Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

In the matter of:

Petition filed under Regulation 59 and 39 of the UERC (Conduct of Business Regulations), 2014 and Regulation 55A, 103, 104 & 105 of MYT Regulation 2015.

In the matter of:

Uttarakhand Power Corporation Limited … Petitioner

AND

In the matter of:

M/s Sravanthi Energy Pvt. Ltd.

M/s Gamma Infraprop Pvt. Ltd.

M/s Beta Infratech Pvt. Ltd. … Respondents

CORAM

Shri Subhash Kumar Chairman

Date of Hearing: May 17, 2017

Date of Order: Dec 06, 2017

The Order relates to the Petition dated 21.04.2017 filed by Uttarakhand Power Corporation Limited (hereinafter referred to as "Petitioner" or "UPCL") under Regulation 59 and Regulation 39 of UERC (Conduct of Business Regulations), 2014 and Regulation 55 A, 103, 104 & 105 of MYT Regulation 2015.

1. Background and Petitioner's Submissions

1.1 The Petitioner submitted that the Commission vide its Order dated 08.02.2016 has approved the PPA to be executed between the Petitioner and M/s Gamma Infraprop Pvt. Ltd (hereinafter referred to as "M/s GIPL") and accordingly, PPA was signed on 11.02.2016. The Petitioner further submitted that meanwhile M/s GIPL had filed a Tariff Petition before the Commission and the Commission had passed an Order dated

19.01.2016 in the matter whereby UPCL was directed to treat M/s GIPL as a must dispatch station and also to pay a provisional tariff of Rs. 4.70/unit (exclusive of PSDF support) to the generator for energy supplied to UPCL or for the period after March 2016 the capped price decided by GoI in accordance with the GoI, PSDF scheme. The Petitioner emphasised that in the PPA petition filed by UPCL there was no mention of Must Dispatch as Gas Based Power Station is best suited for peaking power.

1.2 The Petitioner submitted that subsequently a petition was filed by the Petitioner for approval of PPA to be executed with M/s Sravanthi Energy Pvt. Ltd. (hereinafter referred to as "M/s SEPL") and M/s Beta Infratech Pvt. Ltd (hereinafter referred to as "M/s BIPL") for purchase of 214 MW and 107 MW respectively for 25 years. The Petitions for PPA were approved and consequently signed with appropriate modifications as directed by the Commission.

1.3 The Petitioner submitted that the PSDF support from the Central Govt. for the Stranded Gas based power stations had come to an end on 31st March 2017 and there was no certainty in continuation or revival of the scheme or any such notification in this regard. The Petitioner also submitted that the issue regarding purchase of power from stranded gas based stations after the scheme ended was taken up and various facts in this regard were scrutinized.

1.4 The Petitioner submitted that upon scrutiny of various facts and complications arising out or various difficulties and uncertainty regarding the cost of power purchase from the stranded gas based stations has come to light which are as follows:

a) The total power purchase from 3 Respondents amounts to 428 MW which is around 22-25% of the total requirement of the power by UPCL and any change in price would have a huge impact and also the uncertainty regarding availability of gas and its purchase by the generators would impact the power purchase plan of the Petitioner.

b) After the end of scheme the Respondents will have to spot purchase the gas and the price of the gas cannot be determined as it is subject to various factors which may include variation in foreign exchange or its availability.

c) The Respondents may not be able to purchase sufficient amount of gas so as to be able to comply with their contractual obligation, and in such case the Petitioner would be left with no alternative but to make arrangement by way of short term purchase which itself is not certain as not only the price but also the availability of corridor can be the major concern.

d) After 31st March 2017, the Petitioner was concerned regarding availability of gas with the Respondents and has inquired from them about the availability of gas and it has transpired that the availability is only for three month and in future also nothing is certain regarding the availability of gas.

e) The Petitioner has to make arrangement for advance banking of power in the month of June to Sept 2017 and the same is dependent upon the supply of power by the Respondents.

f) The future possibilities are uncertain and not within the control of the Petitioner or the Respondents hence the very basis of consent for signing the agreement between the parties does not survive, the parties could not agree in material terms with regard to the future possibilities and were under mistaken belief regarding material terms and conditions of the agreement.

g) The gas based power generating stations have prime utility in meeting the peak demand and as these generators have been categorized by the Commission as must dispatch, however, while executing the PPA the Petitioner was of the understanding that UPCL would be able to cater its peaking demands from these generators but the Petitioner cannot avail the said benefits in the light of the Order of the Commission, and the said benefits is very essential for the Petitioner.

h) The Petitioner by way of its submission in the tariff petition has pointed out to the Commission that the Petitioner should not be burdened for the recovery of AFC when the respondents fails to supply power due to non availability of gas or any such other factor. Moreover, such deficit in recovery of AFC shall not be permitted to be carried forward as this will have double impact on the Petitioner as on one hand the Petitioner would be burdened with payment of AFC without getting any power and further on the other hand will have to make expenditure upon the power to be purchased in lieu of the same.

1.5 The Petitioner submitted that in light of aforesaid facts purchasing power from the Respondents has become uncertain both as to the price and also the quantum, and the uncertainty would hugely impact and hamper the functioning of the Petitioner especially considering that electricity is an essential commodity and the Petitioner has to comply with its statutory obligations which in present circumstances cannot be effectively done, therefore, the Petitioner requested the Commission not to treat the Respondents' power plants as a must dispatch plants and failure to provide power due to non-availability of gas shall not be to the benefit of the Respondent causing adverse financial implications upon the Petitioner.

1.6 The Petitioner further submitted that the 'must dispatch' clause prohibits the Petitioner to manage the input from gas based power generators in view of the requirement for the State on day to day basis and hence hampers the interest of UPCL in case of surplus power availability during the day or part of the day. Since gas is a non-renewable source of energy and it is best suited for peaking power hence in the interest of UPCL and Public at large that the same may be utilized as per demand in the State.

1.7 The Petitioner submitted that M/s BIPL has yet not commissioned its power plant and the PSDF Scheme of GoI has already expired on dated 31.3.2017 and from 1st April onwards the availability of Gas to the said Respondent on long term basis does not induce confidence to the Petitioner, moreover, M/s BIPL has not even commissioned its project during the PSDF support scheme and hence such uncertainty is a cause of great concern to the Petitioner.

