

## **BEFORE THE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION \* HYDERABAD**

**1.1** On 25<sup>th</sup> January 2002 Public Notices were published by APTRANSCO and the four DISCOMs announcing new tariff and customer charges for the year 2002-03 and calling for comments/objections from the public.

**1.2** According to Section 26(5) of the AP Electricity Reforms Act 1998 “ Every Licensee shall provide to the Commission in a format as specified by the Commission at least 3 months before the ensuing financial year full details of its calculation for that financial year of the expected aggregate revenue from charges which it believes it is permitted to recover pursuant to the terms of its license”. This means that the Licensees have to file at least 3 months before the ensuing financial year both the ARR and Filing of the Proposed Tariff before the Commission. Interestingly the stand taken by the Licensees is also similar to this. For example the point 5 of the Preamble to the ARR of APTRANSCO mentions, “In terms of section 26(5) of the Act read with Guidelines for Revenue and Tariff Filing dated October 07, 1999 framed by the Hon’ble Commission and the licenses, a licensee is obliged to file every year before December 31 its calculations related to each licensed business for the ensuing financial year regarding (i) its expected aggregate revenue from charges under its currently approved tariff, (ii) its expected cost of service, and (iii) its expected revenue gap and an explanation on how it proposes to deal the revenue gap(if any)”. In the case of the financial year 2002-03 while ARR was filed before 31<sup>st</sup> December,2001 tariff proposals were not filed before that date. These tariff proposals were only filed on 23/24<sup>th</sup> of January, more than three weeks after the due date. This is a clear violation of the Act as well as the guidelines of the Commission by the Licensees knowing well that what they are doing is a violation. Hence this tariff proposal need to be summarily dismissed. We request the Commission to dismiss the filings of the Licensee.

**1.3** The filings of the tariff proposals were willingly delayed to benefit the ruling party of the state government in the forthcoming elections to the municipal bodies. Even more than this during this period the Chief Minister and other ministers misleading statements that tariff would not be hiked during the ensuing year. The state government being the 100% owner of all the five companies holding the license for bulk and retail supply and distribution of power in the state and the Chief Minister being the head of this government, the announcements made by him have added significance. In the wake of the proposals placed before the Commission by the Licensees after the elections the Chief Minister’s announcements appears to be misleading and unbecoming of the office of the Chief Minister. The public proceedings on the tariffs need to be held in transparent and free atmosphere sans any diversions. The announcements made by the Chief Minister and his cabinet colleagues is clear violation of this solemn condition. On this count alone the present filings on the tariffs for the year 2002-03 need to be rejected. We request the Commission to reject the tariff filings of the Licensee.

**1.4** The AP Electricity Reforms Act 1998 is meant for “taking measures conducive the development and management of the electricity industry in an efficient, economic and competitive manner”. As the present tariff filings is violation of the Act the same should be rejected.

**1.5** Projections of power to be consumed during the ensuing financial year are central to the ARR and Filing of Proposed Tariff. It is based on these projections that total power to be purchased from the power generators is decided. The projections of power to be consumed is based on the power sold during the period preceding the filing. But the data provide by the Northern Power Distribution Company is full of mistakes. For example the domestic power consumption for the district of Adilabad is well beyond the national average and nearer to the developed countries. Similarly total agriculture consumption shown for the first half of the year 2002 is more than 80% of the power allocated to agriculture in this zone. Data based on such gross mistakes cannot be reliable. Hence we request the Commission to reject the Tariff Filings for the ensuing year.

**1.6** Reforms are not just about tariff increasing but also about the process of governance/administration of the power sector as stated in the preamble of the Reforms Act. And it is the present government which brought out the Act. It is the same government which is flouting the Act for its narrow interests in violation of the Act. As the present filings of the Licensees is vitiated by the gross violation of the Act the same should be rejected.

### **STATUS OF DIRECTIVES**

| <b>DIRECTIVE</b>   | <b>STATUS</b>   |
|--|---|
| Metering of agricultural services  | It was reported that even farmers wanted meters they were not given. Even metering of DTRs as a substitute to service meters is complete on the average to the extent of 25% only.          |
| All street lights and PWS schemes to be metered by 31 <sup>st</sup> December 2001. | Still 7856 street lights services and 1891 PWS services to be metered   |
| All unauthorised agricultural connections are to regularised or disconnected       | Information is given only about regularised but not about disconnected  |
| Multiple connections   | Not sure whether the reported multiple connections under all categories including industry and commerce came into being following the sadassus in the year 2000 or even before that.        |
| Census of agricultural pumpsets  | Even after two years the census report is yet to come out. When they cannot even count, can they meter them?  |
| Energy Audit   | Whatever happened to these audit reports?   |
| Receivable   | Receivables are increasing even when payables are declining. Alacrity show in paying their power purchase dues is not to be seen when it comes to collecting their receivables due to them! |
| DTR failure  | It would have been better if monthwise data is given.   |

**2.1** We regret to note that the Licensees are consistently disregarding the directives given by the Honourable Commission. We request the Commission to impose fine on the Licensees for not implementing each directive.

