

The lesser-known tariff

Fuel surcharge levy in Indian states

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November 2017

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Executive Summary

With the rising indebtedness and poor finances of electricity distribution companies (DISCOMs), the Union Government has been advocating for the levy of fuel surcharges. The surcharge, which is levied over and above consumer tariffs, can ensure timely recovery of prudent costs. Thus, along with regular tariff increase, the adoption and active implementation of fuel surcharges has found its way into the Financial Restructuring Plan (FRP) of 2012, the Ujjwal Discom Assurance Yojana (UDAY) of 2015 and the 2016 Amendment of the National Tariff Policy. In this context it is important to understand its role, its implementation and its impact on consumers as well as the DISCOMs.

What is Fuel Surcharge?

Fuel surcharge is a per unit rate which is levied on a monthly basis and is typically revised on a quarterly basis. State Electricity Regulatory Commissions (SERCs) revise electricity consumer tariffs annually, based on cost and performance estimates for the upcoming year. However, the costs borne by the DISCOMs, especially power procurement costs, can increase due to several factors beyond the control of the DISCOM and the generation companies they procure power from. Some examples of such uncontrollable costs include change in fuel prices, change in tax/cess rates, revision of rail freight charges for coal transportation etc. Thus, there can be significant variations between costs approved by SERCs for recovery through tariffs and the actual costs incurred by the DISCOMs. If these expenses are not met through timely revenue recovery, the payments can put a significant strain on the DISCOM's working capital requirement. It can also increase the carrying cost to be recovered from consumers at the end of the year. Thus, fuel surcharges help avoid carrying cost for consumers and ease the cash flow situation of the DISCOMs.

Implementation status and impact

This report studies the implementation and impact of fuel surcharges across fifteen states namely, Assam, erstwhile Andhra Pradesh¹, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and West Bengal. The focus is to document practices across states and thereby to draw on common trends to inform the national discourse.

Despite the push for fuel surcharge implementation and the advantages of periodic recovery of costs, fuel surcharges met with a mixed response in the states studied. Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Punjab, West Bengal, Chhattisgarh and Haryana levy fuel surcharges on a regular basis. The rest of the states, despite being signatory states under UDAY (where they are committed to quarterly recovery of fuel surcharge) remain non-adopters of fuel surcharge practices.

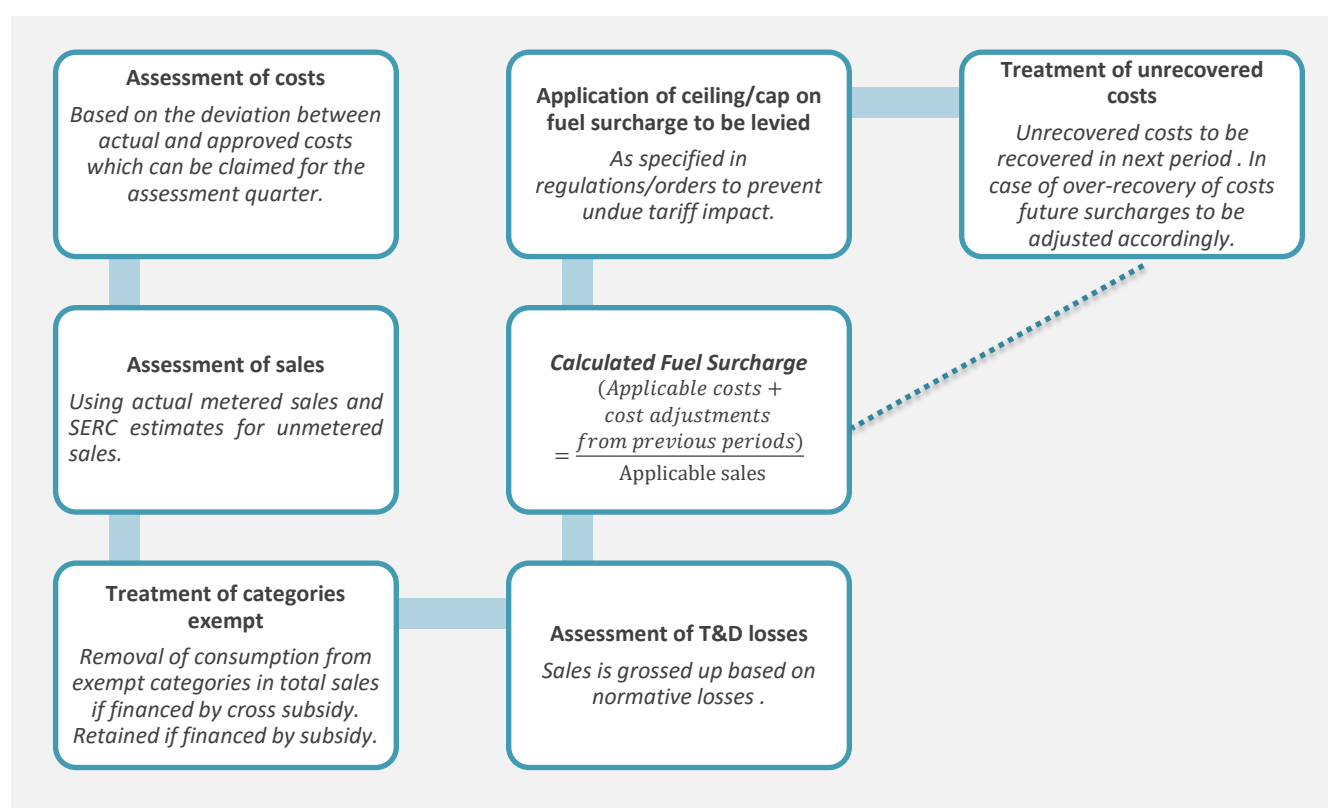
In the implementing states, the tariff impact is significant with 7% to 25% of the total revenue recovered from consumers in Gujarat, Haryana, Maharashtra and Chhattisgarh being attributable to fuel surcharges. As the financial predicament of DISCOMs worsen, more and more states will introduce and

¹Fuel surcharge was being charged in Andhra Pradesh before the bifurcation of the state. The analysis is restricted to that period.

levy significant fuel surcharges. Therefore, it is imperative to understand the methodology for determination for the surcharge as well as the processes for levy and verification of such surcharges. In the interest of capturing good practices and trends, the report focuses on states currently implementing fuel surcharges and the states which have implemented fuel surcharges in the past².

How is Fuel Surcharge estimated?

Figure below provides a brief description of the methodology followed while estimating fuel surcharges across states. The costs to be claimed under fuel surcharge in a particular period and any cost adjustments needed due to under-recovery or over-recovery of revenue from previous periods are added. This sum is then divided by the appropriate sales, grossed up by the normative Transmission and Distribution losses (T&D losses) in order to determine the per unit surcharge.



Source: PEG assessment of regulation and orders as summarised in Annexures I and II.

If the charge exceeds any pre-specified ceiling, the surcharge is allowed, subject to SERC approval in Gujarat, Maharashtra, Assam and Karnataka. In other states, namely Haryana, Rajasthan, Himachal Pradesh, Bihar, Uttar Pradesh, and Chhattisgarh the excess costs are carried forward for recovery in future periods along with applicable carrying costs.

² The states which have implemented fuel surcharges in the past include Assam, erstwhile Andhra Pradesh, Bihar, Himachal Pradesh, Kerala, Rajasthan and West Bengal. Uttar Pradesh has regulations in place for implementation for fuel surcharges but has not levied any fuel surcharge till date. Thus, this report, only documents processes as mentioned in the regulations for Uttar Pradesh.

Though there are significant variations across states in the methodology, the basic framework is more or less similar and thus any prescriptions or guidelines to streamline the determination process can be easily implemented.

Challenges and practices to ensure transparency and accountability

There is a lack of acceptance of fuel surcharges among consumers not just due to tariff impacts, but to some extent, also due to the lack of transparency in the determination and application of fuel surcharges and the lack of accountability of DISCOMs for increasing costs, and fuel surcharges. The absence of adequate measures to ensure transparency and public scrutiny serves to reduce the legitimacy of the surcharge itself.

While it is true that information on the specific per unit surcharge levied is available for all DISCOMs, more information needs to be provided to facilitate meaningful and informed public scrutiny. For example, the costs considered for the determination of the charge and the revenue recovered in previous periods should be published by the SERC or the DISCOM, which is not the case in all states.

To ensure accountability and public acceptance of the surcharge, it is crucial that there is regulatory vetting, verification, and public scrutiny of costs considered, and revenue recovered. The evidence from states points to a lack of institutional processes for verification of revenue recovery from the surcharge, especially from each consumer category. It is especially a challenge in Gujarat where over a quarter of the revenue recovered from consumers is through fuel surcharges. Since variation in both cost and quantum of power can be recovered through this charge, one could argue that without regulatory scrutiny, verification and vetting, DISCOMs can potentially pass on inefficiencies in power purchase planning to consumers without being accountable for the same.

However, there are many states which also have good practices to encourage public participation in processes and ensure regulatory scrutiny of costs considered and revenue collected. This is detailed in the table below.

Practice	State
Information used for cost and sales assessment to determine the charge for every period is published	Punjab, Bihar, Assam, Maharashtra, erstwhile Andhra Pradesh, West Bengal, Chhattisgarh, Kerala, Gujarat, Haryana
Quarterly fuel surcharge approval order by SERC	Karnataka, Bihar, Assam, Kerala, Punjab, erstwhile Andhra Pradesh
Post facto vetting of fuel surcharge levied by SERC	Maharashtra
Revenue recovered from fuel surcharges reported during the tariff determination process	Maharashtra, Punjab, Bihar, Chhattisgarh, Assam and erstwhile Andhra Pradesh
Seeking comments from public, holding public hearings for fuel surcharge approval	Kerala, erstwhile Andhra Pradesh and Haryana

Source: Prayas (Energy Group) compilation based on Regulations and Orders from various states

Along with the final per unit fuel surcharge levied, ten states publish detailed information on costs considered and the sales estimate used for every assessment period. In six of the fifteen states studied, the SERC approved the fuel surcharge which is detailed in an order. SERCs in three of the six states have

had public hearings during the fuel surcharge determination process. In order to verify costs considered and revenue recovered in previous quarters, Maharashtra, issues quarterly orders for post facto vetting. Verification can also take place during the annual tariff determination process. Six states report the total fuel surcharge recovered from consumers in their tariff orders. Further, any tariff increase approved for the year is reported over and above the revenue recovered from tariffs including fuel surcharges in the previous year. Such a process ensures transparency, tariff certainty and clarity on revenue recovered from consumers. Further as the tariff determination process takes place through public consultation, it is also a venue for public accountability.

Fuel surcharge is akin to additional tariff. Thus, accountability of DISCOMs for its levy and recovery is vital. Analysis shows that many states do have provisions to ensure that the determination takes place in a transparent manner. However, there are not as many provisions or processes to ensure public scrutiny and accountability for charges levied.

Need for a national-level framework

A national level framework, based on the existing good practices across states can increase regulatory credibility and will contribute to streamlining the implementation process for fuel surcharges in states where it is yet to adopted or established. Such a framework can also facilitate cross-learning from implementation experiences and build public discourse on the subject. The framework can act as a guideline to enable effective implementation but states should be free to adapt guidelines based on state realities. Based on the study of practices across states, some suggestions for the framework are:

- **Recovery should be limited to uncontrollable costs:** As specified in most regulations, recovery from fuel surcharges should be limited to uncontrollable costs. However, specific allowances can be made depending on state realities as long as it is not ad-hoc and the inclusion is formalized ex-ante in regulations or guidelines.
- **Measures to be taken by SERCs to increase public acceptance for surcharge:** Given the public resistance to fuel surcharges, the SERC can also report potential reduction in revenue requirement (by avoiding carrying costs) due to fuel surcharges on an annual basis. Additionally, SERCs can publish details of revenue recovered from fuel surcharges and details of costs passed on to consumers including adjustments due to under-recovery and over-recovery as well as details of carrying costs.
- **Penalties to deter delayed filing:** Penalties need to be levied to deter delayed claims for cost recovery through fuel surcharges by DISCOMs. In case of delayed filing, forfeiting the costs to be recovered, as specified in Andhra Pradesh and Bihar SERC regulations can be adopted as a practice. Alternatively, unless the delay is due to exigent circumstances or can be ascribed to the delay in action by the Commission, the costs claimed under fuel surcharge should not be subject to carrying costs.
- **Ceiling on fuel surcharges necessary but without carrying cost due to deferred recovery:** Fuel surcharges can impose significant tariff burden on consumers and thus a reasonable ceiling on the

surcharge is necessary. Therefore the ceiling should be determined as a proportion of energy charges applicable on a consumer category and not as a proportion of burgeoning power procurement costs. Further, costs in excess of the ceiling can be recovered in the same quarter subject to SERC approval (as is the case in Maharashtra, Gujarat and Assam). The regulatory scrutiny of excess costs will increase accountability of DISCOMs for power procurement costs. However, if the cost recovery is deferred to the next billing period; the excess costs should not be subject to carrying costs while determining the fuel surcharges in the subsequent period. The recovery of applicable carrying costs should take place at the end of the year, during the tariff determination process. This will ensure clarity in applicable carrying cost and prevent fuel surcharges from exceeding the ceiling limit due to carrying cost recovery in the subsequent period and also ensure public accountability of costs.

- **Levy of fuel surcharge should not interfere with existing cross subsidy, tariff design:** Support for consumer categories with low paying capacity is essential, especially if fuel surcharge is significant. The extent of support through subsidies and cross-subsidies will vary given state realities, and needs to be deliberated by the Commission depending on existing cross-subsidy levels and the inclination of the State Government to provide subsidies.
- **Detailed vetting and verification of costs and revenue recovered to take place annually along with the tariff determination process:** Ideally, quarterly vetting and verification of costs by SERCs should be adopted in all states. If such a process is onerous for SERCs, detailed vetting and verification of costs and revenue recovered from tariffs should be part of every annual tariff determination process.

The Forum of Regulators or the Ministry of Power can propose such a framework which can then be finalized through a consultative process. Such a process will ensure deliberation on the current practices and enable states to review and streamline their processes. It can thus aid effective recovery of revenue through fuel surcharges in an equitable manner while ensuring accountability of DISCOMs for rising costs.