1.8 The Petitioner submitted that in the matter of review Petition filed by the Petitioner for reconsidering the Order dated 25.01.2017, the Commission while rejecting the Petition vide Order dated 17.4.2017 has unilaterally provisioned for the continuation of 15 days billing and payment arrangement for all the three Generators from 01.04.2017 onwards, i.e. even after the expiry of PSDF support Scheme, though with the applicability of rebate, as was applicable during the PSDF support scheme. The Petitioner further submitted that the Commission in its Order has recorded that:

> "*Petitioner during the hearing also submitted that if rebate clause, in accordance with the original PPA with the Respondents, is reinstated then it doesn't have any issue on payment of fortnightly gas supply bills raised by the Respondents on actual basis which can be managed by the licensee*".

The consent given by UPCL has actually been misconstrued as UPCL while claiming its right over rebate has shown its reluctance for 15 days pattern, however, the said consent was expressed during the period of PSDF support Scheme remaining effective and not thereafter. That UPCL is deliberating upon the order dated 17.04.2017 and its impact and will file an appropriate Petition in regard.

1.9 The Petitioner submitted that issues like non-commissioning of plant during PSDF support Scheme, uncertainty of supply of Gas and consequently power to UPCL on long term basis, provisions whereby rebate was not allowed to UPCL during the PSDF tenure, special arrangement of 15 days billing and payment schedule which burdens the UPCL exchequer, concern about payment of AFC during non-supply period or its recovery later on and many other conditions which may come upon in future considering the unique nature and hence treatment for the said stranded Gas Based Generators, it is important that UPCL in the larger interest of public, with the kind permission of the Commission, should be allowed to reconsider/re-evaluate the PPAs with the Respondents.

2. Respondents' Submissions

2.1 With regard to the uncertainty of gas supply and pricing of the same, M/s SEPL submitted that the global scenario on supply of gas has significantly improved and the situation is much better as compared to FY 2011-12. The supply of natural gas has been in abundance since 2015 and the same is expected to continue in the foreseeable future. In fact the situation helped the gas based generating stations even more as the initial dependency on supply of gas from domestic sources has significantly reduced and the predictability of imported supply has dramatically improved. With significant amount of investments already made in the extraction of gas within the country, the supply situation from domestic sources is expected to go up significantly within the next couple of years which will strengthen the predictability of gas supply. Further M/s GIPL submitted that the situation with regard to operation of these gas based plants have been defined under the PPA. Further, with regard to pricing, M/s GIPL submitted that price and availability are interlinked and with the increase in the availability of gas, price will go down.

2.2 In respect of the submission of UPCL regarding fuel availability, M/s SEPL submitted that they are in the process of signing a one year contract for supply of gas and the existing contract with GAIL (India) Ltd itself provides for a further extension of 3 month on the same gas price and terms and conditions. M/s SEPL further added that they are expecting the RLNG prices to soften as they moved along due to upcoming capacities of LNG terminals across the world. M/s SEPL submitted that despite the cost of fuel being a pass through, they continue to make best endeavours to execute contract at the most competitive price so that the benefit gets duly passed on to UPCL. Further, M/s GIPL submitted that the issue regarding non-availability of gas has already been addressed in the PPA. M/s GIPL also submitted that it is their responsibility to tie-up gas and make the plant available to supply power and discharge its obligation under the PPA.

2.3 With regard to the submission of the Petitioner on uncertainty on future possibilities of lower fuel price which may lead to disagreement among the parties, M/s SEPL submitted that both parties have discussed the various possibilities and conditions of the PPA at length and the gas supply and the several possibilities under which the Respondent would be eligible for the AFC are duly highlighted in the Agreement itself. Hence, at this stage, any change in understanding on a unilateral basis would be highly detrimental for the operations and functioning of the plant.

2.4 With regard the Petitioner's issue on categorizing gas based plants as 'must dispatch', M/s SEPL and M/s GIPL submitted that must dispatch clause was incorporated in the PPA because the contract for firm supply of the gas fuel with GAIL was on a "take or pay" basis to ensure the certainty of power supply in the State. M/s GIPL further submitted that any distribution licensee should plan their demand on yearly basis rather than on day ahead basis to avoid over supply and purchase of power on short term basis at higher and fluctuating prices.

2.5 Further, with regard to the Petitioner's submission that gas based power plants are best suited for peaking power, M/s GIPL contested and submitted that gas based plants when operated in open cycle conditions are more suitable for peaking demand, however, the cost of generation in open cycle is almost 50% more. M/s GIPL further submitted that it was an understanding of the Petitioner that gas based plants will meet the peaking demand only, however, there was no commitment as such from the generator nor it is practically possible because these plants are to be run in combined cycle. Further, M/s SEPL submitted that gas based generating stations are more efficient and relatively quick in their start and shut down procedures which adds an advantage but it definitely does not qualify them as utility which is meant only for peaking demand. M/s SEPL also submitted that the supply of power is purely based on the terms and conditions of the PPA and any classification of the generators based on its utility is immaterial as the recovery of the fixed cost is based on the normative annual plant availability factor as prescribed under the MYT Regulations, 2015.

2.6 With regard to the dependability of the Petitioner on the gas generators during the banking arrangement, both the generators assured that they have been operating plant consistently and efficiently supplying uninterrupted power to meet their contractual obligations and shall make sincere efforts to adhere to the terms and conditions of the PPA executed with UPCL.

2.7 In reply to submission of the Petitioner regarding non-recovery of AFC when generator fails to supply power due to non availability of gas, M/s SEPL and M/s GIPL submitted that all the possible circumstances under which the generator shall be eligible for the AFC is already highlighted in the PPA. M/s GIPL further submitted that AFC should be allowed in the event of force majeure/uncontrollable factor clause of non-availability of gas and same to be carried forward.