## POWER PURCHASE COSTS

**3.1** All the DISCOMs in their ARRAs have expressed their willingness to forego their return on equity on orders from the state government which is their 100% owner. But the Sixth Schedule stipulates that it is the responsibility of the state government to see that they earn minimum guaranteed return on their equity/net assets. To advise them to forego their return on equity is a violation of the Act. This measure will also adversely affect their financial health. This will lead to erosion of its net worth there by leading to its sale at below par price in the event of privatisation of these utilities. This specific step also gives rise to the misgivings that this step is meant to favour the future buyers of these utilities. The Act enjoins the Commission with the responsibility of seeing that the power sector is managed in economic and efficient manner. The utilities with their net worth erode and with no own funds will not lead to any efficient functioning. We request the Commission to see that all the DISCOMs get their due return on equity.

## SYSTEMS IMPROVEMENT AND T&D LOSSES

CAPITAL EXPENDITURE (From Form 1.1e) (Rs in Crore)

|       | 1999-2000 | 2000-01 | 2001-02 | 2002-03 |
|-------|-----------|---------|---------|---------|
| EPDCL | 879.99    | 185.70  | 198.97  | 151.48  |
| SPDCL |           | 261.32  | 171.11  | 194.52  |
| CPDCL |           | 404.16  | 397.11  | 443.92  |
| NPDCL |           | 326.54  | 206.55  | 194.58  |
| Total | 879.99    | 1177.72 | 973.74  | 984.50  |

**4.1** Over the four year period Rs. 4015.95 crore is being spent on improving the distribution system under the four DISCOMs. But the commensurate improvement in stability and quality of distribution of power cannot be seen. Also there is no commensurate reduction in the T&D losses.

### DISCOM T&D LOSSES

|       | 2000-01 | 2001-02 | 2002-03 | Reduction in Losses |
|-------|---------|---------|---------|---------------------|
| EPDCL | 20.9%   | 17.44%  | 17.0%   | 3.9%                |
| SPDCL | 23.79%  | 22.3%   | 21.3%   | 2.49%               |
| CPDCL | 33.2%   | 30.2%   | 25.0%   | 8.2%                |
| NPDCL | 28.9%   | 23.3%   | 21.3%   | 7.6%                |
| Total | 28.5%   | 25.12%  | 22.2%   | 6.3%                |

**4.2** According to the calculations of the APTRANSCO and also of the state government reduction of one percent of transmission losses require Rs.890 crore. The losses shown by the DISCOMs include distribution as well as commercial losses. If we take this into

consideration reduction in losses shown by the Licensees is not in commensurate with the investments made in the improvement of the distribution system under the respective DISCOMs. Orissa experience, where similar reform programme is going on for the last five years, show that after a huge investment there is no improvement in the system and T&D losses in fact increased. We would like to know what happened to the investments made in the distribution system.

**4.3** Even how losses are being measured is a issue that need to be examined. The figures about T&D losses given by the Licensees give rise to many doubts and questions. The issue is how these losses are assessed. What is the method followed? What calculations are used?. What do these studies say? Whether Load Flow Studies are conducted.

**4.4** The Commission in its tariff order for the year 2001-02 had directed the Licensees to conduct regular and thorough energy audit (para: 145). All the Licensees in their filings on ARR for the ensuing year claim that they are doing it. What do these energy audit reports say about T&D losses?

**4.5** Here we raise some issues related to estimation of losses by the utility and also state clarifications needed.

Data supplied by utility in different submissions are given in the Table below:

| <b>% T&amp;D loss Data in AP</b> |                 |                    |              |                       |                            |                                      |                        |                      |           |
|----------------------------------|-----------------|--------------------|--------------|-----------------------|----------------------------|--------------------------------------|------------------------|----------------------|-----------|
| <b>Year</b>                      | <b>EH<br/>T</b> | <b>HT +<br/>LT</b> | <b>Total</b> | <b>MU<br/>Handled</b> | <b>Agricultur<br/>e MU</b> | <b>HT<br/>+LT<br/>Technic<br/>al</b> | <b>HT+LT<br/>Comml</b> | <b>HT -<br/>Tech</b> | <b>LT</b> |
| 1999                             |                 |                    | 38.0         | 38720                 | 9554                       |                                      |                        |                      |           |
| 2000                             | 4.5             | 30.9               | 35.4         | 43722                 | 10222                      | 17.9                                 | 13                     |                      |           |
| 2001                             | 8.9             | 26.6               | 33.9         | 42189                 | 11656                      |                                      |                        |                      |           |
| 2002                             | 8.5             | 23.0               | 31.5         | 40788                 | 10300                      | 11.4                                 | 11.6                   | 11                   | 5         |
| 2003                             | 8.0             | 20.4               | 28.4         | 41333                 | 10594                      |                                      |                        |                      |           |

