

TAMIL NADU ELECTRICITY REGULATORY COMMISSION
(Constituted under section 82 (1) of the Electricity Act, 2003)
(Central Act 36 of 2003)

PRESENT:-

Thiru.S.Nagalsamy **Member**

and

Thiru.G.Rajagopal **Member**

I.A.Nos.1 & 2 of 2013

and

P.P.A.P.No.2 of 2013

M/s.TULSYAN NEC Ltd.,
Apex Plaza,
3, Nungambakkam High Road,
Chennai – 600 034.

... Petitioner
(Thiru.K.Seshadri)
Advocate for Petitioner)

Vs

1. TANGEDCO,
Rep. by its Chairman,
NPKRR Maaligai,
144, Anna Salai,
Chennai – 600 002.
2. The Chief Engineer/PPP
Tamil Nadu Electricity Board,
6th Floor, Eastern Wing,
144, Anna Salai,
Chennai – 600 002.

....Respondents

Dates of hearing : 28-03-2013, 04-06-2013 and 19-03-2014

Date of order : 28-03-2014

The above P.P.A.P.No. 2 of 2013 came up for final hearing before the Commission on 19-03-2014. The Commission upon perusing the above petition and the connected records and after hearing both sides passes the following order:-

ORDER

1. Prayer of the Petitioner:-

The prayer of the petitioner is to

- 1.1. direct the respondents to accept the supply of infirm power from the petitioner's 1 x 35 MW thermal power plant–Unit-1 from the date of commissioning till the Commercial Operations Date (COD) and enter into agreements in that regard, if any, without insisting upon fixation of the rates for supply of infirm power as a precondition pending disposal of the petition ;
- 1.2. fix the rate at which the TANGEDCO has to make payment in respect of the infirm power injected from the petitioner's 1 x 35 MW thermal power plant–Unit-I from the date of commissioning till the commercial operations date and to direct payment of such sums and pass such further or other orders as this Hon'ble Commission may deem fit and proper.

2. Facts of the case:-

- 2.1. The petitioner is a private power generator and established 1 x 35 MW generating plant at Chitoornatham Village, Gummidipoondi.
- 2.2. The petitioner has also proposed to put up another 1 x 35 MW generating plant in the said location as Unit-II.
- 2.3. The petitioner requested the respondents to purchase the infirm power produced in 1 x 35 MW thermal power plant Unit–I from the date of generation to till achieving COD.
- 2.4. The respondents while agreeing to accept the infirm power directed the petitioner to get the tariff for the infirm power fixed by the TNERC in advance.
Hence, this P.P.A.P. is filed.

3. Contention of the Petitioner:-

- 3.1. The petitioner requested the first respondent to accept the infirm power generated from its 1 x 35 MW Unit-I plant at Gummidipoondi till the petitioner goes in for commercial operation of the plant in its letter Lr. No.Tulsyan/ Unit-I/infirm power/2012 dated 16-11-2012. The second respondent while agreeing to accept the infirm power generated by the petitioner's generating plant has, however, directed the petitioner to approach the TNERC for fixation of rate and has also stated that till such time as the rates are fixed, no power is to be injected into the grid.
- 3.2. The Commission has fixed tariff and rates for purchase of infirm power only with respect to fossil fuel based group captive generating plants and fossil fuel based cogeneration plants. As the rate for supply of infirm power has not been fixed, the Commission is required to fix the said rate.
- 3.3. In P.P.A.P.No.6 of 2011, the Commission had relied upon Regulations 20 and 38 of the Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for the Determination of Tariff) Regulations, 2005 and fixed the tariff for the infirm power by fixing it on the basis of the cost of the lowest fuel cost applicable to the existing similar type of station.
- 3.4. Since there are identical other power generating plants in the State, the "Lowest fuel cost" that has actually been incurred by them can be adopted for the purposes of the fixation and the same would also be in accordance with the Regulations as this generating plant is a similar type of station. The "Lowest fuel cost" is Rs.3.90 per kwhr. as per the Certificate of Chartered Accountant and therefore the same may be fixed as the rate for infirm power and direct the respondents to adopt the same.