2.8 With regard to the issue of rebate, M/s SEPL submitted that due to lack of margin, i.e. Discom price less than Gas price, on account of higher gas price and higher SHR, the working capital available to the Projects was being utilized to meet the O&M expense from the start of operation. Having exhausted the limits, further reduction on account of rebate would have resulted in cash loss wherein the projects would have not been able to meet even O&M expenses to run the operations. M/s SEPL requested for non-chargeability of rebate by stating that they are ready to forgo the interest on working capital which is much higher than the levy of 2% rebate for early payment and non-chargeability of interest on working capital will keep the tariff low and that would be in the benefit of UPCL.

The Petition was heard on 16.05.2017 and the Commission vide its Order dated 17.05.2017 directed the Petitioner and the Respondents to resolve all the issues raised by the Petitioner in its Petition mutually within one month of the date of Order and submit the report on the same latest by 30.06.2017. However, the Petitioner submitted the copy on Minutes of Meeting (MoM), held with M/s GIPL on 17.06.2017 and with M/s SEPL held on 19.06.2017, vide its letter dated 02.08.2017. In this regard, it is pertinent to mention that the report based on the meeting should have been submitted by 30.06.2017 in accordance with the directions of the Commission whereas UPCL convened meeting after one month of issuance of the Order. The Commission expresses its displeasure over lackadaisical approach of the Petitioner and directs the Petitioner to comply with the directives of the Commission more promptly within the stipulated timeline compulsorily.

3. Commission's views and decisions

3.1 The Petitioner has filed the current Petition under Regulation 39 and Regulation 59 of the UERC (Conduct of Business) Regulations, 2014 (hereinafter referred to as "CBR"). In this regard, Regulation 39 (3) and (4) of CBR specifies as under:

"39.Regulation of Distribution licensee's purchase of power

(1) XXX.

(2) XXX.

(3) The Distribution licensee shall apply to the Commission for approval of the draft Power Purchase agreement that it proposes to enter into with the suppliers. The Commission may pass orders:

(a) Approving the agreement; or

(b) Approving the agreement with modifications proposed to the terms of the agreement; or

(c) Rejecting the agreement.

(4) Nothing contained herein shall affect the obligations of distribution licensee under the existing contract and arrangement for purchase, import or acquisition of electricity from generating companies, electricity trader and from other persons with whom the licensee has agreements or arrangements of power purchase or procurement of energy in accordance with the terms and conditions of such agreement and arrangement consented to or approved by the Commission.

(5) XXX."

In accordance with the provisions of the above regulations, the Distribution licensee is required to apply for approval of the draft PPA which it proposes to enter into with the suppliers.

3.2 Regulation 59 of the UERC (Conduct of Business) Regulations, 2014 specifies as under:

"59 Inherent power of the Commission

(1) Nothing in these Regulations shall be deemed to limit or otherwise affect the inherent power

of the Commission to make such orders as may be necessary for ends of justice or to prevent the abuse of the process of the Commission.

(2) Nothing in these Regulations shall bar the Commission from adopting in conformity with the provisions of the Central Act or State Act, a procedure, which is at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing deems it necessary or expedient for dealing with such a matter or class of matters.

(3) Nothing in these Regulations shall, expressly or impliedly bar the Commission to deal with any matter or exercise any power under the Central Act or State Act, for which no Regulations have been framed, and the Commission may deal with such matters or exercise such powers and functions in a manner it thinks fit."

Similar provisions are also provided in the UERC (Terms & Conditions of Multi Year Tariff) Regulations, 2015 namely, Regulation 103, 104 and 105. Apparently, the Commission has powers to issue such orders as may be necessary for ends of justice and also to deal with any matter or exercise any power under the Central Act or State Act, for which no Regulations have been framed, and the Commission may deal with such matters or exercise such powers and functions in a manner as it thinks fit.

3.3 The Commission vide its Orders dated 08.02.2016, 20.07.2016 and 12.02.2017 had approved the PPAs between UPCL and M/s GIPL, M/s SEPL & M/s BIPL respectively Subsequently, M/s GIPL had filed a Petition requesting the amendment of Clause No. 9 relating to "Billing and Payment", Clause No. 1.1.32 relating to "Due Date" and Clause No. 9.4 relating to "Payment Security Mechanism" of the PPA executed with UPCL for sale of power. The Commission vide Order dated 25.01.2017 decided that M/s GIPL may raise fortnightly bill of gas supplier to the distribution licensee for payment on actual basis and UPCL shall not charge any rebate from the gas based power generators till the currency of the Scheme and till further Order of the Commission. The said directions were equally applicable to the other two gas based power generators. Subsequently, aggrieved by the decision of the Commission, UPCL filed a review Petition in the matter which was rejected by the Commission vide its Order dated April 17, 2017. Further, the Commission also decided that UPCL shall not deduct any rebate from the bills of the gas generator and the generator in turn will forgo the interest on working capital.

3.4 Subsequently, the Petitioner filed the instant petition for the issues already discussed above. Further as discussed earlier, the Commission vide Order dated 17.05.2017 directed the Petitioner and the Respondents to resolve all the issues raised by the Petitioner mutually and submit a report to the Commission based on which the final view would be taken by the Commission. In this regard, UPCL vide letter dated 02.08.2017 submitted the MoM held with M/s GIPL and M/s SEPL on 17.06.2017 and 19.06.2017 respectively. Further, with regard to MoM held with M/s BIPL, the Petitioner submitted that the meeting was convened on 20.06.2017, however, the MoM could not be signed as the representative of M/s BIPL had to leave back as they already had the flight booked in advance and there was no sufficient time left for MoM to be prepared and signed in time. Therefore, the said MoM was sent to M/s BIPL through e-mail, however, the same has not been signed and returned by M/s BIPL till date.

3.5 The gas plants of the Respondents have been selected under the Scheme notified by the Central Government and further approved by the State government. Since the PPAs approved by the Commission for the Respondents and the issues agitated by UPCL are similar in nature, the Commission's findings/decisions shall apply to M/s BIPL also.

3.6 The Petitioner has raised the following four issues on which the meetings were held with the gas plant generators:

(a) The concerned power plant should not be treated as a must dispatch/run plant.

(b) Price bracket for fuel be fixed for every control period to avoid the chances of excessive increase in Energy Charge Rate.

(c) O&M Expenses are on a higher side and needs to be re-assessed.

(d) Special arrangement of 15 days billing cycle for the concerned Gas Power Plants.