Notes:

1. 1999 loss figure & MU data from Strategy paper, January 2001. PAD of World bank gives % T&D loss target for 1999 as 32.7 % with 18.2% Technical and 14.5% Commercial
2. 2000: Values from Tariff Order May 2000 and March 2001.
3. 2001: EHT loss as per Tariff order, May 2000 was 4.5%. But TRANSCO revised this to 8.9%.
4. 2002: Tariff order, 2001. HT -LT breakup modified to match the revised total HT+LT loss figure. HT Technical loss is as given by APTRANSCO in the Wheeling Tariff proposal in October 2001.. LT Loss figure is as given by DISCOMs in the Agriculture section of ARR submissions January 2002.
5. 2003: From ARR (January 02) submissions of TRANSCO and DISCOMs

Some bench mark data on T&D loss is given in following Table:

| <b>Bench mark data on % T&amp;D loss</b> |                     |                     |              |  |
|--|---------------------|---------------------|--------------|--|
|  | <b>Transmission</b> | <b>Distribution</b> | <b>Total</b> | <b>Remarks</b>   |
| Reform Target by 2007                    |                     |                     | 17.7         | 14.7 Tech, 3.0 Comml                                     |
| CEA                                      | 2.0 - 4.5           | 6.5 - 11.5          | 8.5 - 16.0   | Rajadhdhayaksha Committee (1980) gave 15% as upper limit |
| Indian Sources                           | 1.5                 | 14                  | 15.5         | Distribution = 12 (HT) + 2 (LT)                          |
| International – Developing               | 6.6                 | 10.8                | 17.4         | Peru 2001  |
| International – Developed                | 2-4                 | 3-6                 | 5-10         | USA - many utilities                                     |

#### **Clarifications Needed:**

| <b>Clarifications</b> |   |   |  |
|-----------------------|---|---|--|
| <b>S.No</b>           | <b>Clarification</b>                                    | <b>Explanation</b>  | <b>Question</b>                            |
| 1                     | Sudden increase in Transmission loss                    | Went up to 8.9 %. Too high s value (see section 3)  | Is there commercial loss at EHT level?     |
| 2                     | LT Technical loss in 2002 is 0.4%                       | Subtract (HT + LT Technical) from HT Technical = 11.4 – 11 = 0.4                            | Clarify                                    |
| 3                     | Break up 5 % LT loss in 2002                            | Given in NPDPC, SPDPCL ARR submissions as 6% & 5% respectively                              | How much is Technical, How much commercial |
| 4                     | HT Commercial loss in 2002 is 6.6%                      | HT Comml = (HT+LT) Total - LT Total - HT Tech. = 23 - 5 – 11.4 = 6.6%.                      | Is this the correct value?                 |
| 5                     | (HT+LT) Commercial loss in 2002 is between 6.6 to 11.6% | (HT+LT Comml) = (HT+LT Total) – HT Tech- LT Tech. HT Tech = 11.4%; LT Tech can be 5% or 0%. | What is the correct value?                 |

**4.6** For curbing theft, it makes sense to focus on high volume consumers first since their numbers are small. The next step could be improvement of bulk metering or even use of mobile metering sets to detect pockets of theft. Once commercial losses have come down to low levels, all attention can be shifted to reducing technical losses.

**4.7** Under the ongoing power sector reform programme T&D system is being developed with financial assistance from different funding agencies and also with own finances of APTRANSCO under different projects. The funding agencies include the World Bank, OECF/JBIC, DFID, REC, PFC. We would like to know what is the unit cost of laying/setting up a unit of T&D system under different projects financed by different funding agencies.

**4.8** The extant data shows that even after large investments in the T&D systems there is no decline in T&D losses. If distribution losses were reduced commensurate with the

investment made in the distribution system along with reduction in commercial losses as directed by the Commission it would have led to reduction in costs and improvement in income. The Commission in its tariff order for the year 2000-01 had directed the Licensees to achieve metered sales of 48% by March 31, 2001. But this could not be achieved even at the end of the financial ending with March 31, 2003.

Power supply improvement & stability/reliability.

