Comments of DVC on 'Approach Paper on TERMS AND CONDITIONS OF TARIFF REGULATIONS for Tariff Period from 01.04.2024 to 31.03.2029' as notified by Central Electricity Regulatory Commission

Background:

DVC being a statutory body with multifarious functions and occupies a special position both from the nature of the activities it performs and by virtue of its activities being spread over the territories of two states (Damodar Valley in the States of West Bengal and Jharkhand- erstwhile Bihar) in terms of Damodar Valley Corporation Act, 1948. The various provisions under DVC Act still in force so far as the same is not inconsistent with Electricity Act.

Comments on 'Approach Paper' for consideration:

Hon'ble CERC has kindly drafted 'Approach paper on Terms & condition of Tariff Regulation for next Tariff period i.e. 2024-29 period' consisting of various provision having separate implication to Generation and 'Transmission & Distribution' activities separately and the same is stated in subsequent paragraph.

A) Common Points:

A.1) Provision for recovery of contribution to Pension Fund:

DVC requires to maintain two types of Provident Fund viz., CPF & GPF. Whereas liability for contribution ceases with the superannuation or otherwise of the employee concerned covered under CPF, liability for pension for employees covered under GPF continues after the superannuation till the death of the employees and even thereafter for payment of family pension.

Normative O&M Expenses considered by the Central Commission is based on the liability for CPF contribution only. Central Commission as well as Appellate Tribunal gave due recognition to this fact in relation to the tariff determination of DVC for the period 2006-09 wherein contribution to P & G Fund created to meet the liability of the employees under pension scheme was allowed to DVC as a special case.

Even Supreme court in its judgement dated 23.07.2018 upheld the judgement of Appellate Tribunal in totality wherein payment of P & G contribution to DVC was one of the issues.

DVC therefore humbly submits that 'contribution towards Pension benefit' may be allowed to DVC separately over and above normative O&M which is mainly framed considering the CPF Scheme in general and not the Pension Scheme which is in existence in few organisations like DVC.

A.2) Provision for increment on last determined AFC towards recovery of charge (AFC) in absence of Tariff order for next control period:

Present Regulation has provision to continue to bill the beneficiaries on the basis of last determined capacity charges as approved by the Commission for next tariff period till approval of final capacity charges by the Commission.

However, there is no provision for increment on last determined capacity charges till the time new Tariff order is issued by Commission. As a result, arrear amount along with interest piles up which leads to burden to end consumer.

Therefore, provision may kindly be incorporated so that Generating/Transmission company may be allowed to bill based on last determined AFC after applying suitable increment factor.

(Ref: 4.2 Capital Cost on Approach Paper)
Similarly, Generating/Transmission company is also suffering after achieving COD and tariff order is pending before Commission as issuance of tariff order takes considerable time after submission of petition. Therefore, Generating/Transmission company may be allowed to bill based on benchmark AFC as decided by the Commission for similar type of Units in absence of any tariff order which is pending before Commission.
The provisional AFC so decided shall finally be adjusted when final tariff order issued by commission.

Thus, the above provision(s) for increment on the last determined AFC and provisional tariff based on benchmark AFC for similar type of project, is a temporary measure and will help strike a balance between cost recovery for power generating/Transmision companies as well as protection of consumer interests.

A.3) Ref: 4.2.3 Reference Cost for Approval of Capital Cost – Benchmark Cost V/s Investment Approval Cost

Site-specific project costs provide a more accurate and detailed estimation tailored to the specific location and project requirements. Hence, Project specific investment approval captures all such cost implication which are specific to a particular site. Therefore, project specific investment approval may be continued without going for generic benchmark capital cost.
Alternatively, Benchmark capital cost with site specific deviation amount may be considered.

A.4) Ref: 4.4 Computation of Interest During Construction:

To consider allowing IDC and IEDC for the period allowed by Commission based on actual cash expenditure and to disallow computed IDC&IEDC part for the delay period not condoned by Commission based on prudence.
As Commission is allowing delay periods considering same is not on the part of petitioner, then actual IDC/IEDC booking till such extended period (i.e. original project schedule + period of delay condoned by Commission) based on actual cash expenditure deemed to have been approved.