3.5. It is just and necessary that, till such rate is fixed, the respondent is directed to accept the injection of infirm power into the grid without waiting for fixation of tariff and enter into a suitable agreement in that regard inasmuch as, the petitioner's project ought not to be delayed till such time as the tariff fixation exercise is completed. This is especially important both from the point of view of the power deficit in the State and the petitioner's own project requirements which have been funded by banks and financial institutions and therefore requires repayments to commence.

4. Contention of the Respondents:-

4.1. The petitioner vide letter dated 16-11-2012 informed that commissioning activities of 1 x 35 MW captive power plant is under progress and that Unit-I will be expected to get grid synchronization at 110 KV level during January 2013. The petitioner also requested the respondent to purchase the infirm power from Unit-1 from the date of synchronization till the date of COD and make payment for the supply of infirm power.

4.2. The respondent in their reply dated 10-12-2012 to the petitioner, informed that the TANGEDCO has no objection to purchase infirm power from the petitioner's plant as per the tariff to be determined by the TNERC without prejudice to respondent's right to approach higher forum / fora against the tariff determined by the TNERC and requested the petitioner to file petition before the TNERC and get the tariff fixed for their proposed infirm power sale to the respondent. It was also communicated to the petitioner that no power shall be injected into the respondent's grid until fixation of tariff by the Commission.

- 4.3. The TNERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 can be made applicable only when tariff is determined under section 62 of the Electricity Act, 2003 which generally happens under MOU route with prior agreement between generating company and the distribution licensee for purchase of electricity under normal course wherein all relevant aspects contemplated therein will be taken into consideration towards determination of tariff.
- 4.4. In fixation of tariff by the Commission under section 62 of the Electricity Act, 2003 applying Tariff Regulations, 2005 the capital cost is required to be finalized by the Commission. The said Regulations are, therefore, not applicable to the issue of fixation of tariff for infirm power supply by a private generator as the same is not determined as per section 62 of the Electricity Act, 2003. Section 63 of the Electricity Act, 2003 for determination of tariff by bidding process is also not applicable to the tariff fixation for infirm power supply. For infirm power, tariff can be fixed by the Commission under section 61 and section 86 (1) (a) of the Electricity Act, 2003.
- 4.5. The licensee extends its facility for testing the generator as a service without collecting any charges for such testing. It is pertinent to state that for any testing, the testing agency always collects some testing charge. This aspect is to be factored into while fixing tariff for infirm power supply. Such infirm power is inconsequential towards power requirement of the licensee. On the other hand, the need of the petitioner to test his generator is vital to attain COD. Declaring COD is the first and foremost, eligibility for going into any commercial dealing by the petitioner. To get the eligibility of "COD attained" the generator is bound to incur expenditure, and the licensee is not under any obligation to compensate towards this expenditure of the petitioner. It is

illogical to expect expense compensation from the licensee, since all the benefits and profits, the petitioner will earn after COD will be entirely his, and not going to be shared with the respondent.

- 4.6. The theory of full expenditure, type of fuel, capacity of machine are of no concern to the respondent at least in respect of the infirm power supply before COD. It is pertinent to point out that the MOP guidelines for short term tender does not see the type of fuel, capacity of machine etc., but see only the rate. Logically, the status of the infirm power before COD is far below the status of the power supplied under short term tender.
- 4.7. The generating companies are not entitled to claim reimbursement of actual cost incurred by them for generation during trial run period which is unreasonable and therefore amounts to undue enrichment at the cost of public exchequer.
- 4.8. During hearing on 28-03-2013, the Commission observed that how the respondents will be affected by the testing of new generator with reference to K-factor. In this regard, it is submitted that the Power Number (K-Factor) of the Southern grid is 1200 MW / Hertz and out of which 325 MW is to Tamil Nadu's Account. Balance quantum is shared by other four States.
- 4.9. The K-factor is to indicate impact on frequency. It is not reflective on the stress and strain that can occur locally in the vicinity of the new generator when the synchronization and the tripping take place. When a generator is interfaced with the State's grid to a particular sub-station, that particular sub-station and the nearby sub-station will be subjected to severe strain due to voltage variations and injection of harmonics.
- 4.10. The power transformers will be subjected to stress during injection of such infirm power. The damage that may be caused may not be visible instantly

but get revealed at a distant date with imminent reduction in life period of this respondent's equipments.