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1 Background and context

In order to address deviation in costs incurred from costs approved by the regulatory commission, many electricity distribution companies (DISCOMs) levy a fuel surcharge in consumer bills. This surcharge is imposed over and above the tariffs approved by the regulatory commission for the year and can be significant. Over the years, in states such as Gujarat, Maharashtra, Chhattisgarh, Haryana, Bihar, Assam and erstwhile state of Andhra Pradesh, there have been instances where about 7% to 25% of the annual revenue recovered by DISCOMs has been through fuel surcharges.

Along with regular tariff revision to recover costs, the implementation of fuel surcharges is being advocated by the Union Government to address the rising financial indebtedness of DISCOMs through various policy measures and bailout programmes. In this context, it is important to understand the role of the surcharge, its impact on consumers and the DISCOMs as well as the implementation practices across states.

1.1 Fuel Surcharge - What is it?

DISCOMs recover revenue from consumers through tariffs approved by the SERCs. The tariffs are determined on the basis of anticipated costs approved for the year. However, there are often deviations between approved costs and actual costs incurred. The difference between the actual and approved costs, especially power procurement costs which constitute more than 75% of the expenses of distribution companies, can be significant. The deviations could be due to reasons beyond the control of the DISCOM and the generating companies it contracts power from.

Some of these expenses are reconciled before the SERC and recovered at the end of the year or in subsequent years from consumers. However, generators need to pay the fuel suppliers in advance and need working capital that can support fuel stock for a certain period, typically one month. Thus, the DISCOMs need to pay the generators on a monthly basis accounting for such working capital need for fuel stock. Hence, in case of changes in fuel prices, it is often not practical to wait for the annual process for cost and revenue reconciliation as the delay in recovery can have a substantial impact on cash flow and working capital requirement of the DISCOMs and generating companies. This increases short-term borrowing and in turn affects the finances of the DISCOM.

In order to enable periodic revenue recovery to address cost variations during the year, many DISCOMs levy a fuel surcharge in consumer bills. Marked over and above the base fixed and energy charges levied on each category, this charge is collected on a per-unit basis every month, and is usually revised every quarter. Therefore, the surcharge is akin to a monthly tariff over and above the approved tariff applicable on DISCOM consumers.

The revenue to be recovered from the surcharge is typically estimated as a sum-total of deviation between approved and actual power procurement costs. The rate is estimated by dividing revenue to be

recovered by the total sales incurred by the DISCOM in that quarter. Fuel surcharge is often a misnomer as it can also compensate not only for fuel expenses but also other power procurement and DISCOM expenses.

1.2 Why is it important?

Given the increasing uncertainty in power procurement, volatility in prices and the precarious financial position of many distribution companies, levy of fuel surcharge can play an important role. This is because it aids recovery of costs on a monthly or quarterly basis.

In the absence of a fuel surcharge levy, the costs would eventually be recovered through consumer tariffs, approved by the regulator at the end of the year along with the relevant carrying cost³. Thus, periodic recovery of costs through fuel surcharge can also reduce tariff impact by avoiding carrying costs. Periodic deviation in costs would also create working capital pressure for the DISCOMs. Fuel surcharges, would therefore contribute to the maintenance of the financial health of DISCOMs. Even so, the mechanism for levying the fuel surcharge and its impact needs to be understood and reviewed.

Across states there has been a wide variety of practices in the determination and recovery of the fuel surcharge. Some of these practices have aided transparent recovery of prudent costs through a participative process while other practices have hindered it. Many states have recently adopted fuel surcharges given current efforts to alleviate financial distress of DISCOMs, whereas other states have been levying these charges even before the introduction of the Electricity Act, 2003. Some states have also resisted the introduction of fuel surcharges for various reasons. Where fuel surcharges have been put into practice, there are variations in the rates, transparency provisions, equity considerations, processes for regulatory approval and scrutiny of fuel surcharge levied.

1.3 Scope of report

This report presents insights from the implementation of fuel surcharges in various states in India over the past few years. It traces the legal and policy mandate for these surcharges and provides a brief overview of relevant regulations, implementation orders across states, as well as the role of the regulators. The objective of this report is to identify trends, challenges and lessons from the experiences of various states which can provide key insights at a national level. Therefore, the focus is not on any state in particular, but on identifying broader trends across the country.

The analysis is based on information collated from various State Electricity Regulatory Commission (SERC) orders, regulations, DISCOM circulars and Appellate Tribunal for Electricity (APTEL) judgments over several years. Due to the evolving nature of the issue and varied practices across states, there is not enough information in the public domain and there is a lack of consistency in available data. In many states, information about the assumptions made during the process of determining the surcharge, reconciliation of charges levied with audited accounts, adjustments made on a quarterly or monthly basis is not easily available in the public domain. The authors have made the best possible effort to document and analyse available information, given the constraints. While underscoring the need for a

³ Carrying cost refers to the interest expenses incurred by the DISCOM due to deferred recovery of payments from consumers.

more transparent common framework, such shortcomings also pose a challenge in ensuring complete accuracy in analysis, but we are confident that this does not affect the larger observations and conclusions drawn in the report.

The report covers key trends in Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and West Bengal. It also covers trends from the state of Andhra Pradesh before bifurcation, as the surcharge is not being levied in Andhra Pradesh and Telangana since 2014⁴. Even in the states covered, the report studies only fuel surcharge implementation in state-owned distribution companies and does not cover private DISCOMs in Maharashtra, Gujarat, Uttar Pradesh and West Bengal. As Uttar Pradesh has not levied the surcharge till date, the report only documents provisions in the state regulations. Fuel surcharge is referred to by different names in different states as detailed in Table 1.

Table 1: Nomenclature for fuel surcharge in various states

State	Name and Details
Gujarat, Assam, West Bengal	Fuel Price and Power Purchase Adjustment (FPPPA). The monthly charge is called Monthly Variable Cost Adjustment (MVCA) in West Bengal.
Erstwhile Andhra Pradesh, Haryana, Rajasthan	Fuel Surcharge Adjustment (FSA)
Himachal Pradesh, Uttar Pradesh	Incremental Power Purchase Cost (IPPC)
Maharashtra	Fuel Adjustment Charges (FAC)
Chhattisgarh	Variable Cost Adjustment (VCA)
Madhya Pradesh, Karnataka, Punjab, Kerala	Fuel Cost Adjustment (FCA). Monthly charge is called Fuel Cost Recovery Rate in Kerala.
Bihar	Fuel Price and Power Purchase Cost Adjustment (FPPCA)

Source: Prayas (Energy Group) compilation based on regulations and orders from various states.

For the sake of simplicity, the report refers to all these charges across states as “fuel surcharge”.

2 The policy mandate

Table 2 lists the major national policy documents which have highlighted the importance of fuel surcharge through the years.

In 1980, with the emphasis on financial viability of the State Electricity Boards (SEBs), the Rajadhyaksha Committee mentioned that tariff revision could be undertaken even in the middle of the year to recover costs, especially fuel costs (GoI, 1980). During the electricity reform process in the 1990s, adoption of fuel surcharges was recognised a vital to SEB reform along with unbundling, regular tariff revision and the introduction of SERCs. Thus, the need for such a mechanism was part of the Common Minimum Action Plan for Power drafted at the Conference of Chief Ministers in 1996, state-level committee

⁴ Even though the regulations are not repealed, as the practice of levying fuel surcharge was prevalent only in erstwhile Andhra Pradesh. This report only refers to erstwhile Andhra Pradesh while reporting on the framework, impact and practices.

reports on the reform process, as well as state-level electricity reform acts (Gol, 1996; GoAP, 1998; GoH, 1998; GoK, 1999; GoO, 1996; GoR, 2000; GoM, 1996).

Table 2: Major policy mandates on the importance of fuel surcharge

Name and Year	Description
Report of the committee on power chaired by V.G. Rajadhyaksha, 1980	Mid-year increases in wages and coal prices should be recovered through tariff review (Gol, 1980).
Common Minimum Action Plan for Power, 1996	Fuel surcharges are to be automatically incorporated into the tariff. This Plan also recommended several reform measures such as the institutionalisation of SERCs, rationalisation of tariffs and corporatisation of SEBs (Gol, 1996).
State Power Sector Reform Acts, 1996–2000	States like Andhra Pradesh, Odisha, Haryana, Rajasthan, and Karnataka allowed for fuel surcharge in the State Electricity Acts (GoO, 1996; GoAP, 1998; GoH, 1998; GoR, 2000; GoK, 1999). Committees on reforms such as the Rajadhyaksha Committee for Maharashtra reiterated the need for fuel surcharges (GoM, 1996).
The Electricity Act, 2003	Provided for fuel surcharge implementation under Section 62 (4) ⁵ (Gol, 2003).
The National Tariff Policy, 2006	In Para 5.1 (h) (4), in the context of the Multi-Year Tariff regime, the policy specifies that <i>“uncontrollable costs should be recovered speedily to ensure that future consumers are not burdened with past costs”</i> (MoP, 2006).
APTEL Suo Motu Judgment in O.P. 1 of 2011, November 2011	Directs SERCs to have mechanisms for fuel surcharge preferably on a monthly basis (and in no case exceeding a quarter) on the lines of the Central ERC regulations within 6 months from the date of the order if not already present (APTEL, 2011).
Report of the High Level Panel on Financial Position of Distribution Utilities chaired by V.K. Shunglu, December 2011	Reiterated the need for fuel surcharge for speedy cost recovery along with regular tariff revision and true-ups (Planning Commission, 2011).
Scheme for Financial Restructuring of State Distribution Companies, 2012	The mandatory conditions of the bailout relating to tariff setting and revenue realisation specified that <i>“fuel adjustment costs be allowed as directed by APTEL to off-set the increase in power procurement cost”</i> (MoP, 2012, p. 13).
Ujwal Discom Assurance Yojana (UDAY), 2015	Specifies that states should permit quarterly revision of tariff to offset fuel price increase as <i>“such tariff increase will be easier to implement and can be absorbed by consumers”</i> (MoP, 2015, p. 2).
Amendment to the National Tariff Policy, 2016	Retains 5.1 (h) (4) , added Para 8.2.1 (7) which states that SERCs <i>“shall specify an appropriate price adjustment formula for recovery of the costs arising on account of variation in the price of fuel, power purchase, etc. on a monthly/quarterly basis for recovery of all prudent costs of the generating company and the licensee”</i> (MoP, 2016).

Source: Prayas (Energy Group) analysis of various committee reports, orders, policies and programme documents.

The Electricity Act, 2003 and the National Tariff Policy allowed for changes in tariff using the fuel surcharge mechanism. The National Tariff Policy also positioned the mechanism in the context of implementing the Multi-Year Tariff (MYT) regime (MoP, 2006).

⁵ The provision states that *“No tariff or part of any tariff may ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified.”*

Under the MYT regime, the DISCOMs' performance trajectories (and therefore cost trajectories) are to be approved by the SERCs for 3–5 years. Moreover revenue recovery from consumers is to be based on these trajectories. Thus, implementation of MYT can enable planning, ensure cost and tariff certainty and incentivise efficiency improvement. In such a system, costs which are beyond the control of the DISCOM such as fuel costs, changes in taxation, and costs due to changes in power procurement prices can display significant variations from SERC approved trajectories. These costs are called 'uncontrollable costs'. If legitimate, their timely recovery is necessary to avoid financial distress and to enable the DISCOM to continue its efforts towards functioning efficiently.

By 2010, despite these policy measures, only a few states like Maharashtra, Gujarat, Haryana and the erstwhile state of Andhra Pradesh were levying fuel surcharges. By 2010–11, the accumulated losses and debts of the distribution companies in India had increased to about Rs. 1.19 lakh crores (Planning Commission, 2011). This was 60% higher in real terms as compared to the accumulated liabilities restructured in the SEB Bailout Scheme operationalised a decade earlier and comparable in magnitude to about 2% of India's GDP that year (PEG, 2017).

Among other reasons, the lack of regular tariff revision by SERCs was identified as a major cause of the accumulated liabilities. In this context, it was noted that several states did not levy fuel surcharges. In 2011, the APTEL initiated a suo motu process on tariff revision based on a letter from the Ministry of Power and issued directions to SERCs to ensure regular tariff revision and the adoption of the fuel surcharge mechanism (APTEL, 2011).

Since these directions were issued, there has been a strong policy push to ensure the implementation of the fuel surcharge mechanism in states. The need for this mechanism was restated by the Shunglu Committee in 2011 (Planning Commission, 2011). Institutionalising such adjustments is also a mandatory condition to be complied with by signatories of the 2012 bailout package for distribution companies (MoP, 2012). The next bailout package in 2015, UDAY, went a step further and specified that participating states should adopt quarterly adjustment of tariff for fuel or power procurement costs (MoP, 2015). The office memorandum for UDAY also mentions that tariff increase through fuel surcharges will be easier to implement (presumably as compared to regulated tariff revision) and can be absorbed by consumers. Subsequently, the need for quarterly adjustment was reiterated in the 2016 amendment to the National Tariff Policy (MoP, 2016).

3 States actively levying fuel surcharges

As shown in Table 3, despite the policy push, there has only been mixed results for fuel surcharge adoption as about 8 of the 15 states studied have been levying fuel surcharges on a regular⁶ basis.

Most other states have discontinued the process of determining fuel surcharges over the years. Assam last collected the surcharge for the year 2011–12. In Bihar, the collection of the surcharge stopped after

⁶ Consistent levy for over a year with the recent fuel surcharge between the period of May and July, 2017.

the unbundling of the erstwhile Bihar State Electricity Board in 2012-13. In Andhra Pradesh, the last collection was in the year 2014 when the state was bifurcated. Kerala and Himachal Pradesh have discontinued fuel surcharges in 2014–15, while Rajasthan does not seem to have issued any circulars regarding fuel surcharges since June 2016.

Table 3: Regularity of levy

State	Periodicity and regularity of levy
Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Punjab, West Bengal, Chhattisgarh, Haryana	Levied on a monthly basis
Rajasthan	Not levied since 2015–16
Kerala, Himachal Pradesh	Not levied since 2014–15
Bihar	Not levied since 2013–14
Erstwhile Andhra Pradesh, Assam	No levied since 2013-14
Uttar Pradesh, Tamil Nadu	Not implemented

Source: Prayas (Energy Group) compilation based on SERC regulations, tariff orders and DISCOM commercial circulars.

