

## Comments and Suggestions on Consultation Paper on Issues Pertaining to Open Access

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In the recent past, sales migration has had a significant impact on the operations, planning and finances of the distribution company. Consumers who avail open access also have issues with procedural delays and charges levied. In this context, the consultation paper released by the Ministry of Power on the 24<sup>th</sup> of August 2017 is a welcome initiative to provide a framework to all actors for a way forward to address issues with sales migration. Prayas (Energy Group)'s or PEG's comments and suggestions in the matter are listed below:

### **1. Welcome initiative, need for a broader scope**

With more and more consumers opting for open access and captive options and given the falling price of renewable energy, a large number of consumers will use varied and multiple modes to meet their demand. Given the flux in the sector, the deliberation should not be confined to open access alone but should be expanded to captive options as well. Moreover, sales migration will depend on market signals, instruments and operations and thus issues faced with trading licensees and power exchanges should also be deliberated. Without such a comprehensive approach, precious time may be lost in arriving at policy responses to emerging issues which could lead to sub-optimal solutions for DISCOMs as well as migrating consumers. It is hoped that the exercise can provide a framework for SERCs to amend existing regulations or draft new regulations to address issues raised.

### **2. Phase-wise transition away from short term open access**

As highlighted in the consultation paper, short term open access, especially day ahead open access has significant impacts on DISCOMs operations and power procurement planning due to opportunistic and frequent switching. Such switching adds to demand uncertainty making power procurement, management of DISCOM's thermal fleet a challenging task. Therefore it imposes significant cost burden on DISCOMs and sometimes results in supply interruptions for regulated consumers. Please see Box 1 for more details.

In states with surplus capacity, fleet management and backing down also becomes challenging due to short term open access. States such as Gujarat, Maharashtra, Haryana, Punjab and Rajasthan which have levied additional surcharge, have found it difficult to estimate the quantum of backing down attributable to open access as most of the open access is short term.

Paradoxically, short-term open access also does not serve the cause of encouraging open access and true retail competition that leads to market based power procurement directly by consumers on long term basis. In order for open access and retail competition to flourish, there is a need for a robust capacity market for open access consumers to procure power. For such a market to develop, generators should be able to minimize their risk of market participation by establishing a stable customer base for their power. Frequent and opportunistic switching between the DISCOM and open access generator on

a daily and weekly basis also increases the risk and uncertainty for generators who want to invest in the emerging capacity market.

### Box 1: Challenges faces by DISCOM due to short term open access

Several DISCOMs in the recent past have expressed their issues with operationalising short term open access and the issues are not restricted to scheduling alone.

One such example is the case in Tamilnadu, where TANGEDCO reported that large consumers were applying for open access on days when restriction and control measures were imposed on industrial consumers only to overdraw from the grid on that day. This over-drawal by a significant number of open access consumers resulted in load shedding for LT consumers<sup>1</sup>.

Another example is the case of the Punjab DISCOM, PSPCL, which is highlighted in its petition<sup>2</sup>:  
*'The [short term] OA consumer, without giving any notice, takes the power through the open access in case the power is cheaper through OA...So PSPCL has to surrender without any fault, costly power at a lower rate as PSPCL is not in a position to find alternative consumer(s) for this power instantaneously. On the other hand, as the frequency goes down the UI rate increases, the cost in power exchange also increases and then open access consumer immediately shifts to PSPCL power. This unexpected load on PSPCL system becomes unmanageable and PSPCL is compelled to resort to load shedding on other remaining consumers. PSPCL is never sure about the quantum of the power which the open access consumer is going to tie up on its own.'*

Rajasthan DISCOMs also reports a similar story<sup>3</sup>:  
*'Short term open access consumers generally procure energy from collective market or power exchanges due to which there has been considerable variation in schedule and actual energy drawal of these consumers. These consumers reschedule their energy drawal on the basis of their daily load requirement. Such anomaly in energy drawal makes it difficult for the Discoms to forecast their energy requirement for the following day.'*

Thus, by design, short term open access only benefits a certain section of industrial consumers and the power exchanges. In turn, the mechanism increases the risk faced by open access generators, the DISCOM. Therefore a transition away from short term open access is crucial in the near future. PEG's suggestions in the matter are given below:

