To,

The Chief Minister,
Government of Andhra Pradesh,
Hyderabad
Andhra Pradesh.

Respected Sir,

The People's Monitoring Group On Electricity Regulation (PMGER) was formed with the coming together of some like minded individuals from different backgrounds – development organizations, environmental organizations, and farmers' organizations with the purpose of understanding the changes that are taking place in the power sector in the state and also see that the people's concerns are represented on various forums related to power. As a part of this work we attempted to educate the people by organizing workshops and also writing in the press on various issues related to power. Apart from this PMGER extensively participated in the hearings conducted by APERC. PMGER also helped many other organizations and individuals to participate in the regulatory process.

During the recently held general elections in the state electricity had become one of the very important issues. Reflecting this the Congress party in the state under your leadership promised the distressed bore well farmers free electricity. And immediately after winning in the elections and assuming the Chief Minister's post you have signed the file regarding the free power to agriculture. While this step is daunting we think that in the prevailing situation it is not impossible to implement this step.

In this memorandum we have attempted to delineate the necessary steps that the present state government should take up to successfully implement its most important election promise. These steps include reviewing the PPAs signed with all the IPPs in the state, addressing the financial health of the APGENCO, examining the fuel prices, bringing down T&D losses, reviewing the investments made in T&D network, bringing down interest burden on all the entities in the sector, bringing down the arrears with proactive steps, addressing the manpower related issues, reducing expenditure incurred because of e-seva, avoiding wastage of power and improving its usage in agriculture.

We also feel that if certain steps are not taken this measure may lead to adverse results, economically and environmentally. These steps should include discouraging further drilling of bore wells, providing support to dry land agriculture, improving credit facilities in rural areas and take steps to enhance opportunities for non-farm rural employment.

We fondly hope that this memorandum will get your full attention and look forward to provide any inputs from our side within our reach for the improvement of power sector in the state.

Thanking you.

Sincerely yours,

M. Thimma Reddy
Convenor.

MEMORANDUM SUBMITTED TO THE CHIEF MINISTER OF ANDHRA PRADESH CONCERNING SUPPLY OF FREE POWER TO AGRICULTURE CONSUMERS

Supplying free power to agriculture is one of the important poll promises of the Congress party, so important that immediately after assuming the office of the Chief Minister Sri. Y.S. Rajasekhara Reddy, leader of the Congress Legislature Party signed the file fulfilling this all important poll promise. We wish the new government success in fulfilling its promises and bringing relief in to the lives of the people of this state who suffered for the last nine years under the World Bank propelled reforms under TDP led state government.

We are one of those who believed that given the crisis in agriculture in Andhra Pradesh supplying free power is necessary and also that such a step is possible. Convenor of PMGER Mr. Thimma Reddy had written an article in **Vaartha**, a Telugu daily on 22nd April 2004, explaining in some detail the necessity and possibility of providing free power to agriculture. Later one of the keen observers of power sector in Andhra Pradesh Mr. K. Raghu wrote another article in **Andhra Jyothi** on 13th May 2004 explaining the implications of providing free power in Andhra Pradesh. Here we would like to delve in more detail on the issues related to providing free power to the agriculture sector. There is scope to reduce costs in power purchases and increase income from sale of power. These opportunities are capable of generating more than Rs. 409 crore to meet the burden of providing free power to agriculture.

QUANTUM OF POWER CONSUMPTION IN AGRICULTURE SECTOR:

The subsidy to be provided to agriculture depends on the quantum of power being consumed by this sector. But there are differing perceptions on this issue. The AP Electricity Regulatory Commission (APERC) in its tariff order for the year 2004-05 took agriculture (LT) consumption as 11,450 MU. This is 350 MU less compared to DISCOMs estimates. We feel that even the figure adopted by the APERC is on the higher side. Both the figures are based on metered data collected from sample agriculture feeders. But this data appears to be not reliable. There is wide variation on per pumpset consumption from one DISCOM to another. For example according to Northern DISCOM per pumpset consumption of power is 3,744 U in an year, while in Eastern DISCOM it is 7,394 U. Besides this duration of power supply to agriculture was also brought down. Previously 9 hour supply was assured. This is brought down to 7 hours i.e., 20% reduction in power supply. But they show that the total power consumption did not change much. According to them it declined from 12,469 MU in 2002-03 to 11,703 MU in 2003-04 - less than 10% decline. Even this decline they attribute to DSM measures but not to reduced power supply hours.

