Government provides the procedure of previous publications which provides the Commission to decide the manner of publications.

1.2 On 10.11.2017, the Commission sought details of operational and performance data including operation and maintenance expenses from various generating companies and Transmission Licensees. Thereafter, in order to dwell upon the issues affecting the terms and conditions of tariff fixation, the staff consultation paper was issued on 24.5.2018. The Commission also consulted with the Central Advisory Committee on 6.7.2018., Responses received from the stakeholders and Central Advisory Committee were considered by the Commission while preparing proposed regulations and have been made available on the website of the Commission for access to the all stakeholders.

1.3 Clause (n) of Section 73 of the Act provides one of the functions of the Central Electricity Authority constituted under Section 70 of the Act to “advise the Appropriate Commission on all technical matters relating to generation, transmission and distribution of electricity”. The Central Electricity Authority had submitted their recommendations on operational norms for thermal generating station on 10.12.2018, wherein it was mentioned that additional operation norms pertaining to implementation of revised emission standards in thermal generating stations will be submitted later on.

1.4 On 14.12.2018, the Commission issued a draft of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for the tariff period from 1.4.2019 to 31.3.2024 (hereinafter referred to as the “draft Regulations”) exercising the powers vested under Section 61 and clause (s) of sub-section (2) of Section 178 of the Act and all other enabling powers

and in compliance of the requirement under sub-section (3) of Section 178 of the Act. The draft Regulations was issued after consideration of CEA recommendations and comments or suggestions of stakeholders. The Commission had also issued an Explanatory Memorandum accompanying the draft Tariff Regulation wherein it explained the reasons and analysis relied upon for considering the draft Tariff Regulations. Public notice was issued by the Commission on 14.12.2018 soliciting the views/suggestions/objections of the stakeholders on the draft Tariff Regulations by 14.1.2019. The due date for submission was extended to 28.1.2019. In response, the Commission received 85 submissions from the stakeholders which were hosted on the website of the Commission for access by interested persons.

1.5 Subsequently, Public Hearing on the draft Regulations was held at SCOPE Complex, New Delhi on 1st February, 2019 to solicit the views and objections of stakeholders and the consumers. List of participants in the public hearing held on 1st Feb, 2019 and presentations submitted during the hearing have been hosted on the website of the Commission.

1.6 The Central Electricity Authority submitted their recommendations on additional operational norms pertaining to implementation of revised emission standards in coal based thermal stations and auxiliary consumptions for gas generating station using gas booster compressor on 20.2.2019 and 21.2.2019, respectively, which have also been hosted on the website of the Commission.

1.7 The Commission, complying with the provisions of the Act and the Electricity (Procedure for Previous Publication) Rules, 2005, after extensive consultations with all the stakeholders and due considerations of the recommendations of the Central Electricity Authority, proceeded to finalize the Terms and Conditions of Tariff Regulations, 2019. The Commission considered the comments of the stakeholders on the draft regulations, views of the participants in the public hearing as well as their written submissions received during and after the public hearing. The regulations have been finalized after detailed analysis and due consideration of various issues raised. The analysis of the issues and findings of the Commission thereon are discussed in the subsequent paragraphs. On 7.3.2019, the Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “Tariff Regulations, 2019”) keeping in view the mandates of the Act, National

Electricity Policy, Tariff policy, the submissions of the stakeholders and interested persons and the recommendations of the Central Electricity Authority.

1.8 The Explanatory Memorandum accompanying the draft 2019 Tariff Regulations explained in detail, the rationale behind the proposed draft Regulations. This Statement of Objects and Reasons (SOR) has been issued with the intent of explaining the main objects and reasons of changes carried out by the Commission from draft Regulations to final Regulations. On 15.3.2019, the Commission has issued a corrigendum to the Tariff Regulations correcting inadvertent mistakes relating to some of the provisions.

2 Scope of the Regulations

2.1 The draft Regulations provide regulatory framework for determination of tariff of the generating companies and inter-State transmission systems covered under its jurisdiction. Further, the draft Regulations also include determination of input price of coal or lignite mine integrated with the generating stations, along with impact on operational norms on account of implementation of the revised emission standards. After detailed deliberation during finalization of the regulations, the Commission noticed that the regulatory framework for determination of input price of coal or lignite, particularly the financial and operational parameters requires further study and analysis which will require some more time. The Commission has decided to notify relevant provisions for determination of input price of coal or lignite from integrated mine separately. Accordingly, the provisions pertaining to determination of input price of coal or lignite from integrated mine has not been included at present.

2.2 In the draft 2019 Tariff Regulations, it was proposed to introduce the operational norms for the implementation of revised emission standards. The Central Electricity Authority had indicated that additional operational norms on account of the implementation of revised emission standards will be submitted separately later. These were received subsequent to the public hearing on 20.2.2019. The Commission has decided to notify relevant provisions specifying additional operational norms on account of implementation of revised emission standards separately after carrying out due examination.. Accordingly, the provisions pertaining to additional

operational norms on account of implementation of revised emission standards have not been included at present.

3 Chapter 1 - Preliminary

3.1 Auxiliary Energy Consumption [Regulation 3(5)]

3.1.1. The draft 2019 Tariff Regulations defines 'Auxiliary Energy Consumption' of a generating station and the transmission system and the first proviso states the exclusions while computing of the same. The Auxiliary Energy Consumption of the transmission system is not covered in the definition because it is included in O&M expenses and separate norms have not been specified. The colony power consumption was excluded from auxiliary power consumption w.e.f. 1.4.2014 since it is part of O&M expenses. The colony is part of generating station which would continue to draw power from auxiliary but the corresponding charges shall be booked by the generating company in O&M expenses. The auxiliary energy consumption with respect to compliance of revised emission standards, sewage treatment plant and external coal handling plant (jetty and associated infrastructure) shall be allowed separately. Accordingly, second proviso to the definition has been added to this effect.

3.2 Beneficiary [Regulation 3 (8)]

3.2.1 The draft 2019 Tariff Regulations defines 'Beneficiary' in relation to a generating station as a distribution licensee purchasing electricity generating at such generating station by scheduling in accordance with the Grid Code and also include any person who has been allocated capacity in any generating station owned and controlled by the Central Government. The Commission has decided to substitute 'fixed charges and variable charges' with 'capacity charges and energy charges'. Further, in the first proviso, the word 'trading licensee' has been inserted for clarification.

3.2.2 In the second proviso, the word and expression 'generating station owned and controlled by the Central Government' has been replaced by the phrase 'inter-State generating station by Government of India' to expand the definition.

3.3 Cut-off Date [Regulation 3 (14)]

3.3.1 The draft 2019 Tariff Regulations defines ‘Cut-off Date’ as the last day of the calendar month after three years from the date of commercial operation of the project. Considering the fact that the term ‘year’ is interpreted as ‘financial year’ under Regulation 4, the term ‘year’ has been substituted by ‘thirty six months’ in the definition.

3.4 Declared Capacity or ‘DC’ [Regulation 3 (16)]

3.4.1 The draft 2019 Tariff Regulations defines ‘Declared Capacity or ‘DC’ as defined in the Grid Code. It has been noticed that the Grid Code does not provide exclusive definition of Declared Capacity. The definition of Declared Capacity is necessary for the purpose of computation of capacity charges of the tariff in the instant regulations. Therefore, definition of Declared Capacity has been added which shall be applicable to the generating stations whose tariff is determined by the Commission. The definition of ‘Declared Capacity’ which has been added in the regulations is reproduced as under:

‘Declared Capacity’ or ‘DC’ in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any time-block of the day as defined in the Grid Code or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification in these regulations;

3.5 Expansion Project [Regulation 3 (22)]

3.5.1 The draft 2019 Tariff Regulations defines ‘Expansion Project’ to include any addition of new capacity to the existing generating station or the transmission system, as the case may be. It is observed that in generating station, expansion takes place with new capacity addition, while in transmission system, especially in a fully developed and expanded system, expansion usually takes place in the form of augmentation of existing capacity. The term ‘augmentation’ has also been used in Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009. Therefore, the term ‘augmentation’ is included for transmission system in the definition of Expansion Project.

3.6 GCV as ‘Received’ [Regulation 3 (31)]

3.6.1 The draft 2019 Tariff Regulations provides the framework for GCV as received which inter-alia includes the relevant standards, measurement

procedure and sampling methods for coal and lignite both. This definition is aimed to provide regulatory framework for coal used in thermal generating station. The properties of lignite are entirely different from coal and therefore, the method and procedure prescribed in the instant definition will not be appropriate for the lignite. Accordingly, the definition is revised to restrict the application of the present definition to coal used in thermal generating station by deleting the term 'lignite'.

