

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. No.1 of 2013
and
P.P.A.P.No.7 of 2013

M/s.OPG Power Generation Pvt. Ltd.,
No.6, Sardar Patel Road
Guindy
Chennai – 600 032.

... Petitioner
(Thiru Vinod Kumar,
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.

3. Director / Operation
TANTRANSCO
144, Anna Salai
Chennai – 600 002.

....Respondents
(Thiru P.H.Vinodh Pandian
Advocate for Respondents)

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

Date of order : 07-04-2014

The above P.P.A.P.No. 7 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 fix the rate at which the TANGEDCO should make payment in respect of the infirm power from the petitioner's 1 x 80 MW Thermal Power Plant – Unit III from the date of synchronization till the Commercial Operation Date and to direct payment of such sums to the petitioner

2. Facts of the case:-

- 2.1. The petitioner is a Private Power Generator and has established 1 x 80 MW generating plant Unit – III at Periya Obulapuram, Gummidipoondi.
- 2.2. The petitioner requested the respondents to avail the infirm power from Unit III from the date of synchronization till date of Commercial Operation Date (COD)
- 2.3. While agreeing to accept the infirm power generated by the petitioner's generating plant the second respondent, however, directed the petitioner to approach the Commission 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. Hence, the petitioner filed the P.P.A.P.

3. Contention of the Petitioner:-

- 3.1. The petitioner is one of the leading Private Power Generators in the State of Tamil Nadu. The petitioner had put up two 1 x 77 MW generating plants which came to be synchronized with the Grid and achieved COD on 22-04-2010 and 10-10-2012 respectively. Thereafter, it has proceeded to complete its 3rd Unit. The petitioner's power plant is conceived as a generating station on a merchant basis from the date of commissioning till achieving COD.
- 3.2. While agreeing to accept the infirm power generated by the petitioner's generating plant from the date of the synchronization till COD, the second respondent in Lr.No.CE/PPP/SE/PPP/EE/ CPP/AEE2/F.OPG U-III of Vol.1/D96/13, dated 21-05-2013 has, however, directed the petitioner to approach the Commission for fixation of rate and has also stated that till such time as the tariff is fixed by the Commission, no power is to be injected into the grid. The second respondent has further stated that necessary approval for synchronization and SLDC clearance has to be obtained from the operations wing of the TANTRANSCO. Responding to the requirement of obtaining necessary approval for synchronization and SLDC clearance, stated in the second respondent's letter dated 21-05-2013, the petitioner has vide letter dated 27-05-2013, forwarded to the second respondent the approval for grid connectivity dated 08-05-2013 issued by the third respondent along with a copy of the agreement for parallel operation entered into with the SE/EDC, North Chennai.
- 3.3. The fixation of tariff for infirm power in respect of Unit I of the petitioner's 1 x 77 MW generating plant at Gummidipoondi was already subject matter of

fixation of tariff by the Commission in P.P.A.P. No.6 of 2011. A rate of Rs.1.75 per KwHr was fixed by the Commission by its order dated 07-10-2011.

- 3.4. For fixation of tariff for infirm power in respect of Unit II of the petitioner's 1 x 77 MW generating plant at Gummidipoondi, P.P.A.P.No.6 of 2012 has been filed before the Commission. Final orders are awaited in the said petition.
- 3.5. The petitioner had in regard to its Unit III with 1 x 80 MW capacity approached the respondents for necessary inspections and for the grant of evacuation facility in respect of its power plant. The petitioner duly obtained all the necessary approval from the Chief Electrical Inspector to the Government. By the first respondent's letter No.SE/LD&GO/EE/OA/AEE2/F.OPG 320 MW Vol.1/D2242/12, dated 23-08-2012, approval for connectivity for the petitioner's 3rd Unit with 1 x 80 MW capacity to Alamathy Sub-station 400/230-110kV DC line was issued.
- 3.6. The third respondent on 08-05-2013 vide letter No.DIR/O/SE/LD&GO/EE/OA/AEE2/F.OPG Power Gen./D822/13 accorded approval for grid connectivity for the petitioner's 1 x 80 MW plant wherein one of the conditions is that the plant will have to be synchronized with the grid in the presence of the officials of the TANTRANSO. In terms of the approval, the petitioner has signed the agreement for parallel operation with SE/EDC Chennai North on 24-05-2013.
- 3.7. In respect of Unit I, the respondents had proceeded to enter into an agreement in respect of infirm power and had directed the petitioner herein to approach the Commission for fixation of the rates for the infirm power to be supplied. In the second instance relating to Unit II, the respondents had