States which are signatories to the UDAY scheme, like Rajasthan, Kerala, Himachal Pradesh, Bihar, Andhra Pradesh, Telangana, Assam, Uttar Pradesh and Tamil Nadu have not been regularly levying fuel surcharges. DISCOMs in these states, except Tamil Nadu and Telangana, have also not committed to quarterly revision of fuel surcharge in the MoUs signed under UDAY. Perhaps, this is because fuel surcharges increase tariffs for consumers and state policy makers do not find it easy to implement. Given the disinterest in annual revision of tariffs⁷, it is not surprising that fuel surcharges do not have many advocates in the states.

Moreover, all the states which have been levying fuel surcharge on a regular basis, including Maharashtra, Gujarat, Punjab, Haryana, Chhattisgarh, Madhya Pradesh, West Bengal and Karnataka, have been levying fuel surcharges before being part of UDAY. Thus, just like regular tariff revision, regular levy of fuel surcharge will take place only with the commitment and interest of the State Government and the DISCOM.

Despite the stiff resistance, fuel surcharges can also ease consumer tariff burden as is evident from the case of Uttar Pradesh. Uttar Pradesh has notified fuel surcharge adoption in its tariff regulations (UPERC, 2014) but has not adopted the practice. The Comptroller and Auditor General of India reported a potential claim of about Rs. 2991 crores for recovery from fuel adjustment charges between January 2013 and December 2014 (CAG, 2016). Recovery of such amounts, even a year later would have resulted in an avoidable carrying cost of Rs.300 to Rs.400 crores⁸. Uttar Pradesh SERC has repeatedly directed the DISCOMs to file claims for fuel surcharge, failing which, the excess power procurement cost and the associated carrying cost will be disallowed during the annual tariff determination process and true-up process (UPERC, 2015; UPERC, 2016). Despite this strong disincentive, DISCOMs continue to not

⁷ Even after UDAY, Tamilnadu, Rajasthan, Punjab, Tripura and Kerala have not been initiating tariff determination processes on an annual basis.

⁸ This is assuming a carrying cost rate of 12.5% per annum based on Uttar Pradesh ERC tariff orders.

file claims. Thus, in this report, only the provisions in the Uttar Pradesh regulations have been documented.

4 Impact of fuel surcharge

The impact of the fuel surcharge on consumers varies from state to state as shown in Table 4. It shows the fuel surcharge levied between the year 2015–16 and 2016–17 as a proportion of total revenue recovered from tariffs⁹ in that year. The data available here is for all states which have been consistently levying fuel surcharge in the recent years.

Table 4: Fuel surcharge as a proportion of total revenue recovered from consumers (FY15 to FY17)

State	FY 15	FY 16	FY 17
Maharashtra	5%	12%	4% ¹⁰
Gujarat	28%	25%	N. A.
Madhya Pradesh	N. A.	2% ¹¹	2% ¹²
Karnataka	N. A.	2%	2%
Punjab	N. A.	N. A.	1%
Chhattisgarh	6%	5%	7%
Haryana	11%	6%	10%
West Bengal	N.A	N.A	3%

N.A denotes that the information is not available for that year

Source: Prayas (Energy Group) compilation based on DISCOM commercial circulars, tariff orders, petitions and ERC orders.

In Gujarat, more than a quarter of the revenue recovered from tariffs is due to fuel surcharges. This is due to a levy of a base fuel surcharge fixed by the ERC on an annual basis. This is discussed in greater detail in Section 14.1. The fuel surcharges in Maharashtra, Haryana and Chhattisgarh, have also been significant. All these states have been levying fuel surcharges for more than 5 years. However, in Madhya Pradesh, West Bengal, Karnataka and Punjab, which have been actively levying fuel surcharges for about 2 to 3 years, the surcharge has been nominal.

The states of Bihar, Assam and erstwhile Andhra Pradesh used to levy fuel surcharges in 2011-12. The fuel surcharge collected by these states during this period was significant. In the erstwhile state of Andhra Pradesh, fuel surcharge collected from DISCOMs formed 15% of the total revenue recovered from consumers. Similarly in Bihar the proportion was 9% and in Assam it was 17%. States like

⁹ The actual revenues based on audited actuals have been used where available. In other instances the projected revenue in tariff orders for the tariff determination process for that year or estimates approved during the Annual Performance Review process have been used. In each case, the latest available estimate is used.

¹⁰ The data for revenue from fuel surcharge was available only till November 2016 on the Maharashtra ERC website. The number reported here is the annual estimate based on a pro-rata adjustment of data till November.

¹¹ The fuel surcharge data is for only 9 months for 2015–16. Thus the revenue from retail tariff was also estimated on a pro-rata basis.

¹² The proportion of fuel surcharge revenue to total projected revenue all other sources was about 2% till September 2017 in the year 2017–18 as well.

Maharashtra and Haryana also had high fuel surcharges at that time with fuel surcharges forming 8% and 19% respectively of the revenue recovered from consumers.

One could suppose that fuel surcharges reported 2011–12 were high due to the increased uncertainty in fuel (especially coal) availability and price as compared to later years. It is also pertinent to note that the states which have discontinued fuel surcharge levy also used to recover substantial amounts from the practice.

5 Fuel surcharge specification and process in states

As shown in Table 5, the fuel surcharge mechanism is implemented in most states based on specifications in SERC regulations, mostly MYT regulations. In some states, it is implemented through periodic SERC orders.

Table 5: Specification of framework in regulations and orders

States	Framework provided in
Maharashtra, West Bengal, Himachal Pradesh, Chhattisgarh, Uttar Pradesh, Bihar, Rajasthan and Haryana	Multi-Year Tariff (MYT) Regulations
Assam, Kerala and Karnataka	Fuel Surcharge Regulations
Erstwhile Andhra Pradesh, Punjab	Conduct of Business Regulations
Gujarat, Madhya Pradesh	SERC orders

Source: Prayas (Energy Group) compilation based on regulations and orders from various states.

These regulations and orders provide the basis for determination of charge (costs to be considered, sales on which surcharge is applicable etc.), specifications for the implementation of the charge (periodicity of levy, mechanism for collection, any cap on the fuel surcharge rate etc.) and the processes involved (transparency of charges, public consultation during determination, vetting and scrutiny of costs and fuel surcharge recovered etc.). However, there are also several practices in states which are not specified in the regulations. The report also offers some commentary on these practices based on information from DISCOM circulars, SERC orders and information from the DISCOM websites.

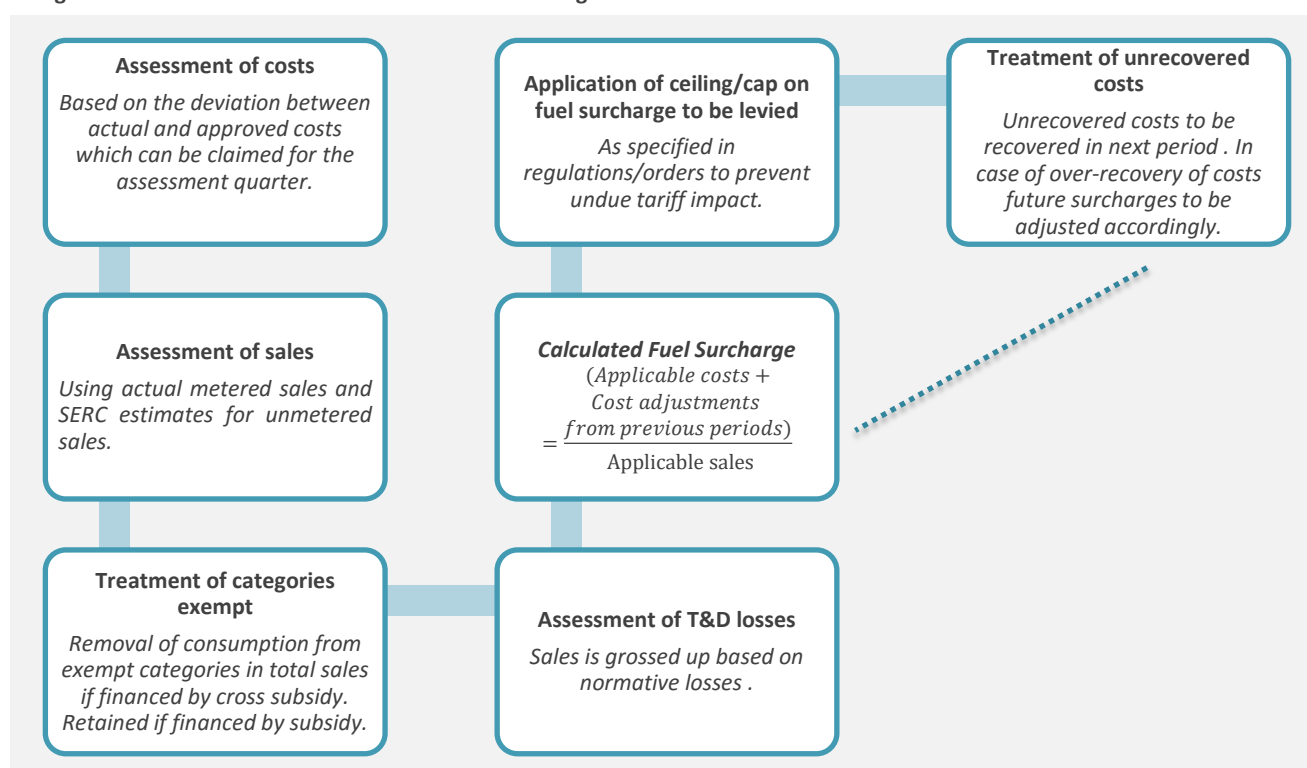
6 Overview of methodology for determination of fuel surcharge

There is a wide variation in the specified framework and practices across states. The following sections offer a review of the regulations and rules across states to highlight best practices and trends. The regulations and orders pertaining to the mechanism for determination and passing on of fuel surcharge for the fifteen states are summarized in Annexure I. Based on available information; the following sections also juxtapose practices in these states for determination and levy of surcharge. This is summarised in Annexure II.

In most states, the charge is usually levied on a monthly basis with quarterly revisions. Exceptions include Chhattisgarh and West Bengal, where the charge is revised bimonthly for the former and monthly for the latter. In each state, as fuel surcharges are levied on a post facto basis, the period for which the charge is calculated (the assessment period) is different from the billing period, which is when consumers are charged the fuel surcharge. Most regulations specify a two-month lag between the assessment period and the billing period. Thus, if the assessment period is from April to June, the billing period will be from July to September. Exceptions include West Bengal (1 month lag) and Punjab (4 month lag). In Bihar, the billing period is subsequent to the month with the SERC approval of charge.

The basic methodology for determination of fuel surcharges followed across states studied is described in Figure 1.

Figure 1: Framework for determination of fuel surcharge



Source: PEG assessment of regulation and orders as summarised in Annexures I and II.

Assessment of costs: As shown in Figure 1, in order to determine the fuel surcharge, the costs incurred over and above the approved costs that can be recovered from consumers are considered. The assessment of costs that are explicitly considered and disallowed for recovery through fuel surcharges is discussed in Section 7.1. The methodologies used to calculate the applicable costs are discussed in Section 7.2.

Assessment of sales and treatment of exempt categories: As fuel surcharge is a per unit rate, it is important to divide the costs to be recovered by the applicable sales. Across states, the actual metered sales as reported by the DISCOMs for the assessment period and the unmetered sales estimated by the

SERC are used to determined sales for the assessment quarter. In many states certain categories are exempt from fuel surcharge levy. In such a case, the fuel surcharge amount attributable to the consumer categories is recovered through subsidies or cross subsidies. In case, it is recovered through subsidies, the sales from these categories are retained for assessment. However, if financed through cross-subsidy, the sales quantum is removed from the applicable sales for the estimation. This would increase the per unit surcharge applicable on consumers. The categories exempt across states and the applicable subsidies are discussed in Section 8.

Assessment of T&D losses: Sales are grossed up for transmission and distribution losses for the estimation of the per unit fuel surcharge. Actual T&D losses are typically higher than the normative losses. As normative T&D loss is considered for assessment across states, the sales estimated based on norms will be higher than the actual sales. Therefore, the norm-based per-unit surcharge will be lower than if the charge were based on actual sales. Hence, costs incurred due to T&D losses in excess of the norm are not recovered from consumers. Essentially, the incremental cost of power purchase which is incurred due to transmission and distribution losses over and above the levels approved by the Commission is disallowed from recovery through this mechanism. All states have adopted the practice of using normative T&D losses for the sales estimation

Assessment of fuel surcharge, ceiling or cap on fuel surcharge and under/over-recovery of costs: As shown in Figure 1, the fuel surcharge is estimated by dividing the total applicable costs with the appropriate sales. The costs include under-recovery or over-recovery from previous periods. Such under-recovery or over recovery can take place due to changes in sales between the assessment period and the billing period. Under-recovery can also take place because the ERC specifies a ceiling or cap on the fuel surcharge rate for every period. This is to prevent undue tariff impact on consumers. The prescribed cap or ceiling for the fuel surcharge across states is discussed in Section 9. Any costs over and above the cap can be recovered in that period subject to SERC approval in some states. In other states, the costs are carried forward to the next assessment period for recovery. This carry forward takes place with the appropriate carrying cost. This is also discussed in Section 9.

7 Assessment of costs

A crucial part of the methodology for fuel surcharge determination, cost assessments include assessment of deviation from approved costs which can be recovered through revenues from the fuel surcharge. The costs considered to be recovered from fuel surcharge and the costs explicitly disallowed for recovery along with the treatment of such costs are discussed in the following sub-sections.

7.1 Costs considered and explicitly disallowed

Typical expenses considered while determining fuel surcharge consists of deviations in approved and actual power procurement due to uncontrollable costs. This refers to costs due to factors beyond the control of the DISCOM (e.g., change in fuel or power purchase prices, freight prices, and taxes). Such expenses are typically independent of the DISCOM's and power generator's performance. Thus, without

fuel surcharges, it will be recovered with carrying costs at the end of the year. Controllable costs which are incurred due to deviations in performance parameters of the generating companies such as station heat rates, auxiliary consumption or parameters well within the control of the utility such as transit loss of coal are usually not to be recovered from fuel surcharges.