A.5) Ref: 4.4.2 Treatment of Liquidated Damages:

Order of APTEL is binding for all concerned.
However, following two points requires consideration- basis of sharing of LD deducted requires further illustration. Further, retaining LD so deducted for a project wherein IDC/IEDC disallowed partially by the commission requires to be considered as LD deduction is limited to 5 % as ceiling.
Need for clarification on sharing of LD deducted: Clarification regarding the basis of sharing the LD deducted in a project requires further illustration. LD is a contractual provision where a predetermined amount is deducted as compensation for delays or non-performance in a project.
Limitation of LD deduction: The proposal suggests that if IDC/IEDC is partially disallowed by the commission, the retention of LD deducted should be limited to a ceiling of 5%. This implies that even IDC/IEDC is disallowed for delay part of a Project, LD deduction is limited to 5% of the contract cost.

A.6) Ref: 4.6 Renovation and Modernisation (R&M)- Special allowance in lieu of R&M:

The amount of special allowance in lieu of R&M requires to be increased to the tune of Rs 25 Lakh/MW per year with provision for year-wise escalation. The reason behind claim of increase are as follows:

As per CEA Guideline R&M / life extension works of Coal based Thermal Power Station shall not exceed 50% of the EPC cost of New Generating Units.

In case of R&M, Life extension of the unit is normally 15 years. So considering Rs. 25 Lakh/MW per year, as on date total amount for 15 years will come nearly 50 % of EPC cost of new generating station of higher capacity.
As special allowance provision is on yearly basis, year-wise escalation needs to be provided.
Further, provision for special allowance requires to be kept of 'Transmission & Distribution' project also.

A.7) Ref: 4.8 Controllable and Un-Controllable Factors:

Approach of Commission to include forest clearance as uncontrollable factor is welcome.

A.8) Ref: 4.9 Differential Norms - Servicing Impact of Delay:

In approach paper comments and suggestions on following three options were sought for towards impact of delay:
"*1. To encourage rigorous pursuit of such approvals from statutory authorities, even if delay beyond SCOD on account of clearances and approvals that are condoned, some part of the cost impact (Say 20%) corresponding to the delay condoned may be disallowed.*
2. Alternatively, RoE corresponding to cost and time overruns allowed over and above project cost as per investment approval may be allowed at the weighted average rate of interest on loans instead of a fixed RoE.
3. The current mechanism of treating time overrun may be continued, considering that utilities are automatically disincentivised if the project gets delayed."

DVC supports to adopt option-2 i.e. RoE at weighted average rate of interest on loans on the portion of 'cost over-run' in case of controllable time over-run part.

A.9) Ref: 4.10.1 Normative Add-Cap - Generating Station:

In approach paper comments and suggestions on following aspect:

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1. ***By extending the cut-off date from the current 3 years to 5 years****, which shall allow time to close contracts and discharge liabilities and eliminate the need to allow additional capitalisation post cut-off date unless in the case of Change in Law and Force Majeure.*
2. However, based on past data of similar existing generating stations, if there is a need to allow additional capitalisation that may be legitimately required post cut-off date other than those presently allowed under Regulation 26 to 29, the same may be allowed as special compensation as proposed in the case of existing station that have crossed the cut-off date.
……..."

DVC supports extending cut-off date from present 3 years.
It has been observed that work within original project scope is being executed even after 7 years due to various uncontrollable issue like litigation, statutory clearance, land acquisition etc. As such, by extending cut-off period by additional 2 years and allowing normative add-cap, items covered within original Project Scope (i.e Ash Pond, Railway line, Intake raw Water line, Ash handling system, Directives from Ministry etc) but couldn't be completed due to various reasons (like land acquisition, litigation, statutory clearance, other dispute etc) shall not be captured.
It implies that Projects which couldn't complete balance portion of the Project within first 5 years from COD shall be unnecessary penalised for no fault of the part of the Generator/Transmission licensee. On the other hand, some of the projects shall get chance to gain, due to allowance of normative add-cap, if all the jobs within original scope have been completed within first 3 years of COD and actual add-cap is less than normative one.

A.10) <u>Ref: 4.11 GFA/NFA/Modified GFA approach:</u>

DVC supports Commission's view for continuation of GFA for next Tariff Period i.e. 2024-29. The existing Generators are already in stressed condition due to infusion of huge CAPEX to meet revised Pollution norms for which Generator is eligible to get ROE @bank rate only in place of 15.5%. Therefore, shifting from GFA to NFA will add further stress to the already stressed situation.

