It may be seen that adding fixed charge or consumer's charge (i.e., a) to two –part tariff It becomes that part tariff. The principal objection of this type of tariff is that the charges are split into three components. This type of tariff is generally applied to big consumers.

5.21. Concept of Availability based tariff (ABT):

- It is a performance based tariff for the supply of electricity by Generators owned and controlled by the central government. It is a frequency based tariff (drawls v/s frequency) and also reactive power based tariff (reactive power v/s voltage).
- It is also a new system of scheduling and dispatching, which requires both Generators and Beneficiaries to commit to-day ahead schedules.
- It is a system of rewards and penalties seeking to enforce day ahead Pre-Committed schedules, though variations are permitted if notified one to one half hours in advance.
- The order emphasizes prompt payment of dues. Nonpayment of prescribed Charges will be liable for appropriate action under section 44 and 45 of IER.

ABT has 3 parts:

1. A fixed charge (FC) payable every month by each beneficiary to the Generator for making capacity available for use .the FC is not same for each beneficiary .It varies with share of beneficiary in a Generator capacity. the FC payable from each beneficiary will also vary with level of availability achieved by a Generator .In case of thermal stations like those of NLG where the fixed charge has not been defined separately by GOI notifications. it will comptise interest on loan ,depreciation,O&M expenses,ROE,income tax and interest on working capital .In case of hydro stations it will be residual cost after deducing the variable cost calculated as being 90% of the lowest variable cost of thermal stations in a region.
2. An energy charge (defined as per the prevailing operational cost norms) per kWh of energy supplied as per the per a pre-committed schedule of supply drawn upon a daily basis.
3. A charge for unscheduled interchange (UI Charge) for the supply and consumption of energy in variation from the pre-committed daily schedule. This charge varies inversely with the system frequency prevailing at the time of supply/consumption. Hence it reflects the marginal value of energy at the time of supply

How is ABT different from normal proceedings to determine generation tariff?

1. The ABT proceedings has not attempted to consider most of the cost drivers like ROE. operational costs, depreciation rate, composition of the rate base ,capital structure etc.proceedings tom redefine these norms are being held separately. Hence the ABT proceedings have been concerned more with tariff design rather than definition of tariff norms or determination of tariff levels.
2. Its incidence is a function not only of the behavior of a Generator but also of the behavior

of a beneficiary .disciplined beneficiaries and Generators stand to gain undisciplined beneficiaries and Generators stand to lose.

5.22. Broad features of ABT design

1. It implements the long held view that electricity tariffs should be two parts comprising of a fixed charge and a separate energy charge.
2. It increases the target availability level at which Generators will be able to recover their fixed costs and ROE from 62.79% deemed PLF at present to 80%(85% after one year)for all thermal stations ,85% for hydro in the first year and 77%(82% after one year) for NLC.
3. Misdeclaration of availability entails severe penalties.
4. It rationalizes the relationship between availability level and recovery of fixed cost. The draft notification provided for recovery of (annual fixed cost minus ROE) at 30% availability and recovery of ROE on prorate basis between 30% and 70% availability. This order provides for payment of capacity charges between 0% and target availability (as indicated in item 2 above) on pro-rate basis.
5. The draft notification had provided for payment of capacity charges for prolonged outages this order disallows such payments.
6. It delinks the earning of incentive from availability and links it instead to the actual achievement of generation. Hence incentives will be earned by Generators only. Where there is a genuine demand for additional generation unlike the prevailing situation, or the proposed draft received by the GOI, under which it is earned purely because the generation is available.
7. Draft notification linked incentives to equity. This order preserves the status quo of one paise /Kwh per each 1% increases in PLF above availability.
8. It increases the minimum performance criterion for earning of an incentive from 68.5% deemed PLF at present to 80 %(after one year) for all thermal stations, 85% for hydro and 77 %(82% after one year) for NLC.
9. It introduces severe financial penalties for grid indiscipline along with significant rewards for behavior, which enforces grid discipline for both Generators as well as beneficiaries.
10. The order permits market pricing for the trading of surplus energy for beneficiaries and Generators.
11. The order urges the GOI to allocate the unallocated capacity a month in advance so that beneficiaries know their exact share in capacity in advance and can take steps to trade.
12. Surplus power it will be implemented in stages from April 1, 2000 starting from south. The new norms for incentive will how ever be applicable from this date for all central stations. in case of NPC: Government of India will decide the applicability of order.

