

Comments and Suggestions on the Proposed Amendment of the National Tariff Policy

Based on proposed amendments published by the Ministry of Power on 30th May, 2018 seeking public comments.

By Prayas (Energy Group)

18th July 2018

The national tariff policy was intended to provide a framework which delineates the intended direction of reforms in the medium term. At the same time, given the vast differences across states, the policy should be flexible to incorporate state-specific realities in design and implementation. Therefore the policy should preferably have broad principles which the states are encouraged to adopt and adapt to their requirements. For states to align their regulatory and policy framework with the central governments vision there is a need for clarity in the provisions of the policy, consensus that the reform direction addresses the concerns and issues faced by major stakeholders in the sector and a reasonable time-period (say, 5 years) for its operation.

In this context and at this juncture, any amendment to the policy should:

- Take place after sufficient deliberation on the direction of the reforms and emerging trends in the sector with various stakeholders
- Incorporate the major lessons and observations from the implementation of the Electricity Act, policies and programs thereunder
- Suggest strategies to address the precarious financial position of distribution companies while keeping in mind the increasing viability of alternate options, loss of cross-subsiding consumers and the need to translate the benefits of competition and efficiency to small consumers.
- Address challenges and new prospects in the sector such as, the increasing uptake of renewable energy technologies, the emergence of viable storage options and the challenges due to surplus power faced by the states

The National Tariff Policy was amended on 20th January 2016 to account for emerging changes in the sector. The Ministry of Power, seeking to introduce further amendments published draft amendments on 30th May 2018. The proposed amendments have several suggestions to account for the flux in the sector and to direction of reforms being contemplated by the Ministry of Power. However, there is lack of clarity in many suggested amendments which could create legal and procedural issues in the future. Many of the amendments seem to be indicating a policy direction which is not keeping with emerging trends and inevitable changes before the sector and may not lead to be most efficient outcomes with respect to the ensuring the financial viability of DISCOMs.

Based on Prayas (Energy Group)'s (PEG) engagements in the policy and regulatory processes, our comments and suggestions are enclosed. In some cases modifications to the proposed amendment are also suggested with PEG's suggestion in *italics*, the draft amendment in **bold**.

DISCOMs are currently at the cusp of a major transition with increasing migration of cross-subsidising sales to open access and captive options, increased uptake of renewable energy technologies which is forcing the sector to re-evaluate traditional ways of planning, power procurement strategies, tariff design and investments. The enclosed comments keep in mind the constraints and the concerns of DISCOMs and consumers during the inevitable transition while providing a possible way forward. The comments are informed by the analysis and measures outlined in the report 'Electricity Distribution Companies in India: Preparing for an uncertain future', by Prayas (Energy Group) which outlines the major contours of the transition, the challenges before the DISCOM as well as measures which can be adopted to make the transition less painful. The report is available here:

<http://www.prayaspune.org/peg/publications/item/377>.

Contents

1	Process related suggestions.....	3
1.1	Need for a statement of reasons or an explanatory document	3
1.2	Amendment of the National Tariff Policy needs to take place post the amendment of the Electricity Act	3
2	Generation-related provisions.....	3
2.1	Policy to provide impetus towards competitive bidding for future power procurement.....	3
2.2	Change in Law related provisions.....	5
2.3	Tariff determination for hydropower projects	6
3	Cost components of tariff determination	6
3.1	Return on investment	6
3.2	Performance accountability and gain/loss sharing during determination of tariffs.....	6
3.3	Provisions to facilitate AT&C loss reduction.....	7
4	Tariff design	8
4.1	Timeline for cross-subsidy reduction to be evaluated in context of emerging trends.....	8
4.2	Making fixed charges reflect fixed costs may have detrimental impacts on DISCOM finances	10
4.3	BPL tariffs	11
5	Agriculture tariffs.....	11
6	Tariff rationalisation	12
7	Distribution related provisions	13
7.1	Revision of Standards of Performance	13
7.2	Compensation for power cuts	14
7.3	Capacity adequacy for 24x7 power supply	14
7.4	Subsidy provision.....	15
7.5	Metering	16
8	Renewable Energy (RE) Related Provisions.....	16
8.1	Emphasis on battery-based storage.....	16
8.2	Bundling of conventional power from depreciated plants with RE.....	17
8.3	Determination of RPO requirement.....	17
8.4	Separate treatment for RPO determination for captive and cogeneration plants.....	17
8.5	Removal of provision for renewable energy generation obligation.....	17
8.6	Phasing out of transmission charge waiver	18
8.7	Provisions to encourage captive solar photovoltaic systems	18
9	Provisions related to captive and open access	19
9.1	Duty on captive generation	19
9.2	Managing short-term open access.....	19
9.3	Clarity on levy of cross subsidy surcharge	20
9.4	Open access eligibility	20
9.5	Information related to open access	21
9.6	Additional surcharges for network assets instead of wheeling charges	21
9.7	Adjustment of losses	21
9.8	Standby charges	22

Comments and Suggestions on the Proposed Amendment of the National Tariff Policy

The current draft of the National Tariff Policy amendment has suggestions for many progressive and much needed provisions with regards to information on open access, simplification of tariff categories, and introduction of framework for tariff determination for electric mobility and setting guiding trajectories for AT&C loss reduction. Many of these provisions can be strengthened and other provisions can also be modified to reflect emerging trends and challenges in the sector and a suitable policy vision for the sector. The comments given below seek to address this and supplement efforts by the Central Government in this regard.

1 Process related suggestions

1.1 Need for a statement of reasons or an explanatory document

Given the fact that all the state governments, regulatory commissions and utilities in India will have to consider the ramifications of such an amendment and incorporate the suggested policy direction in their policies, strategies, dispensations and orders, it is imperative that the Ministry of Power release a statement of reasons or an explanatory document highlighting the background analysis, major changes proposed and the intended policy direction with the suggested reforms. Additionally, the document can also review major impacts of amendments to the National Tariff Policy in 2016. Such a document will bring in more clarity and make it easier for state-level stakeholders to engage in the process. The document can be released even after the first round of public consultations on this draft is completed and can help in consensus building and further deliberations on the issue.

1.2 Amendment of the National Tariff Policy needs to take place post the amendment of the Electricity Act

There have been many discussions since 2014 with respect to the Amendment of the Electricity Act, 2003. Most of these discussions have taken place on the Electricity (Amendment) Bill, 2014, introduced in the Lok Sabha on 19th December 2014 by the Minister of Power. There have been several recent newspaper reports¹ suggesting that new, proposed amendments to the Electricity Act will be tabled in the parliament soon. While changes to the Electricity Act are still being deliberated, it seems premature to amend the National Tariff Policy (NTP) without incorporating the final changes from the Act Amendment process. There is a need for a comprehensive approach to provide a clear and unambiguous framework for the intended changes in the sector. We urge the Ministry of Power to issue a the draft for consultation for the National Tariff Policy amendment, post the amendment of the Electricity Act, 2003 and seek public consultation on the same as well.

2 Generation-related provisions

2.1 Policy to provide impetus towards competitive bidding for future power procurement

According to Para 5.2 of the proposed amendment, all future requirement of power should be procured competitively by distribution licensees, except in cases of

- expansion of existing projects, provided that private developers are eligible for only one time addition of 100% of existing capacity
- projects where the state government or central government is an identified developer
- projects set up in the state, including renewable energy projects where 35% of the installed capacity is to be procured by the DISCOMs, based on state policy to encourage investments

¹<https://energy.economictimes.indiatimes.com/news/power/electricity-act-to-be-amended-so-that-discoms-sign-ppas-minister/63993803>

Given the rising cost of generation and significant delays, there is a need to move away from cost plus tariff determination and base-load capacity addition to flexible PPAs and efficient price discovery via competitive bidding. Specific comments and suggestions in this regard are given below:

