Delhi Electricity Regulatory Commission

Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi – 110 017.

No. F.11(1791)/DERC/2020-21/CF 6839/

Petition No. 24/2020

In the matter of: **Petition seeking declaration from the Commission that the Power Purchase Agreement (PPA) dated 14.02.2011 is expiring in March, 2021 i.e date of completion of duration of Power Purchase Agreement.**

Tata Power Delhi Distribution Ltd. **…. Petitioner**

Vs.

Indraprastha Power Generation Co. Ltd. **… Respondent No. 1**

State Load Despatch Centre **…Respondent No. 2**

Petition No. 35/2020

In the matter of: **Petition for Approval of Life extension of GTPS Plant and operation beyond March 2021.**

Indraprastha Power Generation Co. Ltd. **…. Petitioner**

Vs.

Tata Power Delhi Distribution Ltd. **…..Respondent No. 1**

BSES Yamuna Power Ltd. **…Respondent No. 2**

BSES Rajdhani Power Ltd. **…Respondent No. 3**

Coram:
Hon'ble Shri Justice S S Chauhan, Chairperson
Hon'ble Dr. A. K. Ambasht, Member

Appearance:
1. Mr. M.G. Ramachandran, Sr. Adv. IPGCL
2. Mr. Buddy Ranganadhan, Adv., TPDDL & BYPL
3. Mr. Sajan Poovaya, Sr. Adv., TPDDL
4. Mr. Hasan Murtza, Adv. BYPL

ORDER

(Date of Order: 24.03.2021)

The issue involved in both the petitions are common in nature, therefore, we decide to adjudicate both the petitions by this Common order.

1. The Petition No. 24 of 2020 has been filed by Tata Power Delhi Distribution Limited (TPDDL) seeking declaration from the Commission that the Power Purchase Agreement (PPA) dated 14.02.2011 is expiring in March' 2021 i.e. date of completion of duration of PPA dated 14.02.2011 and that the power procurement from IPGCL's Gas Turbine Power Station is unviable. The TPDDL also seeks directions of the Commission towards discontinuation of scheduling of power by State Load Dispatch Centre, Delhi from IPGCL's Gas Turbine Power Station with effect from March' 2021 and non-billing of any kind whatsoever by IPGCL to the TPDDL towards the same. TPDDLhas made the following prayers in his petition:

   a. Hold and declare that the validity of the Power Purchase Agreement dated 14.02.2011 qua GTPS shall end in March' 2021 i.e. date of completion of duration of the PPA;

   b. Hold and declare that GTPS shall cease to be an approved source of power for the Petitioner beyond March'2021;

   c. Observe and declare that the power procurement cost from GTPS to the Petitioner is economically unviable;

   d. Direct Respondent No. 2 (SLDC) to discontinue scheduling of power from GTPS with effect from March'2021 i.e. date of completion of duration of the PPA.

2. Submissions of TPDDL in both petitions are as follows;

   i. That as per Commission's Order dated 31.03.2007, the supply of power from existing power stations of IPGCL under the DTL PPA was to be made directly to the distribution licensees in the NCT of Delhi including the TPDDL. Accordingly, TPDDL herein entered into a PPA with IPGCLon 14.02.2011 wherein 01.04.2007 was defined as the effective date, being the date from which this Commission allocated capacities from IPGCL's generation stations i.e. GTPS, to the distribution licensees in NCT of Delhi including the TPDDL herein.

   ii. Under the PPA, clause 13.0 lays down the 'Duration of the Agreement'. Clause 13.1 states that:

      "13.1 *The validity of the agreement shall be upto completion of twenty-five (25) years from the date of commercial operation of last Unit/GT/Module of the station unless it is specifically extended on mutually agreed terms.*"

   iii. The date of commercial operation of the last unit/Module of GTPS was March' 1996. In accordance with Clause 13.1 of the PPA, the validity of the subject PPA is ending in March' 2021. The subject PPA can be extended beyond the

period prescribed under Clause 13.1 only by mutual agreement of the parties to the PPA i.e. TPDDL herein and the IPGCL. On date of filing of the present Petition, no such mutual agreement has been reached upon by the TPDDL and the IPGCL.

iv. In the absence of a mutual agreement to extend the subject PPA, the Commission may kindly declare that the validity of the PPA shall end in March' 2021 in accordance with the terms of the PPA and that TPDDL is not liable to purchase power from IPGCL beyond the validity of the PPA. The TPDDL beseeches the Commission to also declare that GTPS will not be an approved source of power beyond March, 2021 as GTPS is an approved source of power procurement for TPDDL in terms of the subject PPA only. Therefore, once the validity of the PPA comes to an end, GTPS will cease to be an approved source of power procurement.

v. Throughout the validity of the PPA till date of fling of the present Petition, the TPDDL has honoured its obligation under the PPA including making timely payments to IPGCL as per Clause 6.5 of the PPA.

vi. GTPS of IPGCL is an unviable generating station which has also outlived its utility as a normal load serving entity. Any decision with regard to extension of the term of the subject PPA beyond what is stipulated in the terms cannot be carried out in the absence of mutual agreement between the TPDDL and the IPGCL. However, till date of filing of the present Petition, no such agreement has been reached upon. Any extension of PPA/procurement of power from GTPS beyond March' 2021 will be detrimental to the interest of consumers in its license area. The statutory responsibility of the TPDDL as well as this Commission is to protect the interest of the consumers and ensure efficient power procurement. It is in its endeavour to fulfil its above stated responsibility, that the TPDDL calls upon the Commission to kindly take note of the terms and conditions of the subject PPA as well as the operational and economic unviability of GTPS and declare that the subject PPA is expiring on March' 2021 i.e. date of completion of duration of the PPA, that the power procurement from IPGCL GTPS is unviable and that GTPS will not be an approved source of power for the TPDDL from March' 2021 onwards.

vii. The scheduling of a power plant is controlled by the State Load Despatch Centre strictly on the basis of Merit Order Ranking i.e. variable cost. The increasing cost of generation from GTPS on account of non-availability of adequate APM gas, poor operational parameters and reduction in prices of

renewables (solar and wind) along with statutory compliance of Renewable Purchase Obligation will further result in lesser scheduling of power from GTPS. Any renewal of GTPS beyond the validity of the subject PPA will only burden the consumers of Delhi with its fixed costs, without any effective plant utilisation. The Commission may direct the SLDC not to schedule any power from GTPS to the TPDDL beyond March, 2021 i.e. date of completion of duration of the PPA and also direct IPGCL not to raise any bills towards the same.

viii. In accordance with the provisions of the PPA, the TPDDL need not to purchase and procure power from IPGCL's GTPS beyond the validity of the PPA which is ending on March, 2021 i.e. date of completion of duration of the PPA, unless the TPDDL and IPGCL mutually decide (emphasis supplied) to extend the term of the PPA, in manner beneficial for the consumers in the TPDDL's license area. Thus, in exercise of its contractual right, the TPDDL herein has submitted in the preceding paragraphs and reiterates that it does not intend to extend the duration of the subject PPA. The operational and economic unviability of GTPS is only an additional submission to supplement the IPGCL's exercise of its contractual right. The TPDDL's submission for a direction to SLDC to re-schedule power beyond March, 2021, direction to IPGCL not to raise any bills towards the same and to declare that GTPS will not be an approved source of power from March, 2021 onwards is also a consequence of the validity of the PPA coming to an end.

ix. A detailed cost benefit analysis is required to be carried out with respect of GTPS and the same was reiterated by the representative of the Commission as well. In the meeting dated 10.01.2020 also, no submissions were recorded on behalf of any of the DISCOMs including the TPDDL herein. Hence, the claim of the IPGCL that the TPDDL had given its *in-principle* approval at the time of filing the instant Petition is not just surprising but a feeble attempt by the IPGCL to mislead the Commission.

x. It is not the TPDDL herein who is seeking a pre-emptive decision but in fact the IPGCL as despite having explicit knowledge of TPDDL's protest to the extension of the PPA for a further period of 10 years beyond March, 2021, the IPGCL has filed a Petition bearing Petition No. 35 of 2020 before the Commission on 18.08.2020. In the Petition No. 35 of 2020, the IPGCL has sought not only the approval for proposal of retrofit for life extension of GTPS units but also *in-principle* approval of capital expenditure to be incurred on R&M of GTPS, approval of draft supplementary power purchase agreement for extension of

PPA as well as approval of tariff of GTPS for operation beyond March, 2021. The IPGCL is blatantly making bald and baseless statements to hide its own misconduct from the Commission and the TPDDL herein craves leave of the Commission to reiterate the prayers sought under the instant Petitions.

xi. The IPGCL may retrofit GTPS and opt to sell power in open markets which would not only help in GTPS continuing to be in service but at the same time will help GTPS become competitive as well, however, the TPDDL herein is not liable to procure power from GTPS beyond March, 2021 as the duration of the PPA would come to an end in March, 2021.

xii. Such life extension proposal is unacceptable to the TPDDL herein as the fixed costs claimed by the IPGCL for life extension of GTPS by 10 years in its Petition No.35 of 2020 showcases claims of a whopping Rs. 1270 crore which is absolutely unaffordable, considering the negligible utility of GTPS on account of it being costly and inefficient, present high regulatory assets of the IPGCL and the precarious position of DISCOMs such as the TPDDL herein. It is submitted that such high costs of GTPS clubbed with inefficient operational parameters would further burden the end consumers' tariffs and hence, it is not only uneconomical but irrational to further extend the PPA beyond March, 2021. In fact, if permitted, the TPDDL would be willing to terminate the same immediately without waiting for March, 2021.