5.23. Applicability and Tariff in ABT:

Constituent (i.e.) central generating station viz NTPC, NLC, and NHPC. It is also applied to all the constituents who draw power from central grid...Viz all SEB. (In SRLDC it is APTRANSCO, TNEB, KPTCL, and PONDY).

Availability Based Tariff comprises of 1) Capacity charge.2) Energy cost.3) UI Charges.

5.24 Comparison of existing tariff system and availability tariff

Sl. No.	Description of item	Existing system	Draft ABT proposal	ABT order
1	Capacity fixed charge	Annual fixed charge (AFC)include a) Interest on loan b) Depreciation c) O&M d) Return on equity e) Income tax f) Interest on working capital	Fixed charges excluding ROE i.e. all other 5 items of the existing system ROE treated separately	Capacity charge as per existing system
2	Basis of recovery	Recovery at 62.79% DeemedPLF.50% AFC at 0%PLF and full recovery at 8.49% deemed ELF	FC Excluding ROE recovered at 30% availability on pro rate basis between 0% and 30% availability.ROE recovered on pro rate availability between 30% and 70%	Pre rate recovery of capacity charge for 1)NTPC stations between 0 to 80% availability in the first year and 0 to 85% in the second year 2)NLC stations between 0 to 77% in the first year and 0 to 82% in the second year 3)NHPC stations between 0 to 85% availability in the first year and availability in the second tear announced by commission separately
3	Incentives	Above 68.49% deemed PLF,incentives at 1 paise/ kwh for each 1% increase in PLF	Incentives beyond target availability of 70% is as follows:70 to 85% —0.4% of equity for each 1% increase availability beyond	1 paise /kwh/each percentage increase in PLF of 80% /85% first and second year for NLC and 85% f in the first year for NHPC

5.25. UI Rate v/s Frequency Graph of ABT:

The Graph 5.25.Illustrates the variation of energy cost (UI Rate) with respect to frequency of supply. Cost per unit of energy consumption increases whenever the frequency of grid is less than 50 Hz, but cost per unit of energy consumption decreases when ever grid frequency is more than 50 Hz.

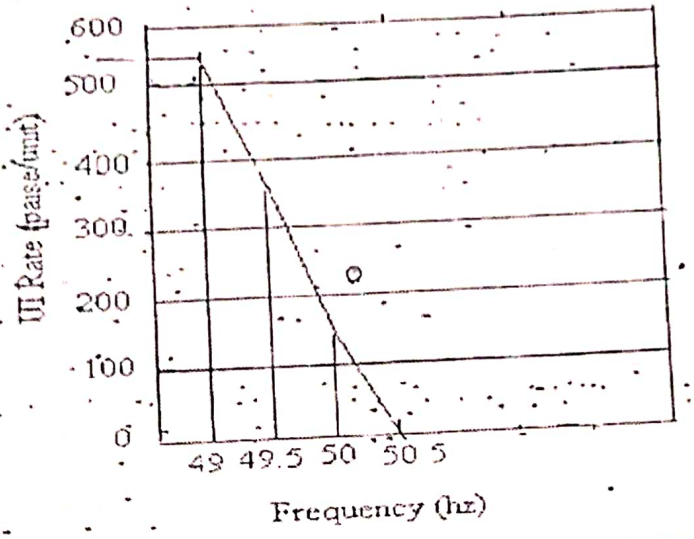

Fig.5.25 UI V/S Frequency Graph of ABT

5.26. Adverse conditions prior to introduction of ABT:

1. Low frequency during peak Load hours with frequency going down to 48 to 48.5 Hz for many hours every day.
2. High frequency during off peak hours, with frequency going unto 50.5 to 51 Hz for many hours every day.
3. Rapid and wide changes in frequency-1Hz change in 5 to 10 minutes. Frequent grid disturbance causing tripping of generating stations interruption of supply to large blocks of consumers, and disintegration of the regional grid.