There are variations in states with respect to costs considered for fuel surcharge determination and costs which are explicitly disallowed. A few examples of costs disallowed and explicitly considered are discussed in Table 6 and Table 7.

Table 6: Costs explicitly disallowed for recovery from fuel surcharge across states

Costs heads explicitly disallowed	State
Unscheduled Interchange (UI) or Deviation and Settlement Mechanism (DSM) transactions ¹³	Rajasthan, Chhattisgarh, Himachal Pradesh, erstwhile Andhra Pradesh
Short term power procurement	Rajasthan, Chhattisgarh
Purchase of Renewable Energy Certificates	Gujarat
Deviation due to hydropower	Madhya Pradesh, Rajasthan
Any costs due to sale of power outside state	Chhattisgarh
Violation of merit order principles ¹⁴ while scheduling power	Assam, Kerala, erstwhile Andhra Pradesh
Penalties due to delayed payment	Bihar

Source: Prayas (Energy Group) compilation based on regulations and orders from various states. Please see Annexure I.

Table 7: Costs explicitly considered for recovery from fuel surcharge across states

Costs heads explicitly considered	State
UI or DSM transactions	Haryana ¹⁵ and West Bengal
Short term power procurement	Haryana, Himachal Pradesh ¹⁶ , Uttar Pradesh, Maharashtra and West Bengal
Only variation in variable costs. 1/3 rd of the total tariff considered as the variable charge for hydropower and renewable energy	Rajasthan
Change in costs due to “unpredictable and unknown factors not envisaged at the time of tariff fixation” ¹⁷	Bihar
Change in generation mix	Kerala and Bihar
Changes in coal quality from different sources	Maharashtra
Transmission charges	Gujarat and Uttar Pradesh

Source: Prayas (Energy Group) compilation based on regulations and orders from various states. Please see Annexure I.

While variation in costs due to UI/DSM transactions is considered in Haryana and West Bengal, these are disallowed in four other states. Similarly costs due to short term power procurement is disallowed in

¹³ UI/DSM refers to a commercial settlement mechanism in case of deviation from schedules to maintain grid stability.

¹⁴ Merit order dispatch refers to the practice of scheduling generation on the basis of ranking of all generators based on ascending order of variable costs or the short-run marginal costs of production.

¹⁵ In Haryana, this cost is allowed only if it is not in violation of grid discipline and is below average tariffs.

¹⁶ In Himachal Pradesh, recovery of cost due to short-term power purchase is subject to regulatory approval and is capped at the variation between average power purchase cost and the weighted average short-term market price.

¹⁷ This, of course could potentially cover a whole gamut of costs.

Rajasthan and Chhattisgarh but allowed for recovery in five other states. In West Bengal, costs due to short-term power purchase in excess of 10% of the previous month's fuel surcharge are allowed to be adjusted by the DISCOM in any other period.

Some of these considerations could be based on state realities as well. The Kerala ERC makes a special consideration for change in hydro-thermal mix, possibly due to the high share of hydropower in Kerala's power procurement mix. Due to issues with coal quality in the past, Maharashtra regulations clearly include costs due to changes in coal quality from different sources. Such variations might be implicit in the rate and costs permitted for recovery in other states. Curiously, fuel surcharge in some states are not restricted to changes in power procurement costs alone. In Gujarat and Uttar Pradesh, it also includes transmission charges.

7.2 Methodology for estimation

There are two distinct ways prescribed to arrive at the total costs for recovery. The methodologies and the practicing states are shown in Table 8.

Table 8: Methodology used to estimate total costs for recovery through fuel surcharges

Methodology used to estimate fuel surcharge	State
Sum all cost deviations under various expense heads which can be considered for recovery during the quarter or month.	Maharashtra, Gujarat, Karnataka, Punjab, Uttar Pradesh, Himachal Pradesh and West Bengal.
Estimation of difference in actual average power procurement rate and the approved power procurement rates. The actual power procurement rate only includes costs which can be recovered via fuel surcharge. The deviation in rates is multiplied by total quantum of power procured.	Haryana, Rajasthan, Bihar, Chhattisgarh, Kerala, Madhya Pradesh, erstwhile Andhra Pradesh, and Assam.

Source: Prayas (Energy Group) compilation based on regulations and orders in various states. Please see Annexure I.

The practice adopted by Haryana, Rajasthan, Bihar, Chhattisgarh, Kerala, Madhya Pradesh erstwhile Andhra Pradesh, and Assam focuses more on the change in power procurement prices rather than deviation in costs.

8 Category-wise levy of fuel surcharge, exemptions, subsidy support

All states levy a per unit charge on consumers for recovering fuel surcharge. Except Maharashtra¹⁸ and Punjab¹⁹, this rate is uniform across consumer categories. However, states do exempt certain categories from fuel surcharge. Table 9 lists categories exempt from fuel surcharges across states.

Table 9: Consumer categories exempt from fuel surcharge

Consumer categories exempt	States
No exemptions	Madhya Pradesh, Maharashtra, Rajasthan, Chhattisgarh, Assam ²⁰
Agricultural consumers	Erstwhile Andhra Pradesh, Karnataka and Gujarat, Haryana (APEREC, 2003; GERC, 2013; HERC, 2017)
Below Poverty Line (BPL)/ life-line domestic consumers	Himachal Pradesh (HPERC, 2013)
All domestic consumers with a connected load less than 500 W and monthly consumption not exceeding 20 units	Kerala (KSERC, 2010)
BPL and agricultural consumers. All consumers whose consumption is below monthly minimum consumption.	Punjab (PSERC, 2012)
All agricultural and domestic consumers with consumption of less than 300 units per month	West Bengal (WBSEDCL, 2016)
Agricultural and BPL consumers	Bihar (BERC, 2011)

Source: Prayas (Energy Group) compilation based on regulations and orders in various states.

In some of these states, the fuel surcharge attributable to exempt categories is borne by the State Government through subsidies. Gujarat, West Bengal²¹, Haryana, Karnataka, and Punjab receive subsidy support for the fuel surcharge levied on agricultural consumers Table 10 summarizes the extent of subsidy support in some states for the year 2015-16 where information was available.

Table 10: Subsidy support in 2015-16

States	Subsidy support provided in 2015-16
Punjab	Rs. 14 crores (9% of total revenue from fuel surcharge)
Haryana	Rs. 378 crores ²² (27% of revenue from fuel surcharge)
Gujarat	Rs. 2596 crores (29% of revenue from fuel surcharge)

Source: Prayas (Energy Group) compilation based on SERC orders and DISCOM circulars in various states.

¹⁸ In Maharashtra, even though the fuel surcharge is to be recovered from all consumers, the category-wise levy varies based on cross-subsidy. The per-unit surcharge is weighted with ratio between the average billing rate (average tariff) of that category and the average cost of supply for the DISCOM (MERC, 2015).

¹⁹ In Punjab, there are different surcharges for metered and unmetered consumers. The total fuel surcharge is first apportioned based on metered and normative unmetered consumption. The per-unit surcharge for metered sales is estimated by dividing the cost attributed to metered consumption by metered sales. For unmetered consumers it is estimated by dividing the cost attributed to unmetered consumption by the unmetered connected load (PSERC, 2012).

²⁰ As per the regulations, the exempted categories can be specified (AERC, 2012) but this has not been done (AERC, 2013).

²¹ This is only for agricultural consumers having monthly consumption less than 300 units.

²² Based on commercial circulars of PSPCL with details on fuel surcharge amount to be recovered from agricultural consumers.

West Bengal also provides subsidy support for fuel surcharge to domestic consumers using less than 300 units per month (WBSUEDCL, 2016). Similarly, Punjab also provides subsidy support for BPL consumers. Where subsidies are not provided, it is met through cross subsidies from other consumer categories²³.

9 Limits on fuel surcharge passed on and treatment for adjustments

To prevent undue tariff impact on consumers, states also specify limits/ caps/ceiling on the monthly per unit fuel surcharge to be recovered from consumers. With the exception of Madhya Pradesh, Punjab, West Bengal, Kerala and erstwhile Andhra Pradesh, all states have specified such limits as detailed in Table 11.

Table 11: Limits on fuel surcharge

State	Fuel surcharge to not exceed
Maharashtra	20% of energy charges
Gujarat, Karnataka	10 paise per unit. In the case of Gujarat this is over and above the base fuel surcharge fixed at Rs.1.43/unit at the start of the year. This is described in greater detail in Section 14.1.
Haryana	10% of approved average power purchase cost
Rajasthan, Himachal Pradesh	10% of weighted average power purchase cost
Bihar	10% of approved average cost of supply
Uttar Pradesh	10% of variable component of tariff
Chhattisgarh	5% of total tariff for domestic consumers using less than 200 units per month.
Assam	25% of variable power procurement cost
Madhya Pradesh, Punjab, West Bengal, erstwhile Andhra Pradesh and Kerala	No limit specified

Source: Prayas (Energy Group) compilation based on regulations and orders in various states. Please see Annexure I.

Except in the case of Gujarat, Karnataka, Maharashtra, and Uttar Pradesh and to a certain extent, Chhattisgarh the ceiling on fuel surcharge is based on power procurement costs or a component of power procurement costs. As power procurement accounts for more than 75% of the costs incurred by the DISCOM, any cap based on power procurement will be significantly high. A high ceiling is not desirable as significant costs can be passed on to consumers without regulatory approval (as in the case of Assam) and without public attention in other states. As the ceiling is present to prevent undue tariff impact, the ceiling should be based on tariffs, preferably energy charges as is the case in Maharashtra and Uttar Pradesh. If the ceiling is a fixed per unit number as is the case in Gujarat and Karnataka it provides certainty on the ceiling for consumers and the DISCOM.

²³ The regulations in Assam, Himachal Pradesh and erstwhile Andhra Pradesh specify that the sales of categories exempt from the fuel surcharge will be subtracted from total sales while estimating the per unit charge.

In case the fuel surcharge for the quarter exceeds the specified limit, the excess is usually recovered via adjustments in subsequent periods.²⁴ In Gujarat, Assam, Karnataka, and Maharashtra, the excess can be recovered in the same billing quarter through fuel surcharges with ERC approval. In other states, the cost above the specified limit is to be recovered in subsequent periods and it is accompanied by a carrying cost²⁵. Haryana, Uttar Pradesh, Maharashtra and Himachal Pradesh even specify recovery of such carrying costs in the regulations. Further, the amounts not recovered via fuel surcharge are adjusted with other expenses during the true-up and tariff determination process at the end of the year along with applicable carrying costs. This process ensures that despite the cap, fuel surcharge recovery is completed within a year and thus it helps avoid further build-up of carrying costs.

Curiously, the Bihar ERC also specifies a lower limit for the per unit fuel surcharge. As per the regulations, the surcharge should not be less than 10 paise per month. If it is below the limit, it is carried forward to the next month. The regulations do not specify if this carry forward will be accompanied with a carrying cost. In case the fuel surcharge determined is negative, such that the DISCOM has to pay the consumer for excess recovery, the Karnataka ERC caps this amount at 10 paise per unit. Presumably, this is to ease the cash-flow situation of the DISCOMs.

10 Processes to ensure transparency, accountability and participation

The Electricity Act, 2003 characterizes levy of fuel surcharge as a change in tariff (Gol, 2003). Thus, similar to the process for tariff revision, the determination and reconciliation of fuel surcharges should be transparent and should involve public consultation.

As shown in Table 4, the fuel surcharge levied in some states is substantial and impacts consumers. As it varies on a quarterly/monthly basis, it can also contribute to uncertainty in tariffs which can especially impact large industrial and commercial consumers who depend extensively on power and who cross-subsidise the fuel surcharge for other categories.

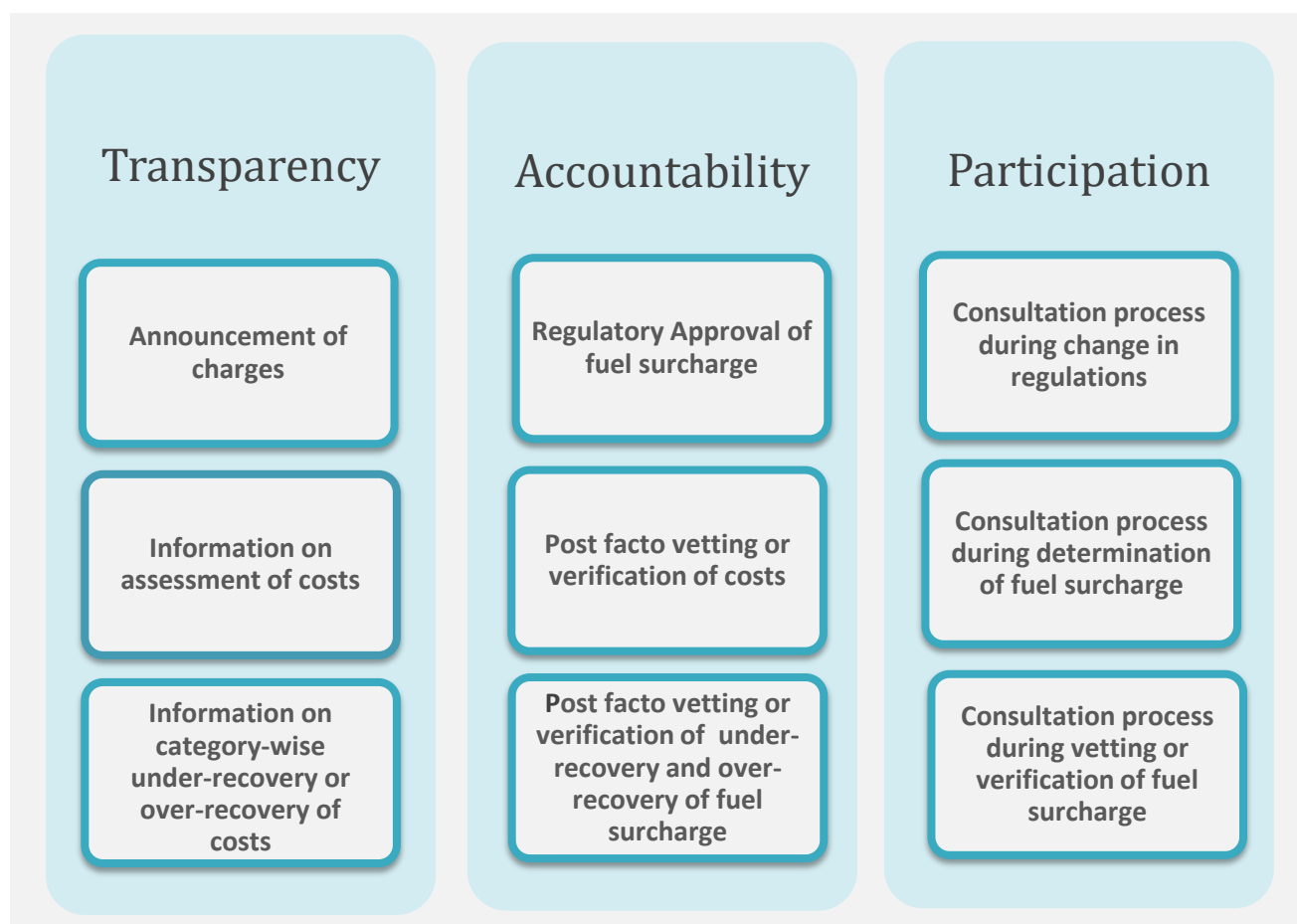
The levy of fuel surcharge is also resisted by consumers to a certain extent in some states due to the lack of transparency in its determination and lack of periodic detailed public reviews of the determination and collection of the surcharge (MERC, 2013a; BERC, 2012; APERC, 2013; HERC, 2017). It can be argued that as the determination of fuel surcharge is not subject to the same public scrutiny as the retail tariffs, the legitimacy of the charge is often questioned by consumers. In this context, the major practices across states to ensure transparency, accountability and public participation is captured in Annexure II.