- a. **Competitive bidding for all state and central sector projects:** Competitive bidding for all state-owned and central sector generating stations are crucial because:
 - i. **Competitive pressures are essential to reduce rising cost of generation:** Almost all of the capacity currently in the pipeline is cost-plus and is being added by central sector generating stations or state-owned generating companies. The capital cost for most of the newly commissioned cost plus coal plants is high (Rs. 7 cr. /MW or more). There is a need for a policy push to encourage competitive procurement of power especially when DISCOMs are facing significant competitive pressures to reduce their average cost of supply. In this context, Para 5.1 seems to provide exemptions to almost all projects which can potentially be in the capacity addition pipeline. This contradicts the broader vision enshrined in Para 6.1 of the Policy.
 - ii. **Need to reduce delays in capacity addition which contribute to costs and make planning complex:** The average delay in construction of plants has increased significantly even in the 12th plan period. As per data reported by CEA, the average delay was for about 320 days in 2012 and 1000 days in 2016 and 2017 for plants under construction. It is already nearly 900 days in 2018². Interest during construction (IDC) which could be restricted if there were no delays accounts for significant part of the final costs. For example, in case of the state generating company of Maharashtra, MSPGCL for the 6 newly commissioned plants which were on average delayed for 60 months, IDC accounted for about 1/3rd of the total cost. These costs can be largely avoided through procurement via competitive bidding. PPAs that are signed as a result of competitive bidding have a fairly stringent condition regarding the time available from signing the PPA to when the plant becomes ready for CoD. This generally ensures that such plants get built on time.
 - iii. **DISCOMs are facing uncertain demand and cannot be relied on for signing base-load contracts:** Distribution companies in India are facing significant uncertainty in demand due to substantial migration of large consumers to open access and captive options, increased uptake of renewable energy technologies and flux in agricultural and industrial demand. This uncertainty will only increase with the advent of electrification of transport, increase in demand from newly electrified households, use of electricity for cooking and increase uptake of battery storage technologies. While facing such a predicament, there is a need for flexible, peak and non-RTC contracts to meet future demand. Therefore, state-owned and central sector generating stations should not build capacity banking on off-take from DISCOMs which are facing an uncertain future. To ensure that DISCOMs do not bear the risk of capacity addition³, it is imperative that all capacity addition by state-owned generating companies and central sector generating companies take place via competitive bidding such that capacity addition is market-driven to some extent and generators can sign multiple flexible contracts with procurers (be it large industrial consumers or DISCOMs).

²PEG estimates based on CEA Monthly Broad Status Monitoring reports over the years.

³In recognition of the fact that the DISCOM cannot guarantee purchase of state-owned generating capacity due to the uncertainties it faces and the procurement options before it, the Maharashtra ERC in the order for Case 42 of 2017, observed that without a comprehensive assessment of future demand and supply, competitive alternative options the state generating company is to incur capital expenditure on planned/upcoming projects at its own risk/cost. For more information, please see: <http://www.mercindia.org.in/pdf/Order%2058%2042/Order-42%20of%202017-27032018.pdf>

- b. **Competitive bidding for all expansion projects:** Given the inefficiency in implementation, long delays and consequent high capital costs for cost plus projects, all expansions of state owned, centrally owned and privately owned plants should be via competitive bidding. The rationale for exempting expansion projects is not clear especially as competitive bidding for expansion projects will have lower costs than Greenfield projects and thus should be implemented to pass on the benefits to consumers. Suitable mechanisms can be evolved within the competitive bidding framework to pass on the benefits of sharing existing infrastructure and use of new technology to consumers.
- c. **Guaranteed procurement of 35% of installed capacity imposes significant burden on consumers:** For reasons highlighted in Para 2.1 (a) iii of this submission, the national tariff policy should not encourage state-level policies where DISCOMs, facing uncertain demand, rising cost of supply and sustained idle capacity due to unutilized surplus power need to guarantee procurement of 35% of installed capacity of power plants built within the state. Further, the tariff determination for these plants is to take place on a cost-plus basis. While competitive forces are driving costs down in renewable energy procurement and while reduction of costs is imperative for DISCOMs, guaranteeing cost plus tariffs for new investments will not encourage efficient investment and operations and will increase burden on consumers. This provision has been in operation for more than 2 years without significant increase in private capacity via this mechanism⁴. The tariff policy can suggest innovative mechanism to develop robust markets instead to promote prudent investments necessary to meet future demand.

2.2 Change in Law related provisions

Para 6.2 (4) of the National Tariff Policy has been changed in the draft amendment such that changes in cost due to 'Change in Law' events such as changes in domestic duties, levies, charges, surcharges, cess and taxes shall be pass-through automatically and does not need approval from the Appropriate Commission.

Unlike capacity built under Section 62 of the Electricity Act, where the Commission has the mandate to provide approval for tariffs, there is no explicit mandate for projects under Section 63. This is required even for approval and pass-through of costs due to 'Change in Law' events to ensure there are no disputes between the procurer and the generator which could lead to stalling of payments for the generator and affect their financial viability. Therefore it is important to retain the necessity for the Commission's approval in case of 'Change in Law' events in the Policy. Further, pass through of costs on account of change in law need to be assessed in the context of specific PPAs and specific provisions in the PPA, for this reason also it would not be legally tenable and desirable to require automatic pass through as proposed in draft amendment.

Para 6.2 (4) of the draft amendment also states that the Commission should lay down principles and procedures for reimbursement for carrying cost in case of a 'Change in Law' event. The applicability of carrying cost as well as the mechanism for its reimbursement also needs to be seen in the context of individual PPA (power purchase agreement) provisions and hence need to be assessed on case by case basis.

Therefore the suggested modification to the proposed amendment is provided below:

After the award of bids, if there is any change in domestic duties, levies, **charges, surcharges**, cess and taxes imposed by Central Government, State Governments/Union Territories or by any Government instrumentality leading to corresponding changes in the cost, the same may be treated as "Change in Law" and may unless provided otherwise in the PPA, be allowed as pass through, *subject to approval of the Appropriate Commission.* ~~subject to approval of the Appropriate Commission.~~ **The Appropriate Commission shall lay down the principle and procedure for the same. Provided further that Appropriate Commission shall also may allow and establish mechanism for reimbursement of**

⁴ Based on a study of capacity in the pipeline contracted by DISCOMs in 10 states which account for more than 70% of the power procurement in India.

~~carrying cost for the period from date of occurrence of change in law and till the approval of Change in law by the Commission. Provided that such mechanism shall be in accordance with the provisions of the respective power purchase agreement.~~

2.3 Tariff determination for hydropower projects

As per Para 5.5, hydropower projects can have tariffs determined on a cost-plus basis provided certain conditions are fulfilled. One of these conditions in Para 5.5 (b) include concurrence of CEA, financial closure, award of work and long term PPA with DISCOMs are completed.

The 2016 amendment to the National Tariff Policy specified a time-limit for the fulfillment of the condition under Para 5.5 (b) which was 15.08.2022. Thus, there was a possibility that projects commissioned after this period could be subject to competitive bidding or other tariff determination processes. Attempts to introduce competitive bidding in the sector over decades have been unsuccessful due to multiple reasons including issues with assessment of geological and hydrological risks, inability of developers to mobilise finances and significant delays in project execution. However, since 1995 various tariff notifications by the Ministry of Policy, the national tariff policy as well as the national hydropower policies have prescribed cut-off dates for non-competitive determination of hydro-power tariffs. In this context, the rationale for removal rather than revision of the cut-off date should be clarified.

3 Cost components of tariff determination

3.1 Return on investment

Para 5.11 (a) has been amended as follows:

‘Balance ~~needs to may~~ be maintained between the interests of consumers and the need for investments while laying down rate of return. Return should attract investments at par with, if not in preference to, other sectors so that the electricity sector is able to create adequate capacity. The rate of return should be such that it allows generation of reasonable surplus for growth of the sector.’

It is suggested that the paragraph be retained as it is or amended to make the need for balance between the interests stronger (for example: ‘Balance ~~needs to shall~~ be maintained...). While there is a need to promote prudent and necessary investments in the power sector, the return on investment, especially for cost-plus businesses needs to keep in mind current market trends (changes in interest rates etc.) such that benefits of the changes in investment climate can be passed onto consumers.

3.2 Performance accountability and gain/loss sharing during determination of tariffs

Several paragraphs of the policy explicitly state the need for suitable performance norms and the need for sharing of gains due to efficient performance, with consumers. These are summarised in Table 1.

Table 1: Need for performance norms, gain and loss sharing

Relevant Paragraph of the National Tariff Policy	Need for performance norms, sharing or gains/losses stated
Para 5.11 (f)	States that the CERC in consultation with CEA can evolve performance norms together with incentives/disincentives for generation and transmission operations and SERCs can adopt these norms based on state realities and historical trends. Similarly, SERCs shall notify norms for distribution networks.
Para 5.11 (g)	Investments needed for renovation and modernization can be accounted for in the Multi-Year Tariff adopted. It further states a framework is needed to share the benefits of efficiency improvements between utilities and consumers.
Para 8.1 (2)	States that efficiency in operations should be encouraged. Gains of efficient operations with reference to normative parameters should be appropriately shared between consumers and licensees.