- a. **Phase-wise increase in minimum duration for short term open access to 1 year:** As about 90% of the open access in India is short term, it is suggested that the shift takes place in a phase-wise manner. In the first phase, open access can be granted for a minimum of 3 months, in the next phase, a minimum of 6 months and by the last phase, the duration of short term open access should be fixed for one year. Thus, if these consumers require from the DISCOM over and above the contracted capacity during the duration of open access, DISCOM should supply power at applicable standby charges.
- b. **Need for contracts to define obligations of DISCOM for duration of open access:** For the 3 month, 6 month or 1 year duration, the open access consumer must sign a contract for supply with the DISCOM, especially in case of partial open access or standby needs. Such a practice is already specified in regulations. The short-term open access consumers can sign multiple

<sup>1</sup> Please refer page 6 of TANGEDCO petition for more details: <http://www.tangedco.gov.in/linkpdf/affidavit.pdf>

<sup>2</sup> Please see: Page 51-52 of PSPCL petition [http://www.pspcl.in/docs/pdf/arr\\_vol1\\_1112.pdf](http://www.pspcl.in/docs/pdf/arr_vol1_1112.pdf)

<sup>3</sup> Please see RERC 2016 order page 2, available here: <http://www.rerc.rajasthan.gov.in/TariffOrders/Order237.pdf>

contracts for varied durations with generators to meet their open access demand. The obligations of the DISCOM to such a short term consumer need be limited to the contract agreement alone.

- c. **Transition to be completed within a 2 year time-frame:** With growing open access, it is vital that the transition to a minimum duration of 1 year for open access should take place within 1 to 2 years to minimize the impact on DISCOMs, consumers. Therefore, open access regulations across states need to be amended to account for this transition within a year.

### 3. Distribution Open Access Consumers to be subjected to DSM mechanism

Distribution open access, especially short term open access also makes scheduling challenging for DISCOMs. As the DISCOMs submit their schedule as well the schedule of the embedded open access consumers (distribution open access consumers) together to the SLDCs, the consequences of the deviation in schedule (either penalties for overdrawal or load shedding) are being borne by the DISCOM.

As the consultation paper recognizes, this is unfair to the DISCOMs consumers and there is a need for an equitable, transparent mechanism to share the burden. The proposal in the consultation paper to ensure open access schedules are for a minimum of 24 hours may not be enough to address this issue. In addition to a phase-wise transition away from open access for duration of less than 1 year, it is suggested that the applicable DSM charges on the DISCOM due to deviation in schedule must be equitably shared between the DISCOM and the open access consumers. The contours of such a mechanism to be implemented by the DISCOM can include:

- a. **Sharing to be based on individual deviations and should correspond to treatment prescribed in DSM regulations:** Such sharing can be based on contribution of individual deviations to total deviation with the deviation from DISCOMs schedule being settled first. If the deviation in schedule is beyond 12% of the scheduled injection or if the deviation is higher than the prescribed limits in the applicable DSM regulations, penal charges should be applicable on the open access consumer.
- b. **Submission of schedules:** Open Access consumers must submit their schedules 24 hours in advance. As there might be changes due to market splitting at the power exchanges, open access consumers may be permitted to revise their schedule 3 hours in advance at the most.
- c. **Treatment of renewable energy based open access:** Variable renewable generation (e.g wind and solar) has diurnal and seasonal variations and cannot be forecasted with 100% accuracy. Considering this, the proposed forecasting, scheduling and deviation settlement regulations for wind and solar generators, at both central and state level (for most states), allow higher deviation without penalties (~ 15% and 10% deviation (w.r.t available capacity). Thus the allowed deviation for renewable energy based open access consumers will also be higher. SERCs and DISCOMs should carefully examine impact of this uncertainty for RE based open access consumers as the DISCOM will be bearing the cost of the 15% to 10% deviation.
- d. **Possible change in regulations and design changes in DSM mechanism:** Applicable changes need to be made to the relevant regulations to affect this change. As and when the quantum of open access and consequently the deviations increase, it might be necessary to change the design and modalities of the settlement mechanisms as well.