DISCOM	2002-03		2003-04				2004-05	
	Actual		APERC Order		Present Estimate		Present Estimate	
	MU	%	MU	%	MU	%	MU	%
EPDCL	1200	20.39	1150	17.50	1172	18.4	1150	17.50
SPDCL	2834	29.64	2600	26.6	2585	26.7	2600	26.2
CPDCL	5584	32.4	4800	28.2	5235	29.5	5250	28.6
NPDCL	2851	38.03	2800	35.43	2711	36.08	2800	35.94
	12469	31.01	11350	27.49	11703	28.35	11800	27.68

Another statistic that lends credence to this overestimate of agriculture consumption is the experience prior to the introduction of slab system. In 1983, pumpsets numbering 5.36 lakhs consumed 1,540 MU. But we are told that in the year 2003 pumpsets numbering 22 lakhs consumed 12,469 MU. This shows that while number of pumpsets increased by less than five times, power consumption increased by ten times. These figures are also not reliable on two counts: in the past the number of hours of supply was 13 hours compared to 7 to 9 at present, and compared to the past the availability of ground water has gone down meaning that water is not available even for 7 hour pumping. These should imply that the quantum of power supply to agriculture in fact should be less than that claimed by DISCOMs and accepted by the APERC.

For example the CPDCL it self accepts that the supply of power is limited to 7 hours (p.63 tariff filings 2004-05) instead of the 9 hours mentioned in the Tariff Order 2003-04. It is difficult to accept that even after the reduction of supply by more than 20% the consumption still goes beyond the limit set by the Commission. As noted by the Licensee the year experienced unprecedented drought. This will result in lower consumption but not higher consumption as mentioned by the Licensee. Because of the low rainfall ground water level plummeted to very low levels leading to the drying up of many bore wells. This should lead to lower power consumption in the agriculture sector.

Power consumption by agriculture segment in RESCO areas should also throw some light. Mr. Narasimha Rao a freelance journalist in one of his presentations before the APERC explained that comparative agriculture consumption figures for RESCOs are far less than DISCOMs leading to the conclusion that the DISCOMs figures are overestimates.

New agriculture connections and connections issued under Tatkal scheme are metered compulsorily. A look at the power consumption by this metered segment would also give an idea about power consumption in agriculture.

DISCOMs give two reasons for the higher power consumption in agriculture: One of the reasons is increase in number of pumpsets. But in the recent past new connections number about 5000 only. These would not alter the consumption figures much. This small number cannot be expected to make any material change to the consumption figures. Another reason in the words of DISCOMs is, "May be the farmer limits the

extent of cultivated land in view of insufficient water supply, but he runs the motor continuously as far as the 3-Phase supply is available" (p.63 of CPDCL tariff filing 2004-05). In his/her own interest no farmer will do this, as they know very well that if motor is run in the absence of water in the well it will badly affect the motor/pump parts.

The fact that the DISCOMs are not sure of their estimation of agricultural consumption becomes clear when they plead their inability to place the complete mandal level consumption figures before the public as directed by the APERC.

We are of the opinion that the power consumption in agriculture may not be more than 8000 MU. (A justification for this is provided in Annexure – 1. The analysis is based on data related to the year 2000-01. For the present year also the same method applies). The remaining 3450 MU of power should be considered as commercial losses. DISCOMs are spending on average two rupees for purchase of one unit of power. If T&D losses are added to it the cost of power per unit will be Rs. 2.50. **Curbing these losses alone will lead to saving of more than Rs. 860 crore.** We will deal with the issue of T&D losses separately. However, here we would like to mention that the practice of clubbing some part of commercial losses with agriculture consumption did not stop. This leads to diversion of attention in dealing with agriculture related power issues.

This also implies that quantum of subsidy to be provided to agriculture will also comedown.

The DISCOMs are also claiming that they are taking several steps to reign in agricultural consumption of power. These include installation of micro-processor based logic controllers on agriculture feeders (592 Nos. of 33/11 KV Sub-stations), converting 11 KV feeders to single phase (1005 Nos.), and implementation of HVDS system in place of conventional low voltage distribution system in the agriculture sector. These measures need to be reviewed, particularly HVDS to examine their efficacy and contemplate alternative measures.

As it is not possible in the present circumstances to meter all the agriculture pumpsets to measure agriculture consumption the next best alternative is to meter all the DTRs feeding the agriculture consumers regularly. The present meter reading of the sample DTRs is not proper giving rise to questionable figures.