3.7 Landed Fuel Cost [Regulation 3 (41)]

3.7.1 The draft 2019 Tariff Regulations defines Landed Fuel Cost to include base price or input price, transportation cost and handing cost and applicable statutory charges. The generating company needs to undertake washing of coal to comply with the stipulations of the Ministry of Environment, Forest and Climate Change(MoEFCC), Government of India. Further, the generating company incurs the cost of third party sampling for computation of GCV. Suggestions have been received to include cost associated with washing of coal and sampling charges. It is observed that the washing of coal is undertaken at few of the coal mines and third party sampling are necessary to verify quality of the coal. Therefore, the cost associated with these activities should also be included in the coal cost. Accordingly, the definition has been modified by including the terms 'washery charges wherever applicable' and 'charges for third party sampling' in the definition of Landed Fuel Cost.

3.8 Prudence Check [Regulation 3 (51)]

3.8.1 The draft 2019 Tariff Regulations defines Prudence Check as scrutiny of reasonableness of capital expenditure incurred or proposed to be incurred. The proposed definition restricts Prudence Check to scrutiny of only capital expenditure, while the Commission exercises Prudence Check in much wider area, such as additional capital expenditure, depreciation, interest on loan, security expenses, water charges and capital spares which are required to be allowed on actual. Accordingly, the scope of prudence check is expanded by substituting 'capital expenditure' by 'any cost or expenditure' which covers all cost and expenditure for the purpose of these regulations.

3.9 Others

3.9.1 In the draft 2019 Tariff Regulations, the definitions of 'Development Period', 'Mine Infrastructure', 'Mining Plan', 'Production Period', 'Stabilisation

Period’ and ‘Target Capacity’ relating to Chapter 9 - Computation of Input Price of Coal and Lignite from Integrated Mine–had been included. As detailed provisions for Computation of Input Price of Coal and Lignite from Integrated Mine shall be notified separately at a later stage, accordingly, the corresponding definitions have not been included at present and shall be introduced along with the detailed provisions for Computation of Input Price of Coal and Lignite from Integrated Mine in Chapter 9. Similarly, ‘Integrated Mine of thermal generating station’ is also removed from the definition of ‘Useful Life’. Sequencing of some definitions have been re-arranged to bring them in the alphabetical order.

4. Chapter 2 - Date of Commercial Operation

4.1 Date of Commercial Operation [Proviso to Regulation 5(2)]

4.1.1 The draft 2019 Tariff Regulations provides for approval of date of commercial operation of a transmission system by the Commission, in case such transmission system is ready for commercial operation, but the interconnected generating station or the transmission system of other transmission licensee as per the agreed project implementation schedule is not ready for commercial operation. The Proviso to clause (2) of the Regulation 5 provides for prior notice by the transmission licensee seeking approval of the date of commercial operation to all other concerned parties.

4.1.2 The Commission has received suggestions for specifying the period of such prior notice by the transmission licensee seeking such approval of the date of commercial operation. As the word ‘prior notice’ without specific time limit may lead to an arbitrary interpretation, therefore, it has been decided to specify a reasonable time limit of one month for issue of prior notice. Accordingly, words ‘of at least one month’ in the Proviso to Regulation 5(2) has been incorporated to specify the time period of prior notice by the transmission licensee seeking such approval of the date of commercial operation to all concerned parties.

4.2 Treatment of mismatch in date of commercial operation (Regulation 6)

4.2.1 The draft 2019 Tariff Regulations provides for commercial implications of mismatch in the date of commercial operation between a generating station and transmission system and also between two transmission systems.

4.2.2 The Commission has received several suggestions in respect of this provision, wherein the generating companies and the transmission licensee have expressed divergent views. The generating companies have suggested that levying of transmission charges is not adequate compensation against the loss of generation due to delay in commissioning of the transmission system. The transmission licensees have suggested that levying of transmission charges of the region, without considering the portion of the transmission system being built by the transmission licensee would be disproportionate. Besides, many distribution licensees suggested that whatever may be the treatment or commercial settlement between the generating company or transmission licensee on account of mismatch, the cost should be borne by the defaulting parties and the same should not be passed on the distribution licensee.

4.2.3 After detailed discussion on this issue and considering the suggestions received, the Commission agrees with the suggestion that the defaulting party shall be liable to pay the transmission charges and the same should not be passed on to the beneficiaries. With regard to amount of compensation, it has been decided that the compensation should be equal to the transmission charges of associated transmission system which remain unutilized. Accordingly, the words “at the rate the applicable transmission charges of the region’ has been substituted by the word “in accordance with clause (5) of Regulation 14 of these regulations’ to limit the compensation to the extent of the associated transmission charges;

4.2.4 Further, proviso to clause (1)(b) of Regulation 6 of the draft 2019 Tariff Regulations provides framework for payment of transmission charges also, where the transmission licensee has made alternative arrangement of evacuation for the generating station and the associated transmission system has not achieved the commercial operation within six months. The Commission agrees that the payment of applicable transmission charges of the region as determined in accordance with the Sharing Regulations, over and above making of alternative evacuation arrangement is not equitable. Accordingly, it has been decided to delete the proviso to clause (1)(b) of Regulation 6 of the draft 2019 Tariff Regulations.

4.2.5 Besides, in sub-clause (b) of clause (1) and sub-clause (b) of clause (2) of Regulation 6, the Commission has added a phrase ‘(which is not before the SCOD) of the transmission system’ in order to clarify that the liability for

transmission charges on account of mismatch after date of commercial operation of the transmission system, shall not commence before the SCOD of the transmission system.

5. Chapter 3 - Procedure for tariff determination

5.1 Tariff determination [Regulation 8(3)]

5.1.1 The draft 2019 Tariff Regulations provides that in case of expansion of the existing generating station, the common infrastructure of existing generating station shall be utilized for the expanded capacity and the benefit of new technology in the expanded capacity shall be extended to the existing capacity.

5.1.2 Some of the stakeholders submitted that there may be situations where it would not be possible to utilise the common infrastructure of existing generating station for the expanded capacity or to extend the benefit of new technology in the expanded capacity to the existing capacity. The Commission has considered the suggestions and agree that there could be such exceptions. Therefore, it has been decided to bring the discretion of the Commission in such exceptional cases. Accordingly, the phrase 'as determined by the Commission' has been added to bring in the discretion of the Commission in the matter.

5.2 Tariff determination [Regulation 8(6)]

5.2.1 The draft 2019 Tariff Regulations provides that the GCV of coal rejects shall be as measured jointly by the generating company and the beneficiaries in a mutually agreed manner.

5.2.2 Some of the stakeholders submitted that the process of measurement of GCV of coal rejects shall be similar to that for coal and should not be left to the generating company and beneficiary. The Commission agrees with the suggestions and accordingly, the phrase 'in a mutually agreed manner' from third Proviso to Clause (6) of Regulation 8 has been deleted.

5.3 Application for determination of tariff [Regulation 9]

5.3.1 The draft 2019 Tariff Regulations provides the manner of filing petition and set forth restriction on filing tariff petition. It provides that in case of existing projects, that the transmission licensee shall file an application for

determination of tariff for a group of elements on capitalization of not less than 80% of the cost envisaged in the Investment Approval or Rs. 500 Crore, whichever is lower, as on the anticipated date of commercial operation;

5.3.2 Some of the stakeholders submitted that the limit of 80% of the cost envisaged in the Investment Approval or Rs. 500 Crore for submission of tariff petition for determination of tariff would be too stringent and would result in non-recovery of tariff for commissioned assets for a long period, waiting commissioning of the remaining assets. Considering the reasonable concerns, the Commission has decided to moderate the said provision and accordingly, reduce the limit from '80% of Investment Approval or Rs. 500 Crore, whichever is lower' to '70% of Investment Approval or Rs. 200 Crore, whichever is lower' in first Proviso to clause (1) of Regulation 9.

5.3.3. Apart from above, following changes have also been made:

- a) The term 'capitalization' has been substituted by 'incurring of expenditure', as capitalization for the purpose of tariff, shall be considered only after approval and determination of tariff by the Commission;
- b) In the second Proviso to clause (1) of Regulation 9, the word 'Management' has been incorporated before the phrase 'certificate duly signed by an authorised person' to bring in more clarity;
- c) In the third Proviso to clause (1) of Regulation 9, the term 'transmission company' has been corrected as 'transmission licensee';
- d) In clause (2) of Regulation 9, to bring in clarity, the Commission has now mentioned a specific date of 31.10.2019, by which the tariff petitions for the tariff period 2019-24 are required to be submitted, as against 'within a period of 180 days from the date of notification of these regulations' mentioned in the draft 2019 Tariff Regulations;
- e) In clause (4) of Regulation 9, the Proviso pertaining to Integrated Mine has been deleted, which shall be notified separately along with detailed provisions of Chapter 9 Computation of Input Price of Coal and Lignite from Integrated Mine.

5.4 Determination of tariff [Regulation 10]

5.4.1 The draft 2019 Tariff Regulations provides that in case of existing projects, the generating company or the transmission licensee, shall continue to bill at the tariff approved by the Commission and applicable as on 31.3.2019 for the period starting from 1.4.2019 till approval of final tariff by the Commission in accordance with these regulations.