Source: National Tariff Policy as amended in 2016

Para 8.1 (2) of the National Tariff Policy specified the framework for such gain and loss sharing within the Multi Year Tariff regime. This is as given below:

'The State Commissions should introduce mechanisms for sharing of excess profits and losses with the consumers as part of the overall MYT framework. In the first control period the incentives for the utilities may be asymmetric with the percentage of the excess profits being retained by the utility set at higher levels than the percentage of losses to be borne by the utility. This is necessary to accelerate performance improvement and reduction in losses and will be in the long term interest of consumers by way of lower tariffs.'

It is not clear why Para 8.1 (2) has been deleted in the draft amendment, especially because it specifies the need for a gain or loss sharing mechanism which is currently part of almost all ERC tariff regulations and has played a major role in increasing accountability of the utilities. The draft amendment also does not specify an alternate mechanism for gain/loss sharing which adds to the lack of clarity. It is suggested that the provision be modified as follows and retained in the National Tariff Policy to strengthen the need for accountability:

'The State Commissions should introduce mechanisms for sharing of ~~excess profits~~ any gains and losses with the consumers as part of the overall MYT framework ~~such that gains and losses are shared keeping in mind the interest of the consumers and the utilities in mind, in accordance with the regulations of the Commission. In the first control period the incentives for the utilities may be asymmetric with the percentage of the excess profits being retained by the utility set at higher levels than the percentage of losses to be borne by the utility.~~ This is necessary to accelerate performance improvement and reduction in losses and will be in the long term interest of consumers by way of lower tariffs.'

3.3 Provisions to facilitate AT&C loss reduction

The draft amendment of Para 8.2.1 (2) suggests that SERCs should not consider AT&C losses exceeding 15% for the tariff determination process after 31.03.2019. While there is a need to hold DISCOMs accountable for loss reduction, there is also need for clarity on how this provision will be operationalised during the tariff determination process. Currently, excess power procurement due to deviation from approved transmission and distribution losses trajectories are estimated during tariff determination and even disallowed by many SERCs. The ERCs can also revise the norm for provision of bad and doubtful debts which is currently accounted for as a proportion 1.5% to 2% of the receivables and disallow costs in excess of the norm. Therefore SERCs will need to translate the target of 15% of targets specified under the MoU for UDAY to operational norms accounted for in their regulations. To ensure loss reduction takes place due to reduction in inefficiencies rather than assumptions made for unmetered consumption, it is also essential that energy accounting during the tariff determination process takes place on the basis of AMR meters installed on all feeders. In this context, the suggested modifications to Para 8.2.1 (2) is as given below:

*The appropriate commissions shall evolve a suitable framework to account for impact on costs due to excess AT&C losses. **In order to ensure that the burden of the inefficiencies of the Discoms is not passed on to the consumers, the State Commissions and Joint Commissions shall not consider AT&C losses exceeding 15% for determination of tariff after 31.03.2019.***

Provided that estimation of T&D as well as AT&C losses takes place on the basis of AMR meters on all feeders and rigorous division / circle wise energy audits by 31.03.2019. Further there is a need for scientific methodology for estimation of un-metered consumption. Such a scientific methodology should consist of statistical sampling based measurement of consumption and it should be decided after public consultation.

Provided that AT&C loss level for tariff determination may be aligned with targets mentioned in the MoU for UDAY, in case of State which have signed the MOU.

Provided further that the AT&C losses shall be brought down to a level of 10% within 3 years of date on which AT&C loss level of 15% is to be achieved.

4 Tariff design

4.1 Timeline for cross-subsidy reduction to be evaluated in context of emerging trends

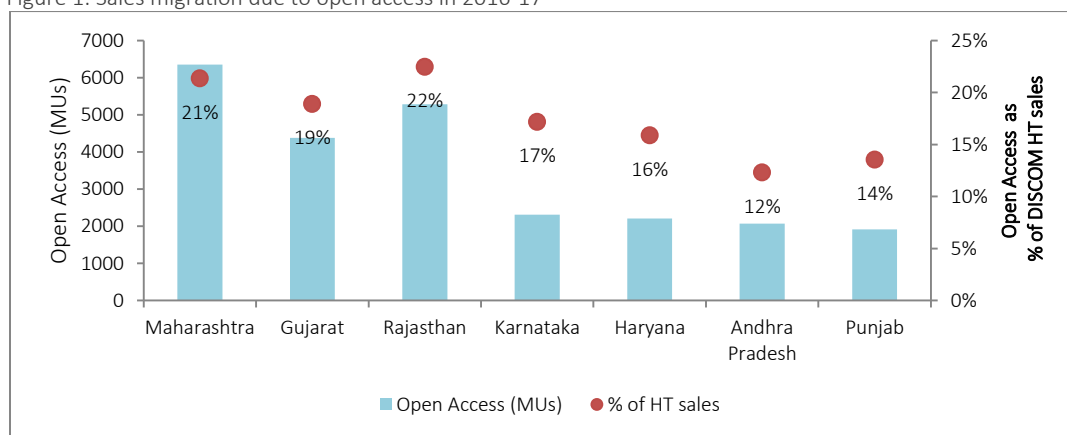
The proposed changes in the draft amendment with respect to reduction of cross-subsidies are listed below:

- In Para 8.3 the amendment suggests the deletion of the work progressively such that the sentence reads as follows: ‘In terms of the Section 61(g) of the Act, the Appropriate Commission shall be guided by the objective that the tariff progressively reflects the efficient and prudent cost of supply of electricity.’
- Para 8.3 (2) has been removed in the draft amendment and replaced with Para 8.3 (3) and (4) which specifies that all tariffs have to be within +/-20% of the cost of supply by 1st April 2019 except for BPL tariffs

Ensuring cross-subsidies are limited to 20% of the cost of supply by the end of 2018-19 is an ambitious goal, set with the aim of safe-guarding the financial viability of the DISCOMs. However, recent trends across DISCOMs which are discussed below show that immediate reduction of cross-subsidies could be detrimental to its revenue recovery.

- Average cost of supply is becoming increasingly non-competitive:** The average cost of supply across DISCOMs was about Rs.7/kWh in 2015-16 has been increasing at an average rate of 6% per annum for the past 5-6 years⁵. This implies that in the coming years, the average cost of supply will not be less than Rs. 8/unit. If tariffs are within the prescribed cross-subsidy range, consumers will be paying about Rs.7-10/ unit for power supply. This will be unaffordable for agriculturists, several small businesses, households and industries unless subsidies are significantly increased. It will also incentivise migration among other consumers, which is already significant.
- Increasing sales migration due to open access and captive across states:** As shown in Figure 1, the sales to open access consumers are as high as 15% to 20% of HT sales in many states.

Figure 1: Sales migration due to open access in 2016-17

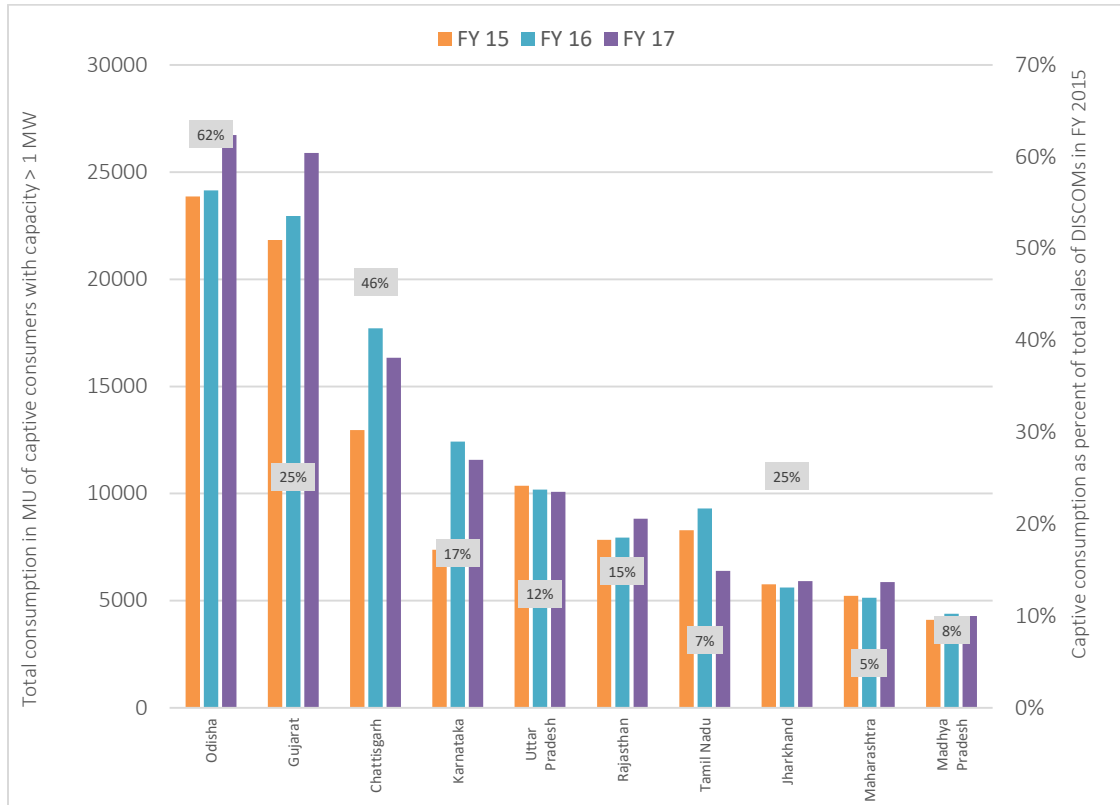


Note: Estimates for Rajasthan are for FY 16 and those for Madhya Pradesh are from Sept. 2015 to Aug. 2016.