The Commission in accordance with the provisions of the Electricity Act, 2003 and in line with the applicable Regulations has *ad seriatim* dealt with Petitioner's submission as under:

3.6.1 The concerned power plant should not be treated as a must dispatch plant.

3.6.1.1 During the Meeting held with the Respondents, UPCL insisted that in case of backing down of plant due to non-requirement of power, the Petitioner shall not pay any Capacity Charges for the period neither the same shall be allowed to be carried forward.

3.6.1.2 In this regard, as per MoM held with M/s GIPL dated 17.06.2017, M/s GIPL disagreed with the submission of the Petitioner and submitted that at present the Gas supply agreement with M/s GAIL is on take or pay basis, hence, the generator has to make payment for the contracted gas even if the same is not consumed due to shut down of the plant. M/s GIPL further informed that in the next six months/one year the take or pay clause of gas agreement is expected to be abolished after that must dispatch clause may be amended by UPCL. M/s GIPL also submitted that every start up of the plant, sufficient quantity of gas is consumed and the financial implication of the same is about Rs. 5 Lakh per startup depending upon the time of backing down. Further, as per MoM, in case of removal of must dispatch clause of course in consequence of removal of take or pay condition of Gas supply agreement, M/s GIPL had requested for a compensation clause on which UPCL has shown disagreement citing that the generator should cooperate in the matter especially when all the State source of power of UPCL are renewable in nature and during surplus period the non-renewable energy should be allowed to be backed down both in view of financial as well as environmental perspective.

Further, as per MoM held with M/s SEPL dated 19.06.2017, M/s SEPL submitted that 85% NAPAF is standardized considering the shutdown of gas turbines at an average of once in three years and the shutdown of boilers for one week each year. Moreover, the severe dust due to industrial pollution and the crop harvesting for three times in a year, temperature and humidity variations throughout the days and months also affects the generation of the plant hence it would not be possible to negotiate any further on must dispatch clause. Further, under emergency situations the back down can be allowed considering that AFC through Capacity Charges along with heat loss charges will be paid by UPCL. M/s SEPL also submitted that its gas based power generation is classified as green power and clean generation should be encouraged as compared to other thermal power plants providing power to UPCL.

UPCL has shown disagreement citing that the generator should cooperate in the matter especially when all the State source of power of UPCL are renewable in nature and during the surplus period the non-renewable energy should be allowed to be backed down both in view of financial as well as environmental perspective.

3.6.1.3 With regard to the Petitioner's submission that in case of backing down of plant due to non-requirement of power, the Petitioner shall not pay any Capacity Charges for the period neither the same shall be allowed to be carried forward, it is to be noted that Regulation 49 of MYT Tariff Regulations, 2015 read with Second amendment to MYT Tariff Regulations, 2015 and Regulation 47(1)(a) of MYT Tariff Regulation, 2015 deals with the computation and payment of Capacity Charges which specifies as follows:

"47 Norms of operation for Generating Stations

The norms of operation as given hereunder shall apply to the thermal generating stations:

(1) Normative Annual Plant Availability Factor (NAPAF):

(a) For all thermal generating stations: 85%"

Regulation 49 of MYT Tariff Regulations, 2015 provides as under

"49 Computation and Payment of Annual Fixed Charges and Energy Charges for Thermal Generating Stations

(1) The fixed cost of a thermal generating station shall be computed on annual basis, based on the norms specified under these Regulations, and recovered on monthly basis under capacity charge. The total capacity charge payable for a generating station shall be shared by its beneficiaries as per their respective percentage share/allocation in the capacity of the generating station.

(2) The capacity charge payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae:

$$CC1 = (AFC/12)(PAF1 / NAPAF) \text{ subject to ceiling of } (AFC/12)$$
$$CC2 = ((AFC/6)(PAF2 / NAPAF) \text{ subject to ceiling of } (AFC/6)) – CC1$$
$$CC3 = ((AFC/4) (PAF3 / NAPAF) \text{ subject to ceiling of } (AFC/4)) – (CC1+CC2)$$
$$CC4 = ((AFC/3) (PAF4 / NAPAF) \text{ subject to ceiling of } (AFC/3)) – (CC1+CC2+CC3)$$
$$CC5 = ((AFC \times 5/12) (PAF5 / NAPAF) \text{ subject to ceiling of } (AFC \times 5/12)) – (CC1+CC2 +CC3 +CC4)$$

CC6 = ((AFC/2) (PAF6 / NAPAF) subject to ceiling of (AFC/2)) – (CC1+CC2+CC3+CC4 + CC5)

CC7= ((AFC x 7/12) (PAF7 / NAPAF) subject to ceiling of (AFC x 7/12)) – (CC1+CC2 +CC3 +CC4 + CC5 + CC6)

CC8 = ((AFC x 2/3) (PAF8 / NAPAF) subject to ceiling of (AFC x 2/3)) –(CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7)

CC9 = ((AFC x 3/4) (PAF9 / NAPAF) subject to ceiling of (AFC x 3/4)) –(CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7+ CC8)

CC10= ((AFC x 5/6) (PAF10 / NAPAF) subject to ceiling of (AFC x 5/6)) – (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7 + CC8 + CC9)

CC11 = ((AFC x 11/12) (PAF11 / NAPAF) subject to ceiling of (AFC x 11/12)) – (CC1+CC2+CC3 +CC4 + CC5 + CC6 + CC7 + CC8 + CC9 + CC10)

CC12 = ((AFC) (PAFY / NAPAF) subject to ceiling of (AFC)) – (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7 + CC8 + CC9 + CC10 + CC11)

Provided that in case of generating station or unit thereof or transmission system or an element thereof, as the case may be, under shutdown due to Renovation and Modernisation, the generating company or the transmission licensee shall be allowed to recover part of AFC which shall include O&M expenses and interest on loan only.

Where,
AFC= Annual fixed cost specified for the year, in Rupees.
NAPAF = Normative annual plant availability factor in percentage.
PAFN = Percent Plant availability factor achieved upto the end of the nth month.
PAFY = Percent Plant availability factor achieved during the Year
CC1, CC2, CC3, CC4, CC5, CC6, CC7, CC8, CC9, CC10, CC11 and CC12 are the Capacity Charges of 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th months respectively.