#### INTERRUPTIONS and BREAKDOWNS in CPDCL NETWORK

|           | 33 kV               |                                  |                  |                               | 11 Kv               |                                  |                  |                               |
|-----------|---------------------|----------------------------------|------------------|-------------------------------|---------------------|----------------------------------|------------------|-------------------------------|
|           | No of Interruptions | Duration of Interruptions in hrs | No of Breakdowns | Duration of Breakdowns in hrs | No of Interruptions | Duration of Interruptions in hrs | No of Breakdowns | Duration of breakdowns in hrs |
| 1999-2000 | 495                 | 2290                             | 321              | 1868                          | 4590                | 11407                            | 3513             | 8371                          |
| 2000-2001 | 60004               | 66070                            | 392              | 1528                          | 377164              | 954184                           | 5117             | 14468                         |

**4.9** After investing crores of rupees in the distribution systems consumers expect improved performance. But examinations of the Filings on Proposed Tariff show that instead of improvement the conditions in fact declined. As an example the data on CPDCL is provided in the above table. The situation is not much different in the case of other DISCOMs. The above table show that over the period the number of interruptions and breakdowns and their duration increased.

**4.10** Transmission and distribution network is being set up with financing from different foreign funding organisations, under certain limitations like suppliers from the country of funds origin being selected. Whether such of these components are compatible. (E.g., SLBC with OECF finance?)

**4.11** Below par performance is attributed to inflated costs and poor quality of work. Recently it was reported that the power line tower at Narnur village collapsed and this is attributed to poor quality of work. DTR burnouts are also attributed to poor quality earthing. In the Filings of Proposed Tariff it was reported that 462 people met with fatal accidents in 2000-01 in different zones. We would like to know whether there are allegations/complaints regarding the work done and whether any inquiry is instituted, and if so what are the results of these inquiries?

**4.12** The Project Appraisal Document of the AP Power Sector Reforms Project mentions (Annex.4) the ERR of Economic Return to be 37.6% and ERR of Financial Return is 33.3% as a result of the investments to be under the project. But the hitherto experience show that there is no improvement in the quality and reliability of power supply. Hence we suggest a thorough review of the project at least to save the unspent money.

## CONSULTANCY EXPENDITURE

**5.1** 11% of the AP Power Sector Reforms Project is being spent on the consultants. Besides this the Licensees are supposed to provide support facilities like office space, vehicles, and hotel accommodation to the short term consultants outside this 11% allocation. This aspect gains importance in the wake increasing expenditure on general administration. We would like to know which consultancy organisations or individuals have been employed by the Licensee and under what terms of reference over the last few years under the reform programme, and what are the outputs? What is the value added accrued to the Licensee as result of engaging these consultants. The High Level Committee appointed by the Orissa state government had reported that there the consultants did not bring in any innovative management practices and did not add any thing to the institutional building. The Committee also observed that as importance given to the consultants increased the morale of the equally competent staff of the organisation became demoralised. These consultants did nothing except rehashing the data supplied by the organisation. Besides this the performance of Arthur Anderson at the global level raises many disturbing questions. Whether they helped the licensee to unravel the issues befuddling the organisation or helped it to conceal the uncomfortable truths? Also, the quality of this years ARR's which should have been prepared with the assistance of the consultants at considerable cost to the Licensee leaves much to be desired. We request the Commission to direct the Licensee to make public all the details regarding the consultants engaged by them.

**5.2** The delay in carrying the work is also attributed to the consultants as they have to draft the bids and evaluate them. Normally consultants drafts bid documents in such a way that suppliers from the country of funds' origin are preferred in the guise of ICB

## INTEREST BURDEN

Rs in Crore

|       | 2001-02 | 2002-03 |
|-------|---------|---------|
| EPDCL | 30.07   | 47.87   |
| SPDCL | 62.38   | 80.93   |
| CPDCL | 56.34   | 88.06   |
| NPDCL | 60.06   | 64.62   |
| Total | 208.85  | 281.48  |

**6.1** The above table shows that interest burden is mounting every year. Even when there is no increase in power purchase costs their interest burden is increasing. According to the ARR's of the all four DISCOMs the interest burden is increasing by 35% over one year. Further they asking the Commission to allow them to borrow towards working capital payments. If allowed this would further escalate the interest burden. This mounting interest burden is because of two reasons: the high interest rates at which loans are being taken and mounting arrears in bill collections. Because of the latter they are borrowing heavily to pay for the power purchase costs. This evidenced by the fact that their receivables are higher than their payables.

**6.2** All the DISCOMs are asking to include interest on borrowings to meet working capital be included in the expenditure. If the arrears are effectively collected there would be no need for this provision.

**6.3** This years also the Licensees are asking for Regulatory Asset. When they are willing to forego the returns on equity due to them why ask for Regulatory Asset?

**6.4** This year Licensees are also asking for provision of contingency need. When the Licensees are asking for pass through for increased costs, is there need for contingency appropriation? Even if allowed clear guidelines need to be laid down!

## **AGRICULTURE IN THE TARIFF 2002-03**

**7.1** Power supply to agriculture is often projected as one of the major reasons for the financial crisis in power sector. It is stated that the average realisation from agricultural consumer is only 4-5% of cost of supply and that the agricultural consumption has grown tremendously. Government data of agricultural consumption as a percentage of total energy handled give show a growth from 12-13 % in 1981 to 25% in 2001. As a percentage of energy sold, the figures are 18% (1981) and 37% in 2001.

