

BEFORE THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION LUCKNOW

Petition No. 667, 669, 672, 677 & 678 of 2010

IN THE MATTER OF: Determination of tariff for co-generation plants setting up additional power generation capacity based on coal during off season for increased availability of power in the State as provided under GoUP Energy Policy, 2009.

AND

IN THE MATTER OF:

Petitioner:

1. M/s Haidargarh Chinni Mills, (pet. no. 667/10)
(a unit of Balrampur Chinni Mills Ltd.)
Vill. & P.O. Pokhra, Haidargarh,
Barabanki – 227301
2. M/s Dalmia Chinni Mills, (pet. no. 669/10)
(a unit of Dalmia Cement Ltd.)
Vill. & P.O. Jawaharpur, Ramkot,
Sitapur.
3. M/s Mankapur Chinni Mills, (pet. no. 672/10)
(a unit of Balrampur Chinni Mills Ltd.)
Vill. & P.O. Datuali, Mankapur,
Gonda – 271302
4. M/S Dhampur Sugar Mills Ltd. (pet. no. 677/10)
(Dhampur)
241, Okhla Industrial Estate,
Phase-III, New Delhi.
5. M/S Dhampur Sugar Mills Ltd. (pet. no. 678/10)
(Asmoli)
241, Okhla Industrial Estate,
Phase-III, New Delhi.

Respondents:

1. Uttar Pradesh Power Corporation Ltd.
(through its CMD)
Shakti Bhawan, 14 – Ashok Marg,
Lucknow.
2. Madhyanchal Vidyut Vitran Nigam Ltd.,
(through its M.D.)
4-A, Gokhle Marg, Lucknow.
3. Pashchimanchal Vidyut Vitran Nigam Ltd.,
(through its M.D.)
Victoria Park, Meerut.

4. Chief Engineer (PPA)
Shakti Bhawan,
14 – Ashok Marg,
Lucknow.

The following were present:

- (1) Sri S.K. Agarwal, Director (Finance), UPPCL
- (2) Sri Anil Kumar Gupta, CGM, M/S Balrampur Chinni Mills Ltd.
- (3) Sri N.K. Saini (DGM), M/S KM Sugar Mills.
- (4) Sri. Pankaj Chaturvedi, M/S Balrampur Chinni Mills Ltd.
- (5) Sri Durga Prasad, UP Co-gen Association
- (6) Sri R.K. Modwell, M/S Dwarikesh Sugar Industries Ltd.
- (7) Sri R.K. Chakravarti, Secy, Co-gen Association
- (8) Sri B.D. Banarjee, M/S Balrampur Chinni Mills Ltd.
- (9) Sri Pankaj Rastogi, M/S Dalmia Chini Mills.
- (10) Sri C.P. Dwivedi, M/S Dalmia Chinni Mills.
- (11) Sri D.D. Chopra, Advocate, Co-gen Association
- (12) Sri S.C. Rathi, Consultant, M/S Dhampur Sugar Mills Ltd.
- (13) Sri R. Kumar, GM, M/S Dhampur Sugar Mills Ltd.
- (14) Sri Anoop Singh, M/S DCM Sriram.
- (15) Sri A.S. Rakhra, Advocate, UPPCL.
- (16) Sri A.V. Singh, Advocate, M/S Dalmia Chini Mills.
- (17) Sri K.N. Ranasaria, M/S Balrampur Chinni Mills Ltd.
- (18) Sri Ram Sharma, M/S Simbholi Sugar Ltd.
- (19) Sri P. Chaturvedi, NTPC.
- (20) Sri R.K. Johar, CE, PPA, UPPCL.
- (21) Sri S.P. Pandey, E.E., PPA, UPPCL.