²⁴ This is specified in regulations of Maharashtra, Haryana, Bihar, Uttar Pradesh, Himachal Pradesh, West Bengal, Karnataka, Assam, Kerala, and erstwhile Andhra Pradesh.

²⁵ The carrying cost amount as well as the unrecovered costs is considered while checking if the fuel surcharge exceeds the cap or ceiling in that quarter.

Figure 2 summarises major practices and mandates to ensure transparency, accountability and public participation across states which is detailed in Section 11, Section 12 and Section 13.

Figure 2: Provisions to further transparency, accountability and participation in processes



Source: Prayas (Energy Group) analysis

11 Transparency: Information on applicable fuel surcharge, costs

All states specify the fuel surcharge in their consumer bills, but this may not be enough for informed public scrutiny. It is imperative that consumers are informed of the costs being passed on through this mechanism and are aware of the final per unit charge applicable on them. Table 12 discusses the provisions in state regulations to enable this. Provisions to ensure transparency are important even if the state has good practices to ensure transparency. This is because the mandate in regulations helps hold DISCOMs accountable for continuing such practices.

More than half the states studied, do not have any provisions in their regulations to ensure consumers are aware of the charges levied on them, let alone the data, calculations and methodologies used to arrive at the charges. Other states, as shown in Table 12 have provisions to ensure the applicable fuel surcharge is displayed on the website. However, the applicable surcharge should also be accessible to

consumers who do not have access to the internet. The regulations in Karnataka, West Bengal and erstwhile Andhra Pradesh also mandate that the revised charges are published in leading newspapers.

Table 12: Transparency related provisions in SERC regulations

Provisions	States
No provisions on sharing information on charges and calculations for determination of surcharge.	Gujarat, Punjab, Haryana, Rajasthan, Bihar, Uttar Pradesh ²⁶ , Kerala and Himachal Pradesh
Current applicable fuel surcharge to be displayed on website	Maharashtra
Current and past applicable fuel surcharge to be displayed on website	Chhattisgarh ²⁷ , West Bengal ²⁸
Calculations for assessment and applicable rate to be shared on website	Karnataka, Chhattisgarh
Fuel surcharge to be reported separately in consumer bills	Madhya Pradesh, Karnataka, Chhattisgarh and Assam
Surcharge to be displayed at cash collection centers	Assam
Revision in surcharge to be published in newspapers	Karnataka, erstwhile Andhra Pradesh, West Bengal

Source: Prayas (Energy Group) compilation based on regulations and orders in various states. (Please see Annexure I).

In Maharashtra, the formats for filing information in the tariff regulations also provide for the submissions related to coal transport, cost and use of imported coal for each station on a monthly basis and month-wise connected load for agricultural consumers (MERC, 2015). This information would greatly contribute to transparency and accountability of DISCOMs but unfortunately this data is not submitted by the DISCOMs.

It is also true that several states adopt good practices even if they are not specified in the regulations. All states studied, publish information on the applicable fuel surcharge for that quarter. However, some states also report information used to determine the fuel surcharge. The information available on websites along with the applicable fuel surcharge is reported in Table 13.

Table 13: Information provided by DISCOMs while announcing fuel surcharge

Provisions	States
Along with applicable fuel surcharge, they report month-wise approved and actual costs for each power station, the applicable T&D losses as well as information on metered and unmetered sales is available.	Punjab, Bihar, Assam, Maharashtra, erstwhile Andhra Pradesh, West Bengal, Chhattisgarh, Kerala, Gujarat and Haryana.
Reports all information as states listed above except station-wise costs.	Karnataka
DISCOMs announce the applicable per unit fuel surcharge rate via a commercial circular with no additional information.	Madhya Pradesh, Rajasthan, Haryana and Himachal Pradesh.

Source: PEG compilation based on DISCOM circulars, petitions and SERC orders across states.

²⁶ Though the current Uttar Pradesh regulations do not have any provisions relating to transparency, the previous regulations stipulated that collection centers and websites should have details of fuel surcharge along with detailed computation.

²⁷ All levied charges to be displayed till true-up for the year is completed.

²⁸ All levied charges for the past 24 months to be displayed.

As shown in Table 13, about ten states provide detailed information on the applicable fuel surcharge and its estimation. Among these states, there are some states which submit additional information which is useful. In Bihar, West Bengal and Assam, all the parameters used for estimating the fuel surcharge as per the relevant regulations is detailed (WBERC, 2014a; AERC, 2013; BERC, 2011).

Maharashtra, Haryana, Rajasthan, Bihar, West Bengal and Uttar Pradesh SERCs have regulations which specify reporting of recovery of fuel surcharge from consumers for previous time periods. In other states, there is no provision of a process to ascertain if DISCOMs have been recovering more, or less than the fuel surcharge amount through the per unit charge. All states regularly report only the total amount to be adjusted due to under-recovery or over-recovery of charges. No state studied reports category-wise under-recovery or over-recovery.

12 Accountability for fuel surcharge levied and recovered

In most states the fuel surcharge rate is determined by the DISCOM without regulatory approval and recovered from consumers. This is discussed in Section 12.1. While it is true that the regulatory approval for each and every period of assessment can be onerous, there needs to be some process to hold DISCOMs accountable for the surcharge levied.

Considering that it is a post facto levy, it is important to ensure that fuel surcharges are based on actual costs incurred by the DISCOM rather than estimates. Additionally, the recovery from consumers should be justifiable and not in excess of costs incurred. Thus, it is important that there is regulatory scrutiny of compliance with regulations, estimation of charges by DISCOM, and recovery of costs from consumers, at least on an annual basis. The practices across states with respect to post facto vetting and verification are discussed in Section 12.2. Section 12.3 examines provisions in regulations and practices to assess if there has been any under-recovery or over-recovery of surcharge from consumers.

12.1 Regulatory approval of fuel surcharge

In Bihar, Assam, Haryana, Punjab, Karnataka and erstwhile Andhra Pradesh, fuel surcharge is approved by the ERC. In the approval order, the Commission also issues fuel surcharge related directives to the DISCOM in Assam and Haryana (AERC, 2013; GERC, 2017). In all other states fuel surcharge is estimated by the DISCOM and automatically recovered from consumers. In Madhya Pradesh, the announcement is made by the DISCOM and the rate (in compliance with the SERC regulations) is reported to be approved by the Commission. However, such approval has not been made in any order or public document on the SERC's website.

Some states' regulations specify the need for ERC approval only in certain cases which are detailed below:

- As discussed in Section 9, in Maharashtra, Gujarat, and Assam approval is needed if the per unit surcharge exceeds specified cap/ceiling specified by the SERC.

- In Bihar, the ERC's approval is needed only if the DISCOMs incur costs due to changes in the sales mix.
- In Punjab, ERC approval is necessary for the fuel surcharge of the 3rd and 4th quarters.

12.2 Provisions to ensure submission of claims

Except in the case of Gujarat, all SERC regulations specify that DISCOMs are also required to submit costs to be recovered from fuel surcharges for every power station and detailed computations for estimating the fuel surcharge to the SERC. Such computations and data are to be submitted with supporting documents, bills and credit receipts for the assessment period. In some states, SERCs also have provisions to ensure timely and correct submissions of claims from DISCOMs for fuel surcharge determination. These are detailed in Table 14.

Table 14: Provisions in regulations for timely and correct submission of claims

Particulars	Provisions	States
Certification	The information submitted by the DISCOMs should be certified by a chartered accountant or a DISCOM officer	Karnataka, Bihar, Assam, Uttar Pradesh
Penalties	- SERC can specify penalties for furnishing wrong data - In case DISCOMs do not furnish data within specified time-period, DISCOMs are to forfeit claims for the period	erstwhile Andhra Pradesh Assam, erstwhile Andhra Pradesh
Submission and revision of numbers	- In the absence of data, DISCOMs can use estimates. Estimates will not be revised if actual numbers are discovered to be higher. - Any calculation discrepancies should be communicated to the SERC before the end of the subsequent quarter to enable adjustments	Haryana Himachal Pradesh

Source: Prayas (Energy Group) compilation based on regulations and orders in various states. Please see Annexure I

The practice of levying penalties to aid timely and correct submission of claims can be effective and should be adopted in other states. However, disallowing recovery of costs through fuel surcharge due to delays in filing will only be a penalty for DISCOMs if the carrying cost for that amount is also not granted to the DISCOM at the end of the year. Certification of information submitted is a good practice but should also be followed by post facto regulatory scrutiny to ensure accountability.

12.3 Vetting and regulatory scrutiny of costs incurred and revenue recovered

Only a handful of SERC regulations have provisions for vetting and scrutiny of costs. This can take place on a quarterly basis through an ERC order for post facto vetting. Alternatively it can also take place along with the quarterly fuel surcharge approval order. Vetting and reconciliation of costs incurred and revenue recovered through the fuel surcharge can also take place on an annual basis during the tariff determination, true-up process.

12.3.1 Quarterly vetting

Maharashtra and Uttar Pradesh ERC regulations specify vetting and verification on a quarterly basis after the fuel surcharge has been recovered. In practice, only Maharashtra does quarterly vetting of costs as

Uttar Pradesh has not implemented fuel surcharge yet.

In fact, Maharashtra is the only state to have a formalised process of vetting fuel surcharge. However, this process has not been taking place on a regular basis. For the fuel surcharge levied in the calendar year 2013, there was an average of a 20 month delay in issuing the vetting order for MSEDCL²⁹ from the month of levy. For the year 2014, the average delay was for 21 months, and for the year 2015 it was 12 months. In 2016, the average delay reduced to 5.2 months. Such delays can have implications on costs especially if carrying costs are claimed. Over the years, the average delay has reduced and the practice of vetting fuel surcharge costs on a quarterly basis for four DISCOMs in the state is commendable and has gone a long way in increasing the legitimacy of fuel surcharges.

12.3.2 Approval orders having assessment of previous billing periods

As discussed in Section 12.1, SERCs of Karnataka, Bihar, Assam, Kerala, Punjab, and erstwhile Andhra Pradesh regularly issue orders for approval of fuel surcharge. However, even in these orders there is no reconciliation or verification of fuel surcharge levied and recovered from consumers for the past periods. The Haryana ERC issues orders for approval of fuel surcharges for past years every two to three years. This, in a sense, is also a vetting order. However, such delayed recovery of fuel surcharges is burdensome as it imposes avoidable carrying cost on consumers as discussed in Section 14.3.

12.3.3 Annual vetting of fuel adjustment charges and reconciliation of revenues

Vetting of fuel surcharge recovered can also take place in the tariff determination or true up process. This is specified in the regulations of West Bengal, Assam and Maharashtra SERCs. Other states regulations do not explicitly mention the process of fuel surcharge cost-vetting during tariff determination in their regulations.

In Bihar, the Commission orders specified that the fuel surcharge reconciliation was to be incorporated with the true up (for the year 2013-14) of the two DISCOMs post unbundling, but that has still not taken place³⁰ (BERC, 2014). In West Bengal, the ERC initiated a suo motu process to direct DISCOMs to ensure that all eligible costs are recovered through fuel surcharge levy. This was because the ERC felt that the DISCOMs were not claiming all eligible costs via the mechanism. The ERC also stipulated that if the Commission determines that the eligible costs were not recovered at the time of fuel surcharge levy; such costs will be disallowed during the true-up process (WBERC, 2014b).

The fuel surcharge levied needs to be reconciled based on audited accounts and verified to ensure there is no under-recovery or over-recovery of charge. This way, any unrecovered costs can be added to the annual revenue requirement and recovered from consumers through tariffs. Similarly, refunds can be provided in case of over-recovery. However, no other state among the states surveyed has a separate regulatory process to vet the category-wise collection and revenue recovery of fuel surcharge. In the quarterly vetting process in Maharashtra, SERC only vets the overall recovery from consumers during previous periods.

²⁹ Maharashtra State Electricity Distribution Company Limited, the state-owned DISCOM in Maharashtra.

³⁰ The last true-up order by the SERC was for the year 2012-13.

Accounting for the revenue recovered from fuel surcharges is also important while revising the base tariffs. This way, any tariff increase provided, is over and above the revenue from existing tariffs and fuel surcharges. This practice is followed in Maharashtra, Punjab, Bihar, Chhattisgarh, Assam and erstwhile Andhra Pradesh.