A.11) <u>Ref: 4.12 O&M Expenses:</u>

DVC welcomes Commission's view for considering normative O&M expense under three distinct separate head namely (1) Employee Expense (2) Repair & Maintenance and (3) General office expense.
DVC proposes to consider the following points while fixing normative O&M expenditure:

(1) Employee Expense -

In this regard, the employee expense aspect of DVC should be considered separately. Employees under DVC are covered under GOI pension scheme. DVC is probably only Utility under the ambit of CERC whose employees are covered under GOI Pension schemes. As such, every year a substantial amount is required to be transferred to Pension fund account based on Actuarial assessment done by Aquarists. Further, pay revision takes place for DVC employees as and when pay revision for central govt employees becomes effective.
In view of above, special consideration for the following is required for DVC while framing normative O&M against 'employee expense':
(a) Special provision to DVC towards consideration for top up in P&G Fund.
(b) Consideration of pay revision impact as and when arises.

(2) Repair & Maintenance –

It should be treated separately, as it has direct impact on heath of the plant. In the regime of flexibilization, unit must run in technical minimum load on regular basis. That apart, technical minimum load will be decreased from 55 % to 40 % in coming days for which Order of MOP has already been issued. Nowadays frequent ramp-up/ ramp-down is a common feature. Integration of Renewable energy with thermal power is increasing day by day and in coming days frequent start / stop will be common feature for thermal units. All the above has severe impact on life of the plant and its equipment resulting in considerable higher expenses for repair & maintenance.

In view of above, DVC proposes normative Repair & Maintenance expenses considering above stated issues, size of the unit and vintage slab of the unit like 5-10 years, 10-15 years, 15-20 years etc.

(3) General office expense –
Normative expenses along with escalation factor needs to be allowed separately.

Along with Security charges and Water charges, Ash evacuation cost should also be allowed as additionally.

Moreover, Hon'ble CERC has changed methodology for determination of normative O&M in case of Transmission system by splitting normative O&M in between Sub-station bays and Transformer capacity in MVA as per voltage level which was based on number of bays only as per voltage level in 2019-24 Tariff Regulation. In the process, for the same T&D system, normative O&M for DVC reduced to almost half the value in comparison with 2014-19 period. Further, O&M expense for 10 numbers of 50 MVA Transformer cannot be equated to single 500 MVA Transformer.
In view of above, the followings may kindly be considered-
To consider normative O&M based on number of bays and Line length only in case of Transmission system.

A.12) Ref: 4.12.4 Inclusion of Capital Spares

DVC submits that in case of raising the threshold limit above Rs 20 lakh towards allowing claim for capital spare, adequate add-cap provision is required to cover-up capital expenditure required on the ground of 'replacement of asset' for various reasons like Efficient operation, achieving PAT, replacement of existing drives and electrical accessories by energy efficient one etc.

A.13) Ref: 4.13 Depreciation:

Depreciation in case of DVC is guided as per provision of DVC Act which may kindly be considered while framing Regulation.

A.14) Ref: 4.14 Interest on Loans:

DVC welcomes proposal for allowing weighted average actual rate of interest of the generating or transmission company instead of project specific interest on loans.
However, DVC submits to consider normative 'Interest during construction (IDC)' in case of equity infusion is higher than normative 30%.

A.15) Ref: 4.15 Return on Equity (RoE) V/s Return on Capital Employed (RoCE):

DVC is in favour of continuation of ROE approach.

A.16) Ref: 4.17 Tax Rate :

DVC submits to consider tax liability arising in future based on actual assessment so that Net Return after tax remains reasonable enough in line with Tariff Policy.

A.17) Ref: 4.18.1 Working Capital Requirement:

DVC submits to consider total allowable amount including additional O&M, sinking fund, ash evacuation expense etc as receivable amount while arriving total working capital requirement.

A.18) Ref: 4.18.2 Rate of Interest on Working Capital:

DVC submits to continue present rate of interest on working capital.

A.19) Ref: 4.18.3 Normative Working Capital and interest thereon:

IWC computation on normative basis is welcome approach.
However, the following points may be considered while going for normative approach: -

(i) Rise in Fuel price, O&M for present tariff period over the past period may not be captured.
(ii) Any change in receivable days , stock primary fuel beyond 30 days based on MOP directives.