5.4.2 Some of the stakeholders submitted that the generating stations and transmission licensees may delay the implementation of improved operational norms of these regulations resulting in benefits of improved operational norms not getting passed on to the procures. Also, due to such delay, there may be impact on tariff on account of carrying cost, because of relaxed operational norms, if any. Therefore, the suggestion was that the Commission may specify a provision to recoup any loss caused due to delay in implementing these regulations from the effective date. The Commission has considered the submission of the stakeholders and decided to bring in clarity by replacing the term 'tariff' with the phrase 'capacity charges or transmission charges'. This modification puts a restriction and allows ~~on~~ continuation of tariff as applicable on 31.3.2019 limited only to the capacity charges or transmission charges component. Accordingly, Proviso to clause (4) of Regulation 10 has been added which also provides that the billing for energy charges w.e.f. 1.4.2019 shall be as per the operational norms specified in these regulations.

5.5 Truing up of tariff for the period 2019-24 [Regulation 13 (2)]

5.5.1 The draft 2019 Tariff Regulations provides that the generating company or the transmission licensee shall submit truing up petition for tariff period 2019-24 by 31.10.2024.

5.5.2 Some of the stakeholders have submitted that the last date for submission of the truing-up petition should be extended to 30.11.2024, as books of accounts are finalised only by end of September after completion of the financial year. Considering the request of the stakeholders, the Commission has revised the due date from 31.10.2024 to 30.11.2024 to enable filing of petition after finalisation of books of accounts for the financial year 2023-24.

6. Chapter 4 - Tariff Structure

6.1 Components of Tariff [Regulation 14]

6.1.1 The draft 2019 Tariff Regulations provides for energy charge to include 'primary and secondary fuel cost and limestone cost where applicable' only. The Regulation also provided that the supplementary fixed cost for additional capitalization on account of implementation of revised emission standards shall be determined by the Commission separately. Further, the Regulation stated that energy charge of the generating station shall be determined in accordance with the provisions of Chapter 11 of these Regulations. It is also stated that the input price of coal or lignite from the integrated mine shall form part of energy charge of the generating station.

6.1.2 In order to bring clarity in clause (1) of the Regulation, the scope of the energy charge has been modified to include 'any other reagent where applicable'. In clause (2) of the Regulation, the term 'supplementary fixed cost' has been substituted by 'supplementary capacity charges' and also the term 'supplementary energy charges' have been added.

6.1.3 Further, in clause 3 of the Regulation, the term 'capacity charge' has been added, as the same shall also be determined in accordance with the provisions of Chapter 11 of these Regulations.

6.2 Capacity Charges [Regulation 15]

6.2.1 The draft 2019 Tariff Regulations provides that the capacity charges shall be derived based on the annual fixed cost and also provides the components of the annual fixed cost.

6.2.2 The Commission has rearranged the sequencing of the components of annual fixed cost to match them with the sequence in which they appear in Chapter 8 of these regulations.

6.3 Energy Charges [Regulation 16]

6.3.1 The draft 2019 Tariff Regulations provides that the energy charges shall be derived on the basis of landed fuel cost of a generating station (excluding hydro) and shall consist of landed fuel cost of primary fuel and cost of secondary fuel consumption. The draft regulation has also used both the terms 'energy charges' and 'variable charges'.

6.3.2 Many stakeholders submitted that in order to avoid any ambiguity, only 'energy charges' term should be used instead of 'variable charge'. It was further submitted that for meeting revised emission standards, 'energy

charge’ should also include cost of limestone and any other reagent. The Commission has reviewed the proposed provisions and deleted the term ‘variable charges’ and included the term ‘cost of limestone and any other reagent’.

6.4 Special Provisions for Tariff for Thermal Generating Station which have Completed 25 Years of Operation from Date of Commercial Operation [Regulation 17]

6.4.1 The draft 2019 Tariff Regulations provides for a special provision for tariff for thermal generating stations which have completed 25 years of operation in ‘Chapter 7 – Computation of Additional Capital Expenditure’. The Regulation provides that the generating company and the beneficiary may agree on an arrangement where the total generation cost inclusive of the fixed cost and the variable cost shall be payable on scheduled generation.

6.4.2 In the draft 2019 Tariff Regulation, this Regulation was placed after Regulation pertaining to Renovation and Modernisation (R&M) and Special Allowance which also kicks in only after completion of useful life of the generating station. Considering the fact that the Regulation pertaining to ‘Special Provision for Tariff....’ is an optional tariff structure, the same is now placed under ‘Chapter 4 – Tariff Structure’.

6.4.3 One of the stakeholders has suggested to provide clarity in the Regulation, about whether the Merit Order Dispatch (MOD) would operate on the total cost inclusive of both the fixed cost and variable cost or otherwise. If MOD is to be considered based on total cost, it is possible that the generation from the unit may not get dispatch due to higher cost. As a result, the generating station will not be entitled for any tariff.

6.4.4 The Commission after reviewing the comments has decided to revise the Regulation to bring in the desired clarity. The objective of the Regulation was to introduce an enabling provision, where the recovery of both capacity charges and energy charges shall be linked to scheduled generation. Further, this provision is only optional, which may be exercised after completion of useful life of a thermal generating station, if both the beneficiary and the generating company agree. Accordingly, the Regulation has been amended to state that ‘the generating company and the beneficiary may agree on an arrangement, including provisions for target availability and incentive, where

in addition to the energy charge, capacity charges determined under these regulations shall also be recovered based on scheduled generation’.

7. Chapter 5 – Capital Structure

7.1 Debt-Equity Ratio [Regulation 18]

7.1.1 The draft 2019 Tariff Regulations provides for ‘Modified Gross Fixed Assets’ Approach, wherein after completion of useful life of a generating station or transmission system, the accumulated depreciation as on the completion of useful life net of cumulative loan repayment was proposed to be utilised for reduction of equity component. The objective was to reduce the equity component to the salvage value of the corresponding gross fixed assets.

7.1.2 Many stakeholders submitted that this Regulation would not only discourage prospective investment in the sector but also result in substantial losses in case of generating stations which have completed or about to complete their useful life. Further, there would be no incentive for the generator to operate the generating station after completion of useful life, which will adversely impact the beneficiaries as they will need to source costlier power from alternate sources. The provision would deprive the beneficiaries the benefit of reduced fixed costs of the assets, as these may be retired immediately after completion of useful life.

7.1.3 A number of stakeholders, primarily beneficiaries and distribution licensees, welcomed the provision as a fair and balanced treatment, stating that the concept of Gross Fixed Assets was to encourage investment and plough back funds for addition/ replacement of capacity in the sector and was never meant to be source of profit. However, they also expressed their apprehensions of losing the cheaper sources of power and sought Commission’s specific interventions, to ensure continued operation of these generating stations beyond useful life so that they continue to get the cheaper power. The distribution licensees have submitted that the cost of generation of old generating stations is cheaper and they would be deprived of the cheaper sources of power if the operation of these old generation stations are discontinued.

7.1.4 In view of the submission of the stakeholders, the Commission decided to review the proposed provision. It is observed that, the power

purchase cost for distribution licensees from newer thermal power plants are high. Further, closure of operations of well-maintained and efficient generating stations would mean depriving cheap sources of power to beneficiaries. If the generating company ceases the operation of the generating stations immediately after completion of useful life, the distribution licensees shall be compelled to procure power from other generating stations or open market, leading to uncertainty of availability of power at competitive price.

7.1.5 Further, in view of the prevailing financial stress in the power sector and large stranded generation capacities and stressed assets, such modification will have a long term negative impact on the investment scenario in the sector. After considering all the suggestions of the stakeholders, the Commission, though accepting that the 'Modified Gross Fixed Assets' Approach is a balanced approach, concludes that the situation is not ripe to introduce this modification at this stage. Therefore, the Commission has decided to tread a middle path to balance the interest of all stakeholders.

7.1.7 It is observed that many of the generating stations and transmission systems which were commissioned on or before the commencement of tariff period 2004-09, and which have either completed or about to complete their useful life, have a debt-equity ratio of 50:50. The Commission sees strong logic to bring uniformity of the capital structure of all the projects. Therefore, the excess equity of the projects are required to be aligned at par with normative debt:equity ratio.

7.1.8 The Commission, after considering all the relevant aspects carefully, has decided that the proposed reduction of equity to the extent of 30% instead of salvage value will be more pragmatic approach, as it takes care of the interest of both the investors and consumers. Accordingly, in case of a generating station or a transmission system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation and will be deemed to be paid from the accumulated depreciation.

8. Chapter 6 - Computation of Capital Cost

8.1 Capital Cost [Regulation 19]

8.1.1 The draft 2019 Tariff Regulations provides for computation of capital cost of the generating station or a transmission system, either in case of an existing project or a new project. It also provides for specific exclusions from the capital cost.

8.1.2 The Commission received many suggestions from the stakeholders, primarily to clarify certain inclusions and exclusions while computing capital cost in case of an existing or new projects. After examining the stakeholders' suggestions, the Commission has made few revisions in the Regulation for the sake of clarity and removing ambiguity. Some of the key modifications in the Regulation are as mentioned below.

