

APEREC Staff Presentation

ERC/ARR Filing

APTRANSCO

Background

- APTRANSCO first filed the ARR/ERC on Dec 29, 1999
- On April 6,2000 a supplementary ERC/ARR was filed
- At the same time Filing for Proposed Tariff was also filed
- A correction to supplementary ERC/ARR was filed on May 8,2000

Background

- Examination of the ERC/ARR has enabled the Staff of APERC to make an assessment and analysis of the revenue requirements of the Licensee
- This presentation covers this assessment

Focus

- To highlight the major areas of differences in ERC/ARR
- Focus on the revenue gap
- Examine the waivers requested by the Licensee in the filings

Framework of Analysis

- Reforms process is in the initial stages
- We are in the period of transition from controlled economy to market oriented economy

Framework of Analysis - Licensee Status

- Regulated Monopoly with License Obligations

Framework of Analysis - Regulatory Method

- **Sixth Schedule to Electricity (Supply) Act, 1948**

Summary Slide

- Framework of Analysis -
Regulatory Model

Framework of Analysis - Regulatory Model

- Cost of Supply of Electricity to Consumers
- Licensee entitled to reasonable return on Capital Base

Framework of Analysis - Regulatory Tool

- The tariffs fixed by the Commission
- Approval of expenditure as per the regulatory method
- Incentives, Penalties, Direct Monitoring of License for
 - Prudence of expenditure
 - Create conditions to switch to Performance Based Regulation

Tariff Philosophy

- Tariff philosophy is based on Sec 26 (7)
- It is a move to embedded costs and over time to marginal costs
- Attempts to move towards full costs avoiding to the extent possible a rate shock

Tariff Philosophy

- The aim is to
 - look after consumer interests through the reforms process
 - ensure the viability of APTRANSCO
 - create competitive conditions

Critical Parameters

- Sources of Power
- Cost of Power
- Prudence in Expenditure

Sources and Quantum of Energy

- **APTRANSCO**

- APGENCO 26788.15MUs
- CGS 9670.00 MU
- APGPCL 383 MU
- IPP's
4728.34MU
- Others 418.44 MU
- Free wheeling 0.00 MU
- SEBs 640.50
- Total Units 42628.43 MU

- **Staff**

- APGENCO 27184.87 MUs
- CGS 10258.49 MUs
- APGPCL 383 MUs
- IPP's 3645.00 MUs
- Others 548.44 MUs
- Free Whl 100 MUs
- SEB's 640.50 MUs
- Total Units 42760.30* MUs

Difference in power purchase quantity

- APTRANSCO - 42628.43MUs
- Staff - 42760.30
- 131 units are available for sale to VSP
- No difference in total energy purchases

Methodology for estimates

- Auxiliary Consumption as per actual trends
- Overhauls (APGENCO) as per schedules
- NTPCs as per past trends
- Visakha Steel Plant gross generation taken to the grid
- Free Wheeling -Transmission By Displacement - only 100 MUs taken

Methodology for estimates

- Merit Order Selection
- Windage Losses at 1% as per present trends
- Transit losses included in coal costs
- Hydel generation on the basis of ten yr avg.
- Additional units (100MU) of APGPCL unutilised capacity

Power Purchase Costs

- **APTRANSCO -CrS**

- APGENCO 3927.26
- CGS 1522.85
- APGPCL 84.95
- IPP's 1441.17
- Others 90.37
- wheeling 107.57
- SEBs 149.25
- Total Cost 7323.42

- **STAFF**

- APGENCO 3389.10
- CGS 1529.37
- APGPCL 84.95
- IPP's 1074 .22
- Others 114. 37
- wheeling 106.68
- SEBs 149.25
- Total Cost 6447.95

Difference in costs

- APTRANSCO Rs. 7323.42 Crs
- Staff Rs. 6447.95 crs
- Difference **Rs. 875.47 crs**

Basis for Estimation

- Merit Order Selection
- Past Trends

Transmission & Distribution Losses

- As per the projections of APTRANSCO
 - EHV -4.5%
 - Dist Losses - 30.9% to gross purchases

Losses

- Staff is of the opinion that reduction in losses is possible with improved
 - metering
 - energy audits
 - improved distribution network
 - energy conservation

Agricultural Consumption

- As per APTRANSCO estimates
- Since both T&D Losses and Agricultural estimates are only guesses, without metering and data analysis, the Licensee's projection have been provisionally accepted
- Consumption to be monitored on real time basis to measure actual consumption

