2nd Regulatory Research Camp

Regulatory Framework for Distribution ARR and Tariff Determination

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Distribution Tariff Regulations: Kerala

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Introduction

- Present Scheme of Power sector Regulation in Kerala
  - KSEB Ltd remains as a single integrated utility having three strategic business units (SBU-G, SBU-T, SBU-D) and engaged in the field of Generation, Transmission and Distribution, established after the 2nd transfer scheme as per EA 2003
  - SBU-G holds the Generation Assets
  - SBU-T is the deemed transmission licensee and State Transmission Utility
  - SBU D is the distribution licensee
    - Serves about 98% of the consumer demand
  - There are other 8 distribution licensees in the State, covering small service /licence areas
  - All the other licensees purchase power in Bulk from KSEB Ltd for sale in their area of supply.

Introduction

- Commission follows the principle of Uniform Retail Supply Tariff (RST) for the entire State
  - Ie., irrespective of the area of licensee, the consumer has to pay same tariff.
- Since the consumer mix and revenue generation potential is different, differential Bulk Supply Tariff (BST) regime is followed for licensees purchase energy from KSEB Ltd for retail sale
  - Ie., the power purchase cost of each distribution licensees is different and dependent on their consumer mix and revenue potential
  - The power purchase cost is determined in such a way that the revenue after meeting the distribution cost is treated as power purchase cost and Bulk Supply Tariff (BST) determined accordingly, irrespective of voltage level or usage pattern or cost considerations

Regulations issued by the Commission

- KSERC (Tariff) Regulations, 2003 (Repealed)
- KSERC (Terms and Conditions of Tariff for Retail Sale of Electricity) Regulations, 2006 (Repealed)
- KSERC (Terms and Conditions for Determination of Tariff for Distribution and Retail Sale of Electricity under MYT Framework) Regulations, 2006 (Repealed)
- KSERC (Fuel Surcharge Formula) Regulations, 2009 (Repealed)
- KSERC (Terms and conditions for determination of Tariff) Regulations, 2014(Repealed)
- KSERC (Terms and conditions for determination of Tariff) Regulations, 2018

Features of Existing Regulations.....1

- Regulations 2003 essentially enabling form for facilitating the filing
- Regulations 2006 introduced the principle of MYT, Rudimentary, could not proceed since KSEB functioned as single entity till 2013
- Existing Regulations in a Multi year format for unbundled entities
  - As per the provisions of Section 61, while specifying the terms and conditions of Tariff, the principle of Multi Year Tariff is to be followed
    - Principles and methodologies remain same in the control period
    - Revision if any will be only at the end of the control period
    - Long term perspective for tariff determination
    - Multi year format ensures regulatory certainty, reduces the regulatory risk
    - Provides long term horizon for the licensees and consumer/ stakeholders
    - Forces the Utilities to plan for a long term
    - The other benefits
      - adequate incentive and disincentive system for encouraging performance and penalizing non-performance
      - insulating the licensees from factors which are beyond their control

Features of Existing Regulations.....2

- Control period
  - First control period is 3 years (2015-16 to 2017-18) – 2014 Regulations
  - Second control period be 4 years (2018-19 to 2021-22)
    - Control period should not be too long and too short
    - Slowly graduating to standard five year period
    - Also needs to address short term uncertainties
- Revisions during control period
  - 2014 Regulations provide for annual revisions
  - 2018 Regulation provide for mid term review after two years

Features of Existing Regulations.....3

- Linking norms to performance
  - Performance parameters
    - Distribution loss – to be furnished by the licensee
    - Collection efficiency – to be proposed by the licensee
    - Availability - fixed in the Regulations

Features of Existing Regulations.....4

- Escalation rates
  - Escalation factor is an important parameter
  - Generally inflation is considered as an uncontrollable factor
  - 2014 regulations provides for CERC escalation rate of 5.28% for the period upto 2013-14 and for the control period 5.85% was used
    - CERC escalation factor not specifically linked to inflation but the actual rate of expenses of central utilities
  - Presently CPI:WPI at 70:30 weightage taking the average of previous 4 years

Escalation Factors	2013-14	2014-15	2015-16	2016-17
CPI	236.00	250.83	265.00	275.92
CPI Increase (%)	*9.68%*	*6.28%*	*5.65%*	*4.12%*
WPI (2011-12 series)	112.50	113.90	109.70	111.60
WPI increase (%)	5.24%	1.24%	-3.69%	1.73%
CPI:WPI (70:30) increase	8.35%	4.77%	2.85%	3.40%
Average increase (2013-14 to 2016-17)				4.84%

Features of Existing Regulations.....5

- Suo motu determination of tariff :
  - 2014 Regulations contain provision for suo motu revision of Tariff if the licensee fails to file petitions
  - Present Regulations is silent on this issue since the Commission has the inherent power to initiate suo motu proceedings.

