APERC 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 26788.15 MUs
  - CGS 9670.00 MU
  - APGPCL 383 MU
  - IPP’s 4728.34 MU
  - Others 418.44 MU
  - Free wheeling 0.00 MU
  - SEBs 640.50 MU
  - 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

<table>
<thead>
<tr>
<th></th>
<th>APTRANSCO</th>
<th>STAFF</th>
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</thead>
<tbody>
<tr>
<td>OCFA</td>
<td>2678 crs</td>
<td>2318.05</td>
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<tr>
<td>CWIP</td>
<td>1147.26</td>
<td>1151.80</td>
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<tr>
<td>Working Cap</td>
<td>4.84</td>
<td>3.19 + 3.96</td>
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<tr>
<td>Receivable</td>
<td>1302.74</td>
<td>0.00</td>
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<tr>
<td>Acc Dep</td>
<td>711.112</td>
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<tr>
<td>Loans</td>
<td>1785.16</td>
<td>1785.16</td>
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<tr>
<td>WC Borrow</td>
<td>1061.41</td>
<td>0.00</td>
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<tr>
<td>Mkt Bor, CAPEX</td>
<td>182.33</td>
<td>0.00</td>
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<tr>
<td>Payables</td>
<td>956.69</td>
<td>0.00</td>
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<tr>
<td>TOTAL</td>
<td>436.60</td>
<td>1019.44</td>
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</tbody>
</table>


Net Capital Base
Transmission & Bulk Supply

- APTRANSCO  Rs. 436.60 crs
- Staff       Rs. 1019.44 crs
- Diff        Rs 582.84 crs
## Capital Base

### Distribution & Retail Supply

<table>
<thead>
<tr>
<th>Category</th>
<th>APTRANSCO</th>
<th>Staff</th>
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<tbody>
<tr>
<td>OCFA</td>
<td>4000.40</td>
<td>3935.01</td>
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<tr>
<td>CWIP</td>
<td>1076.43</td>
<td>941.03</td>
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<tr>
<td>Stores</td>
<td>21.92</td>
<td>21.92</td>
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<tr>
<td>Avg cash</td>
<td>86.61</td>
<td>63.56</td>
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<tr>
<td>Receivable</td>
<td>1833.52</td>
<td>0.00</td>
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<tr>
<td>Acc Deo</td>
<td>1823.69</td>
<td>1817.84</td>
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<tr>
<td>Loans</td>
<td>1774.94</td>
<td>1774.94</td>
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<td>Cons Sec Dep</td>
<td>941.32</td>
<td>1042.01</td>
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<tr>
<td>Payables</td>
<td>1302.74</td>
<td>0.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1176.19</td>
<td>326.73</td>
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Net Capital Base
Distribution & Retail Supply

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

<table>
<thead>
<tr>
<th>Category</th>
<th>APTRANSCO</th>
<th>Staff</th>
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</thead>
<tbody>
<tr>
<td>Purchase of energy</td>
<td>7924.99</td>
<td>7033.99</td>
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<td>Wages &amp; Sal</td>
<td>534.81</td>
<td>478.07</td>
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<td>App Loan Int</td>
<td>220.86</td>
<td>220.86</td>
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<tr>
<td>Rent Rate*taxes</td>
<td>96.96</td>
<td>19.95</td>
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<td>Bad Debts</td>
<td>92.34</td>
<td>0.00</td>
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<tr>
<td>Cont to Empl Funds</td>
<td>142.95</td>
<td>42.82</td>
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<tr>
<td>Other expenses</td>
<td>603.58</td>
<td>501.60</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>9519.53</strong></td>
<td><strong>8297.29</strong></td>
</tr>
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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, 1948 and hence not included
• Interest on approved loans (in T&BS) does not allow for Working Capital Borrowings
Expenditure - Reasons for Differences

- 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. 1094.09 crs.
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