xiii. That except the common agreement recorded at the end of the minutes of meeting dated 26.03.2019, rest of the contents were mere discussions between the participants to the meeting and the TPDDL herein cannot be held accountable for the observations made by it which were in the nature of brainstorming and not conclusive. After the meeting dated 07.03.2019, numerous meetings took place wherein further discussion were held on the same issue between the same participants. Hence, the TPDDL cannot be held hostage for observations made and discussions had in a single meeting. The TPDDL had clearly cited its disagreement to renew the PPA to DERC vide its letter dated 30.07.2020 and also by way of petition filed for non-renewal of the same. Evidently, IPGCL has picked up certain points from some meetings which were for discussions, clarifications and subsequent cost details/information cannot be used by IPGCL for making baseless claims towards renewal of the Power Purchase Agreement. All such meetings and discussions were prior to GTPS submitting renewal petition before the Commission from where the cost benefit details have finally emerged.

xiv. The minutes of meeting dated 26.03.2019 nowhere indicate that the TPDDL will renew the subject PPA. As per Clause 13.1 of the PPA, PPA can only be extended on mutually agreed terms and not otherwise and in the present case the TPDDL has opted for the PPA to end in March 2021 i.e. when the duration of the PPA comes to an end. The IPGCL cannot use any Minutes of meeting for overriding the clause of the existing Power Purchase Agreement.

xv. That the alleged *In-principle* Approval that the IPGCL is referring to was in fact never accorded by the TPDDL herein. The filing of the instant petition is proof in itself that the TPDDL is not agreeable to the extension of the PPA for a further period of 10 years beyond March, 2021.

xvi. GTPS would not even fit in the merit order for the purpose of scheduling and hence, it is an absolutely unviable option/proposition for life extension. The TPDDL, vide its letter dated 28.03.2020 to IPGCL/PPCL, with a copy to the Commission and Secretary (Power) GONCTD, suggested that the APM gas allocation to GTPS (capable of generating upto 40MW in GTPS (50MW in the more efficient Bawana CCPP on account of Bawana Station Heat Rate ("SHR") being 25% better than GTPS SHR) be diverted to Bawana once the PPA term of GTPS expires. In the letter dated 28.03.2020 it was also stated that this diversion would enable Bawana to generate maximum capacity with cheaper APM gas thus, providing the consumers of Delhi with power at relatively economical rates.

xvii. GTPS supplied power to important and sensitive areas, neither NDMC, which includes VVIP areas nor DMRC, which is considered as an essential load have any power allocation from GTPS. The TPDDL denies that life of GTPS be extended by another 10 years. Clearly the TPDDL and its end consumers cannot be made liable for reliability of other entities.

xviii. The primary responsibility of SLDC Delhi is to ensure optimum scheduling and dispatch of electricity within Delhi and not to advise distribution licensees such as the TPDDL herein on procurement of power as well as on commercial arrangements that a distribution licensee may enter into, to ensure such procurement of power. SLDC Delhi's indication on the alleged need to extend the life of GTPS by another 10 years is beyond its role and authority, hence, the same may only be taken as a mere suggestion, if at all.

xix. SLDC Delhi has in the past not been proactive with issues like DISCOM wise scheduling, testing of Bawana Gas Power Plant and running of Bawana Power plant on APM gas which has increased the inefficiencies in the system.

xx. GTPS has already reached around 1.5 lacs equivalent operating hours and the useful life of GTPS is nearing its end. GTPS is old, inefficient and economically unviable, which has been operating after various relaxations provided by the Commission.

xxi. Accordingly, life of GTPS should not be extended further as the same would result in unnecessary financial burden on the consumers within the distribution license area of the TPDDL. Such high financial burden on the consumers is a natural corollary of the cost estimates shared by the TPDDL in its Petition which indicates that O&M cost of the GTPS plant post R&M would be significantly higher and would only increase with time. Burdening the consumers with such huge costs with a very minimal anticipated utilization is wholly unjustified. Further, revival of such high cost plants is a deterrent to distribution licensees from availing the opportunity of power purchase cost reduction offered by short term markets and renewable energy markets, wherein sufficient power is available at significantly lower costs.

xxii. The extension of the PPA can only be on mutually agreed terms and it is abundantly clear and evident from TPDDL Petition No. 24 of 2020 as well as letter dated 30.07.2020 submitted by TPDDL with the Commission that the TPDDL has vehemently opposed the extension of its PPA with the IPGCL beyond March, 2021 and unambiguously mentioned in various meetings with the IPGCL, in the presence of officials of Government of National Capital Territory of Delhi, the Commission and others, that TPDDL is not in agreement to extend IPGCL's, GTPS power plant in the manner proposed by the IPGCL as well as the PPA by another 10 years beyond March'2021 as the same is economically unviable and also against the interest of consumers of TPDDL.

xxiii. The APM gas available with GTPS is 0.3 MMSCMD per day which can generate maximum of 40MW, hence GTPS cannot generate power corresponding to its one module in combined cycle corresponding to even 90MW. Therefore, to utilize one module to its full potential, the IPGCL would have to make use of RLNG or Spot Gas which is bound to increase generation costs to high levels of Rs. 6 to 7 per unit.

xxiv. Although the amount of investment being suggested by the IPGCL is Rs. 243.87 crore as capital cost (Rs. 210.81 crore for retrofit and Rs. 33.06 crore as proportionate value of retained assets as mentioned in Petition No. 35 of 2020), the fixed cost recovery over a period of 10 years comes out to be Rs. 1,270 crore. A fixed cost recovery of Rs. 1,270 crore of a plant having outlived its useful life with a low Plant Load Factor ("PLF)"and low availability of APM gas is completely unjustified.

3. The submission of IPGCL are as follows;

i. The TPDDL along with the other Procurers have given their *in–principle* Approval for the extension of the PPA for a further period of 10 years beyond March, 2021 before filing of this petition. The TPDDL cannot take therefore approbate and re-approbate and be allowed to maintain the present Petition (24 of 2020) while simultaneously agreeing to the extension of the PPA dated 14.02.2011.

ii. The Gas turbines of the IPGTPS station are 35 years old and the Steam turbines are only 24 years old and the existing Power Purchase Agreement dated 14.02.2011 between the TPDDL and IPGCL for this station is to expire in March, 2021. The Power Purchase Agreement however provides for renewal of the same thereafter on mutually agreeable terms.

iii. As per the assessment done by Original Equipment Manufacturer ('OEM') these turbines are still in good condition and with certain retrofitting, can operate for a further period of 10 years to provide electricity for maintaining the supply to the consumers in Delhi.

iv. A meeting of all stakeholders was called on 07.03.2019 under the Chairmanship of Secretary (Power) GNCTD, to discuss the operation of IPGTPS beyond March, 2021. The meeting was attended by all the stakeholders of Delhi Grid including Central Electricity Authority, the Commission, the DSICOMs including the TPDDL herein. In the meeting DTL made the following submissions:

a. IPGTPS is an important station from the grid stability and security point of view. Its operation is required not only on commercial lines but also from the perspective of planning, grid safety and security;

b. The Committee Report associated with the Delhi Islanding Scheme recommended that there should be a built-up of the capacity within the

State which would help in meeting the critical loads during emergency. Delhi has already witnessed the loss of generation of about 380MW in the same belt due to closure of the generation from IP Station and Rajghat Power House. Moreover, IPGTPS generation and the switchyard are directly feeding the critical load of essential services i.e. DMRC, Presidential Estate, Embassies and other VVIP areas;

c. The need for embedded generation for meeting out the contingencies in case of the power failure and for islanding scheme of Delhi was emphasized since the generation plant of I.P. Station, RPH and Badarpur have already been closed. The inter-connected transmission network cannot be seen in isolation by the DISCOMs from the Commercial point of view only which will affect the all Delhi network;

d. During the winter load conditions, the grid suffers from the problem of transmission and distribution system. Therefore, DTL and DISCOMs are paying huge penalties for reactive power in the 220Kv, 66Kv, 33Kv AND 11Kv system. The reactive power within the voltage band of about 103% at 66Kv, 33Kv and 11Kv system. The reactive power within the voltage band of about 103% at 66kV, 33kV and 11kV level is being paid by the Distribution companies to DTL and the reactive power at voltage level of 220 kV is being paid by DTL to NRLDC. Such reactive power generation beyond the permissible level of the voltage affects the grid discipline and is required to be addressed.

e. In the absence of the fixed reactors, the reactive compensation through the GTPS being flexible is most suited to the energy profile of Delhi where the intra-day variation of the demand is to the extent of 3 times during changing season i.e. almost 3-4 months in the year; and

f. There are grid locations like Electric Lane where the fixed reactors although approved by NRPC are not feasible due to location constraints. In view of these constraints, the reactive compensation from GTPS will suitably provide the relief in the interconnected network.