⁵This estimate is based on an analysis of tariff orders, true-up orders, and petitions by state-owned distribution companies in Madhya Pradesh, Bihar, Maharashtra, Gujarat, Andhra Pradesh, Haryana, Rajasthan, and Telangana, which are collectively responsible for more than 70% of electricity sales in India. It is also based on CERC analysis of PFC data as reported in the Consultation paper on the terms and conditions of tariff regulations for FY19 to FY24 which is available here: http://cercind.gov.in/2018/draft_reg/AP.pdf

Source: Compiled by Prayas (Energy Group) from regulatory orders and petitions based on estimates or actual sales reported by DISCOMs.

Figure 2 shows how captive consumption has increased over the years across states and how it captive consumption is about 25% of the total DISCOM sales.



Source: Compiled by Prayas (Energy Group) from CEA annual general reviews

Thus power supply via open access and captive options have been more lucrative for many cross-subsidising consumers and changes in DISCOMs tariff design have not been able to reverse the migration.

- c. Currently, more than 70% of sales of the DISCOM which are non-agricultural have energy charges which are higher than Rs.5/unit⁶. Rooftop or ground-mounted, decentralized kilowatt-scale solar PV systems are currently available at a generation cost of less than Rs.5/unit and this cost will more or less be constant for the next 25 years. Thus more and more consumers, even LT consumers will be able to reduce their dependence on the grid economically and quantum will increase with the rising economic viability of battery storage options.

Therefore with the rising cost of supply, even eliminating cross subsidies will not alleviate the financial distress of DISCOMs due to the increasing viability of alternate supply options. Therefore most emphasis in the policy should be to reduce the cost of supply itself with better power procurement planning, incentivizing prudent capital expenditure and ensuring reduction in prices due to competitive forces. Complete elimination of cross-subsidies by the end of 2019 without any transition support could have adverse effects on DISCOM finances and electricity access to small consumers. Therefore, this should be done in a phase-wise manner, say within 3 to 5 years, along with complementary efforts to reduce cost of supply.

⁶PEG analysis tariff orders in ten states. For more details, please see: <http://prayaspune.org/peg/publications/item/377.html>

4.2 Making fixed charges reflect fixed costs may have detrimental impacts on DISCOM finances

Para 8.1 (4) of the draft amendment suggests that the fixed charges should be linked to capital costs and the energy charges should reflect the average power purchase price with administrative margins. Further, Para 8.3A (9) of the draft amendment suggests that the actual share of fixed costs should be reflected in the fixed charges in the tariffs of DISCOMs. Thus, fixed charges should be set to reflect at least 50% of the fixed cost for domestic and agricultural consumers and should reflect 75% of the fixed cost for all other categories. This shift in tariff design is proposed to take place progressively in three years.

Currently, most DISCOMs charge tariffs where fixed charges account for 10% to 15% of the total tariffs. However, there are progressive efforts in states to increase fixed charges gradually based on state realities. In most DISCOMs, about 50% of the costs are due to fixed costs. Thus, as per the suggested amendment, DISCOMs should be recovering at least 38% to 45% of the total tariffs via fixed charges. For many consumers, this would effectively mean increasing the fixed charges by three to four times from the current levels.

Large consumers have been making the decision to migrate to open access or group captive options based on the savings in energy charges. Thus, increasing fixed charges, while keeping the total tariffs the same has been used by some states as a strategy to reduce their energy charges and thus retain migrating consumers.

Table 2 has a compilation of fixed charges from six states for industrial consumers at 33 kV with a connected load of 1 MW who are assumed to use power for typically eight hours in a day. It shows that the reduction in variable charges due to a 200% increase in fixed charges is about 10% to 15% and from a 300% increase in fixed charges is about 30% to 50%. The energy charges for most consumers in these states, even after a 200% increase in fixed charges, continue to be above Rs. 5/unit, which is the indicative price of rooftop solar options. Captive and open access power can be obtained at even lesser rates. Counter-intuitively, an increase in fixed charges can also encourage increased migration of cross-subsidising consumers especially to captive solar and group-captive options. As shown in Table 2, a doubling or tripling of the charge, results in annual fixed charge payments high enough to account for 15% to 30% of the capital expenses required for a 1 MW solar plan which makes switching to this option, a viable alternative.

Table 2: Increase in fixed charges may not increase revenue recovery for DISCOMs

Details for HT Industrial consumers in 2017-18	Energy Charge (Rs. /kWh)	Fixed Charge (Rs/kVA/month)	Energy charge fall with fixed charge increase by		Annual fixed charge payments as % of investment for 1 MW solar plant with increase in fixed charges by:		
			2x	3x	2x	3x	4x
Maharashtra	7.42	270	-15%	-45%	16%	24%	32%
Rajasthan	7.3	185	-10%	-31%	11%	17%	22%
Karnataka	7.11630137	250	-14%	-43%	15%	23%	30%
Haryana	6.55	170	-11%	-32%	10%	15%	20%
Punjab	6.89	206	-12%	-37%	12%	19%	25%
Tamil Nadu	8	350	-18%	-54%	21%	32%	42%

Source: Prayas (Energy Group) compilation from tariff orders of various states

Thus increasing fixed charge as a strategy to curb sales migration may not yield desired results and may result in many cross-subsidising consumers reducing their contracted demand with the DISCOMs. This could lead to reduction in revenue recovery and increase financial distress of the DISCOMs.

Given the current tariff design in many states and the increasing viability of alternative supply options, especially from renewable energy, it is suggested that these amendments are not introduced in the National Tariff Policy. States need to determine changes in tariff design based on captive and open access policies, sales mix, power procurement mix and their vision for the state power sector.

4.3 BPL tariffs

Para 8.3 (1) has been replaced with proviso 1 of Para 8.3 (3) which reads as follows:

'Provided that the consumers belonging to poorer sections of the society who consume below 60 kWh per month may receive a special support through cross subsidy. Effective tariffs for such designated group of consumers will be at least 50% of the average cost of supply after taking into account the subsidy given by the State Government through DBT mechanism in accordance with para 8.3A (11) of this Policy.'

Increasing the consumption criteria from 30 units to 60 units for concessionary tariffs is a progressive move and will potentially encourage productive consumption, especially in newly electrified households. To make this dispensation more effective, the policy could:

- a. Specify that BPL consumers are 'electrical BPL' (i.e: are identified only on the basis of consumption and not based on BPL cards or SECC lists). This will reduce the exclusion error and extent the benefit of concessionary power to many SAUBHAGYA households as well.
- b. To ease the cross-subsidy burden on cash-strapped DISCOMs while providing support for consumption up to 60 units, the cross-subsidy for the first 30 units can be at 50% of the average cost of supply and for the next 30 units can reduce in a graded manner.
- c. Specify the consumption limit on an annual basis instead of a monthly basis. Such a specification will ensure that consumers are not disqualified for support if their consumption exceeds the prescribed limit in any one month due to festivals, contingent circumstances and family events. There is a need for annual consumption limits for BPL consumers such that the consumer is not eligible for BPL tariffs in the current year if their consumption exceeded 360 units or 720 units in the past year. Maharashtra and Chattisgarh ERCs have implemented similar tariffs.
- d. The state government subsidy need not be provided only through the DBT mechanism as suggested in the policy. The rationale for this is stated in Para 5.4 of this submission.