- a) In sub-clause (a) of clause (2) of Regulation 19, the phrase 'incurred or projected to be' is inserted.
- b) Sub-clause (i) of clause (2) of Regulation 19 has been rephrased to clearly include components of capital expenditure on account of ash utilisation. Disposal and utilisation including handling and transportation facility will form part of capital cost.
- c) In sub-clause (j) of clause (2) of Regulation 19, transportation cost and any other appurtenant cost paid to the railway has clearly been excluded from the capital cost.
- d) In sub-clause (l) of clause (2) of Regulation 19, capital expenditure for sewage treatment plant has been included in the capital cost.
- e) In sub-clause (d) of clause (3) of Regulation 19, capital expenditure on account of ash utilization has also been included in the capital cost of an existing project, apart from ash disposal including handling and transportation, which were already included.
- f) In clause (5) of Regulation 19, which provides for specific exclusions from the capital cost, two new provisos to sub-clause (b) have been inserted. The first proviso to sub-clause (b) of clause (5) of Regulation 19 provides that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment. The second proviso to sub-clause (b) of clause (5) of Regulation 19 provides that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

8.2 Prudence Check of Capital Cost [Regulation 20]

8.2.1 The draft 2019 Tariff Regulations provides for the principles to be adopted for prudence check of capital cost of existing or new projects.

8.2.2. Some of the stakeholders submitted that where the power purchase agreement provides for ceiling of actual capital expenditure, the Commission should take the same into consideration. The Commission has accordingly included the same as clause (3) to Regulation 20.

8.3 Initial Spares [Regulation 23]

8.3.1 The draft 2019 Tariff Regulations provides for ceiling norms for Initial Spares as a percentage of plant and machinery cost excluding IDC and IEDC components, besides proviso related to benchmark norms, computation of cost of plant and machinery from capital cost, ceiling norms for transmission system forming part of generating station and restricting the cost of initial spares on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up.

8.3.2 Some of the stakeholders submitted that the Commission in the draft 2019 Tariff Regulations have merged ceiling norms for green field and brown field sub-stations, thereby resulting in reduced ceiling norms for brown field substations. The stakeholder submitted detailed reasons for the need of higher ceiling norms for brown field substations, both AIS and GIS. Further, for new technology equipment, which are fewer in numbers and are generally manufactured and supplied by foreign manufacturers, there is a need to provide higher initial spares norms. The Commission, after considering the suggestions made by the stakeholders, revised the provision by allowing separate initial spares norms for AIS Sub-station (Brown Field) at 6% and GIS Sub-station (Brown Field) at 7% and increasing the norm for Static Synchronous Compensator from 3.5% to 6%.

8.3.3. Further, the Commission has decided to delete the proviso pertaining to benchmark norms for initial spares, as the same has not been updated. Regarding the proviso of restricting the cost of initial spares on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up, the Commission has decided to delete the same, as the cost of initial spares gets automatically trued up along with the plant and

machinery cost at the time of truing up, and thus, there is no need to specifically mention the same separately.

9. Chapter 7 – Computation of Additional Capital Expenditure

9.1. Additional Capitalisation within the original scope and after the cut-off date[Regulation 25]

9.1.1. The draft 2019 Tariff Regulations provides for additional capital expenditure incurred or projected to be incurred within the original scope of work and after the cut-off date, which may be admitted by the Commission, subject to prudence check.

9.1.2 The Commission has noted that sub clause (e) of Clause (1) of the Regulation in the draft had mentioned ‘Works covered under original scope but executed after the cut-off date’, which is deleted, as it is redundant. The cut-off date has now been increased to 36 months from the date of commercial operation. The Commission is of the view that the additional capitalization covered in original scope should be preferably completed before cut-off date. Further, the Commission has also observed that the additional capital expenditure on account of Force Majeure events has not been mentioned in the Regulation, which now has been included. Besides, for providing clarity in the Regulation, the Commission has added a provision as sub clause (c) of clause (2) of the Regulation, specifically providing for admission of additional capitalisation by the Commission, in case replacement of asset or equipment is necessary on account of obsolescence of technology.

9.2 Additional Capitalisation beyond the original scope [Regulation 26]

9.2.1 The draft 2019 Tariff Regulations provides for additional capital expenditure incurred or projected to be incurred beyond the original scope of work, which may be admitted by the Commission, subject to prudence check.

9.2.2 The Commission is aware that the Tariff Policy 2016 has mandated that the thermal power plant(s) including the existing plants located within 50 km radius of sewage treatment plant of Municipality / local bodies / similar organisation shall mandatorily use treated sewage water produced by these bodies. It also states that the associated cost on this account be allowed as pass through in the tariff. Therefore, the Commission has decided to add sub clause (f) to clause (1) to Regulation 26, specifically covering additional capital

expenditure for usage of water from sewage treatment plant in thermal generating station, for admission of additional capitalisation beyond original scope by the Commission.

9.3 Additional Capitalisation on account of Renovation and Modernisation [Regulation 27]

9.3.1 The draft 2019 Tariff Regulations provides for additional capital expenditure on account Renovation and Modernisation.

9.3.2 The first Proviso to clause (1) states that generating company or transmission licensee making application for renovation and modernisation (R&M) shall not be eligible for Special Allowance under these regulations. The Commission noted that the Regulation pertaining to Special Allowance is applicable only to coal based/lignite fired thermal generating stations. Therefore, the phrase 'or transmission licensee, as the case may be' has been deleted from the first Proviso to clause (1) of the Regulation to bring consistency between the two Regulations.

10. Chapter 8 - Computation of Annual Fixed Cost

10.1 Return on Equity [Regulation 30]

10.1.1 In the draft 2019 Tariff Regulations, the Commission had specified a post-tax RoE rate of 15.50% for thermal generating station, transmission system and run of the river hydro generating station. The Commission also provided that rate of return on equity in respect of additional capitalization after cut-off date within or beyond the original scope of work shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system. Besides, the Commission also provided for specific instances, where rate of return of equity shall be reduced by 1.00%, in case of a generating station or transmission system is found to be declared under commercial operation without commissioning or otherwise at any point of time, without operating of any of the RGMO, FGMO, data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC.

10.1.2 The Commission has considered the stakeholders' comments/suggestions. The Commission is of the view that in cases where

the additional capitalization has become necessary to comply with the 'Change in Law' event, normal rate of return of equity should be allowed instead of allowing rate of return on equity at weighted average rate of interest on actual loan portfolio. Therefore, first proviso to clause (2) of Regulation 30 has been revised suitably.

10.1.3 The Commission agrees with suggestion of the stakeholders that in the wake of large scale renewable integration and dynamic shape of the load curve, higher degree of ramping support from thermal generation would be required. The CEA (Technical Standards for Construction of Electrical plant and Electric lines) Regulations 2010 prescribe $\pm 3\%$ per minute ramp rate for coal fired thermal generating stations. The Indian Electricity Grid Code (IEGC) provide for a ramp rate of $\pm 1\%$ per minute only. The Commission is of the view that all thermal generating units should mandatorily provide a minimum ramp rate of $\pm 1\%$ per minute and there should be disincentive for not achieving the minimum ramp rate of $\pm 1\%$ per minute with effect from 1.4.2020. In addition, in order to encourage generating stations to provide higher ramp rate than $\pm 1\%$ per minute, there should be incentive. Therefore, the Commission has added a sub clause (iii) in the second Proviso to clause (2) of Regulation 30, which shall be applicable to thermal generating station and shall be effective from 1.4.2020, providing for incentive or disincentive for achieving or failing to achieve desired ramping levels. In case of failure to achieve the ramp rate of 1% per minute, the rate of return on equity shall be reduced by 0.25%. Further, an additional return of 0.25% on equity shall be allowed on achievement for every incremental ramp rate of 1% over and above the ramp rate of 1% per minute, subject to ceiling of additional return of 1.00%. It is further provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

10.4 Interest on loan capital [Regulation 32]

10.4.1 The draft 2019 Tariff Regulations provides for computation of normative loan, repayment, interest rate and computation of interest on loan capital under these regulations. It also specifically provided that in case of dispute, the parties may resort to the Commission's Conduct of Business Regulations, 1999 and also that pending any dispute arising out of re-financing of loan, any payment of the generating company or the transmission licensee shall not be withheld by the beneficiaries or the long term customers.

10.4.2 It is observed that the provisions pertaining to dispute and payment arising out of re-financing of loan should be under 'Chapter 14 – Sharing of Benefits'. Accordingly, the related clauses are deleted from this Regulation and placed under the Regulation for 'Sharing of saving in interest due to refinancing or restructuring of loan'.

10.5 Depreciation [Regulation 33]

10.5.1 The draft 2019 Tariff Regulations provides for computation of depreciation based on the admitted capital cost or otherwise. The Commission also provides that the salvage value of the asset shall be considered at 5% (instead of 10% earlier), and depreciation is allowed up to maximum of 95% (instead of 90% earlier) of the capital cost of the asset in lines with provisions of the Companies Act, 2013.