A.20) Ref: 4.19 Life of Generating Stations and Transmission System:

Special allowance for extended life of operation in case of Transmission System may be introduced to cater the need for repair/upkeep equipment.

B) Specific points for Transmission & Distribution (T&D) activities:

B.1) Normative O&M for Transmission System:

The present Tariff Regulation-2019 has fixed normative O&M of Transformer on the basis of Rs in lakh/MVA. The above regulation speaks for same normative O&M for 500 MVA ICT and 10 numbers of 50 MVA Transformer. The O&M expenditure for 10 numbers of 50 MVA Transformer is more than O&M for single 500 MVA ICT.
The norm for Transformer has been introduced in 2019-24 regulation after reducing norms for bay maintenance to half the value fixed during 2014-19.
As a result, for DVC, who operates in both transmission and distribution business, the normative O&M has been reduced abruptly in 2019-24 period in comparison with 2014-19 period. The reason behind the same is DVC is having distribution system large quantity of Distribution /Power Transformers with small capacity against each one.

B.2) Relaxation towards declaration of COD for 33 kV and below voltage level:

As a Distribution license, DVC must keep ready 33 kV and 11 kV Bay, so that, power supply can be given to the prospective consumer on application. As a result, the capital value of the asset is not being recovered for want of COD declaration which in turn is not possible, till power supply is taken by the consumer. So, COD declaration may be considered based on 'successful charging only' in place of 'Power flow' in case of 33kV and below voltage level.

C) Specific Points for Generating Station:

C.1) Ref: 4.2.4 Capital Cost of Hydro Generating Stations:

Approach of Commission towards considering expenses for the enabling infrastructure, i.e., roads and bridges, on a case-to-case basis which could be (i) as per actuals, limited to Rs. 1.5

crore per MW for up to 200 MW projects is welcome. However, the amount may be enhanced to Rs 2 Crore/MW considering small unit size and vintage Hydro plant.

C.2) <u>Ref: 4.16.5 Rate of Return – Old Thermal Generating Station:</u>

DVC submits to keep provision for incentive on achieving availability beyond the target availability because PLF is dependent on schedule generation on which generator has no control.

C.1) Provision for consideration of normative availability as 83% in place of 85% in case of shortage of coal faced by Power station.

Ensuring availability of Generation is dependent on coal availability which in turn dependant on coal company. Nation-wide shortage of coal has been faced in FY:2022-23.

C.2) Provision for allowing expenditure on high value Item to be kept as 'Pool Spare' against certain number of Plant (Say every four Units of 500 MW Unit).

For ensuring availability of Turbogenerator considering failure of Equipment, one set High value Items like Generator Rotor, Turbine-Rotor, Generator transformer etc is required against several Unit of similar type & size at a strategic location.

C.3) Provision for additional Capital Expenditure for 'Modification/alteration of existing Pipeline/ Cable Trench etc', Technical reason in case of improvement of efficiency may be considered.

Existing Provision in Tariff Regulation for Add-cap is only limited to expenditure on the ground of change in law, liability etc.

- **Recovery on 'Ash Evacuation expenditure'**:
  A substantial expenditure is incurred for evacuation of ash. The expenditure depends on various factor like distance, route, disposal site etc. As storage of 'Ash Pond' is limited, provision for allowing such expenditure on actual basis after adjustment of 'income from Ash Fund' may be allowed.

D) <u>Other provisions not covered in 'Approach paper'.</u>

D.1) Formula for capacity charge as per provisions of the Regulation:

DVC proposes –

(i) For exclusion of annual scheduled maintenance period in the formula meant for calculation for capacity charges and

(ii) any improved Plant availability over and above the normative availability in a quarter may be allowed to carry over to the next quarter

D.2) Definition of 'Start Date' as per provision of the Regulation:

DVC proposes a change in considering the **"Start Date" for projects**. Instead of using the investment approval date as the starting point, DVC suggests using the **start of actual capital disbursement date as the reference**. By considering the start date from the date of actual capital disbursement, DVC aims to reflect the actual initiation of project activities and the utilization of funds. This approach recognizes that investment approval is often an early stage in the project lifecycle and may not accurately reflect the project's progress or the timing of capital disbursement.
It would also allow for a more realistic assessment of project milestones, timelines, and associated regulatory requirements. This proposal aims to align the project timeline with the actual flow of funds and expenditure, providing a more accurate representation of the project's progress.