4. As discussed during the meeting dated 07.03.2019, IPGCL obtained an offer from M/s BHEL for life extension and Synchronous Condenser Mode Operation of GTPS. As per BHEL offer, the total cost of revamping of the station is approximately Rs.350Crore. The proposal of BHEL was sent to all the stakeholders and after obtaining their response, a meeting was held under the chairmanship of Secretary (Power), GNCTD on 10.01.2020. After detailed deliberations in the meeting where

the representatives of Discoms viz TPDDL, BYPL, BRPL etc, were present, it was decided as under;

(i) Instead of operating the entire Station, other scenario may be explored which will reduce the total cost and retain the benefit;
(ii) IPGCL was directed to explore different scenario and obtain the estimates after which the future course of action shall be finalise.

5. In the meanwhile, the TPDDL wrote letters dated 14.02.2020 and 19.03.2020 to the SLDC for evaluating alternative solution and the required quantum from SLDC vide their letter dated 28.05.2020 replied as under:

> "*The internal generation of Delhi has been reducing starting from the decommissioning of I.P. Power Station in the year 2009, Rajghat Power House in December, 2015 and Badarpur Thermal Power Station in the year 2018. The Gas turbine generation has also been low due to merit order considerations. Due to this, the dependence of Delhi power system from the grid is increasing year by year with the increase in power demand. For better system operation it is normal concept that internal generation of the station should to be about 70% and import from the outside sources should be about 30%.*
>
> ***Utility of Gas Turbine Power Station (GTPS) for Delhi System***
>
> a. *The GTPS has the facility of Black Start. In the event of total grid failure, the other generation stations, i.e. Pragati can be provided with the start up power. It is to mention that at the time of black out in the year 2012, these gas turbine generation was used for reviving the grid as well as extending the power supply to the essential services like DMRC especially bringing out the Metro Trains which struck off in tunnels to the nearest stations.*
> b. *GTPS is also the part of Delhi Islanding scheme. In the event of grid failure, the internal generation of Delhi will save from complete black out as it will create an Island consist of Delhi Generation and essential load.*
> c. *In addition to black start facility, it is understood that these turbines can operate on condenser mode with the help of Self Shifting Synchronous (SSS) clutch, in which each generator has the capacity to generate 30 MVAR at ambient temp. of 45^0 C in condenser mode and can also absorb 18 MVAR at the ambient temp of 20^0 C in reactor mode.*
> *The SLDC further mentioned that*
>
> *The condenser mode operation of GTPS can be very useful in these circumstances to regulate the grid voltage in both under/over voltage conditions since they can operate in both capacitor and reactor mode.*
> *The cost of these power stations is negligible considering the critical importance of internal generation as well as black start facility. Further, in case, the gas turbine power station is required to be*

maintained, R&M is required to be carried out to ensure the continuous operation of these units for ensuring reliability of power supply.
In such scenario, it is advisable that one module of gas turbine should be allowed to run on generation to take care of exigency such as black start facility and the other 4 Gas Turbines be used as condenser mode for reactive power generation as well as absorption as per the requirement."

6. As decided in the meeting held on 10.01.2020, a revised technical and commercial proposal was received from M/s BHEL on 19.03.2020 to run 1 complete module (2 GTs and 1 STG) to operate on full generation and utilizing the remaining 4 GTs on synchronous mode operation for generation as well as absorption of reactive power as per requirement.

7. The comments on the revised offer were invited from all the stakeholders. The TPDDL in their response vide letter dated 13.05.2020 stated that they have already written letters to SLDC requesting them to evaluate alternative solution and the required quantum of generation from GTPS. BRPL in its reply dated 22.06.2020 welcomed the IPGCL proposal for life extension of GTPS plant beyond March. 2021.

8. The revised proposal of operating 4 gas turbines in Open Cycle and synchronous condenser mode and 2 gas turbines with connected steam turbine in combined cycle mode can be considered, subject to the condition of re-allocation of shares from station, cost of installation and operation for the balance two modules meant for Ancillary services to be allocated to Delhi UI pool and signing of a fresh PPA for the extended period.

9. In a meeting with all the stakeholders vis. the Commission, CEA, DISCOMs, DTL, SLDC etc. was held on 04.07.2020 under the chairmanship of Secretary (Power), GNCTD and it was unanimously decided by all the stakeholders that the plant is of critical importance and required to be continued to operate after expiry of PPA and the following was decided:

    a. It has been unanimously agreed by all the participants that the plant is of critical importance and is required to be continuing to operate in light of technical grounds mentioned by Director (Tech.) IPGCL.
    b. As all the gas turbines are required to be retained for both technical and commercial reasons. Accordingly, the existing PPA may be continued to avoid any delays.
    c. The issue regarding installation of battery banks may be taken up separately.

d. DERC will examine the applicability of PSDF for R&M of 4 Gas Turbines in OC mode, since these are required for synchronous condenser mode operation which is an alternative for installation of capacitor and reactor in the grid. Director (Tech.) IPGCL shall discuss the same with DERC.
e. TPDDL may approach Director (Tech.) IPGCL for any clarification or details of the scheme.
f. All the stakeholders should coordinate and resolve all queries within a week and submit their consent.

10. In the said meeting, the TPDDL submitted that the 210 MW is too high and only turbines with allocation of APM Gas must be retained. Further, this cheaper gas may be diverted to more efficient machines installed in Bawana. As the power and benefits of GTPS will be shared by all Delhi DISCOMs, NDMC should also be made party to GTPS PPA. Further, the cost of R&M may be explored from PSDF funds. The TPDDL submitted that the project cost of Rs. 170 Cr. will be added to the existing fixed cost of the plant.

11. Despite the above submissions, the TPDDL has still proceeded to file the present petition before the Commission stating that the power procurement from the station is unviable and uneconomical and requested the Commission to declare that the validity of PPA dated 14.02.2011 qua GTPS shall end in March, 2021 and GPS shall cease to be an approved source of power.

12. As agreed to in the meeting held on 04.07.2020, IPGCL has submitted a petition on 18.08.2020 before the Commission for approval of the life extension and synchronous mode operation of GTPS station and operation beyond March, 2021 as per Regulation 49 of the Delhi Electricity Regulatory Commission (Terms & Conditions for Determination of Tariff) Regulations, 2017. The issues/objections raised by the IPGCL as regards the PDSF funds, costs etc. can be considered by the Commission in the Petition filed by IPGCL.

13. The validity of the Power Purchase Agreement dated 14.02.2011 for GTPS is expiring in March, 2021, subject to extension on mutually agreeable terms. The parties have agreed to extend the life of the GTPS Plant in the various Minutes of Meeting referred to hereinabove. Further, IPGCL has filed the petition on 18.08.2020 for Life Extension & Synchronous Mode Operation of GTPS Plant and operation beyond March, 2021 as per Regulation 49 of the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 and the decision of the Commission in this regard shall be binding on the parties.

14. In any event, the PPA for the extended period after the useful life or new PPA would be subject to approval of the Commission under Section 86(1)(b) of the Electricity Act, 2003.

15. The letter dated 14.02.2020 was addressed to SLDC and SLDC vide their letter dated 28.05.2020 have re-iterated the importance of embedded generation and the utility of GTPS for Delhi system. The SLDC has also mentioned that the cost of this Power station is negligible considering the critical importance of internal generation as well as that Black Start facility available in this Station. All allegations to the contrary are wrong and denied.

16. In terms of the Petition No. 35 of 2020 filed on 18.08.2020, the estimated overall power purchase cost after renovation and modification will be approx. Rs.4.50 per unit. Further, as per the estimates approved by this Commission for the Year FY 2020-21, the net power purchase cost at the TPDDL periphery is about Rs 6.65 per unit which is very high as compared to the projected cost given by the IPGCL i.e approx. Rs 4.50 per unit. Thus, the TPDDL's contention regarding the high cost of power from GTPS Station is out of context and cannot be accepted. As regards Heat Rate, IPGCL bills the TPDDL as per the parameters approved by the Commission. The detailed cost benefit analysis for life extension (including impact on tariff) has been explicitly provided in the petition filed by IPGCL where the TPDDL is a party.

17. As mentioned in the IPGCL petition, adequate APM gas, is available to run 1 module and to supply cheaper power to the distribution companies. Moreover, the GTPS provides/will provide the balancing power to compensate for the under-generation from renewable source particularly wind power. With the availability of cheaper domestic gas, 1 module can be utilized for base load operation and the rest 4 Gas turbines for peak and balancing load requirements. The small Gas Turbines at GTPS have a quick start and stop functionality to meet the balancing load requirement. The station was initially established as a peak load station which was later converted into a base load station due to the increase in demand. Therefore, the contentions of the TPDDL that the renewal of GTPS PPA will only burden the consumers is incorrect as scheduling power from this station beyond March, 2021 shall be in the interest of the whole power sector of Delhi. IPGCL submitted a petition on 18.08.2020 before the Commission for approval of life extension and synchronous mode operation of GTPS station and operation beyond March, 2021 as per Regulation 49, 50 and 51 of the Delhi Electricity Regulatory Commission (terms and conditions for determination of tariff) Regulations, 2017 i.e. for the operation of one full module 90

MW (comprising of 2 Gas Turbines and 1 Steam Turbine) and the 4 gas turbines in synchronous mode.

18. The IPGCL further submits that the GTPS consists of six gas turbines of 30 MW each, using NG/RLNG as fuel and three Waste Heat Recovery Steam Turbines of de-rated capacity of 30MW each.