10.5.2 Many of the stakeholders suggested that since the Commission has increased the useful life of hydro generating station only, while keeping intact the useful life of thermal generating stations and also the transmission system, there is little benefit in adopting the salvage value of 5% in lines—with provisions of the Companies Act, 2013. Further, there would be a number of implementation hurdles in increasing the depreciation limit from 90% to 95%, especially in case of assets which have already completely recovered depreciation up to 90%. This would also result in increasing the annual fixed cost to the extent of additional 5% depreciation.

10.5.3 The Commission, in view of above submissions, has decided to continue the salvage value of the asset at 10% and depreciation at maximum of 90% of the capital cost of the asset.

10.6 Interest on Working Capital [Regulation 34]

10.6.1 The draft 2019 Tariff Regulations provides for computation of normative working capital for generating stations and transmission systems and the interest on the normative working capital.

10.6.2 In the draft 2019 Tariff Regulations, the Commission had reduced the number of days for coal stock for non-pit head thermal generating stations from 30 days to 20 days, while keeping the coal stock for pit head thermal generating stations intact at 15 days.

10.6.3 The Commission is of the view that there is no need for allowing 15 days of coal stock for pit head thermal generating stations, as the analysis of average coal stock data for pit-head thermal generating stations shows much lesser stock consistently over a period of time. Therefore, the Commission has decided to reduce number of days of stock from 15 days to 10 days for pit head thermal generating stations also. Besides, the Commission has also decided to clarify that while considering the components of maintenance spares and operation and maintenance expenses for computing normative working capital requirement, water charges and security expenses shall be included.

10.7 Operation and Maintenance Expenses [Regulation 35]

10.7.1 The draft 2019 Tariff Regulations provides for the operation and maintenance expenses norms for generating stations and transmission system. In case of thermal generating stations, the O&M expenses norms have been computed for different unit sizes on Rs. Lakh per MW basis, while for hydro generating stations, the O&M expenses norms are allowed for each generating station in Rs. Lakh for the tariff period. The O&M expenses norms for transmission system is also computed separately for AC system and HVDC stations. For the AC transmission system, the O&M expenses norms are segregated into Rs. Lakh per Bay, Rs. Lakh per MVA capacity and Rs. Lakh per KM of transmission line (separate for each voltage levels), while for HVDC stations, the O&M expenses norms are allowed in Rs. Lakh for the tariff period for back to back stations and bi-pole stations.

10.7.2 The escalation rate computed based on the average of WPI for FY 2013-14 to FY 2018-19 (till December 2018) works out to 1.98%, while that of CPI for the same period works out to 5.56%. Considering 60:40 weightages for WPI and CPI respectively, the escalation rate works out to 3.41% (as against 3.20% in the draft 2019 Tariff Regulations), in case of thermal generating stations and transmission systems. In case of hydro generating stations, considering the CPI and WPI weightages of 74:26, the escalation rate works out to 4.63% (as against 4.57% in the draft 2019 Tariff Regulations). Keeping in view the rising trend of indices, the Commission has decided to provide an additional margin of 3.00%, thereby fixing the escalation rate of 3.51% for thermal generating stations and transmission systems and 4.77% for hydro generating stations. These escalation rates have now been considered for

projecting O&M expenses norms for the tariff period from FY 2019-20 to FY 2023-24.

Table1: Summary computation of Average WPI and Average CPI

Year	Average CPI	% Change	Average WPI	% Change
FY 2012-13	215		107	
FY 2013-14	236	9.68%	112	5.20%
FY 2014-15	251	6.29%	114	1.26%
FY 2015-16	265	5.65%	110	-3.68%
FY 2016-17	276	4.12%	112	1.76%
FY 2017-18	284	3.08%	115	2.92%
FY 2018-19 (Till Dec 2018)	297	4.54%	120	4.39%
Average		5.56%		1.98%

10.7.3 Further, the stakeholders have submitted that there is a significant impact on their actual O&M expenses during FY 2017-18 on account of introduction of Goods & Services Tax (GST) and significant increase in the minimum wage rate of labour by the Central and State Governments. Therefore, the Commission has decided to incorporate the impact on account of escalation in minimum wages and GST in the O&M expenses norms for thermal generating stations and accordingly the O&M expenses norms have been revised.

10.7.4 In case of hydro generating stations, the O&M expenses norms are provided for each of the generating stations in absolute terms, i.e. Rs. Lakh for each year. It is not practicable to derive a common impact for all the hydro generating stations on account of employees pay revision, escalation in minimum wages and GST. Therefore, the Commission has decided that the impact on O&M expenses on account of employees pay revision, escalation in minimum wages and GST shall be considered for each hydro generating station separately at the time of their tariff petition for the tariff period 2019-24.

10.7.5 The security expense and water charges (applicable in case of thermal generating stations only) shall be allowed by the Commission for each generating station at the time of their tariff petition for the tariff period 2019-24, taking into consideration the actual expenditure under these heads in the

past period. Regarding transmission system, the Commission shall approve the security expenses for the tariff period 2019-24 on estimate basis, taking into consideration the actual expenditure in the past period which shall be trued up at the time of truing up.

10.7.6 Some of the stakeholders submitted that while computing O&M expenses norms for thermal generating stations of a particular series, the Commission has considered only the efficiently performing generating stations, while leaving out the relatively inefficient generating stations in terms of actual O&M expenses in per MW terms. This has resulted in dragging down the average O&M expense norms. Therefore, the submission was that the Commission should either include all the generating stations to work out the average or exclude the outliers at both ends i.e. best as well as worst performing generating stations in terms of O&M expenses in per MW terms.

10.7.7 It is observed that while determining norms for 200/210/250 MW units, Farraka I generating station was excluded, which has now been considered for determining the O&M expenses norms for the series. Regarding norms for 500 MW units, in addition to the units already considered for deriving O&M expenses norms in the draft 2019 Tariff Regulations, Ramagundum II, Korba II and Kahalgaon II generating stations have now been included for determination of O&M expenses norms. For 300/330/350 MW units, the Commission has continued with the earlier approach to consider the average O&M expenses norms for 200/210/250 MW and 500 MW units.

10.7.8 In the draft 2019 Tariff Regulations, the O&M expenses norms for 600 MW and above series are based on O&M expenses data of Sipat Stage 1 (3 X 660 MW) only. Since, the data was available only in respect of one specific project, the Commission is of the view that it may not be representative for determining O&M expenses norms for all 600/660 MW units. Therefore, the Commission has revised the O&M expenses norms for 600/660 MW units at 0.9 times of O&M expenses norms for 500 MW units, as considered in the 2014 Tariff Regulations. Accordingly, the O&M expenses norms for 800 MW and above units, which is directly linked to the O&M expenses norms of 600/660 MW units (0.9 times) are revised accordingly.

10.7.9 For lignite based stations and gas based generating stations, similar amount on account of escalation in minimum wages and GST impact has been added in the O&M expenses norms for the tariff period 2019-24.

10.7.10 Further, the stakeholders have submitted that there is a significant impact on their actual O&M expenses during FY 2017-18 on account of introduction of Goods & Services Tax (GST) and significant increase in the minimum wage rate of labour by the Central and State Governments. Therefore, the Commission has decided to incorporate the impact on account of escalation in minimum wages and GST impact in the O&M expenses norms for transmission system.

10.7.11 Further, the Commission has excluded the impact of self-insurance reserve and security expenses from O&M expenses norms for transmission system in the draft 2019 Tariff Regulations. Based on the submissions of the stakeholders, it is observed that self-insurance reserve is an efficient mechanism of self-funding of the asset replacement in case of any damage to transmission assets. Further, there is sufficient check and balance mechanism for preventing use of such self-insurance funds for any other purpose. Therefore, the Commission has considered self-insurance reserve at 0.9% of the gross fixed asset value of AC transmission system for the purpose of arriving at the base value of O&M expenses for AC transmission system. The insurance expenses for HVDC systems, which is taken from external insurance companies has already been included while computing the O&M expenses for HVDC stations.

10.7.12 It is noticed that there were some errors while considering number of bays and MVA capacity used for arriving at the O&M expenses norms for transmission system, which now has been corrected and accordingly the O&M expenses norms have been revised.

10.7.13 The Commission agrees with the suggestion that HVDC Bi-pole should be considered as double circuit quad AC line. Further, in the group of HVDC back to back stations, Vindhyachal back to back station has now also been considered. However, considering its unique technical characteristics and historically high O&M expenses on account of adverse geographic conditions, the Commission has decided to provide separate O&M expenses norms for Gazuwaka back to back station. Besides, for bi-pole schemes for which sufficient past data is not available, the O&M expenses norms have been linked to similar HVDC bi-pole schemes for which O&M expense norms

have been provided. The O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked out at 1.5% of the original project cost as on the commercial operation date, which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

10.7.14 Regarding O&M expenses norms for Communication System, considering the fact that the baseline data is still emerging, the Commission has decided not to specify any O&M expenses norms for the same. Instead, the O&M expenses shall be worked out at 2.0% of the original project cost related to such communication system, which shall be trued up subsequently.