D.3) **<u>Computation of Capital Cost: Capital Cost of an Existing Project as per provision of the Regulation</u>**

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In the case of Thermal plants, DVC proposes the followings for consideration:

(a) Inclusion of Capital Expenditure for Gypsum Disposal: DVC proposes including the capital expenditure required for establishing facilities or acquiring land for the disposal, handling, and transportation of gypsum. This is necessary to meet revised emission control norms. As emission control requirements evolve, thermal plants need to invest in infrastructure for proper gypsum management. Including this expenditure would enable the thermal plants to comply with the regulations and ensure environmentally sound gypsum disposal.

(b) Inclusion of Capital Expenditure for Railway Infrastructure Augmentation: DVC suggests including the capital expenditure incurred for augmenting railway infrastructure to transport limestone to the receiving end of the generating station. This expenditure is necessary to meet revised emission control norms. Upgrading the railway infrastructure is crucial to ensure a reliable and efficient supply of limestone, which is used in the thermal plant's operations. Including this expenditure recognizes the investment required to meet emission control requirements.

(c) Expenditure for Captive Coal Transportation Mode: DVC proposes considering the expenditure incurred for implementing a captive coal transportation mode, specifically a closed conveyor system, as directed by the Ministry of Power (MOP). This expenditure is necessary to comply with the MOP's directive and ensure efficient and environmentally friendly coal transportation. Including this expenditure encourages thermal plants to adopt cleaner and more efficient coal transportation methods.

(d) DVC proposes that the additional capital cost associated with the development, extension, or augmentation of existing Ash Pond should be considered. This includes costs related to acquiring adjacent land, addressing technical requirements, and fulfilling environmental obligations. It may also include expenses related to providing rehabilitation and resettlement packages to affected persons or evictees, including annuity payments.

(e) Expenditure for Augmentation of DVC T&D System: DVC highlights the need for capacity augmentation in their Transmission and Distribution (T&D) system to meet the growing demand

of consumers. Regular augmentation of the T&D system is required to maintain a reliable and resilient electricity supply.

Additionally, DVC emphasizes the lack of specific regulations for T&D system augmentation. Without clear guidelines or regulations, the augmentation of the T&D system may face challenges. Addressing this regulatory gap would provide clarity and enable the necessary investments in T&D infrastructure to support reliable electricity supply.

Incentive Scheme for Thermal Generating Station:

Incentive schemes for thermal generating stations can be designed to encourage flexible operation and improved availability. Given the challenges posed by renewable energy integration, it is important to recognize the value that thermal generators provide in supporting the grid by flexible operation.

Here are three potential options for incentivizing thermal generators:

(i) Incentive Scheme for Achieving Availability Exceeding Normative Levels: Present regulatory provision has kept incentive for Thermal Generator on achieving PLF of more than 85% which is difficult to achieve due to RE integration at present. In place of existing incentive for achieving a Plant Load Factor (PLF) of more than 85%, a new incentive scheme can be introduced for thermal generators that achieve availability exceeding the normative levels. This would encourage generators to maintain higher availability, which is crucial for grid stability and flexibility. By rewarding thermal generators for their ability to reliably contribute to the grid, this scheme recognizes their important role in the energy mix.
Hence, Thermal Generator requires to be incentivized/rewarded on achieving availability exceeding normative one as Thermal Generators supports the Grid in flexible operation.

(ii) Incentive Scheme for Flexible Operation: Thermal generators can also be incentivized for their flexibility in operation. This can be achieved by rewarding them for their ability to ramp up or down quickly in response to changes in demand or the intermittent nature of renewable energy sources. Flexible operation is vital for maintaining grid stability and optimizing the integration of renewable energy. An incentive scheme that recognizes and rewards generators for their flexibility would encourage them to adopt advanced control mechanisms and operational strategies that enhance system reliability.