**7.2** Both the points - whether agricultural power is the cause of financial crisis and whether the agricultural consumption of power has increased as projected by the government/Licensees- are debatable. We feel that there are many major reasons for the financial crisis and that the agricultural consumption has been over projected to cover up the high T&D losses and mounting power purchase costs because of PPAs entered into with IPPs.

### **AGRICULTURE CONSUMPTION AS REPORTED IN ARR<sub>s</sub>**

| DISCOM | 2000-01                  |                      | 2001-02                  |                      | 2002-03                  |                      |
|--------|--------------------------|----------------------|--------------------------|----------------------|--------------------------|----------------------|
|        | Agricultural Consumption | Ag.con as % of total | Agricultural Consumption | Ag.con as % of total | Agricultural Consumption | Ag.con as % of total |
| NPDCL  | 2646                     | 40.99                | 2640                     | 46.42                | 2702                     | 45.60                |
| CPDCL  | 5082                     | 42.53                | 4220                     | 38.34                | 4302                     | 36.56                |
| SPDCL  | 2283                     | 35.98                | 2349                     | 34.28                | 2450                     | 33.77                |
| EPDCL  | 1060                     | 25.09                | 1089                     | 24.76                | 1140                     | 24.53                |
| Total  | 11071                    | 40.72                | 10300                    | 36.85                | 10594                    | 35.68                |

**7.3** We are of the firm view that agricultural consumption cannot be so high. In the last traiff hearings, using the available data, various estimates were presented by PMG (and others) for agricultural consumption. These estimates varied from 5000 MU to 7000 MU against APTRANSCO's estimate of 10,500 MU. But still the Honourable Commission decided to go along with the estimate of APTRANSCO. Even after two years the Licensees are not able to count the agricultural services (or the powers that be do not like to lose the golden goose of camouflaging power theft as agricultural consumption). Given this experience it is next to impossible for the Licensees to meter all the agricultural services in another year. Also, in the background of prevailing apprehensions it would not be logical to expect cooperation from the farming community to meter all the agricultural connections. The decision of the Commission in this regard under the tariff order for the year 2001-02 has



only emboldened the Licensees to come up with even a bigger figure of 10594 MU for the year 2002-03. We appeal to the Commission not accept this high figure.

#### METHOD FOLLOWED BY DISCOMs:

**7.4** No uniform method is followed by the four DISCOMs while arriving at the power purchase projections for the agricultural sector. While Eastern, Northern, Southern DISCOMs gave some details, though not complete details, the Central DISCOM headquartered in Hyderabad did not do even that.

For these projections DISCOMs depend on information collected from metering LV side of DTRs serving agricultural connections. This metering was done as a part of fulfilling the directive given by the Commission in its tariff order for the year 2001-02 to meter all agricultural services by 2003. Given the difficulty in metering a large body of agricultural connections the Licensees have adopted the metering of DTRs serving predominantly agricultural consumers. This is one of the directives given by the Commission in order to arrive at an estimation of the power consumption in the agriculture sector. This metering of DTRs is not uniform among all circles/districts. DT metering is only 25% complete on the average. In some districts it is only 4% (Karimnagar) and in some districts it is 75% (Khammam). The Eastern DISCOM did not provide details on the number of DTRs metered. Though the Central DISCOM provided information on metering of DTRs it did not explain the method used to arrive at the power consumption in the agriculture sector.

From the figures given for agricultural consumption for the coming year we understand that first they projected this figure and then went backwards in calculating this figure. In the case of Northern and Southern DISCOMs based on the given value of annual energy consumption per HP & assuming 9 hours supply per day, the number of days of pumpset operation in a year is arrived at. In NPDPCCL it varies from 159 (Karimnagar) to 242 days (Nizamabad). In SPDPCL, it varies from 115 days (Nellore) to 192 days (Chittoor). In the case of EPDCL consumption of power per HP, per month is assumed and from this final figure was arrived at.

The ARR of the DISCOM's (North and South) give data on LT side metering of agricultural DT's. The actual readings of energy consumption at DT's for the current year have not been given. Instead, for each district, the yearly consumption per HP and the total HP value is used to calculate the agricultural consumption. We request that the actual readings at the DTs be provided so that we can examine the calculations.

It is stated that the LT side loss on the lines serving agricultural connections is 5-6% for different DISCOMs. Is it Technical + commercial? Please clarify if this is the total loss or only the technical loss.