13 Public participation in processes across states

While deciding the methodology for fuel surcharge determination, most states have public consultation processes. Except in the case of Gujarat and Madhya Pradesh, the framework for fuel surcharge determination and recovery is specified in the SERC regulations. Amendment of regulations takes place with public consultations in all states. In Madhya Pradesh, the fuel surcharge is specified in every tariff order which is released after a public process (including seeking stakeholder comments and suggestions on DISCOM petitions, public hearing etc.). In Gujarat, the specification of the framework in Case No. 1309 of 2013 did not take place with wider public consultation (GERC, 2013). This is significant given the substantial proportion of the revenue requirement from consumers being claimed through fuel surcharge in the state.

For the actual process of fuel surcharge determination, most states do not have processes in place which encourages public participation or consultation. Public comments are restricted to consultations or hearings during the tariff determination or true-up process. The exceptions are Kerala and erstwhile Andhra Pradesh.

In Kerala and in erstwhile Andhra Pradesh, there were significant public consultations during the fuel surcharge determination processes. In both states, public comments were sought by the Commission and public hearings were conducted. Moreover, the comments and the responses are recorded in the final order. In essence, the ERCs were able to adopt some tariff determination processes to encourage public participation even though such a levy is on a quarterly basis.

In Haryana, the ERC conducts periodic processes (say one in two to three years) for determination and levy of fuel surcharge based on under-recovery from past periods. This process results in significant levy of avoidable carrying costs as described in Section 14.3. However, it also takes place with public hearings and comments and responses were recorded in the final order.

14 Practices in select states

Three states have had atypical practices for the determination, levy and cost assessment for fuel surcharges. This section discusses these practices.

14.1 The levy of a base fuel surcharge: The case of Gujarat

In their tariff orders, the Gujarat ERC annually approves a fixed fuel surcharge rate to be charged to consumers on a monthly basis. This practice is not specified in regulations. This fixed fuel surcharge rate is as high as 20% to 25% of the total revenue projected for the year. The fixed fuel surcharge known as

the base FPPPA is determined based on average fuel surcharge levied in previous years. For example, the base FPPPA from 2011–12 to 2013–14 was Rs. 0.61 per unit, based on the average fuel surcharge for 2009–10. Between 2014–15 and 2016–17, it was fixed at Rs.1.20 per unit based on the weighted average fuel surcharge levied in 2012–13. For 2017–18, the rate was revised to Rs. 1.43 per unit based on the weighted average fuel surcharge for 2015–16. With the levy of the base FPPPA, a significant proportion of the fuel surcharge is fixed at the start of the year. An additional amount due to variation in costs is recovered through an incremental fuel surcharge determined on a quarterly basis. It is pertinent to note that even with sustained revenue surplus over the years; there has been no adjustment in the fuel surcharge levied over the years, with the base fuel surcharge showing an ever increasing trend.

Like many other SERCs, the Gujarat ERC does not conduct a vetting process for the costs passed on and the revenue recovered from consumers. Moreover, the Gujarat ERC also does not reconcile revenue from fuel surcharge levied in a transparent manner during the true-up or annual performance review process. Thus, despite high fuel surcharges, there seems to be no regulatory scrutiny of appropriateness of final fuel surcharge levied, nor any accountability for over-recovery or under-recovery of costs.

The base FPPPA is determined as the average per unit rate fuel surcharge levied in previous years and is not based on the anticipated deviation in costs by DISCOMs in the current year. If the cost deviations of DISCOMs are more or less the same every year, it could be argued that the introduction of a base FPPPA leads to tariff certainty for consumers.

In such a case, it would be in the consumers' interest if the SERC transparently includes the recovery of such costs via tariff increase itself, rather than by levying a base FPPPA. Without transparent vetting of levied fuel surcharge, scrutiny of under-recovery or over-recovery of costs or transparent reconciliation of fuel surcharge collected during true-ups, the levy of a base FPPPA could also be seen as a way to increase tariffs without much public scrutiny. Thus, in the public discourse, the ERCs and the DISCOMs are able to maintain that tariffs for various categories have not increased significantly, whereas more than a quarter of the revenue is being recovered through fuel surcharges.

14.2 Impact of decisions of higher courts and APTEL: The case of Maharashtra

The fuel surcharge in Maharashtra varies significantly over time which adds to the tariff uncertainty of consumers. Over and above this, between 2009 and 2014, Maharashtra SERC also allowed the recovery of costs due to impact of decisions in review orders passed by the Maharashtra ERC and decisions of APTEL. The revenue was recovered through an incremental tariff called additional charge levied over a finite period of time. The first such additional charge was levied to recover Rs. 786 crores over three months (at Rs. 0.35/kWh) due to change in tariffs for the generator Ratnagiri Gas and Power Private Limited (RGPPL)³¹ as per the APTEL order dated 25th August 2009 (MERC, 2009).

As mentioned in Section 2, the Electricity Act, 2003 specifies that tariff may not be amended more than once in a year except in the case of fuel surcharge. In Case No. 32 of 2013, when MSEDCL petitioned that

³¹ Ratnagiri Gas and Power Pvt. Ltd (RGPPL) or the erstwhile Dhabol Power Company is a joint venture gas based plant between NTPC Limited and GAIL (India) Limited, based in Maharashtra.

costs arising due to MSPGCL's³² review petition order were to be recovered via an additional charge, the Commission stated that the amount to be recovered is not on account of fuel-related expenses and thus cannot be recovered through fuel surcharges. The commission stated that any such recovery would qualify as an amendment to the existing tariff. It also stated that in order for such an amendment, there is a need for a tariff determination process with public hearings and other measures³³. Keeping this in mind, the Maharashtra SERC, in its April 2013 order gave MSEDCL the option of including the costs in their tariff petitions instead of levying an additional charge for cost recovery (MERC, 2013b).

Shortly after, in September 2013, before any tariff process was initiated³⁴, the commission issued an order where costs on account of various APTEL orders were allowed for recovery in 6 monthly installments via an additional charge. This decision took place without a public process which is clearly in contradiction to the SERC's own observations earlier in the year in Case 32 of 2013. The Commission justified this changed decision by stating that timely cost recovery would help avoid carrying cost (MERC, 2013c). However, as these costs were recovered on a monthly basis over and above tariffs and fuel surcharges, consumers faced significant tariff uncertainty during this period. More importantly, the SERC had not initiated any process for tariff determination for 2013-14, and a better mechanism for avoiding carrying costs would have been a suo motu public process for tariff determination. Unfortunately, instead of such a clear and transparent process, the commission opted for the opaque mechanism of additional charges.

In December 2015, the Multi-Year Tariff regulations were amended to include the impact of decisions of higher courts, tribunals etc., as '*other uncontrollable costs*' to be recovered as an adjustment in tariff on an annual basis for the second and fourth year of the control period through ERC orders (MERC, 2015). This provision in the regulations is a positive step, especially if the costs are recovered after due public process.

14.3 Carrying costs due to ceiling on fuel surcharge: The case of Haryana

As per the Haryana ERC regulations, the quarterly fuel surcharge is capped at 10% of the approved power purchase cost. In practice, the fuel surcharge determined for the quarter has been higher than the cap. However, the reconciliation of these excess costs does not take place during the annual tariff determination process as it does in other states. Instead, the recovery is carried forward and recovered over two to three years along with additional fuel surcharge from subsequent periods.

As DISCOMs incur the cost in past periods and the recovery takes place at a future date, significant carrying cost is levied on the fuel surcharge. The DISCOMs file periodic petitions (once every two to three years) to determine the fuel surcharge, the applicable carrying cost for past, unrecovered claims and rate of fuel surcharge to be levied to ensure recovery. The amounts determined to be recovered

³² Maharashtra State Power Generation Company Limited, the state-owned generating company.

³³ Issue of public notice, consideration of suggestions and objections as well as a technical validation session with consumer representatives as is the practice in Maharashtra.

³⁴ Interestingly, there was no tariff determination process initiated by the SERC for the year 2013-14 and 2014-15.

through such processes are significant. Table 15 captures the impact of the charges levied through such processes.

Table 15: Impact of fuel surcharge and carrying cost in Haryana

Year	Fuel surcharge as % of revenue recovered	Carrying cost as a % of total fuel surcharge
2011–12	19%	10%
2012–13	18%	25%
2013–14	14%	22%
2014–15	11%	24%
2015–16	6%	31%
2016–17	10%	8%

Source: (HERC, 2015; HERC, 2017)

The fuel surcharge determined is substantial at 10% to 19% of the total revenue. What is more crucial is the significant carrying cost at 8% to 31% of the fuel surcharge, most of which could have been avoided with annual reconciliation of costs.

In these periodic processes, the DISCOMs have provided data on recovery of costs (including carrying cost) from each category (HERC, 2015). Based on the recovery, HERC in the past has also determined differential fuel surcharge rates for different categories (HERC, 2015).

15 Commentary

Periodic recovery of costs, especially uncontrollable expenses is necessary to avoid accumulation of liabilities for the DISCOM as well as carrying costs for consumers. Because of this, the Union Government has been advocating for the introduction and active adoption of fuel surcharges across states. Along with regular tariff determination the push for fuel surcharge levy has been even stronger since 2011, when the outstanding liabilities of DISCOMs were as high as 2% of India's GDP. As shown in Table 2, the implementation of fuel surcharges in states was reiterated in APTEL directions and the Shunglu Committee's recommendations on financial health of DISCOMs. It was also specified as conditions of the two recent bailouts - the Financial Restructuring Plan of 2012 and the Ujwal DISCOM Assurance Yojana of 2015. The need for quarterly adjustment of tariffs was also introduced in the National Tariff Policy through the amendment of the policy in 2016.

However, despite the attention, Bihar, Kerala, erstwhile Andhra Pradesh, Himachal Pradesh, Rajasthan and Assam have discontinued the implementation of the fuel surcharge mechanism. Despite having regulations and in spite of strong directives from the SERC, Uttar Pradesh never levied fuel surcharge. In fact, all of these states have committed to regular fuel surcharge implementation under the UDAY scheme. Similar to regular tariff increase, there seems to be a reluctance to implement quarterly fuel surcharges, possibly due to the perceived impact on consumers.

In states which have been levying fuel surcharges for a long time (over a decade in some cases) such as

Gujarat, Maharashtra, Haryana and Chhattisgarh, the impact of fuel surcharges on consumer tariffs is significant, accounting for 7% to 25% of the revenue recovered from consumers. This is shown in Table 4. It is quite likely that as the financial predicament of DISCOMs worsen; the impact of fuel surcharges could increase in other states as well.

The levy of fuel surcharge, though pushed by the central government, is implemented by the states. Thus, the specifications and practice of levying fuel surcharge is different across states, which is captured in Annexure I.

Fuel surcharges are levied on a monthly basis and revised on a quarterly basis in most states. The methodology for determination is described in Figure 1. The costs passed on via the surcharge include deviation in actual power procurement costs from costs approved by the SERC, due to uncontrollable factors. However in many states, costs due to Deviation and Settlement Mechanism (DSM) transactions, short term power procurement, change in generation mix, change in coal quality, costs due to hydro power and renewable energy and even transmission charges are included. Thus, the term fuel surcharge is a misnomer. As fuel surcharges are levied on a per unit basis, per unit surcharge is determined on the basis of sales from which the surcharge will be recovered grossed up by the normative T&D losses so that consumers do not bear the costs due to T&D losses in excess of the norm.

In order to prevent undue tariff impact on consumers some SERCs also specify a ceiling on the per unit fuel surcharge determined. The ceiling is a specific per unit rate or is expressed as a proportion of applicable tariffs or average power procurement costs. Typically, costs in excess of the specified ceiling are recovered in the subsequent periods along with carrying cost or are recovered in the same time period with SERC approval. This is detailed in Section 9. Ideally, the ceiling should be expressed as a proportion of energy charges such that the ceiling takes into account current cross subsidy design and is also low. A low ceiling will also aid frequent public and regulatory scrutiny when costs exceed ceiling limit.

Despite potential savings in carrying cost, there is an observable reluctance to accept fuel surcharges among consumers. This is not just due to perceived tariff impacts but also due to the lack of transparency in the determination and application of fuel surcharges. The lack of periodic, detailed public reviews of the determination and collection of the surcharge only serves to erode the legitimacy of the surcharge. In this context, the major practices across states to ensure transparency, accountability and public participation is captured in Annexure II and Table 16.