Features of existing Regulations……6

- Controllable factors – gains to be shared between users and licensees (1/3rd ; 2/3rd) ; losses no sharing ; Pay revision expenses to be allowed separately ; R&M expenses of One time nature to be allowed after prudence check

(i) variations in capital expenditure on account of time and/or cost overruns/ inefficiencies in the implementation of a project not approved by the Commission in the scope of such project, change in statutory levies or due to *force majeure* events;
(ii) capital cost over-run due to delay by equipment supplier;
(iii) variations in capital expenditure on account of time and/or cost over-runs on account of land acquisition issues;
(iv) gross station heat rate;
(v) secondary fuel oil consumption;
(vi) auxiliary energy consumption;
(vii) operation and maintenance expenses;
(viii) variation in supply availability;
(ix) variation in performance parameters;
(x) variation in distribution loss;
(xi) variation in collection efficiency;
(xii) provision for bad debts.

Features of existing Regulations….7

- Uncontrollable factors

(i) *force majeure* events;
(ii) change in law, judicial pronouncements and orders of the Central Government, the Kerala State Government or the Commission;
(iii) economy wide influences such as unforeseen changes in inflation rate, taxes and statutory levies;
(iv) variation in prices of coal, oil and all primary/secondary fuel;
(v) variation in the cost of power purchase due to additional short-term power purchase for some special circumstances specified in Regulation 77;
(vi) taxes on income;
(vii) variation in interest rates;
(viii) variation in number of consumers or mix of consumers or quantities of electricity supplied to the consumers.

Features of Existing Regulations….8

- O&M Norms for distribution
  - Employee cost and A&G expenses is recovered through following parameters
    - No. of consumers
    - Length of lines
    - No. of distribution transformers
    - Energy sales
    - In the ratio of 30:25:25:20
- R&M expenses was benchmarked at 3% of GFA of distribution
- Dilemma – whether to benchmark output or input parameters

Features of Existing Regulations….9

O&M Norms, 2014

Sl.	Particulars	O&M costs for distribution business of KSEB Limited (Rs. Crore)			
		FY 2013-14	FY 2015-16	FY 2016-17	FY 201 18
A	**Employee Costs**				
1	Rs. lakh per '000 consumers	2.14	2.40	2.54	2.69
2	Rs. lakh per distribution transformer	0.30	0.33	0.35	0.37
3	Rs. lakh per km of HT line	0.35	0.40	0.42	0.44
4	Rs. per unit of sales	0.09	0.10	0.11	0.11
B	**A&G Costs**				
1	Rs. lakh per '000 consumers	0.18	0.21	0.22	0.23
2	Rs. lakh per distribution transformer	0.03	0.03	0.03	0.03
3	Rs. lakh per km of HT line	0.03	0.03	0.04	0.04
4	Rs. per unit of sales	0.01	0.01	0.01	0.01
C	**R&M Costs as % of GFA**	2.7%	3%	3%	3%

Features of existing Regulations……10

O&M Norms 2018

	Control period			
	2018-19	**2019-20**	**2020-21**	**2021-22**
No. of consumers (Rs. Lakh/'000 consumers)	4.80	5.03	5.27	5.53
No. of Distribution transformers (Rs.lakh/Distribution transformer)	0.64	0.67	0.70	0.73
Length of HT line (Rs.lakh/km of HT line)	0.79	0.83	0.87	0.91
Energy sales (Rs.per unit)	0.19	0.20	0.21	0.22

R&M 3% of GFA excluding land

Features of existing Regulations……11

- Capital cost
  - As on 1/4/2018 will form the basis
  - Assets not put into use/ not in use will be excluded
  - IDC from the date of infusion of debt or actual start of the work which ever is later
  - Capital subsidies to be excluded