COSTLY POWER PURCHASE FROM IPPS:

The power plants of the IPPs continue to be source of increased expenditure towards power purchases. This is particularly the case with the fixed costs levied by these private power plants. A comparison of these IPP plants (GVK, Spectrum, Lanco and BSES) with NTPC's Simhadri coal based thermal plant, which is the latest plant among all these plants, clearly brings this out. For this comparison figures for the financial year 2004-05 are taken.

Particulars	IPPs	NTPC - Simhadri
Plant Capacity (MW)	999	1000
Units Purchased (MU)	6149	6170
Fixed costs (Rs in Crore)	821.1	485.4
Total Cost (Rs in Crore)	1455.8	1055.1

The above table shows that while IPPs contribute less power compared to NTPC's Simhadri unit they receive Rs. 335.7 crores more towards fixed costs and Rs. 400.7 crores more towards total power sales to APTRANSCO. The inflated fixed costs allowed under the PPAs entered in to with these IPPs are an important source of this high cost power. To these one has to add incentives given to them. The fixed costs being paid to IPPs is quite high even when compared to APGPCL – a joint venture enterprise. The controversy related to Spectrum power plant in the recent past clearly shows that capital costs of each of the IPP plants are inflated by more than Rs. 100 crore. In the past Comptroller and Auditor General (CAG) also severely criticized the PPAs entered in to with GVK and Spectrum and showed excess expenditure to be incurred because of the faulty provisions in these PPAs. The necessity of redrawing these PPAs cannot be overlooked any more.

The APERC in its tariff order for the year 2003-04 has directed the APTRANSCO to renegotiate the PPAs that were concluded prior to the coming in to force of the Reforms Act and constitution of the Commission (Para 151). Following this APTRANSCO has written letters to the IPPs and sat back. Whenever the time lapsed it sought and obtained the necessary time extensions from the Commission. It is to be recognized that the IPPs are not going to yield to pleadings. Necessary pressure has to be brought on them to see reason. For this the state government has to take initiative. Already there are precedents in reviewing the PPAs within the country. The Maharastra Electricity Regulatory Commission asserted its power to review Dabhol Power Company's PPA and this was upheld by the Bombay High Court. The Gujarat government went a step ahead and has successfully brought down the fixed costs to be paid to IPPs in that state by more than Rs. 495 crores. (GPECL – Rs. 240 crore, Essar – Rs. 62 crore, GSEL – Rs. 94.04 crore, GIPCL – Rs 73.08 crore, and GSEG – Rs. 25.21 crore). A closer and detailed examination of Gujarat exercise will throw light on the changes to be made to the PPAs in question.

According to the Section 63 of the Electricity Act 2003 "the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government". Here it is relevant to mention that the GVK and Spectrum plants did not take transparent bidding process, and hence power tariff from these stations is not determined according to transparent process of bidding. These stations came in to being through MOU route. This implies that the Commission need not adopt the tariff of these stations under the existing PPAs and should order renegotiation of PPAs.

It is to be stated that the fixed costs of all IPPs, not only those concluded before the Commission has come in to force but also those approved by the Commission need to be reviewed and renegotiated to reduce power purchase costs. The fixed costs approved by the Commission are no less than those being paid to the ones that have come in to force before its constitution. PPAs with plants like BPL and Hinduja need to be scrapped altogether. Cost of the power to be produced at these plants will be beyond the reach of the consumers in the state. In other words the whole IPPs' working needed to be looked in to afresh.

By reviewing the above said PPAs Rs. 400 crores can be saved.

Liquidated Damages:

According to the provisions of PPA with IPPs all gas projects, which could not achieve financial closure have to pay liquidated damages to APTRANSCO. The Commission has also concurred with this but left it to the APTANSCO whether to recover it or not. We have raised this issue in the objections raised before the APERC during the last years proceedings on annual tariffs. Then the Licensee did not answer it. But in a press statement it justified its non-recovery of liquidated damages on the pretext that they got some savings through the revised PPA entered with these gas projects reducing the fixed costs on par with Gauthami. We are unable to understand how these two issues are related. In that case why APTRANSCO had not recovered liquidated damages from Lanco Project, which did not reduce its fixed costs on par with Gauthami. It is needless to state that the non-recovery of liquidated damages from Lanco and other IPP gas projects is an uncalled for burden on the consumers as well as the state government. These liquidated damages to be recovered amount to nearly Rs. 500 crore. Recovery of these liquidated damages will help to improve the financial health of APTRANSCO and bring down burden on the consumers as well as the GoAP.