4.11. As a goodwill gesture payment of only a token rate will be appropriate for such infirm power supplies till COD. Considering the Station Heat Rate (SHR), GVC of coal and auxiliary consumption fixing tariff for supplying infirm power at a token rate of Rs.1.07 per unit will be appropriate.

4.12. The Commission may be pleased

(a) to fix the infirm power tariff under section 61 and 86 (1) (a) of the Electricity Act, 2003.

(b) to consider the token rate of Rs.1.07 per unit for the infirm power supply till COD.

(c) to consider factoring some testing charge into the above token rate of Rs.1.07 per unit for fixing the tariff for infirm power.

5. Findings of the Commission:-

5.1. We have heard the arguments of both sides. The only issue that arises for consideration is as to what is the rate payable by the Licensee for the infirm power injected by the generating company into the grid during the trial or test run conducted by the generating company before commissioning of its commercial operation.

5.2. The relevant provision for determination of the cost for infirm power is traceable to regulation 20 of the Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for the determination of Tariff) Regulation, 2005. The said regulation reads as follows:-

“20. Revenue / charges during trial stage (prior to COD)

(1) The cost incurred during trial up to COD shall be treated as

capital cost.

(2) *The revenue earned from sale of power (infirm power) shall be treated as reduction in capital cost.*

(3) *Cost of infirm power shall be the lowest fuel cost applicable to the existing similar type of station”.*

5.3. Sub-Regulation 20(3) provides criteria to determine the cost of infirm power.

In the absence of specific Regulation to determine the cost of infirm power to the CGPs, Merchant Generators etc., the Commission has decided to adopt sub-regulation 20(3) to all the generators. The Commission adopted the regulation to determine the cost of infirm power in its earlier similar cases and orders. As per sub-regulation 20 (3), the lowest fuel cost of the existing “similar type of station” should be reckoned as the cost of infirm power. There is a difficulty in applying the above said regulation in toto due to non-availability of “similar type of station” in the State. Each generating station varies in terms of its capacity. The generators may use different fuels such as Indian coal, Imported coal, gas, liquid fuel etc.

5.4. The respondent contended that the licensees are offering their grid for testing the generating plants as a service to the generators. Further the injection of such infirm power imposes certain difficulties to the licensees to schedule and dispatch. The respondent therefore contends that the generating companies cannot be permitted to claim reimbursement of actual cost incurred by them for generation during trial run period. There is a valid point in the contention of the respondents. The generators may use different fuels including the costly fuels such as liquid fuel, naphtha etc. to their convenience. The licensees are providing a service to the generators by extending their network / grid facilities for conducting the test / trial run. Just because, the generators use costly fuel, it is not justifiable to charge the licensee the high variable cost

of the costly fuel. Therefore, a viable solution has to be arrived at, in order to arrive at the cost of infirm power as provided in regulation 20(3) referred to above. Regarding the fuel, though the cost of gas is considered to be the cheapest, since most of the upcoming generators are coal based, coal has been considered as the fuel for the purpose of determining the tariff for infirm power. Even among the coal, imported coal cannot be considered in view of high cost involved, since the regulation 20(3) insists on the lowest fuel cost. As such we consider that the cost of the Indian coal may be considered for this purpose. In order to protect the interest of both the generators and the licensee / consumers, we have considered the cost of Indian coal for arriving at the tariff for infirm power.

5.5. Further there are many new generators with different capacities are coming up in the State. It is difficult to determine infirm power tariff by the Commission for each and every new generators. As already discussed, in view of the non-availability of “similar type of station” and the lowest fuel cost we have decided to consider the following generalized parameters to determine the reasonable cost of infirm power for all categories of generators.

- (i) Average specific coal consumption;
- (ii) Average auxiliary consumption; and
- (iii) Lowest landed cost of coal in Tamil Nadu.

The first two parameters can be obtained from the Central Electricity Authority’s annual report on “Performance Review of Thermal Power Stations”. We have chosen to adopt the Central Electricity Authority’s report obviously for the reason that the annual report of Central Electricity Authority covers more than 400 thermal units in the country to a total installed capacity of around 1,00,000 MW in the range of 25 MW and above and most of the

petitions pending with the Commission for determination of cost of infirm power is in respect of less than 200 MW coal fired thermal units. Further Central Electricity Authority report considers the higher size units also. The heat rate and the variable cost are generally high for small capacity generators. Captive / merchant generators are generally choosing small capacities for their convenience. On the other hand, the general trend among the Government owned generators and IPPs is opting for higher capacity units in the range of 500–800 MW so as to increase the efficiency. Therefore, it is considered injustice to make the licensee to bear the high variable cost of such small generators of the captive / merchant generators. In the future higher capacity units also may be commissioned by the captive / merchant generators. Hence, it is prudent to consider the higher capacity units also to arrive at the common parameters to arrive at a generalized tariff.

- 5.6. The fuel cost varies depending upon the source of fuel and the destination of its use. The Commission has approved yearwise average landed coal cost for the state owned thermal stations in Tamil Nadu which are available in the Commission's tariff order. The lowest landed coal cost for the year in question shall be obtained from the Commission's tariff order which is in force for the particular period.
- 5.7. The respondent has argued that taking into account the service provided by the licensee, only a token rate may be fixed as tariff to the infirm power injected by the generators. It is a fact that the respondent is providing a service by offering his grid to the petitioner without which the generator cannot conduct the test / trial run. We cannot conclude that the service of the licensee is a gratuitous one. Since the respondent has made large investment to create the network / grid, a charge has to be paid for using the

grid. At the same time, the Commission has to facilitate the generators in the State to utilize the grid for testing and commissioning their generators. Therefore, we have no hesitation to introduce a factor, namely Grid Facilitation Factor (Gf) to give reasonable charges to the service provided by the licensee. While facilitating the generators to test their generators, the Commission shall take into account the interest of the consumers also. As the electricity consumers are ultimately paying the network cost through tariff, the benefit arising out of introduction of grid facilitation factor should go to the consumers. Taking into account all the factors, we consider that it is reasonable to apply a Gf of 0.60 (sixty percent) on the formula to arrive at the generalized tariff for infirm power.

5.8. Taking into account the three parameters and a constant of 0.60, the Commission arrives at the following formula which can be used to arrive at the generalized per unit cost of infirm power (Ti).

$$T_i = \frac{\{Gf \times [100 \times (C_{sp} \times C_c)]\}}{(100 - AUX)}$$

- T_i - Tariff for infirm power in paise / kWh
- C_{sp} - All India Specific coal consumption of thermal power stations in kg/kWh as per the latest Central Electricity Authority report on "Performance Review of Thermal Power Stations.
- AUX - All India average AUX of thermal power stations in percent as per the latest Central Electricity Authority report on "Performance Review of Thermal Power Stations".
- C_c - Lowest landed cost of coal in any of the Power Stations in Tamil Nadu Paise / kg as approved by the Commission in its latest Tariff Order.
- Gf - Grid facilitation constant = 0.6

5.9. The above parameters shall be adopted irrespective of generator capacity and fuel used, for the purpose of determination of tariff for the infirm power

supplied by the generators during the trial / test run. The parameters available in the latest Central Electricity Authority report and the latest tariff order may be considered for the calculation in case if it is not available for the relevant period. We make it clear that the above formula is made due to non-availability of “similar type of stations” as provided in the said regulation 20(3) and to arrive at the lowest cost of fuel of similar type of stations. As discussed supra, the Commission faced with some practical difficulties in adopting the sub-regulation 20 (3) in toto. The Commission issues this order under Regulation 89 of the Tariff Regulations, 2005 which is reproduced below:-

“89. Power to remove difficulty

If any difficulty arises in giving effect to any of these regulations, the Commission, may, of its own motion or otherwise, by an order and after giving a reasonable opportunity to those likely to be affected by such order, make such provisions, not inconsistent with these regulations, as may appear to be necessary for removing difficulties”.

- 5.10. This procedure may be adopted by the generators / Distribution Licensee to determine the cost of infirm power injected by the generators during the trial / test run before declaration of COD. The petitioner may furnish a revised bill to the TANGEDCO confirming to this order. The TANGEDCO shall make payment to the petitioner / generator within 30 days of receipt of the bill.

6. Appeal:-

An appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd.....)
(G.Rajagopal)
Member

(Sd.....)
(S.Nagalsamy)
Member

/ True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission