PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SCO NO. 220-221, SECTOR 34-A, CHANDIGARH

Petition No. 59 of 2015

Date of Order: 12.01.2016

In the matter of: Petition under clause 9 of the Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005 to the extent for inclusion of LT level consumer categories in the Time of Day Tariff schedule in the State of Punjab

AND

In the matter of: Indus Towers Private Ltd., 3rd Floor, DLF IT Park, Chandigarh: Non Domestic (Load up to 100kW)

Present: Smt.Romila Dubey, Chairperson
Er. Gurinder Jit Singh, Member

ORDER

The present petition has been filed by Indus Towers Private Ltd., Chandigarh under clause 9 of the Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005, to the extent for inclusion of LT level consumer categories in the Time of Day Tariff schedule in the State of Punjab.

2. The submissions made by the Petitioner in the petition are summarized as under:

(i) Time of Day (ToD) tariff is recognized globally as an important Demand Side Management (DSM) measure which can be used as a mean of incentivizing consumers to shift a portion of their

loads from peak times to off-peak times, thereby improving the system load factor by reducing the demand on the system during peak period.

(ii) ToD tariffs send price signals to consumers that reflect the underlying cost of generating, transmitting and supplying electricity, and enables resources to be allocated more judiciously and efficiently.

(iii) Price based demand response can reduce or shape consumer demand particularly to reduce load at peak hours on the electricity system. Hence, ToD tariff assumes importance in the context of propagating, implementing and achieving energy efficiency in the country.

(iv) Dynamic tariffs are designed to lower the system costs for utilities and bring down consumers' bills by increasing tariffs during peak hours and lowering them during off-peak hours. The main objective is to reduce peak loads and/or shift load from peak to off-peak periods.

(v) ToD tariff design features electricity tariffs that vary by time period, being higher in peak periods and lower in off-peak period. The simplest ToD tariff can be structured as a two period tariff, a peak period and an off-peak period.

(vi) The main aim of this Petition is to get the telecom towers also included in the ToD tariff scheme of the State. Telecom towers form an ideal candidate for

ToD tariffs, as they consume electricity 24 hours a day, but still are able to control loading & consumption pattern for their various connection points.

3. The Petitioner has submitted various legislative and legal frameworks existing in the country which promote implementation of ToD tariff as an important DSM tool, as under:

(i) Electricity Act

The relevant provision of Section 62(3) of the Act which guides the SERCs to incorporate ToD tariff provides as under :

"The Appropriate Commission shall not, while determining the tariff under this Act, show undue preference to any consumer of electricity but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required."

(ii) National Tariff Policy

The relevant provision of the National Tariff Policy, which define the tariff components and their applicability states as under:

"8.4 Definition of tariff components and their applicability

1. Two-part tariffs featuring separate fixed and variable charges and Time differentiated tariff shall be introduced on priority for large consumers (say, consumers with demand exceeding 1 MW) within one year. This would also help in flattening the peak and implementing various energy conservation measures."

(iii) National Electricity Policy

The relevant provision of the National Electricity Policy with respect to encouraging metering for ToD is as under:

"5.4.9 The Act required all consumers to be metered within two years. The SERCs may obtain from the Distribution Licenses their metering plans, approve these, and monitor the same. The SERCs should encourage use of pre-paid meters. In the first instance, TOD meters for large consumers with a minimum load of one MVA are also to be encouraged. The SERCs should also put in place independent third-party meter testing arrangements".

(iv) FOR recommendations

FOR has also given recommendations in its Working Group Report on "Metering Issues", summarized as under:

"Time of the day metering is important while propagating and implementing Demand Side Management (DSM) and achieving energy efficiency. Hence, TOD metering and automatic meter reading system should be introduced wherever it has not

already been done. High-end consumers with the connected load of 25KW and above should be covered under TOD metering."

(v) CEA regulations

Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 with respect to ToD metering provides as under:

"20.Adoption of new technologies -

The distribution licensee shall make out a plan for introduction and adoption of new technologies such as pre-paid meters, time of the day meters (TOD), automatic remote meter reading system through appropriate communication system with the approval of the Appropriate Commission or as per the regulations or directions of the Appropriate Commission or pursuant to the reforms program of the Appropriate Government."

4. Implementation in various states of the Country

(a) All major states of India have already implemented ToD tariff, including the state of Andhra Pradesh. However, this implementation is only across certain consumer categories.

(b) West Bengal has made it available across all consumer categories, irrespective of voltage levels.

(c) The implementation of ToD tariff and increasing its coverage has been mandated by the Electricity Act and

FOR guidelines, National Tariff Policy and National Electricity Policy.

5. Benefits of ToD Tariff Implementation:

The Petitioner has submitted that following are the benefits of ToD Tariff:

(i) The price (or tariff) of electricity:

(a) The electricity tariff is paid for increasing consumption; hence it should be reflective of the incremental cost of supplying a unit of electricity.

(b) Tariffs should be related to the economic value of future resources to be utilized to meet power demand increases.

(ii) Balancing the load factor of a discom:

(a) The load factor of a discom gives an important indication as to how efficiently it is able to cater to the demand of its consumers. Higher load factor is desirable as it denotes a higher operational efficiency of power plants.

(b) Another incentive to reduce the gap between the peak & average demand is the increasing marginal cost of generation with increase in demand. Since as per Merit Order Dispatch, higher the peak-load of the system, higher is the cost of electricity.

(c) By reducing the peak load, the fixed cost of meeting a given demand can be lowered, as any increase in demand can be accommodated without additional

investments in new generation capacities. Also, security of supply can be increased without additional cost.

(d) The relationship between ToD tariff and improving the load factor is clear. By charging different tariff at peak & off-peak periods, customers are incentivized to shift their loads to off-peak hours, thereby reducing the overall system peak demand and improving the system load factor.

6. Cumulative benefits of wide-scale implementation of ToD tariffs:

The Petitioner has submitted the following cumulative benefits of wide scale implementation of ToD Tariff:

(i) Customers responding to high prices and curtailing electricity consumption.

(ii) With cumulative consumption reduction at end consumer level, the peak power demand drops, which in turn would reduce the market clearing price at the peak.

(iii) These benefits will also mean overall sectoral improvement, as under:

(a) Lesser need to build peaking power plants.

(b) Lower stress on Transmission & Distribution networks resulting in lesser congestion and outages.

(c) Lower risk for entities purchasing power from the spot markets.

(d) Reduction in Greenhouse gas emissions.

(e) Higher availability of power translating into higher productivity at end consumer level.

7. Regulations in other states

Analysis of the prevailing regulations concerning ToD tariff in some of the states in the country has been submitted by the Petitioner, which is summarized as under:

(a) Andhra Pradesh

Andhra Pradesh has already implemented ToD Tariff for HT consumers. The latest Tariff Order for Andhra Pradesh power distribution companies has given the schedule for ToD tariff as:

> *"Rs. 1.05/ kVAh Time of Day (ToD) Tariff is leviable on energy consumption during the period from 06:00 PM to 10:00 PM, in addition to the normal energy charges at respective voltages."*

(b) Karnataka

Karnataka levies ToD tariff on LT consumers as well, by covering LT-V category consumers under ToD. Time of Day tariff was made mandatory for installations under HT2 (a), HT2 (b) and HT2 (c) with contract demand of 500 kVA and above.

(c) West Bengal

West Bengal is a strong case in point, as it has made ToD tariff available to all category of consumers, regardless of voltage level or power demand. West Bengal Electricity

Regulatory Commission has separate tariff schedules – for consumers on normal retail tariff and for consumers opting for ToD tariff.

(d) Maharashtra

Maharashtra has gone forward and made ToD tariff available for LT as well as HT voltage levels.

(e) Uttar Pradesh

The regulatory commission of UP has allowed ToD tariff applicability to be extended to LT level consumers too, by covering LMV-6 (Small & Medium Power) Consumers.

(f) Gujarat

Gujarat has implemented ToD Tariff only for HT consumers. While provision of ToD for LT consumers exists, that is limited to only those consumers, who choose to avail electricity supply exclusively during night hours.

8. Forum of Regulators

The Petitioner has submitted that FOR had conducted a study on overall implementation and analysis of ToD tariff in India. The study pointed out all advantages and results of the ongoing implementation of ToD tariffs in the country. The key conclusions of the study have been reproduced by the Petitioner as under:

" (i) The positive impact of TOD as one of the DSM measures on the overall state system has been seen to a certain extent in all the states.

(ii) In the scenario of gap between demand and supply, the system load profile is being maintained by the utilities through the load shedding.

(iii) Based on the analysis carried out, it is observed that there is a positive impact on the system load profile with the increasing tariff differential between peak and off-peak tariff.

(iv) It is observed from the analysis of the information supplied by the distribution licensees in West Bengal and data form TPC-D that extension of TOD to other consumer categories/ introduction of compulsory TOD instead of optional TOD tariff has had a positive impact on the licensee's system load factor."

9. Telecom Towers: Prime Candidate for ToD Tariff

The Petitioner has submitted that:

(i) Telecom towers present a very unique load profile for the discoms.

(ii) The consumption and load profile of a telecom tower is unique amongst general commercial consumers, given the high load factor and nearly flat load profile of such connections.

(iii) Around 58% of electricity consumed by a telecom tower is on account of electronic components which include BTS, Microwave radio equipment and antennas, while the air conditioning constitutes only 26% of the tower's electricity consumption.

(iv) 84% of the power consumed (and thus load) of the telecom towers is fairly constant over a 24 hour period, and are a part of the base load of the Discoms.

(v) Such a load profile doesn't put pressure on the Discoms to buy additional power at peak hours at higher prices, thereby leading to a lower '*cost to serve*' for such consumers.

10. The various aspects to be considered for ToD applicability on telecom towers have been submitted by the Petitioner as under:

(i) <u>Regulatory policies and spirit of the prevailing regulations:</u>

(a) The Electricity Act, 2003 clearly states that "*the commission shall not show undue preference to any consumer of electricity*". This specifically addresses that all categories of consumers should be eligible for ToD tariff, and not only consumers of HT voltage levels.

(b) The National Tariff Policy also supports ToD tariffs by saying "This (ToD tariffs) would help in flattening the peak and implementing various energy conservation measures".

(c) Forum of Regulators has also stated that "*Time of the day metering is important while propagating and implementing Demand Side Management and achieving energy efficiency. Hence, TOD metering… should be introduced wherever it has not already been done*". Emphasis is put on inducting more consumer categories in ToD regulations.

(ii) Technical

Telecom tower consumers are willing to undergo the required capital expenditure in form of installation of special ToD meters.

(iii) Legal

(a) Telecom tower operators are covered by a Universal Service Obligation as defined in the amended Indian Telecom Act, 1885, under which all major telecom players have the obligation to provide access to basic telegraph services to people in rural and remote areas at affordable and reasonable prices.

(b) Clause 6.0 of New Telecom Policy, 1999, stipulates the Universal Service Obligations (USO) as under:

"The Government is committed to provide access to all people for basic telecom services at affordable and reasonable prices. The Government seeks to achieve the following universal service objectives:

- *Provide voice and low speed data service.*
- *Achieve Internet access to all district headquarters.*
- *Achieve telephone on demand in urban and rural areas ……..."*

(iv) (a) In APTEL Order dated 25th October, 2013 in Appeal No. 80 of 2013, in case of Jaipur, Jodhpur & Ajmer Vidyut Vitran Nigam Limited v/s Rajasthan Electricity Regulatory

Commission, the points which support ToD tariff have been submitted by the Petitioner as under :

> *" i) ToD tariff cannot be applied unless the detailed load analysis justifies the introduction of ToD tariff.*
>
> *ii) The purpose of ToD is to reduce peak demand and fill up the valleys in the demand curve of the distribution companies."*

(b) Relevant part of APTEL Order dated 14th February, 2011 in Appeal No. 175 of 2009, in case of Tata Power Company Limited v/s Maharashtra Electricity Regulatory Commission, has been submitted by the Petitioner as under:

> *"5.9.6 In order to reduce the requirements for capacity additions, the difference between electrical power demand during peak periods and off-peak periods would have to be reduced. Suitable load management techniques should be adopted for this purpose. Differential tariff structure for peak and off peak supply and metering arrangements (Time of Day metering) should be conducive to load management objectives. Regulatory Commissions should ensure adherence to energy efficiency standards by utilities.*

5.9.9. (i) Thus the National Electricity Policy and Tariff Policy mainly provide for improving supply side efficiency and promoting time-of-the-day tariff to encourage the consumer in demand side management as far as the function of distribution licensee is concerned. The energy conservation/energy efficiency in respect of end use has been described mainly in the context of the Energy Conservation Act, 2001."

The Petitioner has submitted that reading of all acts & policies in the spirit of freedom & fairness of access to electricity provides that telecom towers are an ideal candidate for inclusion in ToD tariff regime prevailing in the State.

11. Indus Towers Private Ltd. has prayed as under:

(i) ToD tariff be made applicable on telecom towers (Non Domestic) consumers also.

(ii) The prevailing norms, policies, and provisions remain as it is, and only the coverage of consumers under ToD should be increased to include telecom towers too.

12. The Commission vide its order dated 14.10.2015 observed and ordered as under:

"*None appeared for the petitioner in spite of intimation vide no. PSERC/reg/7063 dated 07.10.2015 that the petition shall be taken up for admission on 14.10.2015 at 11.30 A.M.*

The petition shall be taken up for admission again on 20.10.2015 at 11.30 A.M. In case no one shows up on

behalf of the petitioner to justify the admission of the petition to the Commission on 20.10.2015, the petition shall be dismissed without giving further opportunity."

13. The Commission vide its order dated 23.10.2015 observed and ordered as under:

"The petition was taken up for admission on 14.10.2015 but no one appeared for petitioner on that date. The petitioner was directed vide order dated 14.10.2015 to appear on 20.10.2015 to justify the admission of the petition. The petitioner has filed a request dated 19.10.2015 for adjournment of hearing for admission and has ensured to adhere to that date by proper representation of the petitioner. The request was reiterated during hearing. Accordingly, the petition shall again be taken up for admission on 17.11.2015 at 11.30 A.M."

14. The Commission vide its order dated 18.11.2015 admitted the Petition. PSPCL was directed to file the reply to the Petition by 08.12.2015, with copy to the Petitioner. Next date of hearing was fixed for 15.12.2015.

15. PSPCL filed reply to the Petition vide letter dated 07.12.2015, which is summarized as under :

(i) The Commission has come out with Tariff Order for FY 2015-16 and has included Medium Supply and Large Supply (Industrial) consumers to be covered under ToD tariff regime. PSPCL has issued CC No. 16/2015 dt. 07.05.2015 in compliance to the Order of the Commission.

(ii) ToD industrial tariff has been introduced by the Commission in Punjab as a Demand Side Management (DSM) measure. So far it has been extended only for 2 categories of Industrial consumers (Large Supply and Medium Supply). The purpose of ToD tariff is to flatten the load curve of the utility, while giving incentive to the consumers. The load profile of the Petitioner is very less and as such will not be a great contributor to the purpose for which this tariff was introduced.

(iii) Legal and Policy Framework for ToD tariff:

Section 62 (3) of the Electricity Act, 2003 provides as under:

> *"The Appropriate Commission shall not, while determining the tariff under this Act, show undue preference to any consumer of electricity but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required."*

PSPCL has submitted that the prayer of the Petitioner cannot be heard in isolation with the other category of consumers within the same class i.e NRS category (5-25 kW). Also, the number of consumers in this category is very large. This will also entail extra costs in terms of new ToD meters as well as reading these meters.

(iv) The provisions of the National Electricity Policy advocate the ToD meters and provides as under:

> *"The Act requires all consumers to be metered within two years. The SERCs may obtain from the Distribution Licensees their metering plans, approve these, and monitor the same. The SERCs should encourage use of pre-paid meters. In the first instance, TOD meters for large consumers with a minimum load of one MVA are also to be encouraged. The SERCs should also put in place independent third-party meter testing arrangements".*

PSPCL has submitted that though the regulations mandate that ToD tariff is to be implemented, but in most regulations, as mentioned in the Petition, ToD tariff is limited to high load industrial consumers. Even the comparison of various states/utilities in the country as provided in the Petition clearly shows that in most of the states the ToD tariff is presently limited to HT or high load consumers, in line with the basic purpose of the ToD metering.

PSPCL has submitted that ToD Tariff should not be implemented as prayed in the present Petition, as of now. Also, as the logistics required for NRS category consumers will be large because of requirement of ToD meters as well as the task of reading meters, so the extension of ToD tariff to other categories of consumers may be considered in due course of time, only after thorough examination of

the matter by an expert committee, as may be set up by the Commission, if required.

16. Indus Towers Private Ltd. filed reply to the submissions of PSPCL vide letter dated 16.12.2015, which is summarized as under:

(i) PSPCL has pointed out that ToD tariff is an important DSM tool available to the utilities, as well as noting that it can lead to flattening of the load curve for the utility while giving incentive to the consumers. At the same time, PSPCL has also submitted that it is available for only two category of consumers in the state. The importance of ToD tariff should be appreciated in a more complete manner, and the tariff should be made more inclusive, in order to make additional consumer categories a part of this.