Thus, the suggested modification to the proposed amendment to incorporate this is as follows:

'Provided that the consumers who are electrically poor, ~~belonging to poorer sections of the society~~ who consume below ~~60 kWh per month~~ 720 kWh per year, may receive a special support through cross subsidy. Consumers with consumption more than 720 kWh in the previous year would not be eligible for applicable subsidy support in the coming year. Effective tariffs for such designated group of consumers will be at least 50% of the average cost of supply for the first 30 kWh per month with the cross subsidy support reducing gradually for additional units of consumption. ~~After-This should be considered taking into account the subsidy given by the State Government through DBT mechanism in accordance with para 8.3A (11) of this Policy.~~'

5 Agriculture tariffs

Major parts of Para 8.3 (5) (6) and (7) related to agricultural tariffs and supply have been removed in the proposed amendment. The deleted provisions are discussed below:

- State governments are to decide extent of subsidies up to a pre-identified consumption level which can be paid in any suitable way determined by the government.
- Free power is not desirable due to wasteful consumption of electricity and sub-optimal use of water, increased strain on weak distribution networks
- Higher subsidies are needed for poorer farmers or areas with adverse ground water condition
- Smart-meters and franchisee arrangements can be used to address the metering issue.

Agriculture accounts for about 1/3rd of the DISCOMs demand will continue to play a significant role in the DISCOMs business. Recent trends in the sector and technological changes which can affect agricultural supply and DISCOM

finances should be incorporated in the policy with a suitable modification of these paragraphs. This is because the provisions do provide guiding framework to regulators and states for determination of agriculture tariffs, subsidies and sales. Some of these trends include the use of AMR meters at the feeder and DT level for better energy accounting and various efforts to provide agricultural consumers with day-time, solar power. It is suggested that the modified Para 8.3 (5) (6) and (7) contain the following guidelines:

- a. *State governments should continue to support agricultural consumption based on subsidy design devised in consultation with the DISCOMs and SERCs. Provision of free power should be discontinued and agricultural consumers should pay at least a nominal user charge in all states. State governments may design subsidy based on results of studies at the circle or district level. These studies should assess the cost of supply and hours of supply to agriculture, and electricity consumption by agriculture. They should also take into account non-electricity parameters like the cropping pattern, sources of irrigation, groundwater levels, rainfall and margins of farmer from their produce.*
- b. *Provision of free power should be discontinued and agricultural consumers should pay at least a nominal user charge in all states.*
- c. *SERCs should estimate agricultural sales based on automatic meter readings (AMR) from agricultural feeders. To enable this, all feeders should be AMR enabled by 31.03.2019. This estimation of demand should take place annually and form the basis for state government subsidies as well as the pre-determined consumption to be subsidised.*
- d. *In order to provide day-time supply with fixed subsidy commitments, state Governments and DISCOMs can explore the possibility of providing tail-end, feeder based, grid connected solar generation to meet agricultural demand.*

6 Tariff rationalisation

Para 8.3A has been introduced to simplify and rationalise tariffs which is a progressive step given the complex tariff designs and multiple categories in many states. Further, with the rapidly shrinking room for sustaining the cross subsidy model, provisions to rationalise tariffs are necessary to protect small consumers from tariff shocks. In addition to the provisions mentioned, the following suggestions can be incorporated to address the needs of small consumers:

- a. **Ensuring equitable tariff design for all small consumers:** Small commercial and industrial consumers are charged high tariffs comparable to HT consumers. Further, many small home-based enterprises are booked for unauthorized use of electricity. In order to reduce potential harassment of these consumers and to provide affordable supply, SERCs can fix a uniform tariff for all LT domestic, commercial and industrial consumers with a connected load of less than 10 kW and monthly consumption less than 300 kWh. The consumption limit can also be prescribed on an annual basis with consumers being ineligible for tariffs if their previous year's consumption is more than 3600 kWh. The tariffs can also be telescopic and the inter-category cross subsidy can be different for types of use above 300 kWh. Such a tariff design can also ensure the proposal is revenue neutral. Maharashtra has implemented such a tariff design for its consumers⁷.
- b. **Inflation-linked tariff increase for small consumers:** With rising costs, DISCOMs will need to increase tariffs in a consistent and periodic manner. To ensure periodic and credible tariff revisions for small, retail consumers, SERCs can specify that tariffs are inflation linked and are to be revised automatically every year based on the

⁷Please see Page 431 of MERC tariff order in Case 48 of 2016. The order is available here: <http://www.mercindia.org.in/pdf/Order%2058%2042/Order-48%20of%202016-03112016.pdf>

previous year's inflation index. The final charges should not include any additional charges or fuel surcharges to ensure price certainty for these consumers. Such a measure could also encourage bill payment and reduce the build-up of arrears. The base charge can be revisited every MYT period to account for major changes in costs.

- c. **Lack of clarity with respect to electric vehicles:** In the proposed amendment, Para 8.3 A (2) specifies that public transportation will be charged tariffs applicable in the institutional category and Para 8.3 (8) suggests a framework for the determination of tariff for electric mobility. Therefore it is unclear whether:
- a. The tariffs for all consumers in the institutional category will be determined in a similar fashion as for electric mobility charging stations in Para 8.3 (8) or if it is different.
 - b. If it is different, will the tariffs for metro systems, railway traction be as per the institutional category or as per the tariffs specified for electric mobility.

This needs to be clarified in the final amendment.

7 Distribution related provisions

7.1 Revision of Standards of Performance

Para 8.0 with respect to supply and service standards have been proposed to be amended significantly. The National Tariff Policy currently states that SERCs should determine and notify standards of performance (SoP) regulations and the Forum of Regulators (FoR) can provide a basic framework on the standards to be adopted by ERCs. This has been deleted in the draft amendment and replaced with a basic framework which has to be followed by ERCs while revising their SoP regulations. As per the draft amendment, SERCs are to notify such regulations within 60 days of the notification of the new policy. Such a framework includes the following:

- Consumers are entitled to 24x7 reliable power supply unless they are in default or eligible for disconnection.
- Quality of supply to be as per CEA standards
- Applications for connection/disconnection/change in connected load to be dealt with in reasonable time.
- Complaints for supply disruption to be typically dealt with within stipulated time
- Imposition of penalties in case of failure to meet standards.

All SERCs and JERCs have issued SoP regulations which have specifications for reliable and quality supply and service standards. Based on the recommendation of the National Tariff Policy, the Forum of Regulators drafted model SoP regulations in 2009. Seventeen states have since notified new SoP regulations which incorporated several suggestions in the FoR model regulations. Thus the model regulations as well as the SoP Regulations in states provide standards for reliable supply, reliability indices, metering, billing, connection, disconnection, change in contracted demand, distribution transformer failure and other service related parameters. Therefore the existing provisions in regulations cover more aspects and are stronger than the suggested framework in the policy amendments.

However, given the recent capacity addition, existing surplus power in states, increase in newly electrified consumers and recent improvements in technology, it is important that the SoP standards are amended to reflect these changes. The standards need to be state-specific and based on wide consultations to reflect the constraints faced by licensees, the political commitment by the central and state governments and the requirements of the consumers. The forum of regulators can initiate another process to draft model SoP Regulations based on wide public consultations which can be used as a framework by states to revise their SoP regulations. The framework can go much beyond the parameters discussed in the amendment and focus on distribution, metering and billing related parameters as well. Therefore, the suggested amendment is as follows:

The State Commission should determine and notify the standards of performance of licensees with respect to quality, continuity and reliability of service for all consumers *incorporating suggestions in the model regulations (based on state-specific contexts) notified by the Forum of Regulators within 90 days of the issue of the Tariff Policy*. A suitable transition framework could be provided for the licensees to reach the desired levels of service as quickly as possible.'

7.2 Compensation for power cuts

As per the sixth proviso of Para 8.0 of the draft amendment, penalties determined by the SERCs can be levied on DISCOMs for power cuts. Such penalties are to be credited directly to the account of consumers. While this is a progressive amendment, the regulations of most states guarantee compensation not only for fuse-off but also for metering, billing related issues, DT failure and many other parameters. Thus, as per the current amendment, consumers may not be obtaining any additional benefits.

Most consumers are unaware of these standards and the compensation in almost all states only takes place if there is a complaint or appeal by the consumers. This is often a long drawn process entailing significant transaction costs which discourages consumers. In order to hold DISCOMs accountable for supply and service quality, the SERCs can specify that for select parameters in the SoP regulations, compensation can be provided automatically which reflects in the subsequent bills of the consumer. For example, compensation can be provided if the DISCOMs internal systems reflect that:

- a. Consumer has been facing fuse-off or supply outage for duration longer than the standards specified in the regulations. This can be based on DT-level data or AMR/ToD meters readings at the consumer level or information from SCADA systems , if applicable.
- b. There was a delay in billing, burnt meter replacement or DT repair for longer than time specified in SoP Regulations.