#### 4. Certainty in Cross Subsidy Surcharge (CSS) and its phase-wise removal

Given the varied realities (sales mix, tariff design, power procurement mix and financial losses) across DISCOMs, SERCs should have the freedom to fix their own CSS based on appropriate methodology. However, some of the considerations while determining CSS should include :

- a. **CSS not to be prohibitively high:** The cross subsidy surcharge levied should not be so high that it deters open access. Para 5.8.3 of the National Electricity Policy states that the amount of cross-subsidy surcharge and the additional surcharge to be levied from consumers who are permitted open access should not be so onerous that it eliminates competition which is intended to be fostered in generation and supply of power directly to the consumers through open access.
- b. **CSS should not add to uncertainty in final rate for open access consumers:** It is essential that open access consumers have certainty in the CSS. It is advantageous for the DISCOM if they do not have to plan for the uncertain demand of open access consumers. However, frequent changes in CSS also prevent consumers from opting for open access for durations longer than a year.
- c. **Transition support, not just CSS necessary to compensate DISCOM for loss of revenue:** The average cost of supply ranges from Rs. 6.5/kWh to Rs.7.5/kWh across states in India. Thus, cross-subsidizing consumers already pay about Rs.9/kWh to Rs. 11/kWh. Given the escalating cost of supply ( due to rising cost of power generation, persistent AT&C losses and increasing capital expenditure , operation and maintenance expenditure), the tariffs of cross-subsidizing consumers are bound to increase in the coming years. In such a case, any CSS designed to compensate DISCOM for revenue loss, based on such costs and tariffs would be prohibitively high. Consumers might find migrating to captive options more lucrative in such a case. CSS, though necessary cannot solely compensate the DISCOM for loss in revenue due to sales migration. Thus transition support from the Union and State Government is essential to ensure the financial viability of the DISCOM with emerging challenges. The transition support can be provided through subsidies or via cross-subsidy with the levy of duties on all grid connected consumers including captive consumers as suggested in the National Energy Policy.
- d. **Need for a phase-wise reduction in CSS:** Cross subsidy surcharge is a transition support for DISCOMs facing loss of revenue due to sales migration. However, with the rapid increase in sales migration and the increasing viability of alternative options, the DISCOMs need to change their business model, tariff design and cost structure. CSS is only a transitory support while the DISCOM effects these changes and thus, should be slowly phased out.

With these considerations, PEG's comments and suggestions are as follows:

- a. **Determination of CSS and phase-wise reduction of CSS:** CSS cannot compensate for the entire revenue loss of the DISCOM but it can contribute to the revenue requirement of the DISCOM. However, certainty in CSS is vital for the promotion of open access, especially long term open access. In order to ensure certainty and phase-wise reduction, PEG's suggestions are given below:
  - CSS is to be determined by the ERC with a ceiling say, 30% of the applicable tariff for the consumer availing open access in that year. The applicable tariff considered should include

regulatory asset recovery, estimated fuel surcharge and other similar charges. This ceiling is higher than the ceiling prescribed in the National Tariff Policy as the CSS would be fixed at the same rate for the open access consumer for the duration of the contract or 5 years, whichever is lesser. Therefore, assuming an average cost of supply at Rs. 7.5/Kwh and a 30% cross subsidy, the average tariff works out to Rs. 9.75/kWh for the consumer. If such a consumer were to avail open access, the CSS would be fixed at Rs.2.92/kWh for that year.

- In order to ensure certainty of tariffs, it is suggested that the same cross-subsidy rate be applicable for duration of say, 5 years. With inflation, the real cost of CSS will reduce over time as well thus helping in phasing out CSS. The CSS determined in the year that the consumer applies for open access will be applicable on the consumer for the coming 5 year period. This move will provide certainty in CSS and also encourage open access for durations greater than 1 year. The table below illustrated the proposed determination and levy for a 5 year period.

**Table 1: Illustrative example for CSS determination and levy for open access (OA) consumers**

Particulars (Rs./kWh)	Year 1	Year 2	Year 3	Year 4	Year 5
Average cost of supply	6.50	6.83	7.17	7.52	7.90
Cross subsidy for relevant category	30%	27.00%	24.00%	21.00%	18.00%
Average tariff for category	8.45	8.67	8.89	9.10	9.32
CSS for category	2.54	2.60	2.67	2.73	2.80
<i>Consumer 1 (OA in Year 1)</i>	2.54	2.54	2.54	2.54	2.54
<i>Consumer 2 (OA in Year 2)</i>		2.60	2.60	2.60	2.60
<i>Consumer 3 (OA in Year 3)</i>			2.67	2.67	2.67
<i>Consumer 4 (OA in Year 4)</i>				2.73	2.73
<i>Consumer 5 (OA in Year 5)</i>					2.80

As is evident from Table 1, even with cross subsidy reducing over time, a modest increase of 5% per annum in the average cost of supply would result in increasing CSS every year. Consumer 1 who opts for long term open access the earliest benefits the most as their CSS is fixed for the five year period.