ORDER

(Date of hearing 10.5.10)

GoUP Energy Policy, 2009 has mandated to source competitive and reliable bulk power from both within and outside the State. It has allowed Co-generators to increase the availability of power by optimization of generation of existing seasonal generating co-gen plants based on Bagasse or Biomass by allowing them to use alternative conventional fuel. As an incentive, the State has allowed 50% of the additional generation in off season to be sold anywhere under open access. Under this policy the co-generator has to use the available surplus land and ground water for additional generation and has to arrange the coal himself. Many co Generators have come forward with the intention of optimization of their capacity by use of coal for generation in off-season. UPPCL as the sole authorized body for purchase of power on behalf of State Distribution Licensees has accorded 'in principle consent' for purchase of 50% saleable energy from the coal based power generation during off - season from the co-gen plants. The tariff for such generation is to be determined by the Commission.

Three petitions were filed in this matter by M/s Haidergarh Chinni Mills Ltd. (pet. no. 667/10), M/s Dalmia Chinni Mills Ltd., Jawaharpur (pet. no. 669/10) and M/s Mankapur Chinni Mills Ltd. (pet. no. 672/10). Since the matter was related to determination of tariff for power to be supplied to the people of the State of U.P., a notice for Public Hearing on 10.5.10 was placed in the newspaper on 30.4.10. Before the date of hearing two more petitions on the same subject matter were filed one by M/s Dhampur Sugar Mills Ltd., Dhampur (pet. no. 677/10) and one by M/s Dhampur Sugar Mills Ltd., Asmoli (pet. no. 678/10). These two petitions were also clubbed with the earlier petitions since they pertained to the same subject matter.

In the petitions, the Petitioners have prayed for determination of tariff for coal based generation from their existing plants during off season as provided under the GoUP Energy Policy, 2009. They have submitted that for use during off season they have converted their co generation plants in to multi fuel plants in which during season bagasse will be used as fuel and during off season coal would be used. They have submitted that on conversion of plant they have incurred certain capital expenditure which may kindly be considered by the Hon'ble Commission while determining the tariff. It has also been submitted that fuel is being arranged by them by direct purchase from the coal supplier, e-auction or imports as coal linkage from the Government sources is not available to them. The comparative details of some important parameters submitted by the Petitioners are tabulated as below:

	Petitioners	Pet. No	Additional Capital cost (Rs. in Lacks /MW)	Plant Load Factor	Aux. Cons	Station Heat Rate Kcal/Kwh	Cost of Coal Rs. /MT	GCV of Coal Kcal/Kg
1	Haidergarh Chinni Mills Ltd.	667/10	82.00	40%	10%	3650	6326	5536
2	Dalmia Chinni Mills Ltd., Jawaharpur	669/10	74.00	35%	10%	3650	6042	4900
3	Mankapur Chinni Mills Ltd.	672/10	84.00	40%	10%	3650	6055	5370
4	Dhampur Sugar Mills Ltd., Dhampur	677/10	90.10	40%	10%	3607	6514	5200
5	Dhampur Sugar Mills Ltd., Asmoli	678/10	89.93	40%	10%	3607	6487	5200

During the hearing, Sri K.N. Ranasaria , M/S Balrampur Chinni Mills Ltd. submitted that due to reduction in production of sugar cane, it has become very difficult for them to run the generating plant based on bagasse even in season. During off season there is an absolute crisis of bagasse in the market. In such a situation the GoUP policy has come with an alternative for them to run the same plant during off season on coal. But for use of coal as fuel they require to make certain capital expenditures to meet out the technical requirements of the plant. Coal for the plant could be managed from Indonesian Coal Mines or from E-auction in India. In both the options the cost of coal with GCV of about 5200 Kcal/kwh would be about Rs. 6500/MT or more. He requested to the Commission that they be compensated in tariff the additional capital expenditure incurred in conversion of the plant along with the cost of fuel at actuals.

Sri D.D. Chopra, Advocate, Co-gen Association stated that the policy has envisaged the availability of power from within the State with the utilization of capacity lying idle during off season. The Co-generators have taken a step forward for adding the generation by utilizing coal as fuel during off season. The additional cost committed in transforming the present system to usable system on coal varies from about 74 Cr./MW to 90Cr./MW depending upon the site specific requirements. The cost of imported coal varies from about Rs. 6000/MT to Rs.7000/MT depending upon the respective agreements made by the Co-generators with the foreign suppliers. He emphasized for consideration of the same in determination of the tariff.