Mini Power Plants:

The LVS mini power plant (MPP) continues to present a scandalous picture. Even in comparison with another MPP like Srivatsa the payments being made are quite high. Difference is more than 30 paise per unit.

This does not mean that Srivatsa power is any way cheaper. The high cost power being purchased from these MPPs demand a relook at these plants. These prices are beyond the capacity of the Licensee and are adversely affecting the finances of the Licensee. LVS is being paid Rs. 35.7 crores without contributing a single unit. Also, fixed costs being allowed for these plants is quite high, more than one crore rupees per MW of capacity. It is more than that paid to the IPPs, which the Commission directed to be renegotiated.

This also calls for relooking at the ban on third party sales. Ban on third party sale should not become a millstone around APTRANSCO's neck. Also, the Commission should

follow an accepted and transparent method for calculating cross subsidy to be included in the wheeling charges.

The case regarding LVS also raises many questions. What is the content of Petition filed by APTRANSCO on LVS before the Supreme Court? The usual contention of the parties like MPP is that agreements once signed cannot be reopened. But recent judgements of the higher courts in cases dealing with LIC, UTI and other financial agencies in foreclosing the assured income schemes upheld the practice of closing these schemes. This should mean that the PPAs also are liable to be closed. We fail to understand why the Licensees time and again lose their cases in the courts. These cases need to be pursued rigorously and to their logical end.

Non-Conventional Energy:

Total quantity of power purchased from non-conventional sources has increased by 100% every year between 2002 and 2004. During the year 2005 this is expected to increase by another 50%. Along with quantity per unit price of this power is also increasing every year up to 2004. Combined together total outgoes on this account are staggering. It is needless to mention that this is the costliest power purchased by APTRANSCO.

Year	Power purchased in MU	Cost Rs per Unit	Total cost paid in Rs/Crore
2002	313	2.89	90.30
2003	733	3.20	234.70
2004	1262	3.47	437.00
2005	1802	2.30*	415.30

* This rate is proposed by APTRANSCO as a part of its Bulk Tariff proposals.

While there is no doubt about the need to promote non-conventional and environmentally friendly source of power, the question is at what cost? How the cost of this power is determined? Non-conventional sources of energy encompass wide variety. How can cost of all of them be the same?

The non-conventional power units raise many issues. At the operational level the issue is, how far these non-conventional energy producers are depending on non-conventional fuel sources? Similar to the gas power plants one of the important issues is the availability of fuel for these plants. There were serious doubts about the availability of biomass for the biomass based power plants. According to a study in AP there is not much of biomass available to sustain biomass based power generation. But still, in opposition to this study, many people/agencies obtained licenses to generate bio mass energy and succeeded in obtaining the necessary clearances for setting up the plants. But they ended up felling trees in the forest area unauthorized. These plants instead of protecting the environment are causing serious damage to it. In these circumstances it is very urgent to examine their actual feasibility and give clearance only afterward. Same is the case with the bagasse based plants. Is there enough bagasse feed stock available to run these plants or the

investors are going to set up these plants in order to reap the guaranteed profits under the provisions of various schemes. This is particularly the case in the background of declining ground water many farmers are quitting sugar cane. There is also no new substantial addition to the sugar factories' capacity to warrant more availability of the fuel to the bagasse based plants. Similar environmental issues also need to be examined in the case of the mini hydel power stations. As the show is allowed to run, those who have obtained licenses but not yet started have woken up and started adding to the already unviable capacity. The result is the increasing quantum of power being purchased from these sources and adding to the existing trouble. So before the situation goes out of hand it is in fitness of things to cancel those licenses and save the sector from unscrupulous moneymakers. In other words, the environmental aspects of these non-conventional plants and their feasibility demand a relook at them.
The mini hydel power plants and wind power units also present similar problems. According to some reports mini hydel plants already recovered their fixed costs and other expenses and whatever they receive at present are super profits. In the case of wind power there are doubts about the quantum of power generated by them and fed in to the grid.

While we welcome the APTRANSCO's proposal to reduce tariff for NCE to Rs. 2.30 from the current levels, we want further exploration of bringing down this tariff further. The APERC through a subsequent order reduced the per unit tariff for power purchases from NCE units but not as much as APTRANSCO has requested. APERC brought down average power purchase price from NCE units to Rs. 2,81 per unit.