(3) *The PAFM shall be computed in accordance with the following formula:*

$$PAFM = 10000 \times \sum_{i=1}^{N} DCi \,/\, \{ N \times IC \times (100 - AUX) \} \,\%$$

Where,
AUX = Normative auxiliary energy consumption in percentage.
DCi = Average declared capacity (in ex-bus MW), for the ith day of the period, i.e. the month or the year as the case may be, as certified by the State load dispatch centre after the day is over.
IC = Installed Capacity (in MW) of the generating station
N = Number of days during the period i.e. the month or the year as the case may be.

Note: DCi and IC shall exclude the capacity of generating units not declared under commercial operation. In case of a change in IC during the concerned period, its average value shall be taken.

(4) *Incentive to a generating station or unit thereof shall be payable at a flat rate of 50*

paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) as specified in Regulation 47(2)."

3.6.1.4 Based on the above regulations, the recovery of the Capacity Charges is based on the availability of the generating Plant in a Financial Year. Further, backing down instructions by the licensee on account of non-requirement of the power would not imply that the generating plant is not available as per Regulation 3(22) of the MYT Regulations which specifies the definition of Declared Capacity (DC) which in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any timeblock of the day or whole of the day, duly taking into account the availability of fuel. Hence, even if the Petitioner/licensee asks the Respondent/generator to back down generation its machine(s) will still remain available as per the above regulation and accordingly, the generator will declare its capacity after factoring-in the availability of fuel under the regulations. Hence, the licensee will have to pay fixed charges in accordance with the Regulations even if it asks the generator to back down the generation.

3.6.1.5 The condition of 'must dispatch' was so envisaged by the Commission as the generators have tied up for the quantity of fuel, to meet their obligation of supplying power to UPCL, equivalent to 85% of their availability. The fuel supplier, i.e. GAIL had insisted on the 'take or pay' arrangement as it would also source gas for these generators which if not off-taken will be a loss to it. Hence, the generators will have to pay the gas price to GAIL irrespective of the fact whether UPCL requires electricity or not. The PPA with these gas generators were done on the premise that UPCL is in shortage of power equivalent to 400 MW, and now subsequently the stand taken by UPCL that it does not require round the clock power is not only questionable but also reflects arbitrary planning on the part of the Petitioner. Admittedly the State witnesses power surpluses during summers and deficit in winters because of the reason that significant demand in the State is being met by hydro power having significant generation during May to October months and which declines in the winter months. The aforesaid scenario can be better leveraged by UPCL to its advantage as there are many States in the northern region whose demand increases during kharif (Paddy)/summer/monsoon season contrary to the situation in State of Uttarakhand and the reverse happens in the rabi/winter season where Uttarakhand faces the acute shortage of power due to increased demand-supply gap. Hence, UPCL can enter into a banking arrangement with such States, however, this would require proper planning and that too well in advance, which at present is found to be missing in UPCL. Alternatively, UPCL can also prepare its monthly requirement plan for the ensuing years based on which these gas generators may be informed about the quantum of power required on month to month basis so that these generators may, accordingly, tie up with GAIL for the supply of fuel required. However, while making such plan for procurement of power from these gas based generators, it should be taken care that the actual annual availability of the generators matches with the normative availability of 85% (NAPAF provided in the Regulation) so that these generators are not deprived of their fixed charges as the overall recovery of these charges is dependent on the actual availability of 85% of the plant in a year.

Based on the above discussion, UPCL is required to prepare a month wise power purchase plan for the ensuing year latest by the end of December of the preceding year so as to ensure that the generators are able to run their plants atleast at 85% NAPAF and also tie up for fuel with GAIL based on the said monthly power purchase requirement of UPCL. This plan will be binding both on the Petitioner and the Respondents for the ensuing financial year subject to force majeure conditions stipulated in the PPA.

Moreover, as brought out in the MoM dated 17.06.2017, M/s GIPL submitted that the take or pay clause of gas agreement is expected to be abolished in next six month or one year after that must dispatch clause may be amended. In this regard, if GAIL abolish/relaxes such clause, the Licensee and Generators may approach the Commission for amendment in must dispatch clause. However, if the agreement with GAIL stipulates the 'take or pay' clause then these plants will be treated as must dispatch plants.

It is also to be understood that operation of thermal plants at part load, or with many start-ups and shutdowns, will increase the relative auxiliary power requirement. A thermal plant if suddenly shut down, incurs significant off-load energy losses, particularly during subsequent plant start-up, which must be done gradually to avoid damage from thermal stresses. While the plant is not generating output, all of the input energy is lost (i.e. efficiency is 0%). UPCL's expectations that the gas based generating stations could be used as peaking stations where the power plants may be required to shut down frequently. This can be more conducive with an open cycle gas based thermal generating station. However, with a combined cycle station this scenario would have lead to deterioration in physical conditions affecting plants efficiency which would not have been in the interest of the generators or UPCL.

Further, on UPCL's concern that it should not be required to pay any charges to the generators if they cannot arrange fuel has already been taken care of in the Regulations as well as in the PPA. In this regard, Clause 7.1.5 of the PPA states as under:

> *"7.1.5.In case the Seller has arranged the Fuel on the basis of "take or pay" basis and during the Term of this Agreement Seller is not able to make available the Contracted Capacity or part thereof from the Power Station, except due to a Force Majeure Event or due to Buyer Event of Default, the information of the same will be provided by the Seller in 3 days in advance to the Buyer and the Buyer has to confirm the same within 5 hours that whether they need such Capacity or not.* ***In case the power is required the seller can make available such Capacity from an alternative generation source to meet its obligation under this agreement. In the event no such Capacity is approved by the Buyer no obligation whatsoever would be there on either parties.****"*

(Emphasis added)

Further, as discussed above, the Regulations specifies the definition of the declared capacity which in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any timeblock of the day or whole of the day, duly taking into account the availability of fuel. Hence, the generator will have to source fuel failing which the declared capacity will be zero, except in the force majeure conditions.