Features of Existing Regulations……12

- Debt : Equity ratio for the existing assets as approved in the previous control period
  - Normative loan considering the GFA less accumulated depreciation
  - For new projects normative level of 70:30
  - Rate of interest will be based on the average interest of actual loans
  - Asset addition (put into use) during the year also get average interest rate
- Depreciation
  - Based on the approved capital cost
  - Not for the revalued assets
  - Accelerated rates for the first 12 years
  - Balance for the rest of the useful period

Features of Existing Regulations.....13

- RoE
  - On the paid up equity capital
  - RoE at the rate of 14%
- Loan
  - Based on the normative level as determined by the Commission
  - Cumulative depreciation to be deducted
- Working capital as per the norms
  - O&M expenses 1 month
  - Cost of spares – 1/12th of the average bookvalue
  - Receivable 2 months revenue
  - Less security deposits
  - For prepaid metering system no IWC
  - Rate of interest 2% above SBI MCLR (one year)
    - Whether markup required ?? Licensees get short term loans much lower rate

Features of Existing Regulations….14

- Transfer scheme provisions
  - Master Trust for pension liabilities based on the actuarial valuation as on the date of transfer and any additional fund value to be allowed based on actuarial valuation
  - Revaluation of assets will not be considered
  - Original value of grants and contributions will be used
  - Equity as per the transfer scheme

Features of Existing Regulations……15

- Sales forecast
  - To be furnished by the licensee and approved by the Commission based on prudence check of consumption per consumer/ past sales
  - Distribution loss to be proposed by the licensee
  - Collection efficiency to be proposed by the licensee
  - Underachivement of distribution loss to be penalised - if there is any gain shared 1/3rd / 2/3rd
  - Short tern power purchase cost can be with conditions if beyond the approved plan
  - Short term power purchase need prior approval if above 5% of the approved cost
  - No approval for within the ceiling rate approved by the Commission

Features of Existing Regulations…..16

- Performance norms provided
  - Supply availability – contracting of power for the projected sales
  - Base load and peak load availability to be ensured at 75:25 ratio
  - Availability below the target level will be penalised through reduction in RoE (1% to 0.1%)

Cost Structure	
Cost of Generation	4%
Cost of Power Purchase	57%
Cost of Intra State Transmission	6%
O&M Expenses	16%
Interest on Loans (incl CC)	12%
Depreciation	1%
Recovery of previous gap	3%
Return on Equity	2%
Total Revenue Expenditure	100%

Issues…..1

- How to decide the efficient costs
  - Regulators still prefer cost plus mode
    - Allowing pay revision / DA revision separately even when CPI/WPI methods are used
    - No rationality for Controllable cost
    - Capex is completely full pass through - no fool proof mechanism for capex approval
  - Opex Vs Capex no efficient signals
  - Licensees are not responding to incentives
    - No reduction in costs
    - How to address the opex reduction
  - Whether Utilities respond to MYT regime
  - Whether we should move to revenue cap model

Issues..2

- Recent changes in the Sector leading to increase in fixed costs to utilities
  - Non-utility generation
  - RPO
  - Renewable integration
  - Open access and competition
  - Net metering
  - Behind the meter storage

Issues…3

- There is a trend to increase the fixed costs of utilities
  - How it affect the system
  - Fixed cost reduce the consumer ‘s control
  - It will be harsh on low paying consumers
  - Will increase system costs
    - No incentive for reduce the consumption as it is cheaper to consume
    - Provide bad signal for the consumers
    - Increase the cost for new generation
    - Reduced incentive for energy efficiency and distributed generation

Issues 4

- Consumer needs are changing - priorities differ
  - Renewable energy, distributed generation, open access, storeage
  - Rate design rigid - not promoting any changes
  - Innovative rate design
- Unbundling of tariff and services is a must
  - Present retail tariff structure does not provide any price signal to consumers
    - Cross subsidises within the cost components
  - Fixed cost separation / service separation / network /supply separation
  - Innovative rate design for energy
    - As per the provisions of the Act, if the Commission has to introduced open access for a class of consumers , for such categories, the tariff shall not be decided
      - Only network tariff to be decided
      - Power cost to be competitive and licensee should also offer the rates
      - There are several methods - viz mobile telephone pricing for competitive elements

Thanks

- Issues for discussion
  - Other income / non-tariff income
  - Pension funding
  - Treatment of security deposits Vs normative loans
  - Treatment of GPF
  - Treatment of revenue gap and amortisation
  - Whether surcharge or tariff increase for amortisation
  - Bad debts provision and treatment of actual write off
  - Details/Data collected on a periodical basis
  - Standards of performance monitoring