In Re: Bringing Generating

In Re: Bringing Generating

SooperKanoon Citation : sooperkanoon.com/52741

Court : Central Electricity Regulatory Commission CERC

Decided On : Apr-04-2006

Judge : B Bhushan

Appellant : In Re: Bringing Generating

Judgement :

1. The Commission in its order dated 4.7.2005 had decided to implement ABT on single-beneficiary generating stations with effect from 1.12.2005, which included Kayamkulam Combined Cycle Power Project (the generating station) owned by NTPC Ltd. (NTPC). Although some steps were taken, the process could not be completed because of reservations of Kerala State Electricity Board (KSEB), the beneficiary and the difficulties envisaged by it. I was deputed by the Commission to consider the difficulties envisaged by KSEB and make appropriate recommendations for the consideration of the Commission.

2. At the outset, I would like to record that hearing of the matter at Thiruvananthapuram has proved extremely useful as it enabled wider senior-level participation from KSEB and NTPC. It also proved to be helpful to clear some doubts and improved understanding.

3. On behalf of KSEB, the following apprehensions were expressed to extending ABT to the generating station: (i) The generating station has historically been dedicated to Kerala. KSEB has been paying, in compliance with the terms of PPA signed with NTPC, its full fixed cost (except for that on account of temporary allocation of 50% of its capacity to Tamil Nadu) since its commissioning in 1999-

2000. KSEB has paid over Rs. 1000 crore during the last 5-6 years towards the fixed cost of the plant, even though the generation has been low (due to the high cost of naphtha, the main fuel used for the generating station). Now that the fixed cost is to come down (due to loan repayment), and there is a possibility of LNG being made available in the coming years (which would further reduce the generation cost and make the generating station more economic), KSEB does not want to lose the benefits it is entitled to receive. KSEB apprehends that by extension of ABT, it would lose its control/lien over the generating station, and thereby would get deprived on these likely benefits in future.

(ii) If KSEB gives a generation schedule, under the ABT mechanism, NTPC may under-generate (because of the high fuel cost) and make extra profit, while KSEB may suffer a loss because it would have to overdraw from the regional grid (to make up for the under-generation) and pay UI charges. KSEB wanted that the Commission should also bring such under-generation within the purview of "gaming", to stop NTPC from resorting to it and making undue profit.

(iii) 50% of the capacity of the generating station has been temporarily allocated by Govt. of India to Tamil Nadu, from January 2003 to March 2007. KSEB apprehends that while corresponding benefits are derived by TNEB, the entire burden of total UI on account of the generating station will be borne by KSEB only, which is not justified.

(iv) Due to its location in the southern part of Kerala, any increase in generation at the generating station reduces KSEB's import from regional grid at Trichur. This increases the intra-State transmission loss. On the other hand, generation reduction at the generating station would result in increase in import at Trichur, and overloading of KSEB's transformers. KSEB, therefore, does not want to allow any flexibility to NTPC (as would be available to it under ABT regime), to vary its generation from the schedule given by KSEB. (v) The rated capacity of the generating station is 360 MW, whereas as per KSEB it has achieved a maximum output of only 335 MW. The output capability further reduces when frequency goes down. KSEB apprehends that such capability reduction would cause a greater loss to KSEB if the generating station is brought under ABT mechanism.

(vi) KSEB is not able to monitor and contain the over/under-drawal by TNEB (out of its 50% capacity allocation), and apprehends that the resulting UI liability would be loaded on KSEB. (vii) If ABT is extended to the generating station, the IPPs in the State may also insist on application of ABT to them, which would not be in KSEB's interest.

4. The above listed apprehensions expressed by KSEB officials are examined in the following paragraphs, ad seriatim, in the background of the fact that the generating station has not generated any electricity during the last 8-9 months, due to the abnormal and unexpected increase in naphtha price, from about Rs. 6000 per tonne when the generating station was set up, to over Rs. 31000 per tonne now: (i) Under the law, the annual fixed charges for the generating station shall be determined by the Commission for the years to come, based on notified terms and conditions, irrespective of whether or not the generating station is on ABT. The fixed charges would keep coming down on account of loan repayment, and corresponding benefits shall be available to KSEB, even if ABT is extended to the generating station. KSEB shall continue to have a 100% lien over the generating station unless it itself decides to forego a part of it (and only in such a case a part of the capacity may be allocated to some other beneficiary). Extension of ABT to the generating station, therefore, would not deprive KSEB of any benefit in any manner. The scheduling of the generating station shall continue to be carried out by SLDC of Kerala (not by SRLDC), and KSEB's apprehension of being bypassed is not necessarily valid.

(ii) The second point can be examined by taking a numerical example.