The details of such compensation provided as well as metering, billing and supply related details can be provided to the SERC for scrutiny and analysis. As per Section 57 (2) of the Electricity Act, 2003, the DISCOM has to be provided a reasonable opportunity to be heard while determining compensation. There can be an annual public hearing on the matter to provide DISCOMs with the reasonable opportunity of being heard in accordance with Section 57 (2) of the Electricity Act, 2003. Any adjustments based on reasonable claims can be made subsequent to this order. In case automatic compensation is not provided, SERC can initiate suo-motu proceedings to investigate the matter and provide appropriate directions and penalties.

In this context, it is suggested that the draft amendment be removed. Instead, an amendment to the first proviso of Para 8.0 is suggested as given below:

'Penalties may be imposed on licensees in accordance with section 57 of the Act for failure to meet the standards. Further, Commission regulations shall be amended to specify penalties for not meeting select standards, in consultation with the licensees and consumers. In certain cases, to be notified by SERC, the compensation in case of failure to meet such standards shall take place automatically, based on DISCOM records and consumers shall be compensated accordingly by adjustment of the penalty in the subsequent bills. SERCs can ensure an annual public process to settle claims and provide the licensee with an opportunity of being heard. In case of non-compliance, SERCs can also initiate suo-motu process in the matter.'

7.3 Capacity adequacy for 24x7 power supply

As per the fifth proviso of Para 8.0 of the draft amendment, DISCOMs are mandated to show to the SERCs that they have tied up long term or medium term PPAs to meet annual average power requirement. If the DISCOMs fail to do so, the draft amendment to policy recommends that their license be suspended. The paragraph also specifies that

DISCOMs should ensure 24x7 power for all consumers by March 2019. Para 8.2.1 (1) of the draft amendment also states that all power purchase costs to provide 24 hour supply needs to be considered legitimate unless it procurement violates merit order principles or is purchased at unreasonable rates.

Such amendments could encourage DISCOMs to sign base-load capacity which, given uncertainty in future demand and the reducing cost of storage options as well as renewable energy power could become stranded assets in the near future. Such idle contracted capacity could impose significant burden on small consumers who will remain with the DISCOM in the coming years.

The DISCOMs power procurement strategies need to be determined based on the nature of the demand, current and future sales mix, the nature and extent of sales migration it is facing, its current power procurement mix and capacity in the pipeline (including renewables). Currently large states are backing down 15% to 30% of their contracted demand and this quantum of off-peak surplus power will remain in the coming years. A lot of the current backing down is not due to reduction in demand due to open access but because DISCOMs contracted significant base-load capacity.

Given the uncertainty in future demand, DISCOMs should not sign any new PPAs for long-term base-load capacity without a rigorous, scientific analysis that considers demand uncertainty, all supply options, different instruments such as short term contracts, peaking supply contracts, and purchase from exchanges and daily, seasonal variation in demand. This exercise should also include a transparent public process and new capacity addition should be considered only after existing and under construction capacity, at the national level, is utilised to the fullest extent.

In this context, it is recommended that these suggested amendments are not introduced in the National Tariff Policy as the risk of increasing stranded idle capacity in the future would be too great for DISCOMs consumers to bear. Instead, the following amendment is suggested for fourth proviso of Para 8.0:

‘Appropriate Commission should mandate Distribution Licensee to undertake load forecasting based on rigorous scientific methods every year and to publish and submit to the Commission their short, medium and long-term power procurement plans to meet RTC, peak and off-peak requirements based on cost effective, long-term, medium-term and short-term contracts to meet the load. Such scientific load forecasting and capacity adequacy exercise should consider factors such as currently available capacity, capacity under construction, possibility of improving generation from existing capacity, diurnal and seasonal changes in demand, RE capacity needed to meet RPO requirements, trends and projections of sales migration (open access, captive generation etc.) Such power procurement plans should be approved by the commission after public consultation’

7.4 Subsidy provision

Para 8.2.1 (3), Para 8.3 (1), Para 8.3A (10) of the draft amendment propose that all consumer subsidies be provided directly using Direct Benefit Transfer into consumer bank accounts.

While the implementation of DBT has been attempted on a large extent for LPG subsidies, there could be significant challenges in implementing such a system for electricity subsidy provision. Most subsidised consumers for electricity are rural and many of them are poor. Even with the steady progress being made under the Pradhan Mantri Jan Dhan Yojana, many rural and poor consumers are not active users of bank accounts and financial inclusion will take more efforts and time⁸. LPG consumers are currently predominantly urban and thus kick-starting the scheme was less challenging.

⁸ As of today there are 18.82 crore accounts with rural and semi-urban bank branches. As per the World Bank Financial Inclusion database, in 2017, 80% of Indian adults had bank accounts but only 54% of them have made any withdrawal in the past year. For more details, please see: <http://databank.worldbank.org/data/source/global-financial-inclusion>. A field survey of 47,000 adults in 2017, showed a 26 percentage point increase in Bank Account Holders since the launch of the Jan Dhan Yojana. However, 20% of the surveyed population did not have access to bank accounts of which 62% were BPL and 68% were rural. Additionally 24% of surveyed people were inactive users for more than 90 days of which 75% were rural and 62% were BPL. For more details please see: http://finclusion.org/uploads/file/india-wave-5-report_final.pdf.

Implementation of DBT in electricity would reduce the inefficiencies in subsidy delivery but just as in the case of LPG should be implemented on a large scale after several small-scale pilots are implemented to understand the issues in delivery design and implementation. Therefore it is suggested that the amendments related to DBT are not made in the Tariff Policy at moment and can be introduced are several pilot schemes are launched and studied in multiple states.

7.5 Metering

Para 8.3 (2) of the draft amendment introduces the idea of universal adoption of pre-paid meters based on a time-frame trajectory specified by SERCs which gives priority to high loss areas.

While it is true that the shift to pre-paid metering may reduce some issues with non-payment or delayed payment of bills, it is not clear if the distribution system is ready for such a major change at the moment. There is lack of clarity on several procedural and implementation questions, crucial to consider with large scale implementation which needs to be established after several pilots and significant discussions. Some of them include

- a. **Mechanisms for recharge of pre-paid meters:** If all recharges are to be based on USSD codes, then the mechanisms or plans to ensure service in remote areas without the necessary telecommunications infrastructure is not clear. If the recharge is to be based on coupons available at stores, it is not clear if it will be available at the DISCOM bill collection centers or with *kirana* stores or how the necessary networks will be built in such a short span of time to ensure universal and convenient access.
- b. **Plans to ensure reliable supply in case of meter failure, recharge failure etc.:** The possibility of meter failure is there even with pre-paid meters and meter replacement could take time. Further, it is also possible that consumers do not have access to recharge facilities for prolonged periods (network failure, remoteness of village/habitation). In such cases, it is likely that the consumers will experience prolonged hours of outages as the plan to ensure supply under such circumstances is not clear.
- c. **Reduction of theft :** Pre-paid meters may not be able to address certain issues such as the risk of consumers bypassing the meter. It is also possible that with reduced visits of meter readers to the premises, such instances may increase. Thus, pre-paid meters may not be able reduce theft as intended.
- d. **Energy accounting by DISCOMs:** Pre-paid meters at a large scale and low costs, may not be able to record consumption or use data which is communicated to DISCOMs to aid energy accounting. This will make the assessment of energy audits, monthly or division-wise losses onerous. DISCOMs might be forced to rely on billing data from a system which may need time to become robust to provide this information.

As discussed, many aspects of pre-paid metering on a large scale need to be analysed critically and appropriate systems or measures need to be developed before large scale or universal pre-paid metering or even smart-metering efforts with huge investments are undertaken.

Maharashtra has undertaken pilot projects to assess operational issues but there is no publicly available study/report of its assessment. Other states may also have similar pilots and it is important that such experiments are assessed to learn from implementation challenges and experience.

Therefore, large-scale implementation should only take place after many pilots have been completed in multiple states with a representative consumer mix, including newly electrified consumers, agricultural consumers and consumers in high loss areas and remote areas. Large scale implementation should only take place after the lessons and observations from such pilots are documented, shared publicly and incorporated into the plan for large scale implementation. Therefore it is suggested that this amendment is not introduced in the National Tariff Policy as it seems premature at the moment.