19. In pursuance to the re-organization of the Delhi Vidyut Board, the transmission and bulk supply activities were vested in Delhi Transco Limited and the Power Purchase Agreements (PPA) were entered into between IPGCL and Delhi Transco Ltd. on 31.03.2007 for generation and sale of electricity including from the said GTPS.

20. Subsequent to the above and with the due approval of the Commission, the capacity of power purchase from the Generating Stations including IPGCL under the above PPA were re-assigned from DTL and vested in BYPL, BRPL and TPDDL in terms of the Order dated 31.03.2007 passed by the Commission.

21. The Gas Turbines of GTPS are 35 years old and the Steam turbines are only 24 years old and the existing power purchase agreement with the Respondent Distribution Companies are going to expire in March, 2021. As per the Power Purchase Agreements dated 16.07.2012, 10.05.2012 and 14.02.2011, the duration of the PPAs is till March, 2021 and the Power Purchase Agreement provides for renewal thereafter under Article 13.1 of the respective Power Purchase Agreement, as under:

> *The validity of the agreement shall be upto twenty five (25) years from the date of commercial operation of last unit/Gt/Module of the Station unless it is specifically extended on mutually agreed terms.*

22. However, as per the assessment done by Original Equipment Manufacturer ('OEM') the turbines are still in good condition and with certain retrofitting, can operate for a further 10 years to cater to the need of consumers of Delhi.

23. The IPGCL, in Petition No. 35 of 2020, has prayed the following:

a. Approve the proposal for retrofit for the life extension and synchronous condenser mode operation of GTPS units.

b. Grant in principle approval for the capital Expenditure to be incurred for carrying out the R&M of GTPS and the source of funding for the proposed retrofitting.

c. Approve the Draft Supplementary PPA to be signed between the Petitioner and the Respondent beneficiaries.

d. Approve the tariff of the GTPS Plant for operation beyond March 2021 as per technical and financial parameters.

e. Allow modification, correction, or any alteration in the Petitioner at later stage as desired by the Commission.

The GTPS plant has been the backbone of Delhi Grid System and at the time of grid failures on 30th and 31st July, 2012 was the only plant available for sourcing power to National Capital Territory of Delhi and facilitated the emergency services in Delhi at the time. It is also an important part of Islanding Scheme of Delhi State, as approved by the Central Electricity Authority/NRPC. The GTPS is also commercially important and viable due to cheap domestic gas availability/allocated to this plant which leads to lesser carbon footprint.

24. The following are the relevant aspects in support of the relief sought for by IPGCL:

NEED FOR LIFE EXTENSION AND OPERATION OF GTPS BEYOND MARCH 2021 FOR FURTHER 10 YEARS

25. The peculiar features of the GTPS and necessity of its continued operation for the Delhi Power System are elaborated below:

A. BLACK START FACILITY

26. The GTPS has the facility of Black Start with diesel engines as start-up facilities with no input grid power requirements in case of blackout. In the event of total grid failure, the GTPS can be started with such facilities in an isolated mode, the 6 Gas Turbines can be started instantly individually and simultaneously to operate and generate power and such generation, besides meeting the critical requirements of power in Delhi, can provide the Start Up power to other generation stations in a progressive manner to enable them to operate. The GTPS plant has been the backbone of Delhi Grid System and at the time of grid failures on 30th & 31st July 2012, was the only plant available for sourcing power to National Capital territory of Delhi and facilitated the emergency services in Delhi at that time. These gas turbines were used for reviving the grid as well as extending the power supply to the essential services like Hospitals and DMRC.

27. In a recent Report (January, 2020) by the Central Electricity Regulatory Commission on Intra-State Reserves and Ancillary Services For Balancing, Black Start Facility has been considered as a crucial ancillary service and an essential reliability service in power system operation, as under:

4.14. Black start services in the intrastate system
Black start service is an essential reliability service in power system operation. However, very few hydro stations and gas stations have the capability to black start and build the grid post blackout. Regulation 5.8 of the IEGC mandates weekly testing of diesel generators that provide auxiliary supply to black start capable units. Mock trial runs of the system recovery procedure is to be conducted at least once every six months. The model regulation on hydro tariff provides for compensation of the O&M expenses incurred during black start exercise. It also mandates a lumpsum incentive of Rs. 0.5 Lakh for successful demonstration of the black start capability after certification by the SLDC. The above provisions could be suitably considered by the SERCs while drafting the intrastate reserves and ancillary regulations.

The above also provides for the need and importance of having a black start facility of the kind which GTPS has.

28. GTPS has a unique DG based and dedicated facility available only in Delhi and much more effective alternative than waiting for the start up power to be made available from hydro stations in Himachal or Uttarakhand, leading to a longer time gap before the Delhi Grid can be restored. During the hearing, it was suggested by TPDDL (wrongly) that a similar diesel generating facility can be installed at Bawana Power plant. The Diesel generation facility installed at GTPS is for the smaller capacity Individual GT coupled DG sets (unlike Electrical Motor based larger capacity sets starting device at Pragati Bawana and other Gas turbine stations). The starting device at PPS-I and PPS-III Bawana are Electrical Motor driven. These starting Motors need Electrical power in the range of 4-7 MW, which can be made available from the grid only, as installation of new diesel generating facility at PPS-I and PPS-III Bawana of such a large capacity is not Techno economical. It will require a much higher capital expenditure, therefore, in the submission of IPGCL, it is not feasible.

B. ISLANDING SCHEME

29. GTPS is also a part of Islanding Scheme of Delhi State, as approved by the Central Electricity Authority / NRPC. In the event of grid failure, the internal generation of Delhi will be protected against a complete black out and shall carry the essential load. GTPS also has unique arrangement for power supply to VVIP areas through radial feeders.

30. The proposed Islanding Scheme for Delhi has been developed with following objectives: - [i] to isolate Delhi's power system from the regional grid when grid disturbance is imminent; [ii] after isolation to continue to meet at least emergency loads or essential services like VVIP load, Delhi Metro Rail, Water treatment load, Indian Railways load and hospitals; and [iii] to extend start up supply to generating stations in adjoining areas to facilitate early restoration. The overall assessment of

embedded generation in and around Delhi required for the effectiveness of such Islanding Scheme is 3400 MW, in order to cater to the requirements of Delhi. GTPS shall help protect the Delhi Grid against any contingencies.

C. DIRECT SUPPLY THROUGH RADIAL FEEDERS

31. The GTPS has a direct supply of electricity to NDMC and VVIP areas at 66KV voltage level through the following radial feeders:

(i) NDMC School Lane I
(ii) NDMC School Lane II
(iii) NDMC Vidyut Bhawan I
(iv) NDMC Vidyut Bhawan II
(v) DMRC I
(vi) DMRC II
(vii) Akshardham

D. SYNCHRONOUS MODE OPERATION AND REACTIVE ENERGY – GRID STABILITY

32. In addition to black start facility, these turbines can operate on Synchronous Condenser Mode with the help of self-shifting synchronous (SSS) clutch, in which each of the Gas Turbine Generator has the capacity to generate 42.5 MVAR at ambient temperature of 30℃ in condenser mode operation and can also absorb 18 MVAR at the ambient temperature of 20℃ in reactor mode.

33. The Synchronous Condenser Mode operation of GTPS is especially useful for regulating the voltage in over voltage conditions during winter and under voltage condition during summer and will effectively deal with reactive energy aspects. With the increase of cable network, the voltage of the system has continuously been running high particularly in winter months. The high voltage condition in the system not only creates stress in the power system equipment but also results into payment of penalty due to injection of reactive power by users during high voltage conditions by Delhi power system. The payment of reactive power transactions in the last two years for the Delhi power system as well as the Delhi Distribution Companies are as under: -

Utility	Total (2018-19) in Rs Lacs	Total (2019-20) in Rs Lacs
TPDDL	537.54	767.53
BRPL	669.24	749.44
BYPL	152.84	361.64
NDMC	71.35	83.54
MES	15.03	22.86
Northern Railway	6.70	6.72
Total payable by Discoms to DTL	**1452.71**	**1991.73**
Amount payable by DTL to NR	**697.9431**	**2140.48**

34. The four Gas Turbines converted to synchronous mode operation along with one module of two gas turbines and one steam turbine undertaking generation and supply of electricity can independently deal with countering the reactive power in the NCT,Delhi and thereby substantially help reduce the reactive expenditure/ penalty of the Delhi Distribution Companies of Delhi. This again is a unique feature available at the GTPS.

35. For better system operations and for grid stability, the embedded generation for a State should be about 70% and the import from outside should be 30%. However, Delhi is importing more than 85% of its power requirement from outside the State. The internal generation of Delhi has been reducing continuously since decommissioning of the IP Power Station in the year 2009. The Rajghat Power Station was also shut down in December 2015 and the Badarpur Thermal Power Station in the year 2018. Due to this, the dependency of Delhi power system from the Grid is increasing year on year which may have serious implication in case of any disturbance. The details are as under: -

S.No.	Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
A	Peak demand	5642	5653	5925	5846	6261	6526	7016	7409
B	Total gen. of delhi	310	1123	1409	1011	1131	1104	1485	1061
C	Drawal from grid	5332	4530	4516	4835	5130	5422	5531	6348
D	Dependence from Grid in %	94.51	80.13	76.22	82.71	81.94	83.08	78.83	85.68

36. For grid security, a reliable embedded generation in the State is a pre-requisite. The coal-based power plants cannot any longer be installed in the National Capital on account of environmental considerations. Further, new gas turbines cannot be installed since fresh capacity additions for bridging the demand-supply gap would involve huge investments and a long gestation period primarily owing to the process of land acquisition and getting the required fuel and water allocations, permits & clearances, particularly, the environmental clearance. Contrary to this, the R&M activity of old power plants requires less investment and can be completed in shorter duration. Also, it helps in reducing the emissions by adopting upgraded modern technologies.