Suppose KSEB has given a schedule (ex-power plant) of 170 MW at a particular time, and has a drawal schedule of 800 MW from the other central generating stations. Suppose, it has scheduled its own generating stations for 800 MW, and with this can meet a total consumer load of 1770 MW. Now further, suppose the generating station deliberately generates only 100 MW. If the consumer load continues at 1770 MW, KSEB would start overdrawing by 70 MW from the regional grid automatically. It would then be liable to pay UI charges for 70 MW to regional UI account. If ABT is extended to the generating station, NTPC shall have to pay

UI charges into KSEB's UI account for 70 MW of undersupply, through which KSEB can meet its liability to regional UI account. This arrangement would thus work on back-to-back basis, and KSEB would remain financially immune.

However, it is possible that in the process, NTPC makes some money if frequency is not too low and UI rate not too high. This is illustrated further. If frequency at that time is 49.5 Hz, and UI rate is Rs. 3.45/kWh, NTPC would have to pay into KSEB's UI account for 70 MW @Rs. 3.45/kWh, whereas it may be saving fuel cost @ Rs. 5.80/kWh. KSEB may, therefore, feel that NTPC is making money at its cost, while the fact is that KSEB's liability remains unchanged (being dependent only on the schedules given for various generating stations) irrespective of whether the generating station generates as per schedule or under-generates. If KSEB really wants to reduce its liability, it may not schedule Kayamkulam to generate when frequency is expected to be at this level or better, and plan to over-draw from the regional grid to fully meet the consumer demand.

But this inherently means taking a chance, as there is no certainty about frequency and corresponding UI rate. KSEB, therefore, may have to schedule the costly generation, for ensuring adequacy of supply at a known rate, leaving it to NTPC to flex its generation for regional optimization. It would be seen from the above that KSEB's apprehension of suffering a loss due to undergeneration at the generating station is not valid, and such under-generation need not be categorized as 'gaming'.

(iii) As pointed out above, once ABT is extended to the generating station, KSEB would be financially immune on account of the generating station's deviations from the given schedule. Allocation of 50% capacity to TNEB does not change this status.

(iv) The transmission losses depend on load-generation balance in different parts of the system, and are not going to be affected by extending ABT to the generating station. KSEB can conduct load flow studies, and if it is found that deviation from schedule by the generating station do change intra-state transmission losses significantly, UI rate for the generating station may be given a bias. For example, UI rate for any over-generation may be fixed at 98% of the regional UI rate, and UI

rate for any undergeneration may be fixed at 102% of the regional UI rate, depending on load flow study results. In case of overloading of transformers at Trichur, if caused by under-generation at the generating station, the Kerala SLDC can directly instruct the generating station to get back to schedule under relevant provisions of the State grid code.

(v) KSEB's apprehension in this regard is again not well founded. In fact, the situation is the opposite. In absence of ABT, KSEB continues to pay the full fixed charge even if the generating station's capability is lower than the rated capacity. In ABT, fixed charge payment would come down if the average capability of the generating station falls below the normative level. As for capability reduction with frequency, this is an inherent feature of all gas turbines, and has nothing to do with ABT. (vi) Any over/under-drawal by TNEB would get reflected in regional energy accounting carried out by SRLDC, KSEB would be totally neutral, as KSEB's UI liability would depend only on the net drawal of KSEB, as metered on its own periphery. The way the system would work is illustrated below. Suppose KSEB is scheduled to draw 150 MW from the generating station and 800 MW from other central generating stations. Suppose TNEB is scheduled to draw 170 MW from the generating station. Neglecting losses, KSEB's net drawal schedule from regional grid would then be 800170 = 630 MW. If the load-generation balance in Kerala remains as per schedule, KSEB's actual net drawal would remain at 630 MW even if there is an increased flow on KSEB-TNEB tie lines due to increase in TNEB load.

KSEB would thus not have any extra liability due to TNEB's overdrawal.

(vii) It is possible that once ABT is applied for the generating station, IPPs in Kerala may also insist on coming in ABT framework.

This would, however, not be disadvantageous for KSEB, as has been explained above in the context of the generating station. Further, it is already stipulated in the National Electricity Policy issued by Govt of India in February 2005 that ABT is to be extended to intra-State systems. The above move would only be in the desired direction.

5. It would be clear from the above discussion that the above listed apprehensions of KSEB were due to some gaps in understanding of the full ABT mechanism. The matter was explained to KSEB officials in the time available during the hearing on 24.2.2006. NTPC officials were generally in agreement with the clarification given, and indicated their readiness for introduction of ABT for the generating station.

6. It was suggested to introduce ABT with effect from 1.4.2006, but KSEB officials responded with a request for some more time, to enable further internal discussions and better understanding. Since the generating station, in any case is not operating due to the high cost of naphtha and somewhat better load-generation balance in Southern Region this year, we may fix the date of ABT introduction for the generating station as 1.7.2006. In the interregnum, NTPC may fully organize its metering, scheduling and UI computation process in coordination with KSEB.