Allowing Electricity Traders to Aggregate (Bundling) and Disaggregate (Unbundling) Contracts and Calculate Average Trading Margin for the transactions

Discussion Paper by
CERC Staff

Date: 11.08.2014

Contents

Tables, Figures and Illustrations

1 Executive Summary

Traditionally, trading licensee (trader) business has been viewed as purveyor of electricity who fulfills the needs of the distribution companies (discoms) by arranging electricity supply at the discoms desired delivery point mostly in short term (around one month to up to one year). Importantly, traders act as risk absorbers between generators and discoms; ensuring that generators are paid on time by bringing in their finances in case there is a delay in payment by a buyer. In the last three years traders are also actively participating in trading on power exchanges and supplying electricity to open access consumers other than just discoms.

Our analysis shows that although the share of the private sector in the installed generation capacity is increasing, the volumes traded by traders have fallen in year 2013-14, the share of transactions at the highest trading margin have further come down. However the number of traders active in the short term market has increased, Herfindahl-Hirschman Index (HHI)[1] has further come down, the average trading margin is following a downward trajectory and the prices in the short term market are decreasing. It can be inferred from these trends that competition is thriving in the wholesale electricity market and the possibility of rent seeking by the generators or the traders is miniscule. These trends lead us to believe that the time is now appropriate to allow a more liberal interpretation of trading margin applied on short term transactions undertaken by traders and to incentivize traders to innovate in trading business for the larger interest of the markets and the consumers.

The day ahead transactions on power exchanges where the price discovery is based on aggregation of demand and supply is a good example of aggregation at a national market level. Hence aggregation and disaggregation is already prevalent in the markets and traders may also be allowed to offer such products.

Hence it is proposed that a trader be allowed to buy electricity from different generators or sellers at different prices and sell it to a single discom or buyer at one price. The trading margin in such a case shall be calculated as the difference between the purchase price of discom/ buyer and the weighted average sale price of all gencos aggregated together[2].

[1] Herfindahl-Hirschman Index (HHI) is used to measure size of firms in an industry and is an indicator of the amount of competition among them.

[2] E.g. Trader can buy 50 MW at ₹4/kWh from Seller 1, 40 MW at ₹5/kWh from Seller 2 and 10 MW at ₹6/kWh from Seller 3. The trader can sell this purchased electricity from 3 different sellers at Weighted Average Price of ₹4.60/kWh along with an appropriate margin. The margin has to meet the requirements prescribed in Trading Margin Regulations of CERC.

Similarly, the trader could be allowed to buy electricity from a single generator at one price and sell it to multiple buyers (Discom, industrial consumer etc) at different prices. The trading margin in such a case shall be calculated as the difference between the weighted average sale price to all buyers aggregated together and the purchase price from the generator.

The advantages of allowing aggregation (bundling) and disaggregation (unbundling) of contracts by traders are as follows:

a) **Load management by discoms:** With aggregation and disaggregation more customized solutions (example combine Round the Clock Contract with Peak to provide "load following contract", combine longer duration contract with seasonal contract etc.) will be possible. Hence the discoms will be able to balance their demand – supply portfolio better and cost effectively, thus follow their load curve more closely, reduce their procurement cost and hence reduce load shedding.

b) **Promotion of Open Access and reduction in load shedding:** Aggregation will help in promoting open access for industrial customers. Traders would be able to buy electricity from a large generator and aggregate a cluster of open access customers to sell the purchased electricity. This way traders will act as a link between wholesale market and retail market. Similarly, large urban centers facing electricity shortage e.g. Gurgaon and Noida etc. have large housing societies where diesel generators are used to supply back up electricity in case of electricity cuts by discoms. The use of diesel as a fuel creates multiple issues in terms of air pollution, high cost to the housing societies, increase in subsidy burden for Government of India (GoI) and increase in Current Account Deficit. An arrangement can be created where trader is able to enter into bilateral contracts by aggregating these housing societies to supply electricity in bulk by buying it from various sellers.

c) **Improve Generation utilization**: This will help in electricity generation utilization, and improve the PLF of generators especially the ones who are unable to dispatch due to high energy cost (Imported coal plant etc) without adversely affecting consumers since low cost and high cost electricity would get blended .In any case this kind of aggregation will be much cheaper than small DG set based generation which otherwise gets used.

d) **Blending of Renewable Energy:** Aggregation and disaggregation can be used by the traders to bundle intermittent renewable electricity with conventional electricity sources and hence provide a new opportunity to renewable generators for selling firm renewable energy directly in the market. While, aggregation of contracts might seem a novel idea in case of traders but it has already been adopted for sale of solar electricity under the Jawaharlal Nehru National Solar Mission. M/s National Vidyut Vyapar Nigam, the trading arm of NTPC has been designated to sell solar electricity generated blended with unrequisitioned surplus electricity of conventional generating stations of NTPC.

e) **Mixing different fuel types:** Traders can bundle generation from different fuel types e.g. gas based generation and hydro based generation. This will help in mixing high cost electricity with electricity from cheaper sources like hydro plants, and this bundled electricity can be sold at moderated prices.

This measure will provide the traders a way to innovate by creating various kinds of products which serve the needs of the buyers and sellers and provide customized energy solutions.

2 Introduction to Trading business

1. Traditionally, trading licensee (trader) business has been viewed as purveyor of electricity who fulfills the needs of the distribution companies (discoms) by arranging electricity supply at the discoms desired delivery point mostly in short term (around one month to up to one year). The traders provide customized contracts according to the requirements of the buyers/sellers. Importantly, traders act as risk absorbers between generators and discoms; ensuring that generators are paid on time by bringing in their finances in case there is a delay in payment by a discom. Thereby the traders absorb both liquidity risk as well as credit risk of the discoms and insulate the generator from the financial condition of a discom. Traders also facilitate competition among generators by offering various options for buying electricity to discoms. In the last three years traders are also actively participating in trading on power exchanges and supplying electricity to open access consumers other than just discoms.

2. From a portfolio management perspective, a trader acts as a link between buyers and sellers who have different needs, different sets of information about availability of electricity at different points of time. Hence a trader has to maintain books on both buy and sell sides where it has buy contracts with the generators and sell contracts with various wholesale buyers. Therefore, a trader has both buy and sell positions in its portfolio. The spread between buying price and selling price is the income earned by the trader. In this process of matching the buyers needs to needs of the various sellers the traders reduce the information asymmetry. Presently competition in the Indian electricity markets has led to charging of small trading margins by traders. In 2004-05, the Central Electricity Regulatory Commission (Commission) had set a maximum trading margin limit of 4 paise/KWh for a chain of transactions having price up to ₹ 3 / KWh and 7 paise/KWh for a chain of transactions having price above ₹ 3/ KWh.

   Approximately 70% of the total cost of a typical discom is electricity procurement cost. This means a significant part of the retail tariff is electricity procurement cost of a discom. Discoms fulfill a part of their requirement (other than State generators or Central sector allocation and Case I and Case II competitive bidding) by procuring electricity in the wholesale market directly or through traders or through power exchanges. Steps which help the discoms in optimizing their electricity procurement costs and facilitate in meeting their service obligation needs should be considered favorably, as such steps indirectly serve the consumer interest.

3 Data Analysis of Short Term Market and Short Term Transactions

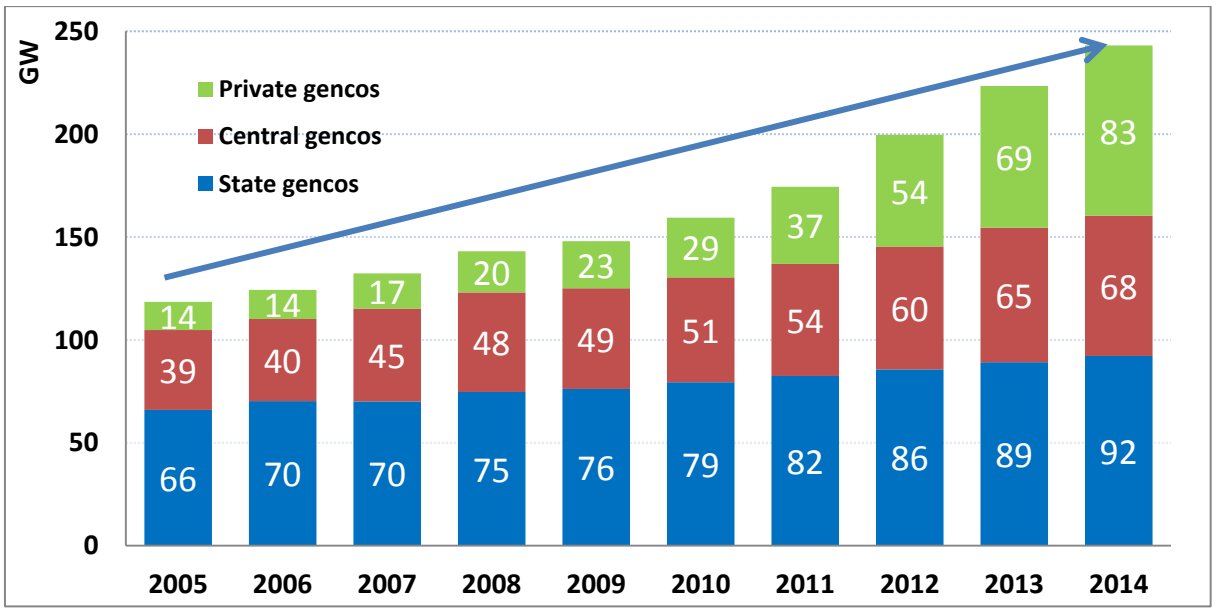
3. **Short term Transition Volume:** To get a holistic picture about relative growth of different segments of the short term electricity market, it can be observed from Table 1 that between 2009-10 to 2013-14 , the volume in the short term market has grown at Compounded Annual Growth Rate (CAGR) of 12.25%. Power exchange volume CAGR has been 43.71 % , Direct bilateral volume CAGR has been 29.45 % , UI volume has fallen at rate of -4.50 % and the traders volume CAGR has been 7.07 %.

Table 1: Volume of electricity transacted in short term market and UI Volume

Category	2009-10	2010-11	2011-12	2012-13	2013-14	CAGR
	Volume(BU)	Volume(BU)	Volume(BU)	Volume(BU)	Volume(BU)	
Trader	26.72	27.2	35.84	36.12	35.11	7.07%
Power Exchange	7.19	15.52	15.54	23.5	30.67	43.71%
Direct Bilateral	6.19	10.25	15.37	14.52	17.38	29.45%
Unscheduled Interchange	25.81	28.08	27.76	24.76	21.47	-4.50%
Total	**65.9**	**81.56**	**95.51**	**98.94**	**104.64**	**12.25%**

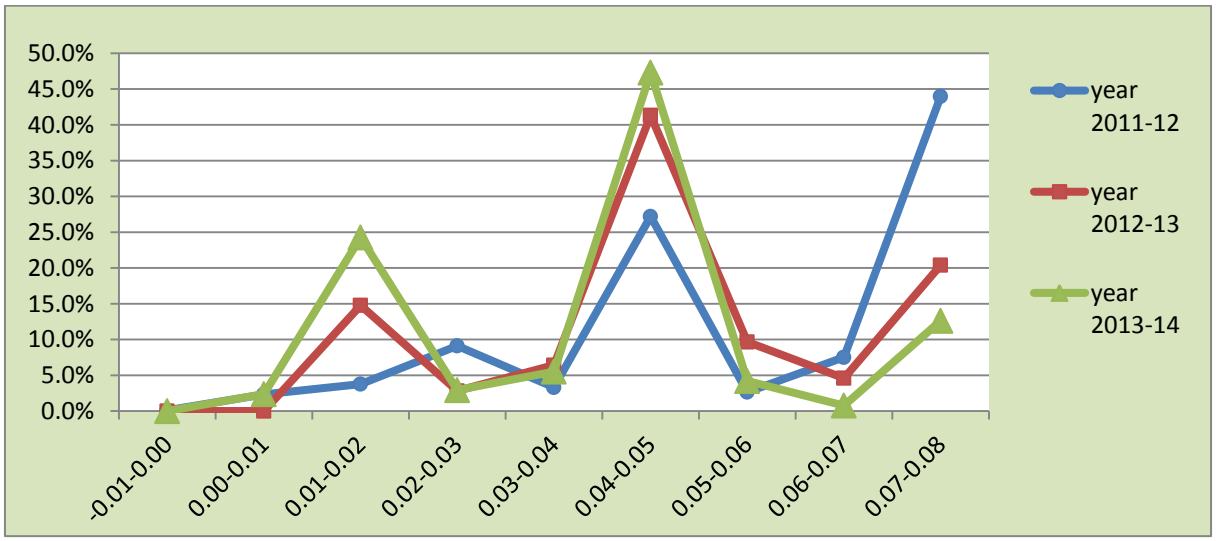
4. **Growth in trading market:** Traders markets grew at a CAGR of 10.50 % between FY 2008-09 and FY 2012-13 , whereas the volume of transactions through traders declined in 2013-14 (compared to 2012-13). This slump in transaction volume of traders is in spite of 60 GW of private generation capacity addition in the last 5 years of which significant part is not tied up in long term contracts and is available for trading.

Figure 1: Sector Wise Capacity addition



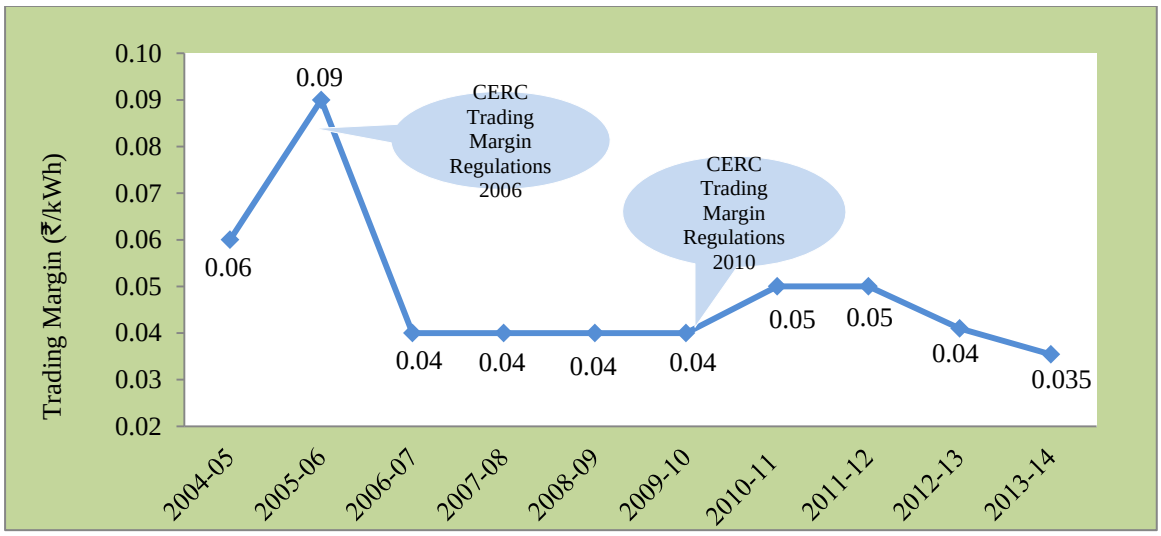
5. **Trading Margin Breakup:** An analysis of the trading margin charged by the traders for the various transactions undertaken in last three years i.e. FY 2011-12 to FY 2013-14 is shown in Figure 2 below. In FY 2011-12 transactions taking place above ₹ 3 and at the highest trading margin of 7 paisa/ unit constituted 44.6 % of volumes whereas in year 2012-13 similar transactions constituted 20 % of volumes and in year 2013-14 the share of such transactions has fallen to 12.6%.

Figure 2: Frequency Distribution for > ₹3 transactions in bilateral market



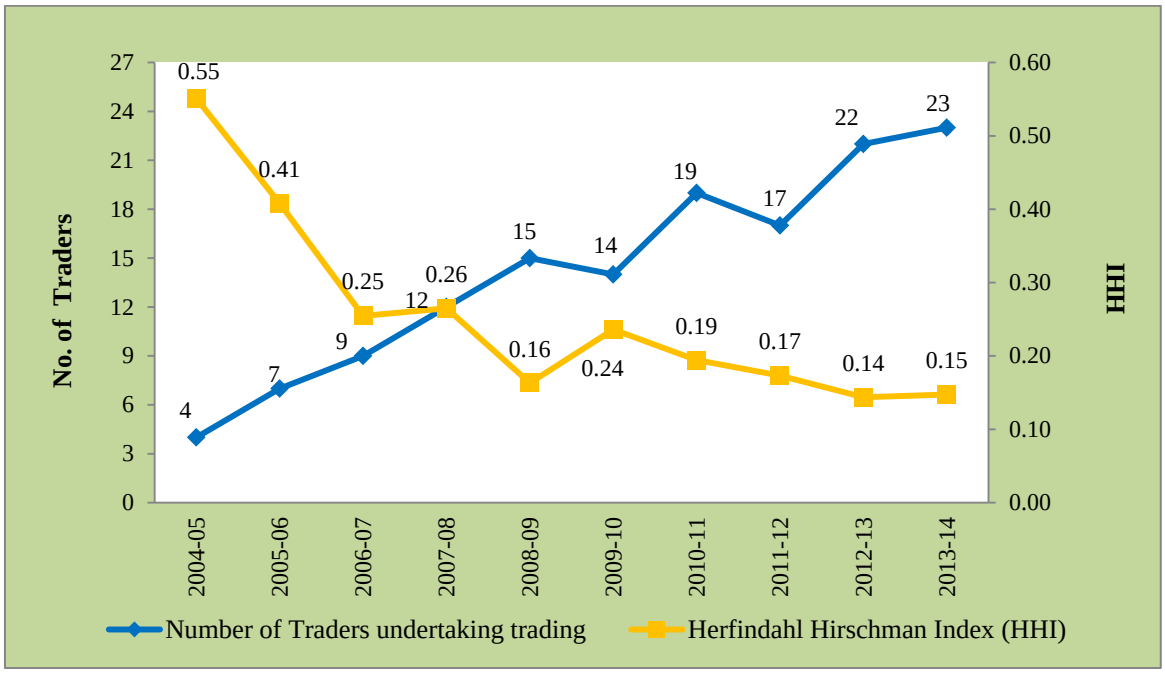
6. **Trading Margin Trend:** Despite the rising operating costs due to high inflation in past four years, the average trading margin has been declining. This is another sign that competition among traders is checking the rise of trading margin.

Figure 3: Trading Margin charged by traders between 2004-05 and 2013-14



7. **Competition among Traders and Market Power:** It can be observed from the figure 4 that there is an inverse relationship between number of trading licensees and the HHI. The concentration of market power declined from high concentration (HHI of 0.55) in 2004-05 to non-concentration (HHI of 0.1475) in 2013-14. Also, number of traders active in short term electricity trading has risen to 23 from 22 in year 2013-14.

Figure 4: Number of Active traders and HHI of bilateral market

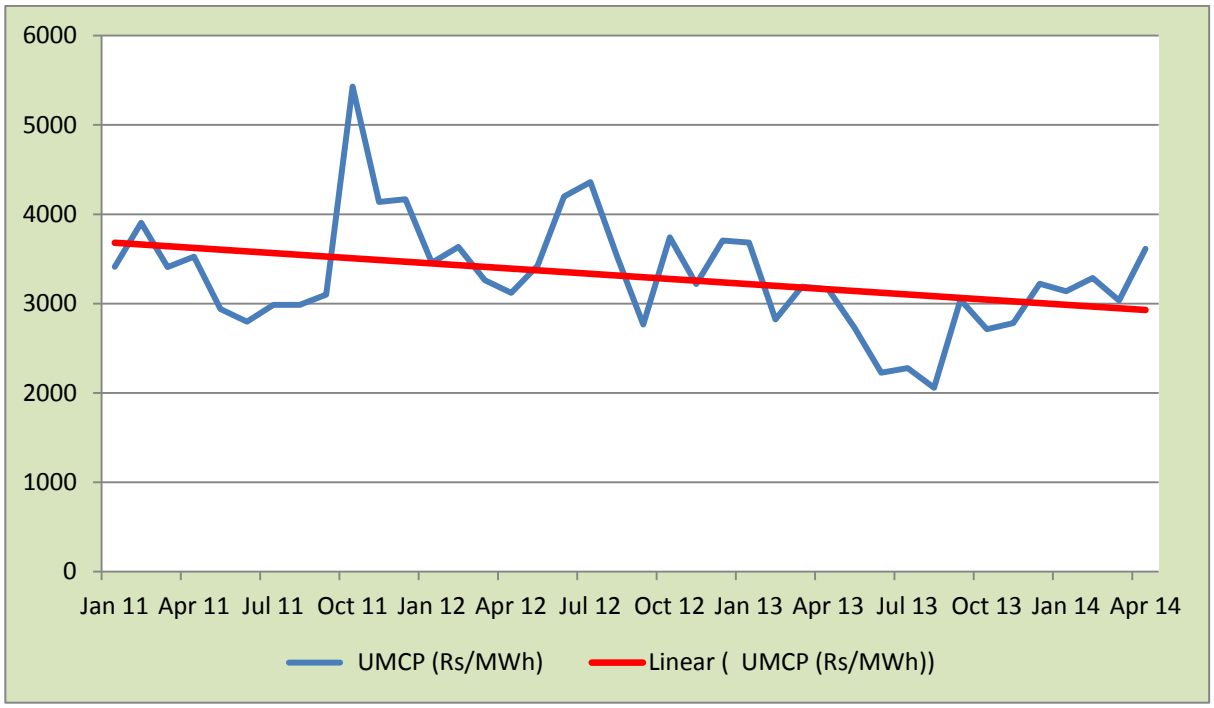


8. There has been a steady increase in the installed generation capacity in the country and the gap between the demand and supply has been diminishing. The installed capacity has increased to approximately 240 GW in May 2014 where as the peak demand is around 136 GW. Even after deducting 40 GW of renewable energy generation and some generation assets under maintenance or Renovation & Modernization (R&M), it can be observed that generation capacity is sufficient. The average PLF of generators has reduced and there are several instances where the generating plants are idling as there is no demand from discoms. It can be reasonably argued that the structural electricity deficit scenario in the country is receding. Further this is also corroborated from Weighted Average Prices(WAPs) shown in Table 2 and trend of UMCP on IEX shown in Figure 5, it can be seen that the pricing advantage enjoyed by the generators has reduced significantly and the short term electricity market is slowly turning into a buyer markets.

Table 2: Prices in various categories of short term market

Category	2009-10	2010-11	2011-12	2012-13	2013-14
	WAP (₹/KWh)	WAP (₹/KWh)	WAP (₹/KWh)	WAP (₹/KWh)	WAP (₹/KWh)
Trader	5.26	4.79	4.18	4.33	4.29
Power Exchange	4.96	3.47	3.57	3.67	2.90
Unscheduled Interchange	4.62	3.91	4.09	3.86	2.05

Figure 5: Trend of UMCP on IEX



UMCP: Unconstrained Market Clearing Price

9. The modified standard bidding guidelines for participating in long term and medium term power procurement by discoms notified by GoI in 2013 preclude electricity traders from bidding for these contracts by virtue of the entry criteria that bidders need to be generation asset owners since these are very long term contracts and the economic value added by the trader is limited in such contracts. Hence, the long term and medium term market is not available for the traders any more.

10. Power exchanges were established in 2008 and have seen their volumes grow at CAGR of 43.71% (Table 1) whereas the trading business has grown at CAGR of 7.07% only. One of the reasons for it is the regulation of trading margins and restrictions on how trading margin can be charged. In a conventional sense of market model, power exchanges provide standardized contracts to trade whereas traders provide customized contracts catering to customers' needs. A robust market requires the co-existence of both power exchanges offering standardized contracts and the traders offering customized contracts. Considering the slowdown in trading market, there is a case to give a fillip to the trading business through a generous interpretation of the trading margin regulation and review the same if need be.

11. To summarize, the share of private sector in installed generation capacity is increasing, the volumes traded by traders have fallen in year 2013-14, the share of transactions at the highest trading margin have further come down, number of traders active in the short term market has increased, HHI(measure of market power) has further come down, the average trading margin is following a downward trajectory and the electricity prices in the short term market are decreasing. It can be inferred from these trends that competition is thriving in the short term electricity market and hence the possibility of rent seeking by the generators or the traders is miniscule. **These trends lead us to believe that it is appropriate time to allow a more liberal interpretation of trading margin , allow traders to introduce innovation in trading business in the larger interest of the markets and the consumers.**

4 Background and Present Regulatory Framework

12. Central Electricity Regulatory Commission (Fixation of Trading Margin) Regulations, 2010 specify trading margins for inter-state trading in electricity. The trading margin limits are applicable to all short term inter-state transactions undertaken by a licensee. The relevant extracts of the regulations are mentioned below:-

" Trading Margin: The licensee shall not charge trading margin exceeding seven (7.0) paise/kWh in case the sale price is exceeding Rupees three (3.0)/kWh and four (4.0) paise/kWh where the sale price is less than or equal to Rupees three (3.0)/kWh. This margin shall include all charges, except the charges for

scheduled energy, open access and transmission losses. The trading margin shall be charged on the scheduled quantity of electricity.

Provided that trading margin specified under these regulations shall be the cumulative value of the trading margin charged by all the traders involved in the chain of transactions between the generator and the ultimate buyer, that is to say, trading margin in case of multiple trader-to-trader transactions shall not exceed the ceiling trading margin specified under these regulations.

Explanation: The charges for the open access include the transmission charge, operating charge and the application fee."

From plain reading of the above regulation it can be inferred that it is implicit in the regulation that the trading margin has to be transaction wise.

13. Statement of Reasons for the Central Electricity Regulatory Commission (Fixation of Trading Margin) Regulations, 2010 where it is mentioned that aggregation might lead to cross subsidization of one buyer in comparison to other and might lead to issues of exercising of market power by dominant participants in the wholesale electricity markets. However the Commission also mentioned that it is open to new proposals on aggregation of buyers or suppliers. Paragraph 14 of Statement of Reasons is mentioned below:-

" As regards the suggestion that the draft regulations provide for contracts to aggregate buyers/ suppliers which is possible only when the trading margin is computed on average basis, we are of the view that calculation of trading margin on an average basis might lead to cross subsidization of one buyer at the cost of another buyer. In such a scenario, buyers with greater market power might be charged margins that are non compensatory for the traders while buyers with less market power might have to pay higher than justified margins. We therefore hold that margins should be charged on contract basis rather than on an average basis. However, the Commission would welcome any proposal from the traders on any robust mechanism that allows aggregation of buyers/ suppliers and at the same time eliminates the possibility of cross subsidization among buyers as discussed above. "

14. Hon'ble Commission clarified its stance on aggregation and disaggregation of contracts through its order dated 11.10.2012 in the petition 114/2011 (Suo-Motu)

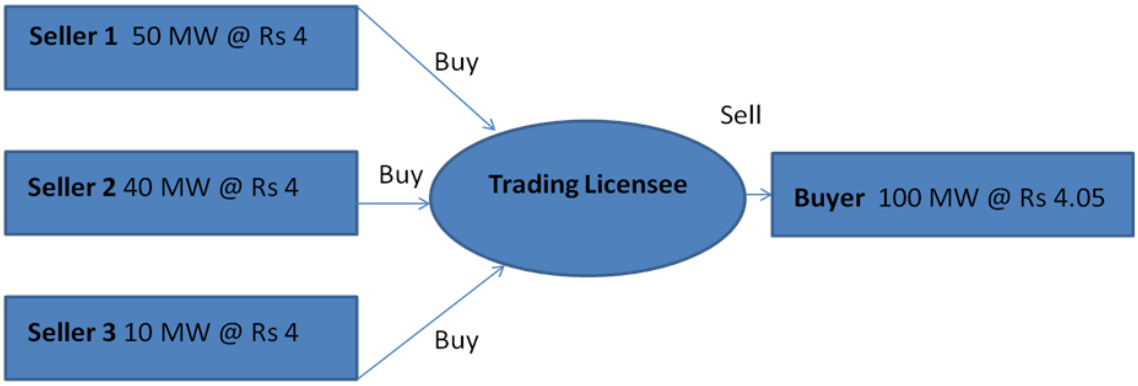
where it was clarified that under present regulation trading margin limit applies to each and every contract individually and the trading margin limit cannot be met on average or at aggregate level of transactions. While passing the order the Hon'ble Commission issued multiple clarifications on the issue of aggregation and disaggregation and the arguments put forth by the respondent on his behalf.

"We have given our serious thought to these contentions of the respondent. Aggregation permits purchase of electricity by a person, say an inter-State trading licensee, from more than one source and sale to single entity or buyer, as is the case on hand. On the contrary, segregation refers to a situation where purchase is from a single source but sale is to more than one entity or buyer. It is true that Regulation 4 of the power market regulations refers to aggregation and segregation of contracts. However, from this it does not follow that aggregation and segregation of contracts permit averaging of trading margin which is governed by the trading margin regulations. We have already held that the trading margin regulations do not permit averaging. We do not accept the respondent's plea that without averaging, aggregation and segregation of contracts is not possible. There could be no difficulty in separately arriving at for the electricity purchased by the respondent from MPPTCL. By an interpretation advocated by the respondent, cross-subsidization cannot be ruled out. For this precise reason, this Commission did not accept the views of stakeholders to permit averaging of trading margin. This Commission Order in Petition No. 114/2011(Suo Motu) discounted the suggestion of averaging of margins, since it could lead to abuse of market power and cross-subsidization. This Commission expressly directed that the trading margin should be charged on contract basis rather than on average basis. The relevant portion of the Statement of Reasons has already been extracted."

5 Proposal: Allowing Aggregation (Bundling) and Disaggregation (Unbundling) of transactions by traders and calculation of average trading margin for the transactions

15. As mentioned in the preceding section, the present practice for Trading Margin calculation is to treat each transaction individually. For example in illustration 1

Illustration 1



Weighted Average Price Rs 4

Margin charged by the trading licensee in this above illustration will be 5 paisa/KWh

Trading Margin = Purchase price of buyers – Sale price of sellers

Trading Margin is calculated for each contract individual which means the following:

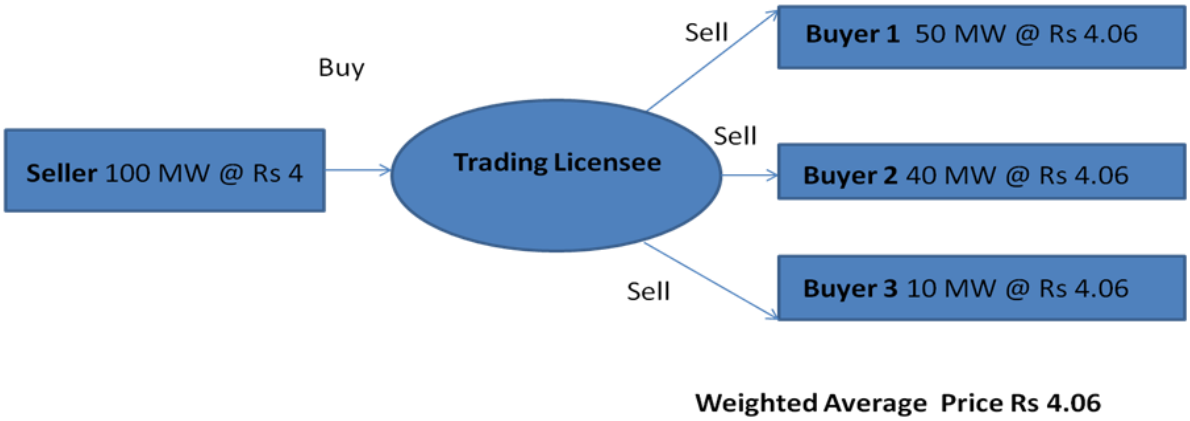
Trading Margin for Transaction 1 = Rs 4.05- Rs 4.0= 0.05 Rs/KWh

Trading Margin for Transaction 2 = Rs 4.05- Rs 4.0 = 0.05 Rs/KWh

Trading Margin for Transaction 3 = Rs 4.05- Rs 4.0 = 0.05 Rs/KWh

Similarly in Illustration 2

Illustration 2



Weighted Average Price Rs 4.06

Margin charged by the trading licensee in this above illustration will be 6 paisa/KWh

Trading Margin = Sale price – Purchase Price

Trading Margin for Transaction 1 = Rs 4.06- Rs 4.0 = 0.06 Rs/KWh
Trading Margin for Transaction 2 = Rs 4.06- Rs 4.0 = 0.06 Rs/KWh
Trading Margin for Transaction 3 = Rs 4.06- Rs 4.0 = 0.06 Rs/KWh

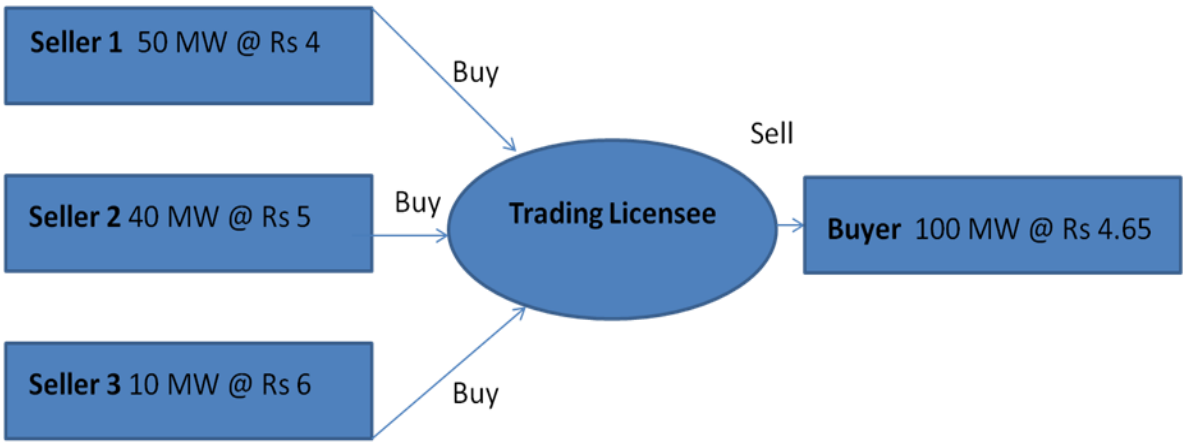
16. **Proposal: It is being proposed that a trader be allowed to buy electricity from different generators or sellers at different prices and sell it to a single discom or buyer at one price. The trading margin in such a case shall be calculated as the difference between the purchase price of discom and weighted average sale price of all gencos aggregated together.**

    Similarly, the trader be allowed to buy electricity from a single generator at one price and sell it to multiple buyers (Discom, industrial consumer etc) at different prices. The trading margin in such a case shall be calculated as the difference between the weighted average sale price to all buyers aggregated together and the purchase price from the generator.

The proposal is explained through illustrations below.

Illustration 3: Aggregation of Generators contracts to supply to one Discom (The trader buys electricity from different gencos /sellers at different prices aggregate it and sell it to one single discom /buyer.)

Illustration 3



Weighted Average Price Rs 4.6

Margin charged by the trading licensee in this above illustration will be 5 paisa/KWh

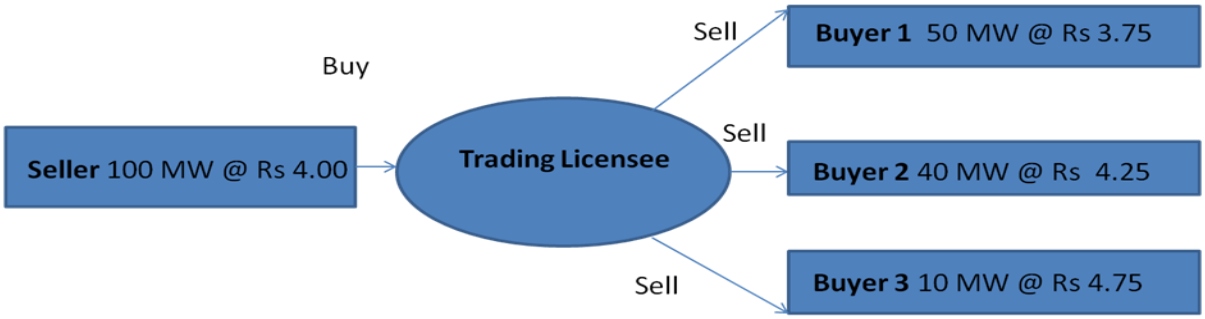
Trading Margin = Single Sale price – Weighted average purchase prices of different buyers

= Rs 4.65- Rs 4.60

= 0.05 Rs/ KWh

Similarly, in Illustration 4, Trader purchases electricity from a single generator and disaggregates it to sell to different discom/ buyers at different prices.

Illustration 4



Weighted Average Price Rs 4.05

Margin charged by the trading licensee in this above illustration will be 5 paisa/KWh

The trading margin will be calculated as weighted average Sale price to different buyers - Purchase price from single seller

= Rs/KWh 4.05- Rs/KWh 4.0

Trading Margin =0.05 Rs/ KWh

17. The proposal of allowing aggregation and disaggregation of buy and sell quantities will need to have an average trading margin limit check as this will provide the traders with an opportunity to mix various terms and types of supply and demand together to meet the needs of the buyer and the sellers.

18. It is relevant to clarify that the aggregation and disaggregation of contracts will be only for the purpose of the calculation of the trading margin. There will be no change in the way in which transmission charges (Point of Connection charges), transmission losses, NLDC operating charges and SLDC operating charges etc. are applied to various electricity transactions. Hence, traders will have to keep collecting and paying these charges for each individual transaction.

6 Rationale/Advantage to Discom and Generators by allowing Aggregation and Disaggregation of Contract for purpose of calculation of Trading Margin

19. From a practical standpoint, it is difficult to always get a trading opportunity where price, quantum and duration of contract matches exactly and always between buyers and sellers. A trader needs freedom to manage his portfolio in an optimal way where he is allowed a free hand in aggregating or disaggregating his sell side/ buy side portfolio. The competition between different traders in the markets and

close surveillance of the various transactions reported to CERC can be trusted to ensure that problems of cross subsidization and market power can be taken care of by the buyers and sellers through a constant threat of losing a trading opportunity to a competitor and vigil of the regulator.

20. On the issue of cross subsidization among buyers as mentioned in the Statement of Reasons of Trading Margin regulations, the issue needs to be examined afresh. Cross subsidy is a concept which fits in the scheme of tariff fixation where there is a predefined tariff for any customer group. It is not relevant in the contours of markets where prices are discovered based on demand and supply. There is competition among traders and the participants transact voluntarily. If the prices are high, customer chooses not to purchase or vice versa. There is no compulsion on any market player to transact in a market. Hence the argument that one participants cross subsidizes another does not arise.

21. Further, the day ahead transactions on power exchanges where the price discovery is based on aggregation of demand and supply is a good example of aggregation at a national market level. Hence aggregation and disaggregation is already prevalent in the markets and traders may also be allowed to for offer such products.

22. There are several important benefits to discoms and generators and the electricity market in general in allowing aggregation and disaggregation of contracts by traders apart from the benefit to the traders. These are as follows :-

a) **Load management by discoms:** With aggregation and disaggregation more customized solutions (example combine Round the Clock Contract with Peak to provide load following contract, combine longer duration contract with seasonal contract) will be possible hence the discoms will be able to balance their demand – supply portfolio better and more cost effectively, follow their load curve more closely, reduce their procurement cost and hence reduce load shedding.

a) **Promotion of Open Access and reduction in load shedding:** Aggregation will help to promote open access to industrial customers. Traders can buy electricity from a large generator and aggregate a cluster of open access customers to sell the bought electricity. This way traders will act as a link between wholesale market and retail market. Similarly , large urban centers facing electricity shortage e.g. Gurgaon and

Noida etc. have large housing societies where diesel generators are used to supply back up electricity in case of electricity cuts by discoms. The use of diesel as a fuel creates multiple issues in terms of air pollution, high cost to the housing societies, increase in subsidy burden for Government of India (GoI) and increase in Current Account Deficit. An arrangement can be created where trader is able to enter into bilateral contracts by aggregating these housing societies to supply electricity in bulk by buying it from various sellers. While the idea is novel and seems to be a panacea to many problems being faced in open access presently, feasibility of the same in the present regulatory framework needs further examination and deliberation.

b) **Improve Generation utilization**: This will help to improve generation utilization, and improve the PLF of generators especially the ones who are unable to dispatch due to high energy cost (Imported coal plant etc) without adversely affecting consumers since low cost and high cost electricity would get blended .In any case this kind of aggregation will be much cheaper than small DG set based generation which otherwise gets used.

c) Blending of Renewable Energy: Aggregation and disaggregation can be used by the traders to bundle renewable electricity which has intermittency with conventional f electricity sources and hence provide a new opportunity to renewable generators to sell renewable energy directly in the market. Aggregation of contracts might seem a novel idea in case of traders but it has already been adopted for sale of solar electricity under the Jawaharlal Nehru National Solar Mission. M/s National Vidyut Vyapar Nigam, the trading arm of NTPC has been designated to sell solar electricity generated blended with unrequisitioned surplus electricity of conventional generating stations of NTPC.

d) **Product Innovation** :This would provide a fillip to the trading business by bringing innovation, helping introduce new types of contracts in the market to suit customers needs, e.g. load following contracts (popular in developed electricity markets), energy portfolio optimization, energy trading and risk management solutions. The proposal for this structural change in the market is in anticipation of future trends and international practices.

e) **Structural Change in Wholesale Market** :The recently proposed draft amendment to Electricity Act 2003 by Ministry of Power envisages the creation of supply licensees and introduction of retail level competition. It is observed in developed countries markets with retail competition, various supply licensee offer differentiated products like floating price contract, fixed price contract, home region contracts and allow customers with different risk profiles and needs to buy from the bouquet of offerings. For any supply licensee, electricity procurement cost is a significant part of operating cost, which can be optimized by structuring in the wholesale market and passing on these benefits through product to the customer. The role of traders and structure of wholesale markets will be a key factor in making these changes effective and implementable. Structural changes in the wholesale market are a precondition to allowing retail competition.

f) The overall benefit to the electricity market at large makes the case for allowing aggregation and disaggregation of contracts stronger.

23. This measure will provide the traders a way to innovate by creating various kinds of products which will suit the needs of the proposed supply licensees. It will also help the buyers and sellers by making possible to have contracts which suit their needs available in the market. Traders require flexibility in managing their portfolios if they have to provide various types of products and contracts mentioned above. Aggregation of buy and sell quantum at different prices will help these traders in hedging their risks in a better manner as chances of having uncleared buy and sell position will decrease and hence help them in balancing their portfolios.

7 Transaction Reporting for Aggregated and Disaggregated Contracts

24. If aggregation of contracts is allowed then transaction reporting by traders will require minor modification. Traders will need to report the different purchase transactions separately alongside a sale transaction for ease of identification. Similarly, different sale transactions need to be shown separately alongside a purchase transaction. A sample format is shown in Annexure I for reference.

    Electronic reporting in a simple format, as indicated in Annexure I will further allay any fears of misreporting, unlawful practice and wrongdoing. This reporting can be

further strengthened through an electronic market surveillance system where data provided by various stakeholders is further analyzed for any malpractice.

25. Usually aggregating/pooling of prices is considered inefficient where disaggregated level data is not available. An argument on efficiency grounds can be made that this sort of aggregation should not be allowed as it will make the whole market process opaque. But this problem does not arise in our proposal as traders will still be reporting individual transaction wise data; hence there will be no loss of information due to aggregation of these contracts. Aggregation and disaggregation of contracts is not being made mandatory and it is voluntary for market participants to enter or not enter into such contracts.

8 Stakeholders Feedback

26. Comments are invited from market participants, power exchanges, traders, system operators and other stakeholders . This staff Discussion Paper along with comments would then be submitted to Hon'ble Commission for further deliberation and orders.

9 Annexure I

Form IV-A

Short -term Inter State Transactions Of Electricity by Trading Licensees (RTC*)

Name of the Trading Licensee :

License Details (No. & date) :

Month :

Sr. No.	Period of Power Delivery		Time of Power Delivery		Scheduled Volume(MUs)	Purchased from			Sold to			Purchase Price (Rs/KWh)	Sale Price (Rs/KWh)	Trading Margin (Rs/KWh)
	Start Date	End Date	Start Time	End Time		Name of the Seller	Category	State	Name of the Buyer	Category	State			
A	Inter State Trading Transactions													
1	01.01.14	07.01.14			50	DEF		TN	ABC		Pun	4.0	4.06	0.06
2	01.01.14	07.01.14			40				XYZ		MP	5.0		
3	01.01.14	07.01.14			10				PQR		WB	6.0		
4														
B	Inter State Trading Transactions through Swapping or Banking Arrangement													
C	Cross Border Transactions													