Sri Durga Prasad, UP Co-gen Association stated that based on the specific requirements of the plant the technical modifications have been incorporated. The difference in capital cost expenditures among the Generators could be attributed to the difference in design parameters of the plants. The difference also could be attributed to the mode and placement of orders for supply and commissioning of equipments. Therefore, it was suggested that the Commission, on the basis of submitted petitions, could bench mark the additional capital cost on such conversion of plants based on biomass/bagasse to that on coal. He further submitted that in this reference if any additional documents are required to be submitted they would submit the same.

The Commission enquired about the technical details on conversion of the plants on which the investments have been proposed. Sri Pankaj Rastogi , M/S

Dalmia Chini Mills, submitted that primarily alterations are proposed to be made in boiler, its auxiliaries, fuel handling plant and ash handling plant to use the coal as fuel instead of bagasse. The electro static precipitators and the firing system may also require to be modified. He submitted that details of technical modifications alongwith expenditures are annexed with the petition.

Sri Durga Prasad, UP Co-gen Association stated that the depreciation on capital expenditure has been taken as provided under CNCE Regulations. It is also based on period of repayment provided by the Debtor. Regarding Plant Load Factor (PLF), he said that in the present scenario three to four months in a year is the maximum crushing season. Adding two to three months for maintenance and over hauling, they are left with not more than five months for generation on coal during off season. The maximum PLF which could be achieved in the five months of operation is 40%. They have taken the same for consideration of determination of tariff. Sri D.D. Chopra, Advocate, Co-gen Association stated that the 10%auxiliary consumption has been claimed by them as with converted plant they would have more auxiliaries in operation.

The Commission did not accept this logic and expressed that since no data on such conversion is readily available at present, the 10% auxiliary consumption is approved for the time being. As soon as more data becomes available based on performance of the Generators it would be considered for revision alongwith the other parameters. The Station Heat Rate quoted by the Generators is equal to the value approved by the Commission for cogeneration plants based on bagasse which does not seem to be justified. It would be appropriate for the Generators to submit equipment manufacturer's data to hold justified claim. The Commission also expressed that since the cost of coal is substantially varying among the Generators, they shall submit copies of coal supply documents to the Commission.

The issue of point of declaration of capacity was raised by Sri S.P. Pandey, E.E., PPA, UPPCL. In case of co Generators the energy meter is placed at licensee's substation end. As standard procedure, generation capacity is declared by the Generator at the substation of Generating Station whereas in the case of cogenerating stations the meters are placed at Licensee's Substation. Sri Durga Prasad, UP Co-gen Association stated that the Generators are ready to declare capacity on generation based on coal at Licensee's Substation. On this the Commission deliberated that since the Generators are ready for declaration

of capacity in the existing system at Licensee's Substation, without putting any additional burden on licensee, there is no issue which remains to be resolved as such.

Sri S.K.Agarwal, Director (Finance), UPPCL stated that the State of U.P. is reeling under crisis of power availability at present. The agriculture produce to support biomass/bagasse based co generation was not enough even to run the plants during season. The crisis of input fuel has deepened further during the off season keeping all the co-gen units idle. To harness such lying idle capacities of co-generating plants in the State, GoUP has allowed use of coal as a substitute to bagasse during off season as per the Energy Policy, 2009. The policy has permitted optimization of existing generation capacities which encompasses to bring in service the capacity which is lying idle due to non-availability of renewable fuel during off-season. As an incentive sale of 50% power to third party under open access is also being allowed. Sri S.K.Agarwal, Director (Finance), UPPCL affirmed that in compliance to Energy Policy, 2009 they have given 'In principle consent' for purchase of 50% salable energy from the coal base power generation during off season at the power purchase rate as determined by the Hon'ble Commission. For balance 50% salable energy, permission for sale of power to third party under open access has been accorded. He further informed that even during season these Co-generators are not able to run the plant for more than three months. He affirmed that during the off season, the plants would not be able to run for more than five months on coal and therefore the PLF of 40% quoted by the Generators was justified.