Table 16: Summary of practices across states for determination and levy of fuel surcharge

Particulars	Standard practices in states	Exceptions
Periodicity of fuel surcharge levy	Monthly basis with quarterly revisions in Maharashtra, Gujarat, Punjab, Haryana, Bihar, Uttar Pradesh, Karnataka, Kerala, erstwhile Andhra Pradesh, Madhya Pradesh, Himachal Pradesh, Rajasthan, Assam.	Chhattisgarh and West Bengal, where the charge is revised bimonthly for the former and monthly for the latter.
Regular implementation of fuel surcharge	Only in Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Punjab, West Bengal, Chhattisgarh and Haryana	Bihar, Kerala, erstwhile Andhra Pradesh, Himachal Pradesh, Rajasthan and Assam. Uttar Pradesh never levied fuel surcharges.
Cap/ceiling on surcharge	Excess recovered subject to SERC approval in Gujarat, Assam, Karnataka, and Maharashtra. Recovered in subsequent periods in Haryana, Rajasthan, Himachal Pradesh, Bihar, Uttar Pradesh, and Chhattisgarh.	No cap or ceiling in Punjab, West Bengal, Kerala, erstwhile Andhra Pradesh and Madhya Pradesh.
Categories exempt	Agriculture, BPL and domestic categories exempt in Himachal Pradesh, Kerala, Punjab, West Bengal, Haryana and Bihar	Madhya Pradesh, Maharashtra, Rajasthan, Chhattisgarh, Assam.
Transparency in surcharges	All states publish information on fuel surcharges for that quarter on their websites and in the bills. Some states take more efforts to make consumers aware of applicable rate, namely West Bengal, erstwhile Andhra Pradesh Madhya Pradesh, Karnataka, Chhattisgarh and Assam.	
Transparency in information on costs	Approved and actual costs for each power station, the applicable T&D losses and information on unmetered sales is reported in Punjab, Bihar, Assam, Maharashtra, erstwhile Andhra Pradesh, West Bengal, Chhattisgarh, Kerala, Gujarat, Haryana.	Madhya Pradesh, Rajasthan, Haryana and Himachal Pradesh only report the per unit fuel surcharge. Karnataka reports costs but not for each power plant.
Approval of costs by SERCs	SERCs of Karnataka, Bihar, Assam, Kerala, Punjab, Haryana erstwhile Andhra Pradesh regularly issue orders for approval of fuel surcharge.	Maharashtra, Gujarat, Haryana, Uttar Pradesh, West Bengal, Chhattisgarh, Madhya Pradesh, Himachal Pradesh, and Rajasthan SERCs except in special circumstances.
Post facto vetting or verification of costs and revenues	Only Maharashtra ERC issues vetting order for fuel surcharge levied in previous period. Annual verification, reconciliation of revenue collected takes place in Bihar Maharashtra, Punjab, Chhattisgarh, Assam and erstwhile Andhra Pradesh.	Gujarat, Haryana, Uttar Pradesh, West Bengal, Karnataka, Kerala Madhya Pradesh, Himachal Pradesh, and Rajasthan.
Reconciliation of recovery during tariff determination/true-up process	Maharashtra, Punjab, Bihar, Chhattisgarh, Assam and erstwhile Andhra Pradesh.	Gujarat, Haryana, Uttar Pradesh, West Bengal Karnataka, Kerala Madhya Pradesh, Himachal Pradesh, and Rajasthan.
Public processes	Kerala, erstwhile Andhra Pradesh and Haryana	Maharashtra, Gujarat, Punjab, Bihar, Uttar Pradesh, West Bengal, Chhattisgarh, Karnataka, Madhya Pradesh, Himachal Pradesh, Rajasthan, and Assam.

Source: Prayas (Energy Group) compilation

Even though all DISCOMs clearly state the applicable fuel surcharge in the bills, information on costs which are passed on to consumers and sales considered for the determination is not reported on a quarterly basis in Madhya Pradesh, Rajasthan, Haryana and Himachal Pradesh. Despite the levy being on a quarterly basis, several states have processes in place to ensure accountability of DISCOMs for fuel

surcharges. Regulatory approval of fuel surcharges takes place on a quarterly basis in Karnataka, Bihar, Assam, Kerala, Punjab, and erstwhile Andhra Pradesh for all quarters. In Kerala and erstwhile Andhra Pradesh, the approval of fuel surcharges used to take place through extensive public consultations and public hearings. However, it is also true that both these states do not actively levy fuel surcharges. In fact, of these states, only Karnataka and Punjab actively levy fuel surcharges every quarter.

Maharashtra is the only state which issues quarterly vetting orders for the previous period which includes reporting of over-recovery or under-recovery of revenue collected from consumers. The Maharashtra ERC issues such orders for four distribution licensees. Such a process for vetting of costs is as crucial as the regulatory approval of fuel surcharge and can be easily replicated across states. Maharashtra, Punjab, Bihar, Chhattisgarh, Assam and erstwhile Andhra Pradesh also report revenue recovered from fuel surcharges during the tariff determination process. Moreover, any tariff increase approved is reported over and above the revenue from tariffs as well as the fuel surcharges in the previous year. Such a process ensures transparency, certainty in tariffs and the revenue recovered from consumers.

In states where there is limited or no regulatory and public scrutiny of fuel surcharge as in Gujarat, West Bengal, Madhya Pradesh, Himachal Pradesh and Rajasthan, one could argue that DISCOMs can levy substantial fuel surcharges and not be accountable for passing on the inefficiencies of power procurement to consumers. This is currently an issue in states where the levy is significant such as Gujarat. Going forward, without processes to ensure legitimacy of the levy and with rising uncertainty in costs, fuel surcharge could be used as an instrument to increase effective tariffs without public accountability in many other states.

As there are large variations in the regulations and the practice of levy of fuel surcharge across states, it is important that there is a guiding framework at the national level which the states can refer to while implementing fuel surcharge. Such a framework, based on implementation experiences in various states, can help evolve methodologies for determination of fuel surcharge which addresses the concerns of the utility. It can also help institutionalise practices which increase accountability of the DISCOM. The framework could be developed by the Ministry of Power or the Forum of Regulators and could act as a practice guide for fuel surcharge levy. SERCs could be free to adopt and adapt practices suitable for their state realities. Some aspects which can be part of the framework are discussed below:

- 1. Recovery through fuel surcharges to be limited to uncontrollable costs:** As specified in most regulations, recovery from fuel surcharges should be limited to uncontrollable costs. However, specific allowances can be made depending on state realities. However, the cost-heads which can be considered should be specified ex-ante in the regulations and orders of SERC. The DISCOM or SERC should be guided by these specifications while assessing costs admissible for recovery. Else ad-hoc inclusion of costs will reduce the legitimacy of the process.
- 2. SERCs to provide more detailed information to encourage informed public scrutiny of surcharge:** Given the public resistance to fuel surcharges, the SERC can also report potential reduction in

revenue requirement by avoiding carrying costs due to fuel surcharges on an annual basis. Additionally, similar to tariffs, if the SERC regularly publishes details of station-wise costs passed on to consumers, revenue recovered, subsidy availed, carrying costs applied and the detailed calculations done by the DISCOMs or the ERC to arrive at the per unit surcharge, the public acceptance of the surcharge would increase.

- 3. Penalties for delays in filing:** Even though delayed filing defeats the very purpose of levying a fuel surcharge, it is a common practice across states. Penalties for delayed filing such as forfeiting of cost recovery due to delayed filing (as specified in Andhra Pradesh and Bihar ERC regulations and as per directives of the Uttar Pradesh SERC) can be adopted in other states to encourage timely filing of claims. Alternatively, unless the delay is due to exigent circumstances or can be ascribed to the delay in action by the Commission, costs claimed under fuel surcharge should not be subject to carrying costs. Not only will this incentivise timely filing, but also ensure that consumers are not saddled with avoidable carrying costs. Similar to tariff revision, SERCs can also initiate suo motu proceedings if DISCOMS do not submit information and determine fuel surcharges in a timely manner.
- 4. Ceiling on fuel surcharges based on energy charges with carrying cost settlement at the end of the year:** The share of power procurement in the total expenses of the DISCOM is currently more than 75% and is bound to increase in the medium term, especially with backing down of surplus capacity and addition of high cost capacity to the power procurement mix. Thus, a ceiling based on power procurement costs will be significant, and a high ceiling will make it easier for DISCOMs to recover costs without regulatory approval and public scrutiny. As the idea of the ceiling is to limit undue burden due to fuel surcharges, it is preferable that the ceiling is based on the energy charges applicable on the consumer. This will also be reflective of the cross-subsidy structure and thus will reduce the impact on small consumers. Additionally, costs in excess of the ceiling should be passed on to consumers only after regulatory approval. In case the costs recovery is deferred to a subsequent period, the settlement of the applicable carrying costs should take place at the end of the year in the tariff determination process. This way, the carrying costs will not result in cost exceeding the ceiling limit.
- 5. Levy of fuel surcharge should not change the cross-subsidy structure and tariff design:** Given that fuel surcharge can be significant; it is unfair to charge different consumers with varying paying capacities the same surcharge. Therefore akin to tariffs, there is a need for support to consumers with low paying capacities. The need for support for fuel surcharge levy was emphasized in a recent Supreme Court judgment on the levy in Andhra Pradesh as well (Supreme Court, 2016). States should have a provision for support in the fuel surcharge determination methodology. The extent of support through subsidies and cross-subsidies can vary given state realities, and needs to be deliberated by the Commission depending on existing cross-subsidy levels and the inclination of the State Government to provide subsidies.

6. **Detailed vetting and verification of costs and revenue recovered to take place annually along with the tariff determination process:** Whether the fuel surcharge is decided and implemented by the DISCOM or is approved by the SERC for a quarter, there needs to be some process for vetting of costs and verification of revenue recovered. Ideally, quarterly vetting and verification of costs by SERCs should be adopted in all states. If such a process is onerous for SERCs, detailed vetting and verification of costs and revenue recovered from tariffs should be part of every annual tariff determination process. This would also ensure that there is a transparent, public process for vetting and verification. Therefore, detailed quarterly information on deviation in costs, category wise sales and category-wise revenue recovered along with carrying cost, applicable subsidies booked and received for fuel surcharges etc., needs to be submitted along with the tariff petition by the DISCOM. Vetting should also include reconciliation of unrecovered costs and applicable carrying costs such that they are not carried forward indefinitely along with carrying costs, as is the case in Haryana.

There has been a significant policy push for the implementation of fuel surcharges in the past decade. Given the dire and deteriorating state of DISCOM finances, effective implementation of fuel surcharge is crucial to avoid loss accumulation. This requires significant commitment from the State Governments. Moreover, a transparent process, with extensive consultation during the levy, post facto reconciliation and accountability for fuel surcharges will also aid implementation. Detailed vetting and verification of costs and revenue recovered to take place annually along with the tariff determination process: Ideally, quarterly vetting and verification of costs by SERCs should be adopted in all states. The impact of fuel surcharge on consumers is similar to tariff impacts. Therefore without measures to ensure detailed vetting, transparency in determination and without support for small consumers the public acceptance of the charge will be low and the benefits of this provision for DISCOMs and consumers will not be realised.

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Annexure I: Details of orders and regulations on mechanism for levy of fuel surcharge

State	Costs considered	Costs explicitly disallowed	Treatment of sales and applicability on consumers	Periodicity for levy and billing period	Reporting formats, processes for estimation, verification and vetting	Upper/lower limits for surcharge passed on	Transparency in surcharges for consumer
Maharashtra (MYT Regulations, 2015) (MERC, 2015)	Actual Variation in cost of power purchase due to uncontrollable factors including changes in coal quality. Cost of adjustments up to 4 months prior with carrying cost.	Controllable costs such as variation in costs due to deviation from performance norms, O&M costs, coal transit losses.	Per unit cost estimated using total metered, estimated unmetered sales, based on normative T&D losses. Category wise levy varies is weighted for cross subsidy (ABR/ACoS).	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Variation in expenses, computations, FAC levied with supporting documents for verification on a quarterly basis within 60 days of the end of each quarter. Quarterly vetting of FAC charged.	FAC should not exceed 20% of the energy charges.	All approved levies to be on DISCOM website.
Gujarat (Order in Petition No.1309 of 2013) (GERC, 2013)	Actual Variation in cost of power purchase due to uncontrollable factors.	Controllable costs and variation due to REC purchase.	Per unit cost is the difference between actual and approved APPC and transmission costs based on normative T&D losses. FAC for agriculture paid via subsidies.	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Not specified	Approval from ERC required if fuel surcharge exceeds 10p/unit.	Not Specified
Madhya Pradesh (Latest Tariff Order) (MPERC, 2017)	Actual Variation in variable charges paid to generators due to uncontrollable factors.	Changes in variable costs of hydro plants.	Per unit cost determined using actual sales based on normative T&D losses. Applicable on all consumers.	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Station-wise cost details to be reported by MPPMCL 15 days prior to billing period. Charge to be levied only after ERC approval.	Not specified	Fuel surcharge to be reported separately in consumer bills.
Karnataka (Fuel Cost Adjustment Charges Regulations, 2013) (KERC, 2013)	Deviation in actual, approved variable cost. Adjustments due to variation in surcharge collected, approved. Costs approved during post facto validation and prior period adjustments, fuel surcharge not recovered.	None	Per unit cost determined using actual sales based on normative T&D losses. Applicable for all consumers.	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Station wise cost details to be submitted 30 days before billing period to ERC. Submissions to be signed by DISCOM representative and certified by chartered accountant.	To not exceed 10p/unit. Excess to be recovered via future adjustments.	Surcharge to be mentioned separately in bill and published on website and in at least 1 English and 1 Kannada newspaper one week before billing period.

State	Costs considered	Costs explicitly disallowed	Treatment of sales and applicability on consumers	Periodicity for levy and billing period	Reporting formats, processes for estimation, verification and vetting	Upper/lower limits for surcharge passed on	Transparency in surcharges for consumer
Punjab (Appendix 7 Conduct of Business Regulations, 2005) (PSERC, 2005)	Change in fuel cost and power purchase costs of generators.	Costs due to deviation from norms such as station heat rates, transit loss for coal, auxiliary consumption.	$\text{Per unit FCA for metered sales} = \frac{\text{FCA for metered consumption}}{\text{Metered sales}}$ $\text{Per unit FCA for unmetered sales} = \frac{\text{FCA for unmetered consumption}}{\text{Unmetered connected load}}$ Sales used on the basis of normative T&D losses. Surcharge not applicable, if the energy bill remains within minimum charges.	Monthly, with quarterly rate revisions. Billing period with 4 month lag.	Station wise costs to be submitted to ERC every quarter. The surcharge for only the 3rd and 4th Quarter shall be subject to approval by the Commission (PSERC, 2012).	Not specified	Not Specified
Haryana (MYT Regulations, 2012) (HERC, 2012)	Difference in approved and actual average power purchase costs due to uncontrollable factors. Costs due to UI/DSM transactions. Adjustments due to under/over-recovery in previous time periods. Applicable carrying costs.	Change in controllable costs - SHR, auxiliary consumption, return on equity, O&M, transit loss of coal etc. UI /DSM costs in violation of grid discipline.	Average costs multiplied with The power purchase based on sales and normative T&D losses to arrive at total costs. Per unit charge based on estimated metered sales and commission approved estimates of unmetered sales. Uniform charge across all categories. Government providing subsidy for some categories.	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Station wise costs, UI/DSM costs, sales estimates, details to be submitted to ERC quarterly with invoices. Estimates can be used if actual are not available. If actual numbers exceed estimates, estimates are retained.	Not to exceed 10% of APPC.	Not Specified
Rajasthan (MYT Regulations, 2014) (RERC, 2014)	Deviation between actual and approved variable charges. For single part tariff sources, 1/3 of total tariff assumed as variable charge.	Variation in power purchase cost due to UI/DSM, hydropower, unapproved purchases .	Per unit surcharge is determined by dividing this by actual metered sales and unmetered sales estimated by ERC. Applicable on all consumers.	Monthly, with quarterly rate revisions. Billing period is succeeding quarter.	Cost data and surcharge recovered to be reported to ERC based on bills paid/credits received and shall include any arrears/refunds.	Not to exceed 10% of APPC.	Not Specified