In the tariff order for the year 2000-01 the Honourable Commission had directed, "In order to rectify the situation the Commission directs that the APTRANSCO shall conduct a survey and prepare an upto-date list of number of pumpsets and their capacities by 31<sup>st</sup> October 2000, as the issue has a bearing on the fixing of tariff" (p.58). Even at the time of hearing for the next year's tariff it was not completed. Only a partial report on sample study of four districts, one district for each DISCOM, prepared by the Productivity Council was submitted at the time of hearing. Even this report was not made public. In its tariff order for the year

2001-02 the Commission has extended the date for completing the census to 31<sup>st</sup> October 2001. To this day it is not complete. CPDCL wanted time up to March 2002. EPDCL stated that 90% of the work is over. In the case of SPDCL it is in different stages in different circles except in Chittoor where it is said to be complete and “details will be furnished to the Commission soon on their receipt from the Agency”. In the case of NPDCL work started only after November 2001, one month after the Commission wanted it to be complete, and they expect it to be over by February 2002.

Completion of both the works, metering of DTRs and census of pumpsets, or either one of them at least would have helped to get more reliable data on agricultural consumption. But neither of these tasks have been completed by the DISCOM's. Thus very little additional information is available to scientifically arrive at agricultural consumption, which has a significant impact on tariff. APTRANSCO/DISCOMs should explain the reasons for the delay in carrying out the APERC directive.

### THREE ALTERNATIVE MEASUREMENTS

**7.5** In spite of the Commission's unwillingness to reduce estimated power consumption in the agricultural sector based on various alternative calculations including the ones provide by us (PMG) we again make our efforts to arrive at a meaningful estimate of power consumption in agriculture. Here we try to give three alternatives. While we make some calculations with the help of the first two alternatives, the third one is a suggestion in the background of inordinate delay on the part of the Licensees to implement the directives given by the Honourable Commission. In the given circumstances where 100% metering of agricultural pumpsets is not feasible in the near future the Commission has to follow one or the other estimate to arrive at the figure for the agriculture sector. Absence of metering of agricultural connections or bungling of census operations on the part of the Licensees cannot be taken as an excuse to dump the commercial losses on the agriculture sector and then try to correct it as the culprit. Name the dog and hang it! Medicine on the basis of wrong diagnosis can prove to be fatal.

#### **The first alternative**

**7.6** The first alternative is based on the partial report of the Productivity Council:

From the table below it is clear that actual consumption in the agriculture sector is only about one third of the quantity indicated by the Licensees for different DISCOMs. From this one can say that power consumption in the agriculture sector as projected by the Licensees is on the higher side. And this leads to the widely held misconception that this sector is a drain on the resources of the Licensees and the state government. We would like to appeal to the Commission that it is the power pilferage but not the agricultural consumption which is the culprit.

**Data as presented by Productivity Council**

| Region                                     | Eastern | Southern | Central  | Northern     | 4 dist.   |
|--|---------|----------|----------|--------------|-----------|
| District                                   | W. G    | Chittoor | Nalgonda | Nizamab<br>a | Total     |
| No of Pumps connected                      | 44,377  | 130,380  | 229,790  | 154,302      | 558,849   |
| No. Unlisted                               | 263     | 15,065   | 56,694   | 34,014       | 106,051   |
| Average Oper. During year                  | 22,237  | 40,950   | 70,853   | 119,309      | 253,349   |
| Average rating of listed sets<br>HP        | 8.26    | 5.35     | 4.90     | 5.61         | 5.19      |
| Total Connected Load HP                    | 366,533 | 697,731  | 973,407  | 865,056      | 2,902,766 |
| Operating factor<br>assumed                | 0.8     | 0.8      | 0.8      | 0.8          | 0.8       |
| Av. No of hours in a Year                  | 1,350   | 1,350    | 1,350    | 1,350        | 1,350     |
| Energy consumed in a year MU               | 202     | 279      | 324      | 862**        | 1,668     |
| Energy consumed in 2001-02*                | 690     | 930      | 1058     | 1060         | 3738      |
| PC data as a proportion of ARR<br>data (%) | 29.28   | 30.00    | 30.62    | 81.32        | 44.62     |

This table is drawn from Dr.M.H.P. Rao's Article " Analysis of Productivity Council Partial Report Regarding Operating Pump sets in Andhra".

\* The data is calculated from the ARR's of the four DISCOMs. The reported data for the first half of the year is doubled to represent the whole year.

\*\* The Northern DISCOM data is to be taken with a pinch of salt as the power consumption data provided in its ARR appears to be either fudged blatantly or carelessly entered. The agricultural consumption data for the first half of 2001-02 given in the ARR represents more than 80% of the magnitude allocated to the agricultural sector for the whole year.