3.6.2 Price bracket of fuel for every control period to avoid the chances of excessive increase in Energy Charges Rate

3.6.2.1 UPCL submitted during the meeting with the Respondents that increase in fuel charges in future would result in very high energy charge rate (ECR) and, hence, has proposed for ceiling rate of fuel or ECR to hedge the corporation from any risk with regard to excessive ECR due to increase in fuel charges. UPCL further submitted that the period when fuel charges are higher than the ceiling rate fixed, such situation should be treated as non availability of fuel and accordingly, the capacity charges and deemed generation should not be allowed for the said period.

3.6.2.2 M/s GIPL expressed its disagreement on the proposal of UPCL whereas M/s SEPL submitted that fuel price ceiling may be fixed subject to recovery of Capacity charges of that period to which UPCL did not agree.

3.6.2.3 With regard to the proposal of UPCL, it is to be noted that the Regulation 49 of MYT Tariff Regulations, 2015 is silent about the capping of the fuel charges to be recovered by way of Energy Charges. The relevant portion of the Regulation 49 of MYT Regulations, 2015 is reproduced below:

"(5) The energy charge shall cover the primary fuel cost and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charge rate of the month (with fuel price adjustment). Total Energy charge payable to the generating company for a month shall be:

(Energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh.}

(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

(a) For gas and liquid fuel based stations

$$ECR = GHR \times LPPF \times 100 / \{CVPF \times (100 - AUX)\}$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for gas and liquid fuel based stations.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month."

Further, UPCL is projecting such a scenario that will defeat the essence of sub-regulation (1),(2) & (3) of Regulation 49 (reproduced earlier in the Order) that allows the recovery of the capacity charges on the basis of actual plant availability.

3.6.2.4 The Commission is of the view that as decided in the discussion on the earlier issue of "Take or Pay" clause, prior schedule of dispatch of power should be mutually agreed between UPCL and generators before start of each Financial Year preferably by the end of December of the preceding financial year wherein UPCL shall provide the closure days when the gas plants will be shut down partially or completely, as the case may be, subject to condition that the generators are able to achieve the NAPAF of their Plants at 85% as discussed above in accordance with the Regulations. Any further shutdown(s) of the generating plants in addition to the above mutually agreed power schedule of despatch prepared by the Petitioner would neither be consistent with the provisions of the Regulation 49 of the MYT Regulations nor would give any benefit to the Petitioner since declared capacity remains restored in accordance with Regulation 3(22) of the MYT Regulations which defines "Declared Capacity".

However, if UPCL feels that the energy charges are very high, it may ask the generator to back down subject to the conditions covered under clause 7.2.1.1 and 7.2.1.2 of the PPA signed with the respective gas based generators. Although it will be advisable that before finalizing into a contract for gas procurement, the generators inform UPCL about the price at which they would procure gas and UPCL would then decide accordingly with regard to despatch in accordance with the above conditions of PPA and decisions of the Commission in this Order . ECR in case of gas based generating stations is not only linked to the price of gas, but also on the value of Indian Rupees in comparison to US $ as price of gas is in US$. Any variation in the value of currency will also impact the ECR. However, the same is pass through for UPCL in the form of FCA and will not burden it adversely. The Respondents/generators are also directed to undertake due diligence and exercise proper prudence in terms of cost while arranging the fuel as higher fuel costs can lead to the Petitioner exercising backing down of their plants in accordance with the PPA and Orders of the Commission in this regard.

Hence, the Commission does not accept the proposal of Petitioner to incorporate price ceiling of ECR.

3.6.3 O&M Expenses are on higher side and needs to be re-assessed.

3.6.3.1 UPCL has submitted that initially while examining the matter of PPA with M/s GIPL O&M Expenses were assumed as approximately Rs. 9.25 Lakh/MW as per the MYT Tariff Regulations, 2015 and even after the consensus on signing of PPA and issuance of LoA, thereafter, the O&M charges were in the above mentioned range which the generators were also aware of. Subsequently, the amendment for Class 'F' insulation machines was approved which introduced almost three times the O&M charges. Such increase has huge impact on overall tariff and needs to be disallowed to the generators, as the generators while making consensus for PPA and accepting the LoA was ready to supply power at O&M charges applicable at that time. UPCL further added that O&M charges have been increased by upto three times for the life of the plant but on a contrary no apparent benefit is visible on account of this as calculation for energy sent out remains the same and the requirement of gas for every unit of energy produced also seems to be unaffected. UPCL further added that generators might add O&M charges of both the units while finalizing their financial statements.

3.6.3.2 Both the generators submitted that performance of 'F' class machines is quite superior and the maintenance as well as spares are costlier than the regular 'E' class machines.

3.6.3.3 With regard to separate classification of O&M expenses for 'F' class turbine, it is pertinent to mention that the Principal MYT Tariff Regulations, 2015 had not provided any specific O&M expenses for F-class machines. Accordingly, the Commission proposed first amendment to MYT Tariff Regulations, 2015 where the Commission had taken the reference of the norms specified by CERC which had considered normative O&M expenses for advance F-class machines based on the actual expenditure incurred on generating stations having such class of machines. Further, during the hearing in the matter, UPCL had submitted that it had no objection in respect of proposed draft amendment since with increase in efficiency with F class machines ARR of the generating plants should reduce.

3.6.3.4 Further, with regard to the superiority of F-class machines over E-class machines, the Commission has already dealt with the issue while incorporating separate O&M expenses norms for F- class machines. The Relevant Paras of the Statement of Reasons of 1st amendment to MYT Regulations, 2015 are as follows:

"3. The gas based plant submitted that due to very high turbine inlet temperature the efficiency of such machines is about 52% as against the efficiency of `E` class machines which is about 48%. To achieve high operational temperature internals and hardware in F class are designed to cater such high temperature zones by applying advance coating and alloy metallurgy and also using cooling methods. This improvement in efficiency with F class machines leads to considerable reduction in consumption of gas fuel (i.e. around 8-9%) which further results in saving in energy charges.

4. Dry Low NOx (DLN) combustion systems in Advanced Class F Gas turbines have demonstrated their ability to meet the ever lower emission levels. Such low NOx emissions are generally not attainable on lower firing temperatures. Therefore, Class F machines are highly environment friendly and compliant to environmental regulations under Clean Development mechanism towards reduction of Green House Gas emissions.