E. APM GAS ALLOCATION – MORE ECONOMICAL

37. The average allocation of GTPS for the past one year has been 0.32 MMSCMD with which GTPS can generate upto 70% capacity of one module. However, GTPS has an allocation of 0.84 MMSCMD domestic gas from MoPNG. The total domestic gas (APM and Non-APM) is sufficient to operate one module i.e 90 MW.

38. Further so long GTPS is in operation, the above gas allocation will continue and there is also the facility of Inter Plant Transfer of fuel for use of any surplus gas available (at GTPS due to less Scheduling in particular day) , in the other gas power stations of IPGCL. It is submitted that if GTPS ceases to operate, the gas allocation will be diverted and the opportunity available to the consumers of Delhi for the more economical APM gas will be lost.

39. Therefore, adequate APM gas is available to run 1 module and to supply cheaper power to the Distribution Companies. The reliance placed by TPDDL on the power from GTPS in the past, being costlier, is not correct. The variable price which TPDDL has referred to is in the context of the all the three modules functioning (270 MW), which necessitate the use of not only the APM Gas but also RLNG. The proposal now, being to use only 1 module and APM Gas being adequate for the same, Thus, the both situations are not comparable. Similarly, reference made to short supply of Gas during the last Financial Year should not be compared as the same was on account of the fire at the ONGC, Hazira on 24th September 2020.

40. Moreover, GTPS will provide the balancing power to compensate for the under-generation from renewable sources particularly wind power. With the availability of cheaper domestic gas, 1 module can be utilized for base load operation and the rest 4 Gas Turbines for peak and balancing load requirements. Further, the small Gas Turbines at GTPS have a quick start and stop functionality to meet the balancing load requirement.

41. Thus, in order to ensure grid reliability and in the larger interest of national capital power supply security operations, the GTPS operations is necessary for atleast another 10 years.

COST BENEFIT ANALYSIS OF THE GTPS PLANT

42. As per Regulation 50 and 51 of the Tariff Regulations, 2017, the additional capital expenditure on R&M is to be approved by the Commission. Regulation 50 and 51 of the Tariff Regulations, 2017 reads as under:

"50. The Commission may grant approval for additional capital cost on account of renovation and modernization after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission:
Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses shall be suitably deducted after due prudence from the R&M expenditure to be allowed.
51. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization expenditure and life extension, and after deducting the accumulated depreciation already recovered from the original project cost, shall form the basis for determination of tariff."

43. Regulation 49 – 51 of the Tariff Regulations, 2017 provides that the Commission may grant approval for renovation and modernization, after considering the reasonableness of cost, IDC, cost benefit analysis etc. and such other facts as may be considered relevant. IPGCL submitted that the strategic considerations for the peculiarly placed GTPS are relevant factors to be considered in the present Petition seeking extension of useful life. Additionally, the Commission may be pleased to take into consideration the SLDC recommendations as one of the relevant factors.

44. Life extension of one module (module 1) and retrofitting for synchronous mode operation, open cycle operation for peaking power and load balancing operation with four GTs, will cost Rs 210.81Crore inclusive of Taxes.

45. In addition to the expenditure of Rs 210.81Crore for retrofit for life extension, the depreciated value of plant as on 31st March, 2021 will be Rs 42.51 Crore. The proportionate value for retained asset of 210MW out of total 270 MW will be Rs. 33.06 Crore The same is to be included in accordance with Regulation 83 of the Tariff Regulations, 2017 which inter-alia reads as under.

> *"83. The Depreciation for Life extension projects/scheme shall be allowed in the manner as indicated in Regulation 51 of these Regulations."*

Thus, total asset value on retrofit will be around Rs. 243.87 Crore.

46. The cost benefit analysis table, as submitted along with Petition No 35 of 2020 for operation of GTPS for further 10 years has been arrived at by computing the difference of cost of power generation and supply from GTPS beyond March 2021 (for one module and reactive power from other four gas turbines), and the cost of power purchase of the present Beneficiaries @ Rs 5.47/kwh i.e. the weighted

average power purchase cost of BYPL, BRPL and TPDDL combined for FY 2019-20, as extracted from their true up petition for FY 2019-20.

47. Accordingly, there will a net saving of Rs 451.56 Crore in terms of present value of savings (arrived @ 9% discounting factor) achieved over 10 years in running GTPS and generating active power from one module and running other four Gas Turbines in Synchronous Mode**.** In case of escalation of power purchase cost of these Discoms from outside Delhi Grid, during proposed operation period of GTPS is also considered, the above savings will increase further.

48. The savings will further increase in case the four Gas Turbine retrofit amounting to Rs120.00 Crore is funded through Delhi Power System Development Fund (PSDF). Then Net present value of saving will be to the tune of Rs 842 Crore. Accordingly, the fixed cost implications will be in the range of Rs 1.16/kWh – Rs 1.44/kWh with PSDF and Rs 1.12/kWh – Rs 1.83/KWh without PSDF.

49. IPGCL submits that as per the Delhi Electricity Regulatory Commission (Power System Development Fund) Regulations, 2019, the PSDF fund should be utilized as under:

> ***4. UTILIZATION OF PSDF***
>
> *(1) PSDF shall be utilized mainly for the following purposes:*
>
> *(a) Transmission systems of strategic importance based on operational feedback by State Load Despatch Centre, Delhi for relieving congestion in intra -State Transmission Systems. (b) Installation of shunt capacitors, series compensators and other reactive energy generators including reactive energy absorption and dynamic reactive support like Static VaR Compensator (SVC) and Static Synchronous Compensator (STATCOM) for improvement voltage profile in the Grid. (c) Installation of special protection schemes, pilot and demonstrative projects, standard protection schemes and for setting right the discrepancies identified in the protection audits. (d) Renovation and Modernization (R&M) of transmission system of Delhi for relieving congestion. (e) Any other scheme/ project in furtherance of the above objectives such as technical studies, capacity building, installation of Phasor Measurement Unit (PMU), hardware/software for upgradation of SLDC, Smart Grid initiatives, Energy Storage, Demand Side Management etc.*
>
> *(2) PSDF may also be utilized for the projects proposed by distribution utilities in the above areas which are either incidental to intra-state transmission system or have a bearing on grid safety and security, provided that these projects are not covered under any other scheme of GoNCTD.*
>
> *(3) Prioritization shall be done mainly on the criteria of the schemes in the following order (i) addressing grid security concerns; (ii) being of State*

importance; (iii) being in the order of Multi utility/Regional importance; (iv) being inter-state in nature.

50. The procedure for grant of PSDF fund has been provided in Regulation 8 of the Delhi Electricity Regulatory Commission (Power System Development Fund) Regulations, 2019, as under:

> *(1) The State Power Committee, Generating Companies, Transmission Licensee, Distribution Licensees, Delhi Load Despatch Centre, as the case may be, shall furnish necessary details of the projects, schemes or activities to the Nodal Agency.*
>
> *(2) The Nodal Agency shall place these projects or scheme or activities for technoeconomic scrutiny by the Appraisal Committee.*
>
> *(3) After scrutinizing the proposals, the Appraisal Committee shall submit its Appraisal Report and recommendations in writing to the Nodal Agency, and to the project entity who has submitted the proposal.*
>
> *(4) The Nodal Agency will approach the Commission, along with the recommendations of the Appraisal Committee, for ascertaining that the projects / scheme(s) / activities are covered within the scope of these Regulations.*
>
> *(5) The Commission, on receipt of such reference, will look into the following aspects: -*
> *(a) Whether the proposed projects / schemes / activities are in line with the purposes defined in these Regulations;*
> *(b) Whether the proposed scheme(s) have been prioritized in accordance with the principles envisaged in these Regulations.*
>
> *(6) If the conditions specified in clause (5) of this Regulation are satisfied, the Commission shall communicate to the Nodal Agency that the proposed projects are in line with the principles defined in these Regulations and have been prioritised in accordance with the principles envisaged in these Regulations.*
> *(7) The details of the project cost will be examined by the Commission only at the time of filing of Tariff Petition by the project entity to ensure, inter alia, that the tariff in respect of such project / scheme is not claimed for the portion of grant from PSDF.*
>
> *(8) Based on the communication received in this regard from the Commission, the Nodal Agency shall approach the Monitoring Committee for sanction of the fund from the PSDF.*
>
> *(9) The utilities receiving assistance from PSDF shall maintain separate head of accounts for PSDF in their Audited Accounts.*

The Nodal Agency i.e. the SLDC has already recommended that the R&M of GTPS is integral for ensuring Grid Security and reactive energy absorption in the Delhi Grid. The same proposal has to be placed by the SLDC before the Appraisal

Committee and ratified by the Commission. The prudency of the cost can be examined by the Commission in the present Petition No. 35 of 2020.