- Changing CSS formula to include ToD based tariff should not be implemented:** The consultation paper recommends that SERCs should introduce differential Cross Subsidy Surcharge - for peak, normal and off peak hours based on the ToD tariff. This treatment will be inconsistent if the costs considered for CSS determination are average costs and not costs incurred by the DISCOMs for peak, normal and off-peak hours. Determination of costs components based on time of day can be cumbersome and it is suggested that the tariffs and costs considered should be the average costs, as it is considered today in most states. To provide price signals to encourage open access during peak hours, the cross subsidy surcharge can be say 5% lower for peak and 5% higher for off-peak hours.

## 5. Determination of additional surcharge

As the consultation paper has pointed out, several states are currently levying an additional surcharge to compensate for the cost of backing down due to sales migration caused by open access. Different states have varied methodologies for the determination of additional surcharge. Drawing from the determination practices across states, some suggestions are given below:

- a. **Practice of levying additional surcharge for the present year, based on previous year backing down experience:** To ensure the determination of the surcharge is not complex and so ensure that the levy is easily implementable, the additional surcharge determination for the present can be based on the data for the previous year. Thus, the information used will be averaged over the year. Settlement on a 15 minute basis may be cumbersome and onerous, especially if the number of open access consumers increase. With the levy of additional surcharge, the sales migration due to open access may reduce which in turn would reduce the backing down for that year. However, this would imply that the additional surcharge for the following year will be lesser. Such an arrangement will not affect consumers opting for open access for durations greater than a year.
- b. **Use of average capacity backed down rather than energy:** It is suggested that the average capacity backed down due to open access over the year determined based on aggregate open access schedules and generation schedules on a 15 minute basis is used to determine the additional surcharge rather than the average energy backed down due to open access as is the case in Maharashtra. As it is the capacity cost of stranded assets that is being determined, it would be more accurate to base the charge on the average MW affected.
- c. **Average fixed charge applicable to be based on cost of quantum backed down, not pooled cost for entire power procurement:** In most states, the revenue to be recovered by additional surcharge is determined as the product of the magnitude of the capacity determined to be backed down due to open access and the average per unit fixed cost of the power procured by the DISCOM. Based on the merit order, state with depreciated plants with high station heat rates will have backed down plants with lower fixed costs than the DISCOMs average fixed cost for power procurement. Conversely, states where the recently commissioned plants with high fixed costs are being backed down such as Maharashtra, Punjab, Madhya Pradesh and Andhra Pradesh, the fixed costs of the backed down plants will be higher than the average. As the cost of backed down capacity can be very different from the average fixed cost of the DISCOM's total power procurement, it is suggested that the average fixed cost of only the backed down capacity is considered while estimating additional surcharge.
- d. **Additional surcharge not to include cost of regulatory assets:** The draft consultation paper suggests that additional surcharge could include costs due to stranded power under long-term PPAs, stranded physical assets and amortizing regulatory assets. It is suggested than only those costs which can attributable to backing down of capacity contracted by the DISCOM due to open access sales migration need only be included while estimating additional surcharge. Costs due to stranded long term PPAs, physical assets and regulatory assets can also be attributed to the DISCOMs inefficiencies in planning, capacity addition, revenue recovery and capitalisation. It would be difficult and arduous to ascertain how much of these costs are attributable to the migration of sales due to open access. Additionally, the cost of stranded physical assets should be recovered through

wheeling charges in any case. As per the National Tariff Policy, the regulatory asset cost is levied in the prescribed CSS formula which is being adopted by many states. Regulatory assets themselves are to be phased out within 7 years as per the National Tariff Policy. Thus the carrying costs due to regulatory assets should not be accounted while estimating additional surcharge.