**Second alternative**

**7.7** Agricultural consumption estimate based on Load curves for peak load day and flood day. Based on the daily load data for a peak day and a rainy day, the maximum agricultural consumption per day works out to be about 30 MU. Considering this load for 200 days gives agricultural consumption of 6000 MU. (check)

Gross estimation of agricultural consumption: Daily load curves for the whole state for some typical days have been provided in the submission of APTRANSCO. Using this and Newspaper reports, we have prepared an alternative estimate of agricultural consumption. Please comment.

a) On a peak day in 2001, the total energy handled by AP = 142 MU  
the total energy sold by AP = 122 MU  
It can be assumed that agricultural load will be maximum on this day.

b) On a rainy day (when there were floods), the total energy handled by AP = 102 MU

the total energy sold by AP = 87 MU  
It can be assumed that there is no agricultural load on this day

- c) Both these days are in September 2001, the peak farming season. The load pattern may not change much except in the case of agriculture from one day to another, since both days fall in September.
- d) Difference between a) and b) gives an estimate of the agricultural consumption for a day. Since agricultural supply is not given for 6 hours spread over a day, correction has to be made to account for this. Correction value can be calculated by integrating the load curve during the non agricultural supply hours for both the days and calculating the difference. With these steps, one gets:

Uncorrected Peak Day agricultural consumption =  $122 - 87 = 35$  MU

Corrected Peak Day agricultural consumption =  $35 - 7 = 28$  MU

- e) The number of days of operation of the pumpsets from data given in ARR vary from 150 to 240 days (CHECK). Taking an average of 200 days, one gets the maximum annual consumption by agriculture as 5600 MU ( $200 * 28$ ).

### **Third Alternative**

**7.8** Another alternative to estimate agriculture consumption is arrive at the figure of pumpsets from the billing data. The Commission in its tariff order for the year 2001-02 has directed the DISCOMs to “store the billing information in a consolidated form for each circle/accounting division and file the same with the Commission as and when required. The Licensees shall keep all such information for a period of 10 years and use this data base as a reference for future sales projections in subsequent filings”. CPDCL in its ARR reported, “The billing data, consumerwise, as per the formats of APERC has been obtained from the field offices and is being submitted to the Commission in the form of soft copy. Efforts are being continued to complete the process of data collection as prescribed by the Commission”. Similarly, other DISCOMs also reported their progress. The data available from this billing information could be used to estimate power consumption in the agricultural sector.

### **NOT TO HIKE AGRICULTURAL TARIFF**

**7.9** Under the tariff proposals for the year 2002-03 the Licensees proposed to hike agricultural tariff by Rs.25 per HP across all categories. This appears to be a part of the state government’s and Licensees’ attempts to follow the conditionalities imposed by the World Bank in order to be eligible to access the loan provided by it for the AP Power Sector Reforms Project. According to these conditionalities during the first year the minimum should be 50 paise per unit. This was already achieved through the tariff order for the year 2000-01. If we calculate the per unit tariff by dividing the income collected from the agriculture sector by the actual units of power consumed in this sector it would be 50 paise. According to the related conditionality by the third year this tariff should be raised to half of the cost to serve. And this year’s tariff proposal appears to be in the direction of following this conditionality.

**7.10** We also would like to draw the kind attention of the Commission to the fact that power to the agriculture is being supplied during non-peak hours. This also needs to be kept in mind while looking at the agriculture tariff.

**7.11** We also would like to draw the attention of the Commission to the fact that what farmers basically asking for water. And most of the agriculture pumpsets are located in the backward regions of the state where canal irrigation is not provided. While canal farmers are being asked to pay lesser water charges for the water provided to them, it is not correct to expect the farmers using pumpsets to pay more as they have already invested huge capital in sinking bore wells and setting up pumpsets.

As the farmers are basically asking for water, power generated from hydel stations can be allocated to agriculture. Power generated from the hydel stations is more than what the farming sector needs.

| YEAR    | Power from Hydel Stations in MU |
|---------|---------------------------------|
| 2000-01 | 7048                            |
| 2001-02 | 6250                            |
| 2002-03 | 7954                            |

**7.12** We also wish to state that increasing the agricultural tariff as per the reform plan and as proposed in this year's tariff proposals will break the backs of the farmers in AP. Already farmers are reeling under the crisis engulfing the agriculture sector in the state. Not a single day passes without news papers reporting farmers' suicides. Some of the farmers resorted to this tragic act as they were not able to pay the power bill. Any tariff hike like the one proposed in this year's proposals by the Licensees will add to the burdens of the farmers. This tariff hike will lead increase in cost of agricultural products further and in the prevailing market situation it would not be possible for the farmers to realise this increased cost. Hence we appeal to the Commission not to give consent to this proposal to hike agricultural tariff.

**7.13** What the farmer needs is good quality power and an assured time table of power supply. Various studies indicate that APTRANSCO/DISCOMs have not been able to provide quality power (in terms of voltage) or provide uninterrupted power during the committed 9 hours interval.

Poor quality of power supply: Low and erratic voltage of power supply is the cause of motor burn-outs. The WB study indicate that nearly all pumpset motors are rewound once in a season and 25-30% twice in a season!. The annual cost of re-winding and repair (about Rs.1300-2500/motor) is indicated to be 5-10% of the annual gross farming income.