(iii) Enhanced Energy Charge Rate during Peak-Hours: Another option is to increase the energy charge rate specifically during peak-hours, incorporating an incentive rate. This approach aims to create a price signal that encourages thermal generators to be available and ramp up their production during periods of high demand. By offering higher energy charge rates during peak hours, generators would have a greater financial incentive to operate during these critical periods, supporting grid reliability and ensuring sufficient power supply during times of increased consumption.
These incentive schemes can be implemented in combination or individually, depending on the specific goals and priorities of the regulatory authorities. It is important to strike a balance between incentivizing thermal generators to support the grid and encouraging the growth of renewable energy sources for a sustainable and resilient energy system.

Compensation mechanism for Thermal Generating Station:

The compensation mechanism should recognize and reward the value that flexible operation of thermal generating stations brings to the power system. Flexibility allows for better integration of variable renewable energy sources, improved grid stability, and more efficient system operations.

Cost recovery: The compensation mechanism should ensure that thermal generators are able to recover the additional costs associated with flexible operation, such as increased wear and tear on equipment, higher fuel consumption due to frequent start-ups and shutdowns, and additional maintenance requirements.

Present regulatory provision is to compensate on degradation of operational parameters for Operation below 85% only which is also computed in Energy terms (MU), averaged over a month. However, as per this philosophy, a generator may not get adequately compensated for parameter degradation for actual lowering during a particular T/B or period. Say, for example, in case a Thermal Generator backed down to 55% during Solar Hours (say 12 hours) and ramped-up to full load (100%) in peak-hours only (say rest 12 hours) then the Generator does not become eligible to get compensation on basis of 55% Loading, rather it will be on basis of 78% Loading because of Averaging over the whole period. Hence, operational parameter degradation due to actual low load operation during solar hours remains uncompensated to some extent.

Hence, it is suggested to compute compensation amount by using same formula for each 15-minute block or at least daily on 12 Hourly basis. In this way, the computation shall be a length one but will make provision for suitable compensation for the Thermal generator undergoing through flexible operation.

Option 2: Consider the Loading for the time blocks for which the Unit Loading is below 85% of MCR less Normative APC over the month and sort these loadings as per compensation bands (for APC & SHR) & aggregate MU figs. Corresponding to these bands and accordingly assess the parameter degradation against the actual degradation of respective time-block generation.

Further, apart from compensation on ‘degradation of operational parameters front’, the following provisions as stated below may also be considered additionally:

Higher than normative Add-cap Approach: suitable provision also requires to be kept for normative add-cap for this kind of Generator as Thermal stress develops for undergoing through flexible scheme. These Generators requires more repair and maintenance.

Performance-based incentives: The compensation mechanism can be designed to reward thermal generators based on their actual performance in providing flexible operation. This can include parameters such as ramping capabilities, response time, and load-following capabilities.

Summary:

The unnecessary threadbare analysis in respect of claim of add-cap and allowance thereof requires to be discontinued. The Approach Paper has given a direction in this front.

However, the following points requires to be factored in while adopting normative AFC-

(1) Cut-off date requires to be extended from present 3 years to may be atleast 7 years. At the same time, provision to allow add-cap covered within original project scope which are stuck

due to various reasons like litigation, statutory clearance, land acquisition etc requires to be kept. It has been observed that even after 15 years, actual payment has been made to contractor based on final settlement as per contract.

(2) The normative O&M for Transmission requires revisit and should be based on number of bays only in place of Bay and Transformer separately. Then only normative AFC approach may be adopted after factoring in recomputed normative O&M based on bays for DVC T&D System. Otherwise, normative AFC for 'DVC T&D System' shall remain lower than what should have been.

The following points also requires to be considered exclusively for DVC Stations considering special provision both in Tariff Regulation and DVC Act -

(3) Depreciation rate as per C&AG rate as adopted by DVC and considering regulatory provision, the same requires to be factored in case of Normative Tariff approach.

(4) Similarly, contribution to 'Sinking Fund' as per provision of DVC Act and considering regulatory provision, the same requires to be factored in case of normative tariff approach.

(5) Similarly, contribution to pension fund requires to be considered in addition to normative O&M in Tariff as DVC is the only organisation where employees are covered under General Pension Scheme in comparison with other PSU where employees are covered under CPF Scheme.

Further, the following points also requires to be considered as elaborated above-

(6) Revisit of present compensation scheme either 15-minute block-wise or at least on 12 hourly basis

(7) Incentivizing Thermal Generating Station on achieving availability more than normative and performing flexible operation.