8 Renewable Energy (RE) Related Provisions

8.1 Emphasis on battery-based storage

Para 4.0 (f) states that one of the objectives of the policy is to promote hydropower and pumped storage to provide peaking reserves, reliable grid operation and integration of variable renewable energy sources. Given the increasing

viability of battery-based storage technologies the world over and various initiatives by the Union Government to promote and utilise battery based storage systems, promotion of such technologies for grid integration, peaking power and reliable grid operations should be part of the objectives of the policy. The policy can also specify a framework for promotion of battery-based storage technologies. The policy should also promote storage options to address the need for peaking reserves based on scientific assessment of demand and supply. In this regard, fourth proviso of Para 8.0 can be followed by another proviso as suggested below:

The Appropriate Commission shall allow for peaking reserves or flexible capacity after comprehensively studying the various flexibility features and cost effectiveness of options such as Open Cycle Gas Turbine, Pumped Hydro, Battery Energy Storage Systems etc. in conjunction with rigorous demand projections and types of flexibility needed based on modelling studies.

8.2 Bundling of conventional power from depreciated plants with RE

Proviso 5 of Para 5.11 (c) provides for bundling of renewable generating plants with depreciated plants to be sold to beneficiaries to meet their RPO requirement. The latest discovered prices for mature RE technologies such as wind and solar are comparable to the cost of some depreciated plants. Thus, bundling power given the current price trajectories does not provide consumers with any significant advantages to meet their RPO and may only further complicate RPO accounting and renewable energy plant scheduling. Further, other mechanisms can be evolved to address the need to promote RE technologies which are not mature as yet. Thus, it is suggested that the provision be deleted from the National Tariff Policy.

8.3 Determination of RPO requirement

The first proviso of 6.4 (i) of the draft amendment states that the base consumption for assessing the RPO requirement shall be estimated after deducting hydro power from the total consumption. The mandate provided in the Electricity Act, 2003 under Section 86 (e) states that SERCs shall:

‘promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee.’

Thus, the Electricity Act, 2003 clearly states that the RPO should be determined as a percentage of total consumption and does not provide any special dispensation for hydro-power. Further, the subtraction of hydro-power for states will mean states with higher hydropower will find it easier to achieve the RPO target. Therefore it might also induce states to contract more hydropower when such decisions should be based on their overall demand and procurement needs. Thus, it is suggested that such a provision should be removed from the National Tariff Policy.

8.4 Separate treatment for RPO determination for captive and cogeneration plants

The second proviso of 6.4(i) states that for the RPO assessment of captive plants, the consumption of energy from waste heat gases which are a byproduct of the industrial process shall be deducted from the total consumption. However, any consumption for co-generation plants from sources other than RE sources will not be considered. The reason for such separate treatment for captive and cogeneration plants is not clear and needs to be detailed in the final amendment.

8.5 Removal of provision for renewable energy generation obligation

Para 6.4 (5) of the amendment states that new thermal generating stations are also required to establish or procure renewable energy generating capacity as per requirement specified by the Central Government. The RE generation may be bundled with the thermal generation for sale and obligated entities can purchase this power to meet their

RPO. Existing plants can also choose to bundle power in this fashion with the concurrence of their procurers provided the any change in tariff is passed onto consumers.

Such a provision would have been suitable at a time when investments in renewable energy power needed to be promoted. However, changes in technology, the steady fall in prices and the recent push for 175 GW of renewable energy capacity addition have provided enough incentive for investments. Addition and procurement of renewable energy capacity, especially solar and wind should take place based on competitive bidding. Therefore mandate for such addition could also be inefficient and non-competitive capacity addition, especially as the costs are passed onto consumers. Therefore, it is suggested that this provision be removed from the National Tariff Policy.

8.6 Phasing out of transmission charge waiver

Para 6.4 (6) of the amendment states that solar and wind sources of energy are exempt from the levy of inter-state transmission charges and losses for a period notified by the Central Government.

While this provision encouraged solar and wind investments in the recent past, the provision entails significant cross-subsidy by other users of the inter-state transmission network, especially DISCOMs and open access consumers. Therefore it is suggested that the policy specify a gradual, phase-wise reduction in the waiver such that wind and solar generation are charged the full transmission charges and losses by 2022, by which time 175 GW would have been added.

In this context, the suggested amendment is as follows:

'In order to further encourage renewable sources of energy, ~~no~~ inter-State transmission charges and losses for electricity generation from wind and solar sources may be levied at a concessional rate till 31.03.2022 with the support reducing in a phase-wise manner. ~~till such period as may be notified by the Central Government on transmission of the electricity generated from solar and wind sources of energy through the inter state transmission system for sale.~~'

8.7 Provisions to encourage captive solar photovoltaic systems

Para 6.4 (7) states that the SERCs shall provide a regulatory framework to facilitate generation and sale of electricity from RE sources including rooftop solar. Given arrangements for net metering in many states and issues with safety, it is important that regulatory framework be provided for all types of grid connected systems and for consumption of such energy as well. Thus, the suggested amendment to the policy is as follows:

Appropriate Commission ~~may shall~~ provide regulatory framework to facilitate generation, *consumption* and sale of electricity from renewable energy sources ~~particularly including from roof top~~ **grid connected solar photovoltaic systems with or without grid-tied battery systems** by any person/entity including local authority, Panchayat Institution, user institution, cooperative society, Non-Governmental Organization, franchisee or by Renewable Energy Service Company. The Appropriate Government may also provide complementary policy support for this purpose.

The policy can promote the virtual net metering mechanism such that captive users can obtain credits on their electricity bill for photo-voltaic systems that are installed off-site and shared among multiple users. Such a mechanism can help supply public water works, government offices, urban and rural local bodies, public schools and hospitals with power at fixed rates while aiding DISCOMs in meeting their RPO requirement. To this extent, the amendment can introduce a Para 6.4 (8) in the policy which reads as follows:

In order to promote renewable energy use among government institutions, urban local bodies, district and block level government offices and for the provision of civic amenities, virtual net metering can be adopted by distribution companies in whose license area the consumer is located.

9 Provisions related to captive and open access

9.1 Duty on captive generation

Proviso 1 of Para 5.12 states that the provision of captive power was introduced to provide reliable and cost-effective power to enable expansion of industries across the country and thus charging higher duties to captive consumers than the comparable consumer category of the DISCOM is undesirable. If captive consumption was tantamount to consumers leaving the DISCOM for good by investing in long-term options for supply, then charging higher duties to such consumers is indeed undesirable.

9.2 Managing short-term open access

Para 8.5.8 seeks to address the issues with scheduling short-term open access, especially with frequent switching between the DISCOM and open access options. To this end, it suggests that open access consumers should schedule power for at least eight hours unless the open access is from renewable sources for which the time is four hours.

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 and 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 consumers⁹.

Almost 90% of India's open access demand is short-term. States such as Gujarat, Maharashtra, Haryana, Punjab and Rajasthan, while estimating additional surcharges, have even found it difficult to estimate the quantum of backing down attributable to open access as most of the open access is short term. 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 and the DISCOM. Therefore a transition away from short term open access is crucial in the near future and mechanisms to encourage such a transition need to go beyond improvements in scheduling power.

It is suggested that the amendment to the National Tariff Policy has provisions to encourage this transition. Some suggestions in this regard are given below:

- a. **Phase-wise increase in minimum duration for short term open access to 1 year:** In the first phase, minimum duration of open access can be of 3 months, in the next phase, a minimum of 6 months and by the last phase, the minimum duration of short term open access should be fixed for one year. Open access consumers can sign multiple types of contracts from various sources to meet their demand during such open access duration.
- b. **Deviation and Settlement mechanism to be applicable to open access consumers:** As the DISCOMs submit their schedule as well as 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. Therefore SERCs should also evolve a mechanism of sharing the penalties on an equitable basis, based on individual deviations, at least for larger open access consumers.

Therefore, the following amendment to the suggested Para 8.5.8 and the introduction of 8.5.9 is proposed:

8.5.8 In order to avoid frequent changeover of customers between supply from Open access and that from the incumbent distribution licensee, such customers must schedule power on open access for at least eight consecutive

⁹This has been reported by DISCOMs in Tamilnadu (Please see: Page 6 of TANGEDCO petition <http://www.tangedco.gov.in/linkpdf/affidavit.pdf>), Punjab (Please see: Page 51-52 of PSPCL petition http://www.pspcl.in/docs/pdf/arr_vol1_1112.pdf) and Rajasthan (page 2 of RERC order, available here: <http://www.erc.rajasthan.gov.in/TariffOrders/Order237.pdf>)

hours from conventional sources and four consecutive hours from renewable sources. *Provided that consequences of deviation in schedule are equitably shared by DISCOMs and open access consumers based on individual deviations using a mechanism evolved by the Appropriate Commission in its regulations.*

8.5.9 SERCs should mandate a phase-wise increase in the minimum duration for short-term open access such that the minimum duration is one year by 1.4.2020.