5. Since the technology is proprietary, the cost of spare parts and services of specialists who possess the requisite technical know-how results in higher O&M expenses. Therefore, it is a common practice throughout the world for the users of advanced class (F Class) gas turbines to avail long term service and supply services from the Gas Turbine OEMs. Such services cover monitoring and inspection of the machines, management of spares and components that require replacement, repairs and refurbishment.

6. The requirement of replacement and/or refurbishment of these highly specialized active components which are not available in open market and are proprietary to respective Gas Turbine OEMs and have to be necessarily sourced from them and lead time is very high and one set of all required spares, consumables are to be kept in the inventory.

7. The gas based power generator submitted that by allowing norms of O&M expenses as specified by CERC for advance F class machines still there would be overall savings of around Rs. 25- 26 Crore on annual basis on account of savings in fuel cost for the same capacity of F class machines as compared to E class machines.

8. Relying on the submissions made by the gas based power plants in the State and also taking reference of normative specified by CERC and other ERCs, the Commission has decided to allow normative O&M expenses for such machines as specified by CERC in its Tariff Regulations, 2014."

3.6.3.5 Further, as far as the linking the O&M expense with the execution of PPA with the generators is concerned, it is to be noted that the normative parameters as defined under the regulations are linked with the date of commissioning of the project and not with the date of signing of PPA. The said amendment to MYT Tariff Regulations, 2015 has come to force from the date of notification which is 18.01.2017 and it is to be noted that while determining the Capacity charges for M/s GIPL, the Commission has considered O&M expenses based on the norms provided in the Principal MYT Tariff Regulations, 2015 till the notification of the first amendment to MYT Tariff Regulations, 2015.

With regard to the concern of the Petitioner that the Respondents will add the O&M expenses of both the units while finalization of their Balance Sheet, it is to be noted that the Balance Sheet is a statutory document and it is prepared for the company as a whole including all the operations of the company irrespective of operational or semi-operational units/turbines. Further, Regulation 30(6) of MYT Regulations 2015 provides that the variation in normative O&M expenses and actual O&M expenses shall be considered as part of gain/loss on account of controllable factors. Accordingly, actual O&M expenses of the units in operation proportionate to the contracted capacity as per PPA shall be dealt by the Commission in accordance with the aforesaid regulation at the time of determination of ARR for the respective generator.

3.6.4 Special arrangement of 15 days billing cycle for the concerned Gas Power Plants.

3.6.4.1 UPCL submitted that 15 days payment methodology was imposed by the Commission citing the liquidity constraint in the middle of the month considering the start of monthly revenue recovery cycle from approximately third week of the month. Further, UPCL emphasized that the same would be a partiality to various other generators supplying power.

3.6.4.2 Generators submitted that they have to pay their gas bills on fortnightly basis to gas supplier and they have already voluntarily forgone IWC and the same will be beneficial for UPCL.

3.6.4.3 In this regard, UPCL submitted that not only payment is made on fortnightly basis but rebate on the same is also disallowed and to make fortnightly payment UPCL has to go for over draft from the Banks and has to bear the burden of interest on the same. UPCL also submitted that calculations given in Order by the Commission needs to be relooked in light of parameters derived on the basis of fortnightly payment rather than the monthly payment and only after that the accrued benefit to UPCL be derived and increased O&M expenses have also comforted the generators to offer for waiver of IWC and in turn have bargained for 15 days payment as well as waiver of rebate.

3.6.4.4 M/s GIPL disagreed with UPCL whereas M/s SEPL assured that they will submit the complete cost benefit calculation sheet regarding waiver of IWC.

3.6.4.5 With regard to the comments of UPCL on partiality with the other State generators w.r.t. fortnightly payment methodology, it is to be noted that payment of fuel costs to be made to M/s GAIL is applicable only to these gas based thermal generating stations included in the GoI Scheme, whereas, in case of hydro power plants in the State from where the Petitioner (licensee) procures most of the power, there is no incidence of gas costs and the balance power procured by the licensee from the Central thermal/hydro generating station are governed by CERC Regulations. Accordingly, the Commission does not find merit in Petitioner's submissions that allowing such payment arrangement will lead to discrimination with other generators.

3.6.4.6 Further, with regard to foregoing the interest on working capital by the Generators, it is to be noted that the Commission vide Order dated 17.04.2017 had allowed the gas based power generators included in the GoI Scheme, to forego interest on working capital in lieu of non-chargeability of rebate by UPCL on payment of bills raised by respective generators. Further, vide the said Order, the Commission had also evaluated the financial impact on UPCL. The relevant Paras of the Order dated 17.04.2017 are reproduced as follows:

> *"The Commission has evaluated net financial impact on UPCL based on the following illustration:*

Comparison of admissible Interest on Working Capital and Rebate of 2% charged by UPCL from M/s SEPL

S. No.	*Computation of Interest on WC per annum (FY 2017-18)*	*Amount*
1	*Fuel Cost for one month (Rs. Crore) (On the assumption that fuel cost is Rs. 3.50/kWh*)*	*45.84*
2	*O&M Expenses for 1 month (Rs. Crore)*	*5.77*
3	*Maintenance Spares (30% of O&M) (Rs. Crore)*	*20.77*
4	*Receivables for 2 Months (Rs. Crore) (On the assumption that tariff remains Rs. 4.70/kWh*)*	*122.03*
5	***Total WC requirement (Rs. Crore)***	***194.41***
6	***Interest on Working Capital @ 14.05% (Rs. Crore) (A)***	***27.31***
	Computation of Rebate per annum (FY 2017-18)	
1	*Total Number of Million Units per Annum (MU)*	*1,551.00*
2	*Provisional Tariff applicable (Rs./kWh)*	*4.70**
3	*Total Invoice/ Billing to UPCL for FY 2017-18 (Rs. Crore)*	*729.00*
4	***Total Rebate @ 2% (Rs. Crore) (B)***	***14.60***
C.	***Net saving in purchase of power (A-B) per annum (Rs. Crore)***	***12.71***

**for illustration purposes only*

From the above illustration, it is clear that there will be net saving in cost of power purchase to the tune of about Rs. 13 Crore per year or Rs. 1 Crore p.m. under the arrangement that UPCL does not charge rebate to M/s SEPL and in turn M/s SEPL foregoes interest on working capital. However, this arrangement will only be applicable to M/s SEPL as other Gas based generators in the State have not given their option to this effect. Keeping in view, the overall benefit to UPCL and consumers of the State, the Commission allows implementation of the above arrangement between UPCL and M/s SEPL. The Commission also advices other Gas based generators to explore the option forwarded by M/s SEPL in the interest of UPCL and consumers of the State."