(ii) Indus Towers Ltd. is a telecom tower operator in the state, while the load at an individual telecom tower level connection might be lesser than a typical industrial consumer, the cumulative load of more than 5200 towers across the state becomes more substantial.

(iii) The utility should be more receptive towards the consumers like cold-storage units and telecom towers, which require power 24 hours a day, while at the same time also having the capability of shifting their load suitably with power backup & power storage arrangements.

(iv) It is not the intent of Indus Towers to be heard in isolation from other consumers of its consumer category. The point submitted regarding cost of meters being borne by PSPCL

is not valid, as the consumers in the state are bearing the cost of meters installed in their premises. Regulations 21.2 'Supply and Installation of Meters' of the Electricity Supply Code states as under:

> *"(a) The Licensee will supply the meter/metering equipment to the applicant at the time of release of a new connection or at any other time as required by the consumer who will pay the monthly rental for such equipment at rates approved by the Commission and specified in the Schedule of General Charges.*
>
> *The applicant may, if he so elects, obtain and install his own meter/metering equipment of the make(s) as approved by the Licensee after getting the same duly tested and sealed at the Licensee's laboratory. In such a case the Licensee will not charge any monthly rental for the meter/metering equipment. Where the consumer has provided his own meter, Security (meter) deposited by him along with the application will be adjusted in the electricity bill(s) of the immediately succeeding months."*

The Petitioner has submitted that it is the consumer who bears the cost of a meter, not the utility. As to the cost of reading of such meters, while not being substantially higher than the cost of reading of other meters, should not be an impediment to the load & demand management benefits availed with the usage of ToD meters.

(v) ToD is available for only HT or high load level consumers in only 3 out of the 11 states listed by the Petitioner, whereas 8 states have provided ToD for LT or low load level consumers also. Most of these states have included consumers with load levels of 30 kW & below for ToD tariff schedule. Some states like Maharashtra, West Bengal, Delhi, among others, have made ToD optional for certain category of consumers, while keeping it compulsory for other higher load categories. Load level of a consumer should not be considered a deterrent for inclusion in ToD schedule.

(vi) ToD tariff be extended to include telecom tower consumers also and ToD tariff may be made optional for additional categories of consumers, like commercial consumers.

17. The Commission vide its order dated 18.12.2015 observed and ordered as under :

"PSPCL has filed reply vide C.E./ARR & TR memo no. 5149 dated 07.12.2015 with copy to the petitioner Indus Towers Private Ltd. The petitioner filed reply dated 16.12.2015 to the submissions of PSPCL during hearing, copy of which was handed over to PSPCL. The arguments on behalf of PSPCL and Indus Towers Private Ltd. were heard and after hearing, the parties were directed to file Written Submissions by 27.12.2015. Indus Towers Private Ltd. submitted that its reply dated 16.12.2015 be taken as its Written Submissions.

Hearing is closed. Order is reserved."

18. PSPCL vide its letter dated 29.12.2015 submitted that their reply submitted vide memo no. 5149/50 dated 07.12.2015 be considered as written submissions.

19. Findings & Decision

After going through the submissions and arguments made by Indus Towers Private Ltd. and PSPCL, the Commission decides as under:

(i) In the State of Punjab, ToD tariff has been made applicable to LS and MS categories of industrial consumers only. The very purpose of introduction of ToD tariff to LS and MS category of consumers is to flatten the load curve of the utility by way of shifting the load from peak load hours to off peak load hours (night hours). The nature of load of the Petitioner is such that it may not provide much relief to the utility for flattening the load curve.

(ii) Section 62(3) the Electricity Act, 2003, provides as under:

> "*The Appropriate Commission shall not, while determining the tariff under this act, show undue preference to any consumer of electricity but may differentiate according to consumer`s load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.*"

The principles of differentiation of tariff to be determined by the Commission under Electricity Act, 2003 have been clearly laid down in section 62(3) of the Electricity Act, 2003. At present, in the State of Punjab, ToD tariff has not been made applicable to NRS category of consumers, to which the Petitioner belongs. The Commission is not inclined to give undue preference of ToD tariff to Telecom Tower consumers, which, if given, will be against the provisions of section 62(3) of the Electricity Act, 2003.

The petition is dismissed.

Sd/-	Sd/-
(Gurinder Jit Singh)	(Romila Dubey)
Member	Chairperson

Chandigarh
Dated: 12.01.2016