9.3 Clarity on levy of cross subsidy surcharge

Para 8.5.1 lays down the framework for the determination and levy of cross subsidy surcharge applicable on open access consumers. The second proviso of the draft amendment in this regard states that:

'Provided further that the open access customer shall be liable to pay cross subsidy surcharge for a maximum period of one year from the date of opting for open access.'

The suggested proviso implies that open access consumers need to pay cross subsidy surcharge only for up to a year after availing open access. Thus, consumers opting for open access for duration of more than 1 year are not liable to pay cross subsidy surcharge after the first year. Though such a provision would encourage open access, especially long term open access, it is quite likely that DISCOMs will not be able to bear such revenue loss without compensation for costs incurred.

Phase-wise reduction of cross-subsidy surcharges over the medium term and encouraging long term open access are both imperative for long-term financial viability of the DISCOMs, especially with the issues outlined by multiple DISCOMs with respect to short-term open access. However, this needs to take place in a phase-wise manner. Therefore it is suggested that:

- a. Certainty is provided in cross-subsidy surcharges and additional surcharge over the medium term to encourage consumers to shift to open access long-term rather than apply for short-term open access opportunistically.
- b. The applicable CSS for the year should be fixed for the open access consumers for the entire duration of open access. Thus, if the CSS determined is Rs. 3/kWh in 2018, a consumer availing long term open access for 10 years will pay the same nominal CSS in 2028 which will effectively translate to CSS of Rs. 1.87/kWh in real terms¹⁰.
- c. Alternatively, consumers availing open access for duration longer than three years can be provided with a progressively reducing CSS.

Therefore the suggested amendment is as follows:

'Provided that the appropriate commission shall fix trajectories for rates of cross-subsidy surcharge as well as additional surcharge for at least five years for long-term open access consumers.'

'Provided further that the long-term open access customer shall be progressively charged lesser cross-subsidy every year for the duration of the contract, based on a mechanism notified by the appropriate commission. ~~liable to pay cross subsidy surcharge for a maximum period of one year from the date of opting for open access.~~'

9.4 Open access eligibility

As per Section 42 of the Electricity Act, open access is to be operationalised in a phased manner. Since 2008, almost all SERCs allow distribution open access only for consumers with a contracted demand which is greater than 1 MW. However, considering that significant number of consumers are currently paying tariffs which are high enough to enable them to obtain competitive and reliable supply through open access, consumers with contracted demand lesser than 1 MW should also be allowed to avail open access in a phase-wise manner. Such an approach will go a long way to broaden and deepen electricity markets in India and provide freedom of choice to many industrial and commercial consumers in the country. Therefore, consumers with a contracted load above 500 kW can be allowed

¹⁰ Assuming long term inflation rate of 4.8%

to avail open access in 2020 after which the limit can be reduced to 100 kW by 2022 and 10kW by 2025. Such consumers can be mandated to procure Special Energy Meters (SEMs) or other suitable metering system (smart meters, ToD meters) as may be required to ensure smooth implementation.

9.5 Information related to open access

The fourth proviso of Para 8.5.1 of the draft amendment suggests that all the information related to open access shall be made available transparently and applications seeking permission to grant open access shall be disposed of in a time bound manner. It is also suggested that the appropriate Commission specify regulations for the same. The availability of information on open access status and applications process is an important step towards broadening and deepening markets, ensuring public discourse on open access and is important to inform policy responses to sales migration of DISCOM. In this spirit it is suggested that:

- a. The need for information is extended to the status on captive generating plants as well including details on sales, consumption, shareholding pattern, fuel/technology used, location of plant etc.
- b. The Commissions should also specify regulations to ensure to publish periodic reports, where the status of open access, captive consumption and bilateral trades within the state are captured. Regulations can also be drafted to institute a market monitoring committee /cell with representatives from open access/captive consumers, generators, traders, ERC, DISCOM, SLDC/RLDC and power exchanges to discuss emerging issues within power markets.

9.6 Additional surcharges for network assets instead of wheeling charges

Para 8.5.4 specifies the need for an additional surcharge on open access consumers to compensate the DISCOMs for the cost of backing down/stranded assets due to open access. The draft amendment suggests that the additional surcharge also compensate the DISCOM for fixed costs related to network assets which can be attributed to open access consumers.

The cost of stranded network assets should be recovered through applicable wheeling charges as is the current practice and mandate under the Electricity Act, 2003 as well as ERC regulations. Costs due to stranded long term PPAs and physical assets can also be attributed to the DISCOM's 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. It is suggested that only those costs which can be attributable to backing down of capacity contracted by the DISCOM due to open access sales migration need only be included while estimating additional surcharge.

Therefore it is suggested that there are no modifications in this regard, to the current provisions in the policy.

9.7 Adjustment of losses

Para 8.5.5 states that for distribution open access consumers, wheeling losses can be adjusted in scheduling or can be paid based on SERC regulations. Therefore the losses can either be accounted for in energy terms or monetary terms as per the draft amendment. The same paragraph also states that wheeling charges should be including average loss compensation of the relevant voltage level. It is unclear how the loss compensation accounted for in the wheeling charges can be compensated in monetary terms as well when the charge levied is more or less uniform for a category of consumers. For ease of implementation, accounting and reporting, it is suggested that the accounting take place only in energy terms similar to the treatment for transmission losses.

Therefore the suggested amendment is as follows

Provided further that transmission losses shall be adjusted in scheduling in accordance with the regulations framed by Appropriate Commission. Losses in wheeling of electricity in distribution system may be adjusted in scheduling ~~or may be paid for in accordance with the~~ as per regulations framed by State Commission. Wheeling charges should be

determined on the basis of same principles as laid down for intra-state transmission charges and in addition would include average loss compensation of the relevant voltage level.

9.8 Standby charges

Para 8.5.6 specifies the framework for levy of standby charges. Several amendments have been proposed to this paragraph which would be difficult to implement and result in significant losses for the DISCOM. These are listed below:

- Standby charges to be applicable only for consumers who have no contracted demand with DISCOM.
- Standby charges to be levied as an energy charge and a demand charge for the month
- Charges are to reflect the actual fixed cost and variable cost liability of DISCOMs to provide service
- SERCs to annually determine charge which can be revised on a quarterly or annual basis to reflect costs.
- Standby charges not to exceed 125% of the total applicable tariff for the appropriate category.

Further Para 8.5.7 specifies that open access consumers who retain contracted demand need not pay standby charges but applicable tariff and penalties for exceeding contracted demand will be applicable.

To ensure that DISCOMs are able to ensure proper planning and operations with the flux in the sector, it is imperative that:

- a. Open access consumers and captive consumers are encouraged to migrate long term so the DISCOM need not plan to cater to their demand. Most open access consumers and captive consumers maintain contracted demand with the DISCOM which forces the DISCOM to plan power procurement to that extent. Thus, as per the proposed amendment, most consumers will be exempt from standby charges in excess of their contracted demand. This will encourage consumers to continue depending on the DISCOM and will also result in increasing risk, planning hassles and costs for the DISCOM.
- b. With the proliferation of sales migration options, the demand for standby services can increase and strain the DISCOM's power procurement planning and operations. Therefore, open access and captive consumers need to be encouraged to find alternative sources for standby in the market so that DISCOMs are only seen as the provider of *last resort* for standby services.
- c. At the same time, standby services are also important for open access and captive consumers to overcome contingent circumstances (generator fails to supply). Therefore, some standby services should be provided at nominal rates to encourage market development.
- d. Standby charges are easy to determine and implement on an annual basis.
- e. Standby charges can be two-part as long as the consumers are not charged penalties for exceeding contracted demand in addition to two part standby charges.

Therefore, it is suggested that:

- i. DISCOMs levy standby charges on all open access consumers for drawal beyond contracted demand. Standby charges also applicable on captive.
- ii. The standby charges should be two-part for exceeding contracted demand and for excess energy drawal for the billing period.
- iii. SERCs can determine slab-wise standby charges on an annual basis. Therefore standby charges for up to 5% of total demand can be provided at 20% higher than the applicable tariff. For standby power requirements over and above the 5% limit, the applicable standby charge should be much more to discourage DISCOM dependence. Thus, it should be 200% the applicable tariff for that category.

-x-