11. Chapter 9 – Computation of Input Price of Coal and Lignite from Integrated Mine

11.1 Input Price of coal and lignite for energy charges [Regulation 36]

11.1.1 The draft 2019 Tariff Regulations provides for computation of input price of coal and lignite from integrated mine for determination of energy charge component of tariff for the generating station to which the integrated mine is allocated.

11.1.2 The Commission has decided that the detailed provisions for computation of input price of coal and lignite from integrated mine shall be notified separately. Accordingly, the related provisions in Chapter 9 pertaining to inter-alia, date of commercial operation, application for determination of input price, capital cost, additional capital expenditure, debt-equity ratio, depreciation, O&M expenses, interest on working capital, return on equity, interest on loan, determination of input price etc., have been omitted, which shall be notified separately.

11.1.3 It has, however, been provided that till the regulation for computation of input price of coal is notified, the generating company shall continue to adopt the notified price of Coal India Ltd. commensurate to the grade of coal from the integrated mine. Further, after notification of the regulation, the same shall be applicable from 1.4.2019 or date of commercial operation of integrated mine, whichever is later, and the difference between the input price of coal so decided and the input price of coal for quantity billed shall be

adjusted in accordance with the regulations to be notified. Regarding input price of lignite, the same shall continued to be determined as per the guidelines specified by Ministry of Coal, Government of India.

12. Chapter 10 – Components of Energy Charge

12.1 Energy Charge [Regulation 37]

12.1.1 The draft 2019 Tariff Regulations provides for the components of Energy Charges.

12.1.2 As already stated, in order to avoid any ambiguity, it has been decided not to use the term ‘variable charges’ and replace the same with ‘energy charges’. Accordingly, the heading of Chapter 10 is revised from ‘Computation of Variable Cost’ to ‘Components of Energy Charge’. Further, the term ‘variable cost’ is also replaced with ‘energy charge’ in the Regulation.

12.2 Landed Fuel Cost of Primary Fuel [Regulation 38]

12.2.1 The draft 2019 Tariff Regulations provides for the components of landed fuel cost of primary fuel.

12.2.2 Considering the suggestions of the stakeholders, the Commission has decided to include ‘washery charges’ in the landed fuel cost of primary fuel.

12.3 Transit and Handling Losses [Regulation 39]

12.3.1 The draft Tariff Regulations specified transits and handling losses for pit head stations as 0.20% and non-pit head stations up to 1000 KM as 0.80% and above 1000 KM as 1.20%. Further, in case of imported coal, the transit and handling losses applicable for non-pit head stations has been applied.

12.3.2 Many stakeholders submitted their detailed comments/suggestions stating that there is no rationale for increasing the normative transit and handling losses for non-pit head stations by 50%, i.e. from 0.80% to 1.20%. After taking into consideration of all the suggestions of the stakeholders, the Commission has decided to remove the graded transit and handling losses for non-pit head stations based on distance from the mine and keep the same as 0.80% for all non-pit head stations. Further, as already stated in para 22.5.1 of the Explanatory Memorandum to draft 2019 Tariff Regulations, in case of

imported coal, the Commission has decided to keep the transit and handling losses applicable for pit head generating stations, i.e. 0.20%. Accordingly, necessary revision in the second Proviso to Regulation 39 has been effected.

12.4 Landed Cost of Reagent [Regulation 41]

12.4.1 The draft 2019 Tariff Regulations provides for landed cost of various reagent and also the normative consumption of specific reagent for various technologies being installed for meeting revised emission standards.

12.4.2 The Commission has decided that the provisions for O&M Expenses, operational norms, as well as normative consumption of specific reagent for various technologies installed for meeting revised emission standards shall be notified separately. Accordingly, clause (2) of the Regulation has been amended and the table specifying normative consumption of specific reagent and proviso to clause (2) of the Regulation enabling for review of such norms based on actual performance in 2021-22, has been deleted.

13. Chapter 11 - Computation of Capacity Charges and Energy Charges

13.1 Computation and Payment of Capacity Charge for Thermal Generating Stations[Regulation 42]

13.1.1 The draft 2019 Tariff Regulations provides for computation and payment of Capacity Charge for Thermal Generating Stations.

13.1.2 The CERC (Terms and Conditions of Tariff) Regulations, 2014 provide for two-part tariff for a thermal generation station, viz. Fixed Cost (Annual Fixed Charge – AFC) and Energy Charge (EC), while linking the recovery of fixed charges with the normative availability of generating station. Accordingly, a generating station can fully recover its fixed cost, if it achieves the normative level of availability over the year.

13.1.3 It has been submitted by some distribution licensees that the current framework of recovery of fixed cost based on target availability achieved on an annual basis, does not necessarily guarantee availability of generating stations during hours and months of their needs and that the regulations should ensure such availability through appropriate mechanism. To address this concern and also to introduce “value” of electricity, the draft Tariff Regulations, 2019 proposed recovery of Fixed Cost at differential rates during

Peak Periods (not less than 4 hours in a day) and Off-Peak Periods (remaining hours other than Peak Hours), while assigning higher weightage to Peak Periods. The capacity charge rate for Peak Period was proposed at 25% higher than that of Off-Peak Period. It was also proposed that under-recovery of Capacity Charge in “Peak” or “Off-Peak” Periods in a month could be carried forward for recovery of Capacity Charge in their respective “Peak” or “Off-Peak” Periods till the end of the quarter. However, carry forward of under-recovery of Capacity Charge was not to be allowed for recovery from one quarter to the subsequent quarter. Besides, differential incentive rates for peak and off-peak periods were also proposed.

13.1.4 The Commission has considered the suggestions received from the stakeholders and has decided to retain the elements of peak and off-peak hours and seasonality in the tariff structure. Accordingly, the mechanism, provides for recovery of fixed cost of generation under two segments of the year, i.e. High Demand Season (period of three months, whether consecutive or otherwise) and Low Demand Season (period of remaining nine months, whether consecutive or otherwise) and for each day of the season in two parts, viz., Peak Period (4 hours fixed) and Off-Peak Period (20 hours fixed). The concerned RLDCs will be responsible for specifying the High Demand and Low Demand Seasons, at least six months in advance, and Peak / Off-Peak hours, at least one week in advance, for the respective regions. The Normative Plant Availability Factor of the Plant will remain the same for each day (for Peak and Off-Peak periods) equivalent to NPAF specified in these regulations, and will serve as reference/basis for the purpose of recovery of fixed cost.

13.1.5 It is also decided to allow recovery of Fixed Cost at differential rates during Peak and Off-Peak hours, the capacity charge rate for Peak hours being 25% higher than that of the Off-Peak hours. Further, the recovery of AFC shall be linked to cumulative performance during a Season.

13.1.6 Further, provisions have been made to encourage the generating stations to optimally utilize the fuel during Peak Hours. Better performance in terms of higher availability during peak hours and the resultant notional gains can be used to off-set any under-recovery of fixed cost during off-peak hours, but not the *vice versa*

13.1.7 The AFC recovery mechanism allows under-recovery of Capacity Charge in “Peak” or “Off-Peak” periods in a month to carry forward for

recovery of Capacity Charge till the end of the season. However, carry forward of under-recovery of Capacity Charge shall not be allowed for recovery from one season to the other season.

13.1.8 To further promote availability and generation during the peak hours, it has been decided that in addition to the capacity charge, any “generation” beyond the generation corresponding to the specified NAPLF during a month will carry differential incentive rates, i.e. @ Rs. 0.65/kWh for generation during Peak Hours and @Rs. 0.50/kWh for generation during Off-Peak Hours.

13.1.9 Further, considering the fact that generating stations and RLDC would need time to gear up for implementation of the provisions under this Regulation, the Commission has decided that provisions under clauses (1) to (6) of this Regulation shall come into force with effect from 1.4.2020. Further, during the FY 2019-20, the capacity charges for thermal generating stations shall continue to be governed by the provisions contained in clauses (1) to (4) of Regulation 30 of 2014 Tariff Regulations, subject to the condition that the NAPAF and NAPLF shall be taken as specified under final 2019 Tariff Regulations.

13.2 Computation and Payment of Energy Charge for Thermal Generating Stations[Regulation 43]

13.2.1 The draft 2019 Tariff Regulations provides for computation and payment of Energy Charge for Thermal Generating Stations. The Regulation also provides for the conditions as well as modalities of using alternate source of fuel by the generating stations, as well as determination of energy charge rate in case of blending of biomass with coal.

13.2.2 With an objective of clarifying the methodology of determination of energy charge rate in case of blending of biomass with coal, the Commission has revised the Regulation by providing that the landed cost of biomass fuel shall be worked out based on the delivery cost of biomass at the unloading point of the generating station, inclusive of taxes and duties as applicable. It further provides that the energy charge rate of the blended fuel shall be worked out considering consumption of biomass based on blending ratio as specified by Authority or actual consumption of biomass, whichever is lower.