Distribution Transformer burn outs: State average of burn outs is about 29%. But it is seen that the burn out percentage is much higher at 40-50% in villages and even 80% in some areas. Replacement takes few days and causes interruption in the farming activity.

It is to be noted that the impact of poor quality of power is much higher on marginal farmers compared to large farmers . Considering all this, APTRANSCO/DISCOMs should be taking steps to improve the quality of power supply. We request the Commission to direct the Licensees to provide us the concrete steps taken in this regard.

**7.14** End use efficiency and Demand Side Management: For agricultural loads, it is best for the farmers and the utility to undertake measures towards end use efficiency and demand side management. Studies indicate that energy consumption by pumpsets can be reduced, and the demand requirement brought down. The Commission has issued an order on May 5, 2001 a rebate of 50% of the power bill for three years if the set improvement measures were adopted by the farmers. And it stipulated June 30, 2001 as the last date to be eligible for this rebate. We would like to know from the DISCOMs on the response to this scheme. A dispassionate examination of this experience would help the Licensees and the Regulator to structure the schemes that would work. What are the other steps taken by the utility towards this and what concrete results have come out of these efforts?

## CONCESSIONS TO HT CONSUMERS

**8.1** The state government as a part of its programme to encourage certain industries has offered concessions in power tariff up to 25% of the monthly bills for amounts ranging from Rs.30 lakhs to Rs.50 lakhs depending on the industry. We request the Commission to see that

commitments under this concessions are reimbursed to the respective DISCOMs by the state governments.

## ARREARS

### REVEIVABLE OF THE DISCOMs.

Rs in Crore

| Year  | 2000-01 | 2001-02 | 2002-03 |
|-------|---------|---------|---------|
| EPDCL | 225.54  | 201.89  | 202.31  |
| SPDCL | 300.28  | 267.62  | 316.07  |
| CPDCL | 904.01  | 850.38  | 914.23  |
| NPDCL | 322.88  | 306.65  | 368.30  |
| Total | 1752.71 | 1626.54 | 1800.91 |

### PAYABLES OF THE DISCOMs

Rs in Crore

|       | 2000-01 | 2001-02 | 2002-03 |
|-------|---------|---------|---------|
| EPDCL | 4.71    | 74.42   | 42.13   |
| SPDCL | 0.22    | 95.23   | 42.18   |
| CPDCL | 235.56  | 244.70  | 252.90  |
| NPDCL | 82.01   | 86.67   | 101.05  |
| Total | 322.50  | 501.02  | 438.26  |

**9.1** A comparison of the receivable and payables of the DISCOMs, as presented in the above tables, shows that the receivables are several times more than the payables. While their promptness in payments due to power purchases is to be appreciated, the same alacrity is not found in recovering the dues from the consumers. The only way they could have met their payment obligations is borrowing heavily from the market. This is clear from the increase in interest payments by 35% during the same period. Had they collected the dues from the consumers promptly this interest burden could have been avoided.

**9.2** A examination of the details of arrears given in the Filing of Proposed Tariff show that nearly one third of the arrears are from HT consumers whose number is small and it should not have been difficult to collect the arrears. More than half of the arrears are due for more than one year. One of the reasons for non-collection of arrears repeated by some DISCOMs in their Filing of Proposed Tariff is “Most of the arrears are due from agricultural consumers and domestic services which could not be realised for the reason that the consumers are availing supply by taking another service in some other name in the same premises” (EPDCL, page.126). It is very difficult to buy this argument. Without the collusion of the staff this could not have happened. We request the Commission into this give necessary directions to the Licensees so that burden on the consumers is reduced.

**9.3** We request the Commission to direct the Licensees to publish the list of the Consumers whose dues are more than Rs.10,000.

## **No to increased consumer charges and the tariff.**

**10.1** All the Licensees together plan to mobilise Rs.465 crore through increased tariff and consumer charges. We are of the firm opinion that that amount could easily be mobilised by the Licensees with out burdening the consumers with increased tariff by reducing their power purchase costs, by reducing the T&D losses, by improved collection of arrears, and by reducing under various heads like interest payment and consultancy payments. Hence we request the Commission not to give consent to the Licensees' proposal to increase tariffs.

### **PRAYER TO THE APERC**

**11.1** We request the Commission

1. To reject the tariff filings as they are violation of the Act and the guidelines.
2. To impose fine on the Licensees for not implementing the directives of the Commission.
3. To provide return on equity to the Licensees
4. To review the capital expenditure of the Licensees
5. To direct the Licensees to make public the energy audit reports
6. To direct the Licensees to make public the power consumption data collected from the metering of DTRs.
7. To review the role of the consultants engaged by the Licensees.
8. To review the AP Power Sector Reforms Project.
9. Not to permit hike in tariff and consumer charges including tariff on agricultural pumpsets.
10. To allow the petitioner to be heard in person before APERC takes any decision on this petition.