Load Projections

- As per APTRANSCO-SNC Lavalin projections

Fuel Purchase Cost Adjustment Formula

- Adjustment formula to apply only for fuel costs

Annual Revenue Requirement

Capital Base

Transmission & Bulk Supply

• APTRANSCO		• STAFF	
• OCFA	2678 crs	• OCFA	2318.05
• CWIP	1147.26	• CWIP	1151.80
• Working Cap	4.84	• Working Cap	3.19 + 3.96
• Receivable	1302.74	• Receivable	0.00
• Acc Dep	711.112	• Acc Dep	672.40
• Loans	1785.16	• Loans	1785.16
• WC Borrow	1061.41	• WC Borrow	0.00
• Mkt Bor, CAPEX	182.33	• Mkt Bor, CAPEX	0.00
• Payables	956.69	• Payables	0.00
• TOTAL	436.60	• TOTAL	1019.44

Net Capital Base Transmission & Bulk Supply

- APTRANSCO Rs. 436.60crs
- Staff Rs. 1019.44crs
- Diff **Rs 582.84 crs**

Capital Base

Distribution & Retail Supply

• APTRANSCO		• Staff	
• OCFA	4000.40	• OCFA	3935.01
• CWIP	1076.43	• CWIP	941.03
• Stores	21.92	• Stores	21.92
• Avg cash	86.61	• Avg cash	63.56
• Receivable	1833.52	• Receivable	0.00
• Acc Deo	1823.69	• Acc Deo	1817.84
• Loans	1774.94	• Loans	1774.94
• Cons Sec Dep	941.32	• Cons Sec Dep	1042.01
• Payables	1302.74	• Payables	0.00
• TOTAL	1176.19	• TOTAL	326.73

Net Capital Base Distribution & Retail Supply

- APTRANSCO Rs. 1176.19 crs
- Staff Rs. 326.73 crs
- Diff **Rs 849.46crs**

Reasons for difference in capital Base

- Fixed assets and CWIP recalculated on the basis of ARR and past trends
- Depreciation accordingly adjusted
- Calculations on the basis of Sixth Schedule

Expenditure - Distribution & Retail Supply

Major areas of differences

<ul style="list-style-type: none"> • APTRANSCO • Purchase of energy 7924.99 • Wages &Sal 534.81 • App Loan Int 220.86 • Rent Rate*taxes 96.96 • Bad Debts 92.34 • Cont to Empl Funds 142.95 • Other expenses 603.58 • Total 9519.53 	<ul style="list-style-type: none"> • Staff • Purchase of energy 7033.99 • Wages &Sal 478.07 • App Loan Int 220.86 • Rent Rate*taxes 19.95 • Bad Debts 0.00 • Cont to Empl Funds 42.82 • Other expenses 501.60 • Total 8297.29³²
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Expenditure -Reasons for Differences

- Purchase of energy differences as mentioned earlier
- Wages & salaries differences due to DA projections and treatment of earned leave
- Bad debts recovery as per APSEB Recovery of Dues Act ,1948and hence not included
- Interest on approved loans (in T&BS) does not allow for Working Capital Borrowings

Expenditure -Reasons for Differences Expenditure

- Contribution to Employee fund - Actuarial assumptions of Price Waterhouse not appropriate for future contributions

ARR for Distribution & Retail Business

- APTRANSCO

- Total Expend. 9519.53
- Reasonable Return 161.78
- Less non-tariff income 447.47
- Less variable cost adj 216.00
- Net Revenue Requirement
- Rs.9017.84

- Staff

- Total Expend. 8297.29
- Reasonable Return 61.15
- Less non-tariff income 519.47
- Less variable cost adj 0.00
- Net Revenue Requirement
- Rs. 7838.97

Difference in Revenue Requirement

- The difference in net revenue requirement between APTRANSCO estimates and the staff estimates is **Rs. 1178.87 crs.**

Expected Revenue from Charges

- Revenue at current tariffs have been posited at Rs. 5,436.88 Crs
- At current tariffs the gap to be covered as per APTRANSCO's estimates would be Rs. 3580.96 Crs
- As per staff estimates the gap is lower at Rs.2402..09 Crs

GAP

- **APTRANSCO**

- Net Rev Req Rs 9017.84 crs
- Rev . At CT Rs. 5436.88 crs
- Efficiency gain Rs. 500.00

- **Staff**

- Net Rev Req Rs 7838.97
- Rev . At CT Rs. 5436.88 crs
- Efficiency gain Rs. 500.00

Covering the GAP

- An efficiency gain of Rs. 500 crs has been projected in the ERC/ARR
- The GAP to be covered for APTRANSCO by tariffs or/and subsidies comes to Rs.3080.96 crs.
- The same gap as per Staff estimates comes to Rs.1902.09crs

Covering the GAP

- The Licensee expects to increase tariffs by 15% thereby earning Rs.808 crs.
- The gap as per the filed ERC/ARR left uncovered is about Rs. 2272.96 crs.
- The staff estimate this gap with 15% increase over current tariff is Rs.1094.09crs

Quality of Service

- Low Frequency
- Low Voltage
- Grid failures
- Quick customer services

Sustaining Quality

- This is to be ensured with safety measures

Final Design of Tariff

- Design of tariff will be based on the tariff philosophy of APERC
- suggestions made during the public hearing