As discussed in the hearing, the petitioners have submitted details of about fuel purchase and some technical data as given below:

	Petitioners	Pet. No	Station Heat Rate Kcal/Kwh	Cost of Coal Rs. /MT (Dom)	GCV of Coal Kcal/Kg (Dom)	Cost of Coal Rs. /MT (Imp)	GCV of Coal Kcal/Kg (Imp)
1	Haidergarh Chinni Mills Ltd.	667/10	3526.27	6326	5536	6964	5598
2	Dalmia Chinni Mills Ltd., Jawaharpur	669/10	3657	—	—	6042	4900
3	Mankapur Chinni Mills Ltd.	672/10	3650	6055	5370	6863	5706
4	Dhampur Sugar Mills Ltd., Dhampur	677/10	3607	6514	5200	—	—
5	Dhampur Sugar Mills Ltd., Asmoli	678/10	3607	6487	5200	—	—

Further, on directions of the Commission, the petitioners have separately submitted Station Heat Rate calculations supposedly provided by their manufacturers and consultants as given below:

	Petitioners	Pet. No	Station Heat Rate Kcal/Kwh
1	Haidergarh Chinni Mills Ltd.	667/10	3506
2	Dalmia Chinni Mills Ltd., Jawaharpur	669/10	3540
3	Mankapur Chinni Mills Ltd.	672/10	3501
4	Dhampur Sugar Mills Ltd., Dhampur	677/10	3607
5	Dhampur Sugar Mills Ltd., Asmoli	678/10	3607

Commission's View

The GoUP Energy Policy, 2009 has allowed use of coal during off-season to the Co-generators of the State to harness the capacity lying idle to partially meet out the gap in demand and supply. At the outset, it needs to be decided that what would be the status of co- generator using coal during off-season. Unquestionably, as soon as the plant starts generation on conventional fuel, it would lose its status of non-conventional Co-generator and become an Independent Power Producer (IPP) or Captive Power Producer (CPP). The status of CPP can be ruled out as it would not be fulfilling the criteria of using 51% of the generated power. Therefore, in view of the GoUP Energy Policy, 2009, it would be a co-generator generating on non-conventional fuel during season and an IPP generating on conventional fuel during off-season.

The GoUP has allowed 10% of the total generation on non-conventional fuel during whole year for sale in open access under existing Power Purchase Agreements (PPAs) as an incentive provided the co-generator will not reduce the existing bagasse based co-generation capacity. Thus, a generator who is using non-conventional fuel throughout the year would be allowed to sell 10% of the total generation during the year under PPA through open access.

Regarding clarification sought by the Commission with respect to para 5.2.2 of the Energy Policy, 2009, the GoUP vide letter no. 642/24-UVVP/10-43(P)/10 dated 10.6.10 has clarified that the additional power generation capacity by a co-generator implies both the situations, the first one in which the generator may convert the boiler configuration to run on multi fuel so as to generate in off season also. The second situation is when the co-generator may setup the additional generation plant to run on

coal or gas. In case of conversion of boiler, the co-generator is bound to run the plant on bagasse to supply atleast 90% power to UPPCL. In off-season 50% power will be supplied to UPPCL at UPERC determined tariff.

The plant using conventional fuel during off-season is essentially adding to the generating the capacity as this capacity was lying idle due to unavailability of non-conventional fuel. The capacity available on non-conventional fuel under PPA during off-season in such cases would be considered as zero. To encourage additional generation from capacity lying idle, the GoUP Energy Policy, 2009 has allowed use of conventional fuel during off-season and further incentivized it by allowing to sale of 50% of generation in open access during off-season. The other terms and conditions for generation on conventional fuel would be governed as per the Policy. As the status of generator during off-season would be of an IPP generating on coal having capacity less than 100 MW, it would subject to Availability Based Tariff (ABT) and all functions, duties and obligations as provided for IPP shall apply.