State	Costs considered	Costs explicitly disallowed	Treatment of sales and applicability on consumers	Periodicity for levy and billing period	Reporting formats, processes for estimation, verification and vetting	Upper/lower limits for surcharge passed on	Transparency in surcharges for consumer
Bihar (MYT Regulations, 2015) (BERC, 2015)	Variation in fuel price, water charges, and taxes for state owned generating stations. Variation in power purchase rate for power from other sources. Costs due to other unpredictable and unknown factors. Prior period adjustments.	Penalties, interest due to delayed payments. Cost increase due to deviation from norms. ERC approval needed for costs due to change in generation mix.	Per unit surcharge calculated based on sales estimated using normative T&D losses. Applicable on all consumers.	Monthly, billing to be month subsequent to ERC approval of charge.	Station wise costs, calculations and certified bill copies to be filed, authenticated DISCOM officer (CE or above). DISCOM to submit compliance report for previous surcharge.	Should not exceed 10% of the approved ACoS. If less than 10 paise/unit, to be carried forward.	Not Specified
Uttar Pradesh (MYT Regulations, 2014) (UPERC, 2014)	Deviation in fuel and power purchase rate. Increase in bulk supply tariff. Adjustments due to under/over-recovery, applicable carrying cost.	Costs due to change in controllable parameters such as station heat rate, auxiliary consumption, transit loss needs ERC approval.	Per unit surcharge calculated based on sales estimated using normative T&D losses. Applicable on all consumers. Government can choose to provide subsidy.	Monthly, with quarterly rate revisions. Billing period with 2 month lag.	Detailed cost data, supporting documents to be submitted within 28 days of the end of the quarter for ERC verification. If fuel surcharge levied is unjustified, ERC can adjust amount subsequently.	10% of variable component of tariff.	Not specified. Previous regulation specified publication of surcharge and computation in collection centers and websites.
Chhattisgarh (MYT Regulations, 2015) (CSERC, 2015)	Deviation between approved and actual power procurement costs. Adjustments due prior expenses to be adjusted during true-ups.	Short term power purchase, power from renewable energy sources, UI /DSM payable/ receivable, sale of power outside state. Deviation in cost due to controllable factors. Costs in breach of economic purchasing obligation.	Per unit surcharge calculated based on sales estimated using normative T&D losses. For EHV and HV consumers, it is calculated on actual recorded sales. Applicable on all consumers.	Bi-monthly, with the 2 month lag for billing.	Detailed cost computations, documentary evidence to be submitted by the State Generating Company to the DISCOM within 30 days and the DISCOMs to intimate Commission of calculations and charges within 2 months.	Domestic consumers using less than 200 units/ month not to be charged more than 5% of applicable tariff.	Calculations and applicable charge to be displayed CSPDCL website till truing up of that year. Charge to be indicated separately in electricity bills.

State	Costs considered	Costs explicitly disallowed	Treatment of sales and applicability on consumers	Periodicity for levy and billing period	Reporting formats, processes for estimation, verification and vetting	Upper/lower limits for surcharge passed on	Transparency in surcharges for consumer
West Bengal (MYT Regulations, 2011) (WBERC, 2012; WBERC, 2011)	Deviation in approved and actual fuel and power procurement costs, UI/DSM charges. Over/under recovery adjustments.	Excess energy purchase disallowed by Commission. Deviation due to change in norms. Prior period adjustments due to supplementary bills to be adjusted at the end of the year.	Determined on a on a per unit basis using energy sent out from generating stations. Applicable on all consumers.	Monthly with a lag of one month.	Detailed calculations for computation, estimation, verification to be submitted quarterly to ERC. Vetting during true up/tariff process. Public comments to be sought in case of deviation in methodology.	In case surcharge is greater than 10% of past months MVCA due to short term power purchase, DISCOM free to adjust excess in other months.	Surcharge for past 24 months to be listed on website. Latest surcharge to be published in 2 leading newspapers.
Assam (Fuel and Power Purchase Price Adjustment Regulations, 2010) (AERC, 2012)	Difference in actual and approved price of generation and power purchase. Adjustments for under/over-recovery of surcharge.	Costs incurred due to contravention of merit order principles, transit and handling costs of fuel above specifications.	Per unit charge determined as proportion of actual metered, estimated unmetered sales grossed up on normative T&D losses. Sales from exempt categories not included.	Monthly, with quarterly rate revisions. Billing period is succeeding quarter.	Data to be submitted to ERC after audit and certification by Cost/Chartered Accountant within 60 days. DISCOMs forfeits any future claims in case of non-compliance. Prior ERC approval necessary if variation is > 5% of approved costs. DISCOMs to reconcile figures annually based on audited accounts.	Not exceeding 25% of variable cost. Adjustments permitted with ERC approval.	Details of costs, computations, surcharges on website and to be displayed at cash collection centers.
Kerala (Fuel surcharge formula Regulations, 2009) (KSERC, 2010)	Deviation in actual and approved price of generation and power purchase. Adjustments from previous periods. Specific considerations for change in hydro-thermal mix.	Costs incurred due to contravention of merit order principles and deviation from norms.	Per unit charge calculated based on sales estimated with normative losses. Domestic consumers with a connected load > 500W and monthly consumption not exceeding 20 units exempt.	Monthly or bi-monthly but levy is determined on a quarterly basis. Billing for previous quarter in third month of next quarter.	Station wise cost data to be submitted to ERC within 15 days after the end of each quarter. Additional details can be sought by ERC but no specific mention of post facto vetting.	No limits specified	Not Specified

State	Costs considered	Costs explicitly disallowed	Treatment of sales and applicability on consumers	Periodicity for levy and billing period	Reporting formats, processes for estimation, verification and vetting	Upper/lower limits for surcharge passed on	Transparency in surcharges for consumer
Himachal Pradesh (First Amendment (2012) to MYT Regulations, 2011) (HPERC, 2013)	Variation in approved and actual fuel and power purchase costs. Cost of additional power purchase. Revision of generation tariff. Under/over - recovery with applicable carrying costs.	UI/DSM, power procurement without ERC approval. Incremental power purchase cost due to uncontrollable factors will be estimated as difference between APPC and weighted average rates in bilateral markets, power exchanges.	Per unit cost is determined on total sales excluding BPL sales. BPL consumers are exempt. State governments can also subsidise exempt categories.	Monthly, with quarterly rate revisions. Billing is on first month of following quarter.	Detailed calculations to be submitted to the ERC within 28 days after the end of the quarter. Commission to examine submissions for discrepancies. Discrepancies in calculation to be informed by DISCOM before the end of next quarter. Corrections to be made in the quarter succeeding this quarter.	10% of APPC	Not specified
Erstwhile Andhra Pradesh (Second Amendment to Section 45-B of the Conduct of Business Regulations, 1999) (APERC, 2003)	Deviation in actual and approved power procurement price, variation in approved and actual fixed charges of state owned generating stations, over/under - recovery adjustments.	Violation of merit order. UI/DSM charges. Costs due to deviation from norms. No other costs other than transport costs can be charged along with fuel costs.	Per unit cost determined using sales except agricultural sales. Surcharge applicable on all consumers except agriculture.	Not specified in regulations but billing is monthly but levy is determined on a quarterly basis. Billing is on first month of following quarter.	Fixed and variable costs for each generating stations to be submitted along with sales from transmission company. Data to be provided within 30 days of end of quarter or DISCOM must forfeit claims. Penalties are to be levied for furnishing wrong data.	Not specified	Approved fuel surcharge to be published in English and Telugu newspapers in the area of supply and should be made available to public on request at reasonable cost.

Source: Prayas (Energy Group) compilation based on regulations and orders in various states.

Annexure II: Observations on processes of levy of fuel surcharge

State	Source	Information available through SERC and DISCOM websites	Public Consultation
Maharashtra	DISCOM website	Month-wise, station-wise deviation in costs. Adjustments due to under/over-recovery from previous periods. Detailed calculations for determination of category-wise, surcharge. Formats specify DISCOM should provide plant-wise quantum of imported and domestic coal used, landed price of coal, freight charges, applicable taxes and duties, transit loss of fuel, as well as a monthly inventory of fuel purchase per station. Also included month-wise connected load for agricultural consumers. However, information for this is not submitted by DISCOM.	No public hearing
Chhattisgarh	DISCOM website	Category-wise surcharge, station-wise deviation in costs, total sales and normative T&D losses.	No public hearing
West Bengal	DISCOM website	ERC directed DISCOMs to publish computation of surcharge on website (WBERC, 2014a). WBSEDCL publishes estimates for sales, month-wise power procurement costs, T&D losses for computation.	No public hearing
Madhya Pradesh	DISCOM circulars	DISCOMs <i>only</i> publish per-unit rate to be levied for the period. Circulars mention levy of surcharge is after approval of the ERC. However no orders are issued by the ERC on the matter.	No public hearing
Rajasthan	DISCOM circulars	Only applicable rate is provided. ³⁵	No public hearing
Haryana	DISCOM circulars	Applicable rate in circulars. ERC submissions and orders include station-wise deviation in costs, methodology followed for estimation, detailed calculations, applicable sales and T&D losses.	No public hearing
Himachal Pradesh	DISCOM circulars	Only applicable rate provided.	No public hearing
Gujarat	Circulars by GUVNL ³⁶	Quarter-wise, station-wise actual generation and cost incurred. T&D, sales considered. Under/over-recovery from past periods.	No public hearing
Bihar	ERC orders	Month-wise, station-wise deviation in power purchase costs, total sales, T&D loss considered. Parameters considered for estimation as per ERC regulation.	No public hearing
Assam	ERC orders	Month-wise, station-wise deviation in power purchase costs, metered, unmetered sales, T&D loss. Under/over-recovery of surcharges. Parameters for estimation as per ERC regulation. Order comes with a set of directives.	No public hearing
Punjab	ERC orders	No information provided except the total approved and the actual power procurement cost, applicable rate.	No public hearing
Karnataka	ERC orders	Approved deviation in total costs, T&D losses and sales considered. Petitions contain month-wise information on station-wise variation in fuel costs and power purchase costs, sales, and T&D losses (BESCOM, 2016).	No public hearing
Erstwhile Andhra Pradesh and Kerala	ERC orders	Order with stakeholder comments, statement of reasons. Month-wise, station-wise deviation in costs, total sales and T&D loss provided.	Public hearing

Source: Prayas (Energy Group) analysis of various orders, circulars and notification.

³⁵ Jaipur Vidyut Vitran Nigam Limited (JVVNL) uploaded detailed calculations for the determination of fuel surcharge for the first quarter of 2016–17 including station-wise power purchase cost variation, total sales and T&D loss estimates. However, commercial circulars were not issued levying charges in that quarter (JVVNL, 2016).

³⁶ Gujarat Urja Vikas Nigam Limited (GUVNL) is the holding company and the power procurement agency for the DISCOMs.

List of Abbreviations

APPC	Average Power Purchase Cost	MoU	Memorandum of Understanding
APTEL	Appellate Tribunal for Electricity	MSEDCL	Maharashtra State Electricity Distribution Company Limited
BPL	Below Poverty Line	MSPGCL	Maharashtra State Power Generation Co. Ltd.
CAGR	Compound Annual Growth Rate	MVCA	Monthly Variable Cost Adjustment
DISCOM	Distribution Company	MYT	Multi-Year Tariff
DSM	Deviation and Settlement Mechanism	O&M	Operation and Maintenance
ERC	Electricity Regulatory Commission	PSPCL	Punjab State Power Corporation Limited
FAC	Fuel Adjustment Charges	RGPPCL	Ratnagiri Gas and Power Private Limited
FCA	Fuel Cost Adjustment	REC	Renewable Energy Certificates
FPPCA	Fuel Price and Power Purchase Cost Adjustment	SEB	State Electricity Board
FPPPA	Fuel Price and Power Purchase Adjustment	SERC	State Electricity Regulatory Commission
FRP	Financial Restructuring Plan	SHR	Station Heat Rate
FSA	Fuel Surcharge Adjustment	T&D	Transmission and Distribution
GERC	Gujarat Electricity Regulatory Commission	TANGEDCO	Tamil Nadu Generation and Distribution Corporation
GUVNL	Gujarat Urja Vikas Nigam Limited	TNERC	Tamil Nadu Electricity Regulatory Commission
IPPC	Incremental Power Purchase Cost	UDAY	Ujwal Discom Assurance Yojana
JVVNL	Jaipur Vidyut Vitaran Nigam Limited	UI	Unscheduled Interchange
kWh	Kilo-watt hour	UPERC	Uttar Pradesh Electricity Regulatory Commission
MERC	Maharashtra Electricity Regulatory Commission	UPPCL	Uttar Pradesh Power Corporation Limited
MoP	Ministry of Power	VCA	Variable Cost Adjustment

Selected Publication of Prayas (Energy Group)

- 1 Many Sparks but Little Light: The Rhetoric and Practice of Electricity Sector Reforms in India (2017)
<http://www.prayaspune.org/peg/publications/item/332>
- 2 Choosing Green: the status and challenges of renewable energy based open access (2017)
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The lesser-known tariff

Fuel surcharge levy in Indian states

Fuel surcharges, which are typically levied on a monthly basis, and revised every quarter, enable timely recovery of costs that are incurred over and above approved tariffs. Therefore, they ease the working capital woes of the DISCOM. This, in turn, also reduces the burden of carrying cost for consumers. The implementation of fuel surcharges has been strongly advocated by the Union Government as a measure to alleviate the financial predicament of DISCOMs.

In this context, the report studies the various processes, methodologies and practices across states to determine, levy, and recover fuel surcharges. As the impact on consumers can be significant, any process for its determination and levy should ensure transparency, accountability, and public participation. Considering this, the report covers developments in Assam, Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and West Bengal. This report highlights common trends and draws lessons for a national framework for implementation of fuel surcharges such that it is both acceptable to consumers, and enables timely recovery of prudent costs for DISCOMs.