51. Considering the fact that Synchronous Mode Operation of GTPS would effectively work as a Shunt Reactor reducing reactive energy in the Grid, the retrofitting of the 4 GTs are eligible for utilization of the Fund. Further, even in terms of Regulation 4(2), BRPL has expressly suggested that the PSDF Fund may be utilized for carrying out the retrofitting. Therefore, if the four Gas Turbine retrofit amounting to Rs120.00 Crore is funded through Delhi Power System Development Fund (PSDF), the net present value of saving will be to the tune of Rs 842 Crore.

52. In any event, as per the price of APM Gas as on November,2020, the GTPS falls well within the Merit Order. In so far as the variable cost, the cost of gas has reduced by 20% and the implication of the same have now been placed for consideration in Petition No. 35 of 2020.

MISCELLANEOUS ASPECTS

A. RE: ALLOCATION OF POWER BETWEEN THE DELHI DISTRIBUTION COMPANIES

53. IPGCL re-iterates its submission that the allocation of power from GTPS inter-se between the Delhi Distribution Companies including NDMC, MES etc. lies entirely within the purview of the Commission. Even the original allocation was determined by the Commission in its order dated 31.03.2007. Accordingly, IPGCL has impleaded only TPDDL, BYPL and BRPL in Petition No. 35 of 2020 since they are the existing beneficiaries of GTPS.

54. In any event, it is denied that the consumers of TPDDL, BYPL and BRPL are not benefitted by the continued operations of GTPS. All the strategic benefits including the Black Start Facility, connectivity through radial feeders, islanding scheme etc. are to the advantage of all the consumers and not just those within the distribution area of NDMC etc.

B. RE: USEFUL LIFE OF THE PLANT

55. The Generating Station – GTPS has been established at a significant cost, with all facilities for generation and supply of electricity namely, gas allocation, water supply, evacuation facilities etc. on the premise that the generating station established will continue to operate beyond 25 years. The Transmission Company has also established the evacuation facilities based on load flow studies with reference to the Procurers in different states. There has been significant planning

and overall development on the basis that the generating station established will continue to operate beyond 25 years.

56. It will therefore not be appropriate to proceed on the basis that the useful life is only 25 years and the PPA will stand terminated upon the expiry of 25 years, unless otherwise agreed to between the parties. The Tariff Regulations notified by the Commission have specifically provided for life extension, renovation and modernization etc., on the basis of which the life of the generating station can be beyond 25 years and can even be beyond 40 years, as can be seen from a number of generating stations operating much beyond 25 years and providing electricity to the procurers at a competitive rate. If such an interpretation, as suggested by TPDDL, is adopted, there may be situations where the Distribution Company will not be entitled to continue to source cheaper power from Generating Stations after 25 years. This will not be in the interest of consumers at large. In case where the Commission considers appropriate, in consumer/public interest that the Generating Station should continue to operate even after the initial useful life, the Distribution Licensee cannot insist on the termination of the Agreement.

C. RE: COSTLY POWER

57. Quite apart from the submissions that price cannot be the sole consideration for determining the viability of the continued operations of GTPS, even otherwise, the total price (fixed cost + variable cost) shall approximately be in the range of Rs 4.50/kWh. In comparison to the average power purchase costs of TPDDL (Rs 5.98/kWh), BRPL Rs .5.52. /kWh) and BYPL Rs 4.69./kWh) for the FY 2018-19, the cost of GTPS shall still be economical for the Delhi Distribution Companies. This is particularly when the Distribution Companies continue to schedule power from much more expensive sources. For instance – TPDDL continues to schedule power from Maithon Power Limited. The per unit fixed cost of the Maithon plant for the FY 2020 to FY 2024 varies from Rs 1.523per kWh in FY 2020 to Rs 1.562/kwh in FY 2024. This is higher than the fixed cost of GTPS, as projected.

58. As mentioned in the Rejoinder to TPDDL in Petition No. 35 of 2020, while IPGCL had sought for certain relaxed norms, this Commission has not granted any relaxation in operational parameters and has in fact granted lesser O&M to the IPGCL, in comparison to similarly placed gas plants. In any event, part loading of the machines leads to a deterioration in the operational parameters – Station Heat Rate and Auxiliary Power Consumption. If these machines run on full load, the

Station Heat Rate and Auxiliary Power Consumption will be as per the norms prescribed by the Commission.

59. Therefore, it is wrong on the part of TPDDL to contend that the GTPS is not cost effective.

60. M/s BRPL & BYPL have submitted that;

i. BRPL & BYPL has conveyed its conditional acceptance "in principle" for the execution of a fresh PPA post March 2021. It has no objection to the life extension of GTPS Plant beyond March 2021. However, as BRPL& BYPL has consistently maintained, life extension, if any, may be granted by the Commission only after conducting a thorough technical and economic analysis to ensure that the stakeholders are not prejudiced.

ii. BRPL has a disproportionately high share of 61% from the station. In the event the Commission were to allow the life extension, further allocation must be amongst all the Delhi DISCOMs (including NDMC) in equitable proportions.

iii. Further, BYPL has submitted that in the event the Commission were to allow the life extension, further allocation must be amongst all the Delhi DISCOMs (including NDMC) and BYPL share may not be increased.

iv. The capital costs required to make the plant function for the next 10 years may be borne by the Power System Development Fund created by the Commission under the DERC (Power System Development Fund) Regulations, 2019 (hereinafter "the PSDF Regulations).

v. The fixed costs of the plant/station be limited to the availability declared by the IPGCL on the basis of APM gas only.

BRIEF FACTS

61. The Gas turbines of GTPS are 35 years old and the Steam turbines are only 24 years old and the existing Power Purchase Agreements (PPA) with the Distribution Companies are going to expire in March, 2021.

62. The TPDDL has filed a Petition No. 24 of 2020 before the Commission and prayed that validity of Power Purchase Agreement (PPA) dated 14/02/2011 with Gas Turbine Power Station (GTPS) shall end in March, 2021 as the power procurement cost from GTPS to TPDDL is economically unviable. Further, TPDDL has also prayed to discontinue scheduling of power with effect from March, 2021.

63. TPDDL has further stated that the cost of power generation from GTPS is not economically viable and the PLF of the station for last 3 years was 21% (FY 2017-18), 25% (FY 2018-19) and 19% (FY 2019-20 till Jan'20).

64. The BRPL and BYPL vide their reply dated 21/12/2020 in Petition No. 35/2020 have submitted that it has no objection to the life extension of GTPS Plant beyond March, 2021. Further, if life extension is granted then following concerns needs to be addressed:

i) Entering into a fresh PPA after expiry of the existing PPA.

ii) Equitable allocation of Power to all DISCOMs (including NDMC).

iii) Utilization of Power System Development Fund (PSDF) for the capital costs.

iv) Declaration on the basis of APM availability.

v) Since this plant is being used for the larger benefit of Delhi as a whole and that too in certain unique eventualities of providing ancillary services, the Commission may devise a mechanism where the recovery of the costs is not done by way of the regular PPA but through a mechanism which is commensurate with the services being offered by the plant.

IPGCL has filed the Petition no. 35 of 2020 for approval of extension of life of Gas Turbine Power Station (GTPS) for a period of 10 years and synchronous mode operation of GTPS Plant and operation beyond March, 2021 based on Regulation 49 of the *DERC (Terms and Conditions for determination of Tariff) Regulations, 2017*, as follows:

"RENOVATION AND MODERNISATION FOR LIFE EXTENSION

49. The Utility shall file a Petition before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the Utility for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the originally recognized useful life as specified in Appendix - 1."

65. The peculiar features of the GTPS Plant and necessity of its continued operation for the Delhi Power System is as follows:

i) GTPS has facility of Black Start with diesel engines as start-up facilities with no input grid power requirements in case of blackout. In the event of total grid

failure, GTPS can be started with such facilities in an isolated mode, the 6 GTs can be started instantly individually and simultaneously to operate and generate power and such generation, besides meeting the critical requirements of power in Delhi, can provide the start up power to other generation stations in a progressive manner to enable them to operate.

ii) GTPS is also a part of Islanding Scheme of Delhi State.

iii) It has a direct supply of electricity to NDMC and VVIP areas at 66kV voltage level.

iv) 4 GTs converted to synchronous mode operation along with 1 module of 2 GT & 1 ST undertaking generation and supply of electricity can independently deal with countering the reactive power in the NCT Delhi and thereby substantially helping in reducing the reactive expenditure/penalty of the Delhi DISCOMs.

v) Adequate APM gas is available to run 1 module and to supply cheaper power.

66. IPGCL has further submitted that during the various meetings held (on 07/03/2019, 10/01/2020, 04/07/2020) and during the meeting held on 04/07/2020 under the chairmanship of Secretary (Power), GoNCTD, it was unanimously decided by all the stakeholders (i.e. CEA, DTL, SLDC, TPDDL, BYPL, BRPL) that the plant is of critical importance and required to be continued to operate after expiry of PPA.

67. Further, based on the hearing dated 28/01/2021 & Commission's Interim Order dated 01/02/2021, IPGCL has filed a written submission on 10/02/2021 in continuation to the Petition, with the following proposals for approval of life extension of GTPS Plant:

i) <u>Proposal-1: Recovery of total retrofit cost through Tariff</u>

- Life extension of one module (2 GTs of 30 MW each + 1 ST of 30 MW) and retrofitting for synchronous mode operation, open cycle operation for peaking power and load balancing operation with 4 GTs (i.e. 120 MW = 30 MW each).