13.3 Computation and Payment of Energy Charge for Hydro Generating

Stations [Regulation 44]

13.3.1 The draft 2019 Tariff Regulations provides for computation and payment of Energy Charge for Hydro Generating Stations. The Regulation also provides for the conditions as well as modalities of recovery of the energy charge component in case there is energy shortfall vis-à-vis design energy by carrying forward recovery in the subsequent year through a specified formula. Further, the Regulation also provides for energy charge rate for secondary energy, i.e. excess of saleable energy (net of auxiliary energy consumption and free energy) over the design energy.

13.3.2 A number of stakeholders submitted for revision of the complicated formula for recovery of shortfall in the energy charge component. Further, many stakeholders suggested for revision in the energy charge rate for secondary energy also. After carefully considering the stakeholders' suggestions, the Commission has decided to revise the recovery mechanism of shortfall in energy charge component by simplifying the recovery of the shortfall in energy charges in comparison to fifty percent of the annual fixed cost in six equal instalments. This provision shall apply in all cases, whether the hydro generating station is less than or more than 10 years of age.

13.3.3 Regarding the energy charge rate for secondary energy, the Commission has decided to revise the same by referencing it to the current lowest variable cost of thermal generating station. Accordingly, the secondary energy charge rate is increased from ninety paise per kWh to one hundred and twenty paise per kWh, considering the current variable charge for Sipat Stage I thermal generating station.

13.4 Computation and Payment of Transmission Charge for Inter-State Transmission System and Communication System [Regulation 46]

13.4.1 The draft 2019 Tariff Regulations provides for computation and payment of Transmission Charge for Inter-State Transmission System and Communication System. The Regulation provides that fixed cost of the transmission system or communication system forming part of transmission system shall be computed on annual basis, in accordance with norms contained in these regulations, aggregated as appropriate, and recovered on monthly basis as transmission charge from the users.

13.4.2 Some of the stakeholders submitted for revision in the formula for recovery of transmission charges for AC and HVDC system in such a way that

any loss in recovery of transmission charges in a particular month on account of lower than the normative transmission availability is allowed to be carried forward and recovered subsequently within the year by increasing performance efficiency and corresponding availability, similar to that for generating stations. While considering the submissions of the stakeholders, the Commission has observed that in AC system, because of its large population in the transmission system, incidence of recovery of loss of transmission charges due to reduction of availability of few elements is rare. However, in HVDC system, the cost of transmission system is high and the population of system is less. Therefore, the reduction of availability of few elements in HVDC system leads to large under recovery of the transmission charges. It is further observed that the HVDC system is generally connected with more than one region and any interruptions have impact on long term customers of both the regions.

13.4.3 After careful considerations of the submissions, the Commission has decided that availability computation of HVDC system shall be changed on two counts. First, is to consider computation of availability on consolidated basis encompassing all HVDC systems and second is computation of availability of HVDC system on cumulative basis instead of monthly basis. Accordingly, the transmission charge recovery mechanism for HVDC bi-pole links and back to back stations has been revised by changing the formulae - to consider the availability of consolidated system and shortfall in recovery of transmission charges in a month on account of lower than normative transmission availability shall be allowed to be adjusted and recovered in subsequent months within the year, subject to achievement of normative transmission availability.

13.4.3 Further, considering the lack of mechanism for independent certification of availability of a communication system, the proposed separate recovery of fixed cost of communication system in the draft 2019 Tariff Regulations is dropped. Such recovery shall now continue to be linked with the associated transmission system as followed during the tariff period 1.4.2014 to 31.3.2019 as per the 2014 Tariff Regulations.

14. Chapter 12 - Norms for Operation

14.1 Normative Annual Plant Availability Factor (NAPAF) [Regulation 49 (A)]

14.1.1 The draft 2019 Tariff Regulations provides for a general Normative Quarterly Plant Availability Factor (NQPAF) of 83%, with lower values for few exceptions. Further, the Regulation also provides that NQPAF shall be computed by excluding annual scheduled plant maintenance.

14.1.2 Many stakeholders submitted that the Commission should not exclude the annual scheduled plant maintenance while computing NQPAF or else should increase the NQPAF values to 90%-93%. Many stakeholders suggested to continue with the NQPAF concept, otherwise the generating station would not be able to recover the shortfall recovery of Capacity Charges on account of lower availability in a particular quarter. Some stakeholders also suggested consideration of lower availability during initial years of commissioning as recommended by the Central Electricity Authority. The Commission observed that if annual scheduled plant maintenance is excluded while computing NQPAF for a thermal generating station, there may be occasions when the generating station shall be able to recover full annual fixed cost during all quarters, even by achieving an overall annual PAF of 73% to 75%, much lower than the proposed norms of 83.00%, which was not the intended objective. On the contrary, if annual scheduled plant maintenance is included while computing NQPAF, there could be a shortfall in recovery of capacity charges during the quarter in which maintenance is scheduled. This shortfall cannot be recovered in other quarters, leading to overall shortfall in recovery of annual fixed cost by the thermal generating stations.

14.1.3 Now, with the recovery of capacity charges with Peak Hours and Off-Peak Hours combined with High Demand Season and Low Demand Season, the Commission has decided to revert to the existing method of normative annual plant availability factor cumulated on monthly basis. The availability factor has been reviewed in light of the change in quarterly availability formulation. The reduced availability during initial years after commissioning is not acceptable as there is adequate experience now of new technology. In case of any specific circumstances on stabilization of the generating unit which is not attributed to the generating companies, the generating company has liberty to approach to the Commission. Therefore, the Commission is not inclined to specify any reduced availability for the initial period. Further, the Commission has decided to increase the general NQPAF level from 83% proposed in the draft 2019 Tariff Regulations to 85%, as lower normative availability factor is not required as the availability is computed on annual basis.

14.2 Normative Annual Plant Load Factor (NAPLF) [Regulation 49 (B)]

14.2.1 The draft 2019 Tariff Regulations provides for Normative Quarterly Plant Load Factor (NQPLF) of 85%, with lower values for few exceptions for the purpose of payment of incentive to thermal generating stations.

14.2.2 With change in provision of availability from NQPAF to NAPAF, the Regulation has been revised by changing from NQPLF to NAPLF.

14.3 Gross Station Heat Rate [Regulation 49 (C)]

14.3.1 The draft 2019 Tariff Regulations provides for gross station heat rate norms for thermal generating stations.

14.3.2 Some of the stakeholders submitted to include the data for FY 2017-18 for computation of operation norms. Further, they also suggested to compute the loading factor by taking into consideration the reserve shutdown period, to calculate the revised station heat rate with impact of the compensation factor in accordance with Grid Code. After carefully considering the suggestions of the stakeholders, the Commission has decided to take into consideration the actual data from FY 2013-14 to FY 2017-18 and also corrected the loading factor by taking into consideration the reserve shutdown period. After considering the actual data for the past five years with appropriate margin and applying the same methodology and taking into consideration Central Electricity Authority's recommendations, the Commission has decided the Heat Rate Norms for 200 MW and 500 MW series units at 2,430 kCal/kWh and 2,390 kCal/kWh respectively. Further, as mentioned in Note 4 to the Regulation, the gross station heat rate for the unit capacity of less than 200 MW sets shall be dealt with on case to case basis.

14.3.3. Further, as already stated in para 17.6.12 of the Explanatory Memorandum to draft 2019 Tariff Regulations, the norms of Heat Rate in respect of NLC TPS-I(expansion) and NLC TPS-II have been inadvertently mentioned as 2750 kCal/kWh and 2720 kCal/kWh instead of 2720 kCal/kWh and 2890 kCal/kWh respectively. It was stated that this error shall be addressed suitably at the time of finalisation of Tariff Regulations. Accordingly, necessary revision in sub-clause (a) (v) of clause (C) of Regulation 49 has been effected.

14.3.4 Further, from the table under sub-clause (a) (vi) of clause (C) of Regulation 49, which consist of the gross station heat rate of gas based generating stations achieving COD before 1.4.2009, the Sugan thermal generating station has been removed, as the generating station has COD after 1.4.2009 and accordingly is covered under sub-clause (c) of clause (C) of Regulation 49.

14.4 Auxiliary Energy Consumption [Regulation 49 (E)]

14.4.1 The draft 2019 Tariff Regulations provides for Auxiliary Energy Consumption for coal based and gas based generating stations. While proposing auxiliary energy consumption norms for gas based generating stations, the Commission has considered 2.75% and 1.00% for gas based combined cycle and open cycle generating stations, respectively. The additional auxiliary consumption of coastal plants for usage of sea water have not been made part of the Tariff Regulation as the same would vary from station to station depending upon the equipment installed, configuration which will be considered separately on case to case basis.

14.4.2 The Central Electricity Authority has recommended higher norms of 3.30% (including impact of air-cooled condensers for Steam Turbine Generators) for gas based generating stations using electric motor driven Gas Booster Compressor. It further recommended for an additional auxiliary energy consumption norm of 0.35% for combine cycle generating stations having direct cooling air cooled condensers with mechanical draft fans. Accordingly, the Commission has decided to apply the Central Electricity Authority's recommendation, by inserting two provisos to sub-clause (c) of clause (E) of Regulation 49.