directed that the petitioner should approach the Commission before injecting power into the grid. In the present case relating to Unit III also the respondents have indicated that till such time as the tariff is fixed by the Commission power is not to be injected.

- 3.8. As the rate for supply of infirm power has not been fixed, the Commission is required to fix the said rate. This has been occasioned due to the fact that 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.
- 3.9. 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. At that point in time since there was no identical type of station, the rates were arrived at on the basis of the figures provided by the respondent for a similar type of station. Since the petitioner's own Unit I and Unit II are identical power generating plants, the "lowest fuel cost" that has actually been incurred by it can now be easily adopted for the purposes of the fixation of rate of the infirm power and the same would also be in accordance with the Regulations as the generating plant is a similar type of station in capacity and age. The Chartered Accountant's Certificate sets out the "lowest fuel cost" as Rs.5.25 per unit and therefore the rate of Rs.7.34 is required to be fixed in terms of the Commission's earlier orders.
- 3.10. It is just and necessary that the respondent is directed to accept the injection of infirm power into the grid with immediate effect without waiting for fixation of tariff and enter into a suitable agreement in that regard inasmuch as, the

petitioner's Unit III ought not to be delayed till such time as the tariff fixation exercise is completed. This is especially important both from the view point 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.

- 3.11. Any delay in allowing the synchronization on the ground that rates are to be fixed for infirm power would be detrimental to everyone's interests. Once the plant is commissioned, the entire generation will be available to the State of Tamil Nadu which is vital in the prevailing situation.

4. Contention of the Respondents:-

- 4.1. The petitioner has already established 1 x 81 MW, Unit-I (110 KV level), 1 x 81 MW Unit –II (230 KV level) and declared COD on 22-04-2010 and 10-10-2012 respectively. Now the petitioner has established Unit-III, 1 x 80 MW, (230 KV level), Thermal Power Plant at Periya Obulapuram, Gummidipoondi and obtained grid connectivity from the plant to Alamathy 400/230 – 110 KV SS through the existing 230 KV D/C line.
- 4.2. The petitioner vide their letter dated 08-05-2013 informed that commissioning activities of Unit-III, 80 MW Thermal Power Plant is under way and they expected to synchronize the unit with the grid by June 1st 2013. Further the petitioner requested the respondents to avail the infirm power from Unit – III from date of synchronization till the date of COD (Commercial Operation Date) and make payment for the supply of infirm power.
- 4.3. The respondents in their reply dated 21-05-2013 to the petitioner, informed that TANGEDCO has no objection to purchase infirm power offered by the petitioner's Unit – III generator as per the tariff to be determined by the

Commission without prejudice to respondent's right to approach higher forum / fora against the tariff determined by the Commission. Further the respondent requested the petitioner to file petition before the Commission and get the tariff fixed for their proposed supply of infirm power to TANGEDCO. 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. Hence, the petitioner filed this petition to fix the tariff for the proposed supply of infirm power to TANGEDCO.