## **6. Standby charges as a service and as a penalty**

As the provider of last resort, the DISCOM must provide standby power especially in case of contingent circumstances such as when the open access generator fails to supply. However, the open access consumers should also be encouraged to find alternate means for standby arrangements. This is because DISCOMs have regulated consumers who do not pay at cost of supply. If standby is offered as a service, DISCOMs have every incentive to conduct load shedding for small, low paying consumers to provide revenue earning standby services. Thus, such a practice needs to be discouraged. In order to do so:

- a. Standby charges for say up to 5% of the contracted demand should be at 20% higher than the applicable tariff for that category. Thus standby as a service is provided for a limited amount of power
- b. For standby power requirements over and above the 5% limit, the applicable standby charge should be prohibitive to discourage dependence on DISCOM for such power. Thus, it should be 1.5 times the applicable tariff for that category.

Standby charges should be based on a framework and not determined based on mutual agreement between the consumer and the DISCOM as is the case in many states today. At the same time, it should be easy to determine and levy. This method would reduce the risk borne by open access consumers, protect small consumers from load shedding, compensate the DISCOM for standby services and is easy to implement and levy. Determining a separate standby charge every year adds to the responsibilities of the ERCs and also adds to the uncertainty in costs for consumers. As many ERCs already levy standby charges as a proportion of the current tariff, this method can be easily adopted by many ERCs.

## **7. Concessions to promote renewable energy open access to be phased out**

Currently, there is preferential CSS, wheeling charges, transmission charges and additional surcharge for renewable energy open access in many states. This measure has indeed promoted RE-based open access in states such as Andhra Pradesh, Gujarat, Madhya Pradesh and Maharashtra. However, given the falling prices of renewable energy, especially for wind and solar, such concessions are increasingly becoming unnecessary. The costs not recovered through CSS, additional surcharge, wheeling charges and transmission charges are costs being incurred by the DISCOM. Such costs are either passed on to consumers of the DISCOM or become part of the DISCOM's growing losses. Essentially, the concessions offered to renewable energy open access consumers is cross subsidised by the regulated consumers of the DISCOMs. If the state government or the central government deems that such concessional rates need to be provided to promote renewable energy open access, the costs incurred by the DISCOMs should be compensated by way of subsidies by the Appropriate Government. If the cost incurred is not being compensated via subsidies, such concessions should be removed in a phased manner. This will

also encourage more robust renewable energy based open access in the long run rather than those dependent on concessions.

## 8. Tariff rationalisation needs innovative thinking and is not 'fix-all' solution

As mentioned earlier, given sales migration, there is an urgent need to think of different tariff design models for the utility. Falling costs of solar power and rising tariffs, captive and rooftop solar options are making sales migration lucrative for majority of the consumers. In most states in India, about 50% of the sales are to consumers subject to energy charges higher than Rs.5/kWh which is comparable to the levelised tariff for rooftop solar installations today. Many SERCs are increasing fixed costs, changing ToD tariffs and decreasing the tariffs for industrial consumers in a bid to prevent sales migration. However, the rising cost of supply, increasing viability of alternate supply options and the shrinking room for cross subsidy show that such measures will not be enough. Innovative thinking towards tariff design and the utility business model is essential with increasing sales migration.

The consultation paper suggested the fixed charge component should gradually reflect actual fixed cost. As the paper points out, in some states fixed costs themselves form majority of the total costs but a tariff design where fixed charges play a major role is not desirable for the following reasons:

- a. **It will make group captive and RTPV options more lucrative:** PEG estimations show that even if a DISCOM like MSEDCL increases its fixed charge such that 30% of revenue recovery is through fixed charges the annual fixed cost payments would be about Rs.57 lakhs / MVA. Assuming the average tariff remains the same, this implies a 65% significant hike in fixed charges but the consequent reduction in variable charges is only 24%. Even the reduced variable charges continue to be higher than Rs.6/unit. Such rates would make group captive options as well as rooftop solar options even more lucrative for consumers. The annual fixed costs payments itself is comparable to 15% of the capital costs required for 1 MW size solar plant, essentially implying that with increasing fixed costs also consumer will find it attractive to move away from the DISCOM.
- b. **It will incentivize higher consumption:** Higher fixed costs and lower variable costs will incentivize consumers to increase their energy consumption. When efforts are being taken to increase energy conservation and energy efficiency, a tariff design which incentivizes high energy consumption is regressive.

If levied on small consumers as well, such a measure is inequitable as it penalizes small consumers with limited consumption much like the minimum consumption charges which have been removed from the tariff design of most states.

## 9. Reporting of information

As of today, there is no recent, reliable and disaggregated estimate of the intra-state and inter-state open access sales as well as captive sales in India. Without data and information, it is difficult to evolve policy options to promote open access and understand sales migration in India. PEG feels that the reporting of information by open access consumers, DISCOMs, SLDCs, and traders and analysis of this information by ERCs and the Ministry of Power should also be part of the discussion paper.