The Commission had given its findings in the aforesaid Order regarding the saving that would accrue to UPCL. The savings therein were so calculated based on the fact that the generators forego their claim of working capital as specified in the Regulations. There can be only two scenarios, either interest on working capital is allowed to the generators in accordance with the Regulations and payment is made by UPCL strictly in accordance with the PPA or the generators forego their claim of interest on working capital and payment is made by UPCL in accordance with the decision of the Commission given in the Order dated 17.04.2017. There is no third hybrid approach as pointed out by UPCL. Now since, the tariffs for the two projects have already been determined, the revised calculation of savings that would accrue to UPCL is given hereunder:

S. No.	Computation of Interest on WC per annum (FY 2017-18)	Amount (Rs. in Crore)	
		M/s SEPL	M/s GIPL
1	*Fuel Cost for one month (Rs. Crore) (the average fuel cost rate as submitted by licensee in FCA petition i.e. Rs. 3.79/kWh*)*	**49.07**	**24.53**
2	*O&M Expenses for 1 month (Rs. Crore)*	**5.77**	**2.88**
3	*Maintenance Spares (30% of O&M) (Rs. Crore)*	**20.77**	**10.38**
4	*Receivables for 2 Months (Rs. Crore) (as per the applicable tariff)*	**144.74**	**65.38**
5	***Total WC requirement (Rs. Crore)***	**220.35**	**103.18**
6	***Interest on Working Capital @ 14.05% (Rs. Crore) (A)***	**30.96**	**14.50**
	Computation of Rebate per annum (FY 2017-18)		
1	*Total Number of Million Units per Annum (MU as per designed energy)*	**1,553.61**	**776.80**
2	*Tariff applicable (Rs./kWh)*	**5.60**	**5.05**
3	*Total Invoice/ Billing to UPCL for FY 2017-18 (Rs. Crore)*	**868.47**	**392.29**
4	***Total Rebate @ 2% (Rs. Crore) (B)***	**17.37**	**7.85**
C.	***Net saving in purchase of power (A-B) per annum (Rs. Crore)***	**13.59**	**6.65**

It is clear from the above table that there will be a net saving accruing to UPCL of around Rs. 13.59 Crore and Rs. 6.65 Crore in cost of power purchase from M/s SEPL and M/s GIPL respectively under the arrangement where UPCL does not charge rebate to the gas based generating plants and in return the gas based power generators forego their interest on working capital.

Further, as far as the interest on overdraft is concerned, it is to be noted that even if a overdraft facility for ensuring payments to the gas generators equivalent to one month charges is availed by UPCL, in case of M/s. SEPL total annual interest payable by UPCL would be around Rs. 10 Crore which would still exceed the savings accruing to UPCL. Moreover, it is incomprehensible as to how the question of availing over draft has arisen. The Commission has allowed UPCL the entire legitimate costs to be recovered from the consumers in its ARR and in such a scenario if UPCL has to resort to availing the overdraft facility, the same reflects towards inefficiencies in the form of excess losses, poor collection efficiencies, etc. creeping in the operations of UPCL. It has also come to the notice of the Commission that UPCL has infact stopped availing rebates from other generators on the premise that the same is adjusted by the Commission in its ARR and UPCL does not get any benefit of the same. However, the burden of the same will be loaded on to the consumers of the State. On one hand, it talks about the protection of consumers, however, its actions reflect otherwise. The Commission would in due course of time examine the same and issue appropriate directions.

However, if the Petitioner is still satisfied that there is no saving to it, it is open for both Petitioner and the Respondents to sit together and work out in the interest of the consumers of the State whether the payment of electricity bills is to be made in terms of the PPA or the existing arrangement approved by the Commission vide its Order dated 17.04.2017 would continue and intimate to the Commission their agreement on the issue within one month of the date of Order alongwith proper justification. In such a scenario, if payment is made to the generators in accordance with the PPAs entered between the Petitioner and the Respondents, the generators will be at a liberty to claim interest on working capital in accordance with the Regulations. Notwithstanding the above, it is made clear that till the currency of the PSDF scheme of GoI, the generators have not been allowed interest on working capital and therefore, till 31st March 2017 no rebate will be applicable on payment made to the generators by the Petitioner till that period.

4. Accordingly, it is hereby decided that:

4.1 The Petitioner shall prepare a month wise power purchase plan for the ensuing year latest by the end of December of the preceding year so as to ensure that the Respondents are able to run their plants atleast at 85% NAPAF and also tie up for fuel with GAIL based on the said monthly power purchase requirement of UPCL.

4.2 The Petitioner shall not deduct any rebate from the bills of the Respondent gas generators till 31st March 2018. However, it is open for both the Petitioner and the Respondents to sit together and work out in the interest of the consumers of the State whether the payment of electricity bills is to be made in terms of the PPA or the existing arrangement approved by the Commission vide its Order dated 17.04.2017 shall continue and intimate to the Commission their agreement on the issue within one month of the date of Order alongwith proper justification.

5. Further, UPCL has shown its serious concern over the delay in commissioning of the M/s BIPL gas based generating plant vide its letter No. 4331/UPCL/RM/Beta-GC dated 25.10.2017. UPCL has submitted that M/s BIPL vide letter dated 14.09.2017 has informed UPCL that targeted commissioning of the plant by September 2017 has further shifted on account of delay in receipt of funds from the consortium of five banks led by Punjab National Bank and has requested UPCL to grant permission for commissioning of the plant by March

2018. Which is being examined as stated by Petitioner. In this regard, the Commission directs the Petitioner to take up the matter expeditiously.

6. Ordered accordingly.

(Subhash Kumar)
Chairman