Norms of Operation for co-generation plants using coal during off-season

Based on submissions and provisions of Regulations the Commission decides to allow following norms of operations:

Sl.No.	Norms of Operation	Approved	Remark
1.	Plant Load Factor	90 % per annum	50 % has been considered for fixed cost recovery during season on bagasse and 40% for recovery of additional cost during off-season on coal.
2.	Availability	90 % per annum	Normative
3.	Auxiliary Consumption	10 %	Normative
4.	Secondary Oil consumption	2 ml/kwh	Normative
5.	Gross Station Heat Rate (GSHR)	3250 kcal/kwh	Normative
6.	Gross Calorific Value (GCV)	5300 kcal/kwh	Normative
7.	Working Capital	1. Coal Cost - 1.5 months 2. Oil Cost - 2.0 months 3. O&M - 1.0 months 4. Receivables - 2.0 months 5. Spares - 20% of O&M	

Certain parameters like GSHR and Auxiliary Consumption have been considered higher by the Commission as the plants are multi fuel type which might have more number of auxiliaries resulting in higher consumption. There may be a requirement of higher level of excess air for proper burning of coal resulting in higher GSHR. The use of multi fuel generating plant has just been initiated in the State and hence no dependable data is available for determination of multi year tariff. On completion of operation in one off-season, actual operational data would be available with the Commission and based on that, in future, the Commission may revise the operation norms.

Tariff

Considering all the submissions, deliberations and data, the Commission opines to decide a two part tariff consisting fixed charges and variable charges. The fixed charge would be calculated taking useful plant life of 20 years.

Fixed Charges

The components of fixed charges as considered by the Commission for determination of tariff are as given below:

Sl.No.	Fixed Cost Component	Approved Value	Remark
1.	Capital Cost (C.C.)	Rs. 84 Lac/MW	Average of submitted costs
2.	Debt:Equity	70:30	Normative
3.	Interest on Loan	12.8 %	Normative
4.	RoE	15.5 %	Normative
5.	O&M	2.5 % of C.C. for first year	Normative
6.	O&M escalation	5.72 %	Normative
7.	Depreciation	7% for first 10 years and 2% for 11 th to 20 th year	Normative
8.	Interest on Working Capital (IWC)	12.8 %	Normative

Variable Charges

Fuel Cost

The Policy has provided that for additional generation from idle lying capacities, the fuel has to be arranged by the generator himself. The petitioners have submitted

cost on coal. No submission has come up for use of gas as fuel. At this juncture the Commission considers deciding the fuel cost of coal only and on gas it would be decided as and when necessity arises. The cost of coal is varying even among the petitioners. The Petitioners have submitted details of costs on Indian and Imported coals including transportation, handling and other charges. As the cost of coal would ultimately affect the cost of electricity to the people of the State, it would be appropriate to benchmark it for the purpose of tariff determination. The Commission is also of the considered opinion that such costs may be fixed only for one year i.e. the ongoing off-season, as the possibility in reduction of escalation in coal costs in future in comparison to current year can not be ruled out. Therefore, the Commission approves normative cost of coal as Rs. 6400/MT for the period of off-season of FY 2010 -11.

Tariff for off-season for FY 2010-11 for the generation from additional capacity of co-generating stations

- (i) Fixed charge – Rs. 1.04 / kwh
- (ii) Variable charge – Rs. 3.98 / kwh
- (iii) Tariff – Rs. 5.02 / kwh

The fixed charges shall be paid by the procurer for the generation upto 40% PLF during off-season and for any generation beyond that only the variable charges would be paid. The tariff would be applicable for FY 2010-11. Further the tariff would be decided by the Commission on the basis of analysis of actual data obtained from the Generators, data obtained from other dependable agencies and prudence check. For the additional capacity supplementary agreements would be entered between the parties and copies of same would be submitted to the Commission.

(Rajesh Awasthi)
Chairman

Lucknow; Dated:16th June, 2010