- Following are the parameters considered by IPGCL while calculating the Tariff for the period:
  a) **<u>Life extension period :</u>** 10 years
  b) **<u>Retrofit Cost:</u>** Rs. 210.81 Cr. (as provided by BHEL) inclusive of taxes.
  c) **<u>Proportionate value for retained asset of 210 MW out of 270 MW</u>**: Rs. 33.06 Cr.
  d) Total asset value on retrofit will be Rs. 243.87 Cr. (b+c).

e) **Interest During Construction (IDC) during retrofit of 15 months (@ 11.30% rate of interest of PFC):** Rs. 10.78 Crore and Interest on working capital considered @ 9.65%.

f) **O&M expenses:** Rs. 30.58 Lakh/MW/Year (escalation @ 3.83%)

g) **Grossed-up ROE :** 19.61%

h) Fuel Price and GCV considered on the basis of data from April, 2020 to June, 2020.

ii) Proposal-2: Recovery of retrofit cost of module-1 (i.e. 90 MW) through Tariff and retrofit cost of 4 GTs (i.e. 120 MW) through PSDF

- Life extension of one module (module-1 i.e. 2 GTs of 30 MW each + 1 ST of 30 MW) and retrofitting for synchronous mode operation, open cycle operation for peaking power and load balancing operation with 4 GTs (i.e. 120 MW = 30 MW each) **through PSDF.**

- Following are the parameters considered by IPGCL while calculating the Tariff for the period:

a) **Life extension period :** 10 years

b) **Total asset value on retrofit of 1 module** (i.e. 90 MW) will be Rs. 123.87 Cr. (approx.).

c) **Retrofitting of 4 GTs** (i.e.,120 MW) amounting to Rs. 120 Cr. from PSDF.

d) **Interest During Construction (IDC) during retrofit of 15 months (@ 11.30% rate of interest of PFC):** Rs. 10.78 Crore and Interest on working capital considered @ 9.65%.

e) **O&M expenses:** Rs. 30.58 Lakh/MW/Year (escalation @ 3.83%)

f) **Grossed-up ROE :** 19.61%

g) Fuel Price and GCV considered on the basis of data from April, 2020 to June, 2020.

iii) Summary of the Annual Fixed Charges claimed from the above proposals are as follows:

Proposal-1		**Proposal-2**	
Particulars	**Amount (Rs. Cr.)**	**Particulars**	**Amount (Rs. Cr.)**
Total Annual Fixed Charges claimed for the period of 10 Years	1269.58	Total Annual Fixed Charges claimed for the period of 10 Years	1004.86
Savings due to Reactive Energy Generation	166.78	Savings due to Reactive Energy Generation	166.78
Total Net Fixed Charges claimed for the period of 10 Years	1102.81	Total Net Fixed Charges claimed for the period of 10 Years	838.08

Proposal-1		Proposal-2	
Particulars	**Amount (Rs. Cr.)**	**Particulars**	**Amount (Rs. Cr.)**
Average Net Fixed Charges claimed for the Year	110.28	Average Net Fixed Charges claimed for the Year	83.81
Component-wise Average Yearly Net Fixed Charges Claimed			
Return on Capital Employed	27.55	Return on Capital Employed	12.84
Depreciation	22.92	Depreciation	11.15
O&M Expenses	76.50	O&M Expenses	76.50
Savings due to Reactive Energy Generation	16.68	Savings due to Reactive Energy Generation	16.68

COMMISSION ANALYSIS

68. Gas Turbine Power Station (GTPS) was commissioned in Open Cycle mode in the year 1986 and in Combined Cycle mode in 1996. As per *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017*, useful life of a Gas based Thermal Generating Stations is 25 years.

69. Instant Petition No. 35 of 2020 is filed for extension of life for 10 years under Regulations 49 of *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017*. Relevant extract of Regulation 49, 50 & 51 are as follows:

> *"49. The Utility shall file a Petition before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the Utility for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the originally recognized useful life as specified in Appendix - 1.*
>
> *50. The Commission may grant approval for additional capital cost on account of renovation and modernization after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission:*
>
> *Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses shall be suitably deducted after due prudence from the R&M expenditure to be allowed.*
>
> *51. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization expenditure and life extension, and after deducting the accumulated depreciation already recovered from the original project cost, shall form the basis for determination of tariff."*

70. Delhi SLDC vide its letter dated 28/05/2020 has submitted that:

a) GTPS has facility of Black Start and in the event of grid failure, the other generating stations i.e., Pragati can be provided with the start up power through GTPS.
b) GTPS is part of Delhi Islanding scheme and in the event of grid failure, the internal generation through GTPS will save Delhi from complete black out.
c) In addition to black start facility, GTPS's turbines can operate on condenser mode with the help of self shifting synchronous (SS) clutch, in which each generator has the capacity to generate 30MVAR at ambient temp. of 45° C in condenser mode and can also absorb 18MVAR at the ambient temp of 20° C in reactor mode.
d) One module of GTPS should run on generation to take care of exigency such as black start facility and the other 4 GTs can be used as condenser mode for reactive power generation as well as absorption as per the requirement.

71. As per Clause 5.1 of Gas Supply Agreement, GTPS has an allocation of 0.84 MMSCMD (i.e., 0.84 Million Metric Standard Cubic Meters per day) of Administered Pricing Mechanism (APM) Gas which is cheaper in comparison to Regasified Liquefied Natural Gas (RLNG). As per Email dated 17/02/2021, GTPS has submitted that around 0.46-0.47 MMSCMD gas is required to operate one module at full capacity of 90 MW.

72. The Energy Charge Rate (ECR) for the generation equivalent to 90 MW (one module – 2 GTs & 1 ST) at 85% normative PLF arrives out to be Rs. 1.936/kWh considering the following parameters:

a) Normative Station Heat Rate of 2450 kCal/kWh as approved in *DERC (Business Plan) Regulations, 2019*.
b) Auxiliary Consumption of 2.75% in Combined Cycle Mode as approved in *DERC (Business Plan) Regulations, 2019*.
c) Average Landed Price of Fuel of Rs. 7.04 /SCM for the period October, 2020, November, 2020 & December, 2020
d) Average GCV of 9238 kCal/SCM for the period October, 2020, November, 2020 & December, 2020.

73. In view of above provisions, stakeholders submission and assured availability of APM gas, the Commission accords in-principle approval for Life extension of Gas Turbine Power Station(GTPS) for 10 years beyond March, 2021. The in-principle approval of extension of life of GTPS has been split into two parts as under:

a) **Part-A:** Extension of Life of GTPS for 90 MW (1 module i.e. 2 GTs and 1 ST - 30 MW each) – Through CAPEX funding.

b) **Part-B:** Extension of Life of GTPS for 120 MW (i.e remaining 4 GTs of 30 MW each) on synchronous mode operation - Through Power System Development Fund (PSDF) subject to provisions of DERC (Power System Development Fund) Regulations, 2019.

IPGCL has submitted the retrofitting cost of Rs. 210.81 Cr. inclusive of Taxes for Life Extension of 90 MW (2GTs &1ST- 30MW each) and 120 MW (4GTs-30 MW each) on synchronous mode operation based on the budgetary offer of BHEL (OEM). Out of Rs. 210.81 Crore, Rs. 120 Crore has been estimated to be incurred on retrofitting of 4 GTs through PSDF. Accordingly, IPGCL is directed to re-submit the proposal to the Commission, if the variation in final quote, excluding Taxes & Duties for the cost to be funded through CAPEX, is more than 15% of budgetary offer of BHEL.

Part-A: Extension of Life of GTPS for 90 MW (1 module i.e. 2 GTs and 1 ST – 30 MW each) – Through CAPEX funding

74. The following parameters will be considered for computation of Tariff for the extended life of GTPS:

- **Actual CAPEX** considering retrofitting cost and remaining depreciable value after the prudence check.
- **O&M Expenses** for 90 MW considering the rate and annual escalation as approved in *DERC (Business Plan) Regulations, 2019* and amendments thereafter.
- **Rate of Interest of Loan, Working Capital and Return on Equity** shall be considered based on the *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017* along with *DERC (Business Plan) Regulations, 2019* and amendments thereafter.
- **Depreciation** shall be considered based on the *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017* along with *DERC (Business Plan) Regulations, 2019* and amendments thereafter on further life of 10 years.
- **Landed Price** (Rs./SCM) and **Weighted average GCV** of APM or cheaper Gas (kCal/SCM) will be considered based on the provisions of *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017* along with *DERC (Business Plan) Regulations, 2019* and amendments thereafter.
- No further Additional CAPEX shall be allowed during the operation of GTPS Plant for 10 Years.

- **Tariff During Shut-down period:** As per proviso of Regulation 100 of *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017*, in case generating station is under shutdown due to Renovation & Modernisation, the Generating Entity shall be allowed to recover part of Annual Fixed Cost (AFC) which shall include O&M expenses and interest on loan only as follows:

  "100. Computation of Capacity Charge to be raised as part of their bills for the Generating Stations:

  ….

  Provided that in case of generating station under shutdown due to Renovation and Modernisation, the Generating Entity shall be allowed to recover part of AFC which shall include O&M expenses and interest on loan only."

Accordingly, during the period of shut down, when Renovation and Modernisation (R&M) activity is in progress, IPGCL is allowed actual O&M expenses incurred during this construction phase to the extent of normative expenses for 90MW capacity subject to prudence check and interest on actual existing loan portfolio.