14.5 Norms of Operation for Hydro Generating Stations - Normative Annual Plant Availability Factor [Regulation 50 (A)]

14.5.1 The draft 2019 Tariff Regulations provides for NAPAFA and Auxiliary Energy Consumption for hydro generating stations. The NAPAFA norms for hydro generating stations have been proposed by taking into consideration existing NAPAFA norms and actual availability achieved during last five years' period by these hydro generating stations.

14.5.2 Some of the stakeholders submitted that while determining NAPAFA norms, the Commission should not consider average availability beyond 90%,

as the same may or may not be achieved in the subsequent years and in such case, the hydro generating stations shall not be able to recover its annual fixed cost. The Commission has also observed that NAPAF exceeding 90% had also not provided in the earlier Tariff Regulations. Therefore, the Commission has decided that the NAPAF norms shall be capped at 90%. Further, the NAPAF norms for certain hydro generating stations, which were left out in the draft 2019 Tariff Regulations on account of non-availability of data, have now been included.

14.6 Normative Annual Transmission System Availability Factor (NATAF) [Regulation 51]

14.6.1 The draft 2019 Tariff Regulations provides for NATAF for transmission system for recovery of full transmission charges as well as payment of incentives. For recovery of annual fixed tariff NATAF of AC system is set at 98.00% and HVDC system is set at 95.00%. For incentive consideration NATAF of AC system is set at 98.50% and HVDC system is set at 97.50%.

14.6.2 The stakeholders submitted that with addition of new HVDC lines in the transmission system, HVDC lines faces several teething problems at the initial stage, especially in case of new technology like ± 800 kV high capacity lines. This is resulting in huge short recoveries of annual transmission charges in HVDC systems. The stakeholders requested to allow the relaxation in availability for the initial period of three years. After carefully reviewing the stakeholders' submission and analysing the availability of HVDC lines, the Commission is of the view that there is a need to address this issue. The introduction of new technology, especially in HVDC system, is required to be encouraged in the system. Stringent norms for HVDC system would discourage the transmission licensee to adopt the new technology. Therefore, the Commission has decided to add a proviso where the NATAF of the HVDC bi-pole links shall be considered at 85% for the first twelve months from the date of commercial operation. Accordingly, calculation of availability for new HVDC system for first 12 months has been grossed up with 85%, subject to ceiling of 95%. This formula shall be applicable for actual availability of less than 95%. In case the availability is more than 95%, the actual availability shall be considered for calculation of combined availability of HVDC transmission system as per clause no 3 of Appendix-II.

14.6.3 Further, as the availability of HVDC system is now required to be worked out on consolidate basis at national level, this requires changes in the present system of certifying availability by the Member Secretary of concerned Regional Power Committee at regional level. Member Secretary RPC will certify the outage hours of individual back to back and bi-pole station pertaining to that region. Based on that, the Central Transmission Utility shall work out the combined availability of all HVDC system of that transmission licensee as per formula given in Appendix III.

14.6.4 Apart from above, the HVDC capacity has been linked with actual operated capacity of HVDC system with respect to rated capacity or capacity fixed by RLDC for the purpose of Available Transfer Capability(ATC). In case the reduction of the availability of HVDC system is not attributable to the transmission licensee, the rated capacity shall be considered as equal to the capacity declared by the RLDC in the formula of TAFM for HVDC system.

15. Chapter 13 - Scheduling, Accounting and Billing

15.1 Rebate [Regulation 58]

15.1.1 The draft 2019 Tariff Regulations provides for rebate to be allowed by the generating company or the transmission licensee on payment within specific period of the presentation of bill.

15.1.2 Many stakeholders submitted their detailed comments/suggestions on rebate primarily pertaining to the rate of rebate and number of days available for availing the rebate from the date of presentation of bill. It was submitted that a period of 2 days for availing the rebate is too short after verification and processing of the bills for payment and therefore the same should be extended. Agreeing with the submissions made, the Commission has revised the number of days for availing rebate from 2 days to 5 days. Further, as the number of days for availing the rebate has been increased, the Commission has also decided to reduce the percentage of rebate component from 2.00% to 1.50%. However, the percentage of rebate in case of payment of bill after 5 days till 30 days shall remain at 1.00%.

15.2 Late Payment Surcharge [Regulation 59]

15.2.1 The draft 2019 Tariff Regulations provide for late payment surcharge at 1.25% per month in case payment of bill is delayed beyond a period of 45 days from the date of presentation of bill.

15.2.2 A number of stakeholders have suggested not to reduce the percentage rate of late payment surcharge, as this would dilute its penal nature and will be considered as a mode of availing working capital. After considering the stakeholders' suggestions, we have decided to restore the rate of late payment surcharge to 1.50% as per 2014 Tariff Regulations.

16 Chapter 14 - Sharing of Benefits

16.1 Sharing of gains due to variation in norms [Regulation 60]

16.1.1 The draft 2019 Tariff Regulations provides for sharing of gains due to variation in norms by generating company or the transmission licensee based on the actual performance of controllable parameters. It further provides for the mechanism and formulae for sharing financial gains with the beneficiaries or long term customers.

16.1.2 It is observed that since there is a separate Regulation for 'Sharing of saving in interest due to re-financing or restructuring of loan', therefore, the same is deleted from this Regulation. Further, the Commission appreciates the fact that the sharing of gains on monthly basis with annual reconciliation would be a cumbersome process. Therefore, the Commission has decided that the generating station or transmission licensee shall work out gains on account of variation in norms on monthly basis which shall be shared on annual basis with the beneficiaries and long term customers, as the case may be.

16.1.3 Further, in lines with the revision of energy charge rate for secondary energy in case of hydro generating station from ninety paise per kWh to one hundred twenty paise per kWh, suitable revision has been made in the formulae in case of hydro generating station, for sharing of net gain on account of difference between actual and normative auxiliary energy consumption.

16.2 Sharing of saving in interest due to re-financing or restructuring of loan [Regulation 61]

16.2.1 The draft 2019 Tariff Regulations provides for sharing of saving in interest due to re-financing of loan between generating company or transmission licensee and beneficiaries or long term customers, as the case may be.

16.2.2 Some of the stakeholders sought clarification of the term 'refinancing' and whether it will include restructuring of loan by the same lender. The Commission has decided to revise the Regulation by adding the term 'restructuring' of loans to be included as part of refinancing of loans. Further, as already mentioned in para 9.2.2, the two clauses pertaining to the refinancing of loan, which are deleted from the Regulation on 'Interest on Loan' in 'Chapter 8 – Annual Fixed Cost' are added under this Regulation.

16.3 Sharing of Non-Tariff Income [Regulation 62]

16.3.1 The draft 2019 Tariff Regulations provides for sharing of non-tariff income from generating station and transmission system to be shared between generating company or transmission licensee and beneficiaries or long term customers, as the case may be in the ratio 50:50.

16.3.2 Many stakeholders suggested to clarify that only non-tariff income net of expenses shall be shared. Further, many stakeholders' suggested difficulty in segregation of non-tariff income components to be shared like statutory investments, bank balances, etc. and also stated benefit of many such type of income, especially rental and interest from contractors is already shared fully, as the impact is reflected in the reduced rates charged by such contractors. After carefully considering the submissions, it has been decided to revise the Regulation by restricting the non-tariff income only from rent of land or buildings, sale of scrap and advertisements.

17. Chapter 15-Miscellaneous Provisions

17.1 Deviation from ceiling tariff [Regulation 66]

17.1.1 The 2019 draft Tariff Regulations provides for deviation from ceiling tariff, which generating company or the transmission licensee, may opt to charge lower tariff for a period not exceeding one year at a time.

17.1.2 Based on the suggestions of various stakeholders, with a view to provide more flexibility in the Regulation, the Commission has decided to

revise the Regulation by extending the time period for the option of charging a lower tariff by the generating company or the transmission licensee, from one year at a time to the validity period of these regulations.

17.2 Special provisions relating to certain Inter-State generation projects [Regulation 74]

17.2.1 Many stakeholders have submitted their comments/suggestions for inclusion of certain Inter-State Generations Projects in Regulations 2019. After considering the suggestions, the Commission has decided to add a new Regulation 74 to determine the tariff of generating station and the transmission system of Indira Sagar generation project and such other inter-State generation projects.

17.3 Transmission Majoration Factor (Regulation 75)

17.3.1 After publication of the draft 2019 Tariff Regulations on 14.12.2018, the Commission inserted a new clause 49A 'Transmission Majoration Factor' in the 2014 Tariff Regulations vide notification dated 30.01.2019 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2019. This provision provides for the period for which the Transmission Majoration Factor is admissible for transmission projects. Similar provision has been incorporated in these regulations under Regulation 75. The Transmission Majoration Factor to be considered by the Commission during the 2019-24 tariff period, wherever applicable, shall be as per the provision of this Regulation 75.

**Sd/-
(I.S. Jha)
Member**

**Sd/-
(Dr. M. K. Iyer)
Member**

**Sd/-
(P.K. Pujari)
Chairperson**