Given the falling prices of renewable energy, renewable energy based open access and captive sales migration will pick up in a big way especially in Southern and Western states. Moreover, consumers for renewable energy based power can also be more flexible about their generation sources due to the lower capital cost and options such group captive. Additionally the variable nature of renewable energy power will also affect grid operations and the DISCOM. Thus, there should be significant attention on collating data on renewable energy based open access and captive sales and analyzing trends in this segment.

As many consumers avail of open access as well as captive options, data collection and analysis should include captive consumers and generators as well. Some suggestions with respect to this are below:

- a. **Open Access Registry:** The efforts of CERC to initiate an open access registry are a commendable step in the right direction to remove procedural hurdles before consumers availing open access. However, it is also important that the data submitted via the registry is compiled, analysed and publicly disseminated. Such analyses can help identify issues with operationalising open access at an early stage and can help devise policy solutions. Data to be collated can include intra-state and inter-state magnitude of open access, name of consumer and details of industry, duration of contract, whether open access is for conventional power or renewable energy as well as the region and state of the open access consumer.
- b. **Intra-state and Inter-state market monitoring committee reports:** The CERC Market Monitoring Committee report is currently the only publicly available document which collates market related information. The scope of this report should be broadened to include open access trades for durations longer than 1 year and if possible to include trends in captive and group captive markets. Similar to the CERC Market Monitoring Committee reports, SERCs should publish reports tracking trends in the intra-state market which includes open access, captive options, renewable energy open access and banking and the performance of intra-state trading licensees.
- c. **Tariff Petition and Orders to have data and discussion on open access, captive power:** Given the increasing impact of sales migration on the DISCOM operations and finances, it is pertinent to note that DISCOMs do not provide any data on distribution open access and captive sales migration for their distribution area in the petitions and ARR formats submitted during the tariff determination process. It is important that such estimates, information are used to understand, predict future demand, capacity addition requirements and loss of revenue for the DISCOM. Category-wise data on sales migration as well as information on time of day and seasons in which open access is availed would also help plan power procurement. DISCOMs should also submit category wise data on open access and captive sales migration, revenue loss and revenue from charges such as additional surcharge, CSS, wheeling etc. It should also submit information on whether the open access was for renewable energy or conventional power, the duration of the contract, the type of contract (RTC, peak, off-peak), standby power supplied, penalties imposed and the contracted demand the open access consumer has retained with the DISCOM. With respect to captive sales migration, it should annually report open access sales to captive consumers, current shareholding pattern for group captive options as well as standby power provided to captive consumers.

- d. **CEA reports on captive power** : As of today, CEA is the only agency which reports the state-wise and industry wise capacity and consumption of captive power plants with an installed capacity of greater than 1 MW. CEA currently provides this information in its General Review publication. It is requested that this information be provided on an annual basis at the end of the financial year along with additional information on group captive plants and renewable energy based captive plants across states.
- e. **Compliance with specifications in existing regulations**: Open access and trading license regulations across states have data submission related provisions with data formats to be filled by licenses on a periodic basis. ERCs should ensure that such regulations are complied with to enable them to get a better sense of market-related trends. It is important that this information is also available in the public domain.

## 10. Market Development

To facilitate open access which is long term and healthy for the sector there is a need for a robust and responsive market. Thus, market development is a crucial subject on which the consultation paper must ensure deliberations. In this context, PEG's suggestions include:

- a. **Institutionalising a market monitoring committee in every state and at the centre**: In the recent years, the market has been fragmented with open access generators operating through direct trades, transactions through trading licensees and activity at the power exchanges. Additionally, several new players providing facilitation services and aggregator services are already emerging in the market. With growing trades, the role of these players and the number of players is bound to increase. Moreover, the nature and characteristics of the type of transactions in the market will also change. Therefore, it is important to establish a market monitoring committee in every state to analyse and report trends in intra-state and inter-state short-term markets, open access markets and captive power markets for conventional and renewable energy power. Such a committee can release an annual report with key findings. Unlike the market monitoring reports of the CERC, such reports, will include analysis and recommendations to inform future market-related policy decisions. The constituents of such a committee can include DISCOM representatives, open access consumer representatives, and representatives from power exchanges, traders, captive generators, open access generators, relevant SLDC, SERC, academic institutions and a representative of regulated consumers of the DISCOM.
- b. **Transparent trading with multiple instruments for longer durations**: If open access for durations longer than 11 days is to be encouraged, there is a need for more instruments in the power exchanges which are long term. If the exchanges are unable to introduce instruments due to the pending Supreme Court case over jurisdiction over longer duration trades with the Forward Markets Commission (FMC), other avenues such as the DEEP Platform for open access consumers should be explored to provide a transparent avenue for longer duration trades.