- **Savings due to Reactive Energy Generation** from 120 MW (4GTs of 30MW each) working on synchronous mode operation shall be reduced from AFC during True up of relevant Financial Year.

Part-B: Extension of Life of GTPS for 120 MW (4 GTs of 30 MW each) on synchronous mode operation - Through PSDF.

75. Four (4) GTs (i.e. 120 MW = 4 GTs of 30 MW each) will be used on synchronous mode operation which will work as a Shunt Reactor reducing reactive energy in the Grid. During the meeting held on 07/03/2019 under the chairmanship of Secretary (Power) GoNCTD at Delhi secretariat, it was decided that SLDC will conduct the Load Flow study for evaluation of active and reactive power requirement from the station. SLDC vide its letter dated 28/05/2020 have submitted the comments regarding operation of GTs which are reproduced as follows:

"Utility of Gas Turbine Power Station (GTPS) for Delhi System:

….In addition to black start facility, it is understood that these turbines can operate on condenser mode with the help of self shifting synchronous (SS) clutch, in which each generator has the capacity to generate 30MVAR at ambient temp. of 45° C in condenser mode and can also absorb 18MVAR at the ambient temp of 20 ° C in reactor mode.

With the increase of cable network, the voltage of the system has continuously been running high particularly in winter months. The high voltage condition in the system not only creates stress in the power system equipment but also resulting into payment of penalty due to injection of reactive power during high voltage conditions by Delhi

power system. The payment of reactive power transactions in the last two years, the Delhi power system as well as Discoms are as under:

Utility	***Total (2018-19) in Rs Lacs***	***Total (2019-20) in Rs Lacs***
TPDDL	*537.54*	*767.53*
BRPL	*669.24*	*749.44*
BYPL	*152.84*	*361.64*
NDMC	*71.35*	*83.54*
MES	*15.03*	*22.86*
Northern Railway	*6.70*	*6.72*
Total payable by Discoms to DTL	***1452.71***	***1991.73***
Amount payable by DTL to NR	***697.9431***	***2140.48***

.....

.....

The condenser mode operation of GTPS can be very useful in these circumstances to regulate the grid voltage in both under/over voltage conditions since they can operate in both capacitor and reactor mode.

The cost of these power stations is negligible considering the critical importance of internal generation as well as black start facility.

Further in case, the gas turbine power stations is required to be maintained, R&M is required to be carried out to ensure the continuous operation of these units to consider the reliability of power.

***In such scenario, it is advisable that one module of gas turbine should be allowed to run on generation to take care of exigency such as black start facility and the other 4 Gas turbines can be thought of, to be used as condenser mode for reactive power generation as well as absorption as per the requirement**."*

76. The Commission vide it's notification dated 27/12/2019 has issued the *DERC (Power System Development Fund) Regulations, 2019*. Regulation 8 of *DERC (Power System Development Fund) Regulations, 2019 regarding* procedure for application, screening, appraisal, monitoring, sanction etc of PSDF stipulates as under:

8. PROCEDURE FOR APPLICATION, SCREENING, APPRAISAL, MONITORING, SANCTION etc OF PSDF

(1) The State Power Committee, Generating Companies, Transmission Licensee, Distribution Licensees, Delhi Load Despatch Centre, as the case may be, shall furnish necessary details of the projects, schemes or activities to the Nodal Agency.

(2) The Nodal Agency shall place these projects or scheme or activities for technoeconomic scrutiny by the Appraisal Committee.

(3) After scrutinizing the proposals, the Appraisal Committee shall submit its Appraisal Report and recommendations in writing to the Nodal Agency, and to the project entity who has submitted the proposal.

(4) The Nodal Agency will approach the Commission, along with the recommendations of the Appraisal Committee, for ascertaining that the projects / scheme(s) / activities are covered within the scope of these Regulations.

(5) The Commission, on receipt of such reference, will look into the following aspects.:-

(a) Whether the proposed projects / schemes / activities are in line with the purposes defined in these Regulations;

(b) Whether the proposed scheme(s) have been prioritized in accordance with the principles envisaged in these Regulations.

(6) If the conditions specified in clause (5) of this Regulation are satisfied, the Commission shall communicate to the Nodal Agency that the proposed projects are in line with the principles defined in these Regulations and have been prioritised in accordance with the principles envisaged in these Regulations.

(7) The details of the project cost will be examined by the Commission only at the time of filing of Tariff Petition by the project entity to ensure, inter alia, that the tariff in respect of such project / scheme is not claimed for the portion of grant from PSDF.

(8) Based on the communication received in this regard from the Commission, the Nodal Agency shall approach the Monitoring Committee for sanction of the fund from the PSDF.

(9) The utilities receiving assistance from PSDF shall maintain separate head of accounts for PSDF in their Audited Accounts.

77. As indicated above at Regulation 8 (4) of the said Regulations that the Nodal Agency will approach the Commission, along with the recommendations of the Appraisal Committee, for ascertaining that the projects / scheme(s) / activities are covered within the scope of these Regulations.

78. Based on the above, the Commission directs IPGCL to take up the matter as per provisions of DERC *(Power System Development Fund) Regulations, 2019* for cost of retrofitting of 120MW (4GTS of 30MW each) to be funded through PSDF.

79. Since, 4 GTs are used in synchronous mode operation which will work as a Shunt Reactor reducing reactive energy in the Grid and not as a Power Generator, therefore, the conventional Tariff in the form of Fixed Cost and Variable Cost is not provided, accordingly, there is no separate Depreciation, RoCE and normative O&M Expenses for this 120 MW.

80. IPGCL is directed to have separate accounting for this 120 MW (4 GTs of 30MW each) and only actual O&M expenses based on statutory auditor certificate subject to prudence check shall be allowed annually in respective year True up Order.

Allocation of Power from GTPS (1 module – 90 MW through CAPEX & 4 GTs – 120 MW through PSDF)

81. As per Order dated 31/03/2007, Reassignment of PPA Order dated 27/02/2014, *Regulation 121 (4) of DERC (Terms and Conditions of Determination of Tariff) Regulations, 2017*, considering the facility of Black Start, part of Islanding Scheme and direct supply of electricity to NDMC and VVIP areas at 66kV voltage level, the allocation of power of GTPS is done to all Delhi Distribution Licensees based on the average % of Yearly Consumption data (as per SLDC) :

Table 1: Yearly Consumption data of Delhi DISCOMs (MU)

Particulars	NDMC	BRPL	BYPL	TPDDL	Total
FY 2012-13	1365	11233	6333	7761	26691
FY 2013-14	1400	11509	6577	8040	27526
FY 2014-15	1437	11938	6717	8426	28519
FY 2015-16	1532	12017	6763	8617	28930
FY 2016-17	1464	12692	7035	9064	30255
FY 2017-18	1453	13174	7297	9443	31366
FY 2018-19	1430	13457	7196	9650	31734
FY 2019-20	1404	13945	7291	9793	32433
Average	1436	12496	6901	8849	29682
Average (%)	**5%**	**42%**	**23%**	**30%**	**100%**

82. In view of above % consumption, 90 MW capacity of GTPS is allocated to Delhi Distribution Licensees as follows:

Table 2: GTPS Allocation to Delhi DISCOMs (MW)

Particulars	NDMC	BRPL	BYPL	TPDDL
Average (based on the yearly consumption)	5%	42%	23%	30%
Total Quantum of GTPS	90 MW			
Allocation of Quantum of GTPS	**4**	**38**	**21**	**27**

Further, same % allocation shall be applicable for 120 MW(4GTs of 30 MW each) operating in generating mode prior to working in synchronous condenser mode of operation.

Summary of Order:

83. Considering the GTPS under Islanding Scheme, Black Start facility, suggestions of Delhi SLDC, which is the apex body to ensure integrated operation of the power

system in Delhi & ensure Grid Security as per Section 32 of the Electricity Act 2003, its competitive Energy Charge Rate (ECR) for APM gas, the following is allowed for GTPS Plant;

a) *'In-principle'* approval for Life Extension of 10 years beyond March 2021:

   i) 90 MW (Base Load Capacity) funded through CAPEX; and
   ii) 120 MW (Synchronous Mode Operation) to be funded through PSDF subject to provisions of DERC (Power System Development Fund) Regulations, 2019.

b) IPGCL to declare availability for 90 MW of GTPS only on Administered Pricing Mechanism (APM) gas or cheaper gas than APM Gas used by the Generating Station, if any.

c) 90 MW GTPS Power is allocated to all Delhi DISCOMs (NDMC, BRPL, BYPL & TPDDL). The same Percentage allocation is valid for operation of 120 MW (4 GTs of 30MW each) on synchronous mode of operation.

d) Since, existing PPA of GTPS is expiring in March 2021, therefore, new PPA shall be entered with all Delhi DISCOMs (NDMC, BRPL, BYPL & TPDDL) for 90 MW (Generation Mode) and 120 MW (Synchronous Mode of Operation).

e) No further additional CAPEX shall be allowed to IPGCL during the extended life of 10 years of GTPS.

84. Petition No. 24 of 2020 and Petition No. 35 of 2020 are disposed off accordingly,

85. Ordered accordingly.

Sd/-
(Dr. A.K. Ambasht)
Member

Sd/-
(Justice S S Chauhan)
Chairperson