- 4.4. The petitioner vide their letter dated 28-05-2013 informed that they have filed the petition before the Commission to fix the tariff for supply of infirm power. It was represented by the petitioner in person, that because of the busy schedule and preoccupation of the Commission in finalizing the general tariff petition, hearing of their petition before programmed date of synchronization may not be feasible.
- 4.5. The petitioner informed that the generator is ready for synchronization and they got permission from the operation wing for grid connectivity and signed the agreement for the same. The petitioner has also given an undertaking to the effect that they undertake to obey the orders of the Commission on the above petition and in the event of the Commission declining to fix the tariff for the infirm power pumped to the grid before approval from the Commission, they will not claim any payment from TANGEDCO for the infirm power pumped during such period and TANGEDCO is also not liable to make any payment for the quantum of infirm power pumped during such periods.
- 4.6. Based on the request and undertaking furnished by the petitioner, approval was accorded vide letter dated 30-05-2013, for supply of infirm power from the Unit – III, 80 MW generator, from the date of synchronization till COD

subject to fixation of tariff by the Commission and or any other interim order passed by the Commission. The petitioner vide their letter dated 01-06-2013 informed that Unit-III, 80 MW generator was synchronized with grid on 31-05-2013 at 16.21 hours.

4.7. The petitioner in letter dated 06-06-2013 informed that they have commenced Commercial Operation of 80 MW generator from 05-06-2013 at 14.45 hours.

4.8. Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for the determination of Tariff), Regulations, 2005 shall be applicable for determination of tariff by the Commission in accordance with section 62 of the Act. They shall not be applicable to co-generation, captive power plants and generation of electricity from renewable sources of energy including mini hydro projects (covered under Non-Conventional Energy Sources), which will be covered by a separate regulation to be specified by the Commission under clause (e) of sub-section (1) of section 86 of the Electricity Act, 2003 for promotion of such generation. Further, section 64 of the Electricity Act under the title "Procedure for Tariff Order" clearly states that the Commission shall consider all suggestions and objections received from public when an application is received for determination of tariff under section 62. For determination of tariff under section 62 of the Electricity Act, 2003, the procedure laid down under section 64 of the Electricity Act, 2003 is to be followed. Section 64 (3) speaks about public opinion if the determination of tariff is under section 62 of the Electricity Act, 2003.

4.9. The Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for fixation of Tariff) Regulations 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 the aspects listed above will be taken into consideration towards determination of tariff. The salient point is, tariff will be fixed by the Commission under section 62 of the Electricity Act, 2003 applying Tariff Regulations, 2005 wherein capital cost is required to be finalized by the Commission.

4.10. The Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for fixation of Tariff) Regulations, 2005 is not applicable to the issue of fixation of tariff for infirm power supply by a private generator as a 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 supply of infirm power tariff can be fixed under section 61 and section 86 (1) (a) of the Electricity Act, 2003 by the Commission.

4.11. 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 commercial 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. All the benefits and profits, the petitioner will earn after COD will be entirely his, and not going to be shared with the respondent.

- 4.12. 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. The status of the infirm power before COD is far below the status of the power supplied under short term tender. Such being the case 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. Hence as a goodwill gesture payment of only a token rate will be appropriate for such infirm power supplies till COD.
- 4.13. During hearing on 28-03-2013 in the case P.P.A.P.No.3 of 2013 related to M/s.Suryadev Alloys and Power Pvt. Ltd., 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. 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 takes place.
- 4.14. 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.
- 4.15. 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.

4.16. The intention of the Regulations is not to provide for reimbursement of the actual variable cost of the various generators. It may be seen that the rate at which firm power purchase is made by the licensee under STOA is hovering only around Rs.5/- per unit. The petitioner was supplying firm power to the respondent @ Rs.5.05 during the period ending June 2012 and thereafter @ Rs.5.50 per unit, and hence claim of exponential rate for infirm power has no merit.

4.17. Considering the Station Heat Rate, 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.

4.18. In view of the above said reasons, it is prayed that 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 licenses 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).

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

Ti - Tariff for infirm power in paise / kWh

- Csp - 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".
- Cc - 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