## 11. Energy banking for renewable energy based open access

The banking mechanism has been a major facilitator for promotion of renewable energy based open access. The banking mechanism allows for the difference between infirm (seasonal and diurnal) generation and load of open access consumer to be absorbed by the distribution utility.

Banking is presently allowed by SERCs upon levy of a banking charge. This differs in magnitude across states. Additionally various attributes of the energy banking framework such as seasonality constraints, buy back rates, accounting for RPO etc. also differ by states. For example, APERC charges the banking charge on total energy drawl (2% of the total energy drawl) which assumes that all renewable energy open access consumers necessarily cause same amount of banking, while MERC, MPERC, RERC and GERC charge on the total energy banked (2% of the total energy banked) by any renewable energy open access consumer. The difference between charges arrived in above methods can be significant.

Some SERCs apply banking charge 'in-kind' (in energy units) while HERC applies the UI based banking charge in ₹/kWh. In Haryana, the charge which is to be paid by the generator is the difference between the UI charges at the time of injection and withdrawal. This is to compensate the distribution utilities for difference between power purchase cost at the time of banking of energy and its drawl. Such UI linked banking charges may not reflect the variable cost of displaced generation for the particular distribution utility and may under or over compensate the DISCOMs.

Distribution utilities in Maharashtra and Karnataka have been claiming that the existing structure of the banking charge is leading to financial losses. In the petition for Case No.85 of 2017 before the MERC, MSEDCL has requested a banking charge on a per unit basis (Rs/kWh, instead of the present in-kind practice). This charge is to be determined based on the difference between power purchase cost at the time of banking of energy and its drawl, which is revenue neutral to both the MSEDCL and the consumers eligible for banking.

PEG broadly agrees with MSEDCL's approach of linking energy banking with the actual Merit Order Dispatch of the distribution utility. Thus energy banking framework proposed in this submission is as follows:

- a. Energy banked would be valued by the DISCOM at the lowest variable cost of the backed down power. Energy drawl would be charged by the DISCOM at the highest variable cost of the dispatched power (incl. any power bought from exchanges)
- b. Credit for energy banking and charges for drawl would be calculated for each 15 minute block and would be settled at the end of the month. Such monthly settlement will also avoid the need for specifying any buy-back rate for excess power banked with the DISCOM at the end of the year as was needed in the erstwhile banking framework.
- c. The green attribute for any un-utilised banked energy at the end of the year would be credited to the DISCOMs RPO.
- d. Since the banked energy is valued both at the time of banking and drawl (thereby making the DISCOM revenue neutral for such transactions), there should not be any seasonal or Time of Day (ToD) based constraints on the banking and drawl of the banked energy subject to technical network constraints.
- e. Since wind and solar power have relatively low CUFs (20-30%), open access consumers may seek open access permission for generation capacity greater than their stated drawl requirement as is the

practice before MERC<sup>4</sup>. However to ensure that the energy banking service provided by the DISCOM is not misused, there is a need to cap the maximum RE generation capacity that can be procured in relation to the contract demand. A principle which can be considered for this is that the renewable energy capacity contracted should be such that there is no significant excess generation (say up to 10%) over the yearly energy demand of the consumer.

- f. Finally, linking the banking charge to merit order dispatch of the distribution utility will also enable the market to compare the cost of flexibility and value addition by other options like storage.

It is also suggested that such a process to seek comments and suggestions to discuss sales migration trends and issues be conducted on a regular basis by the Ministry of Power.

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<sup>4</sup> For more details, please see:

[http://www.mercindia.org.in/pdf/Order%2058%2042/Practice%20Direction\\_Open%20Access\\_8.3.2017.pdf](http://www.mercindia.org.in/pdf/Order%2058%2042/Practice%20Direction_Open%20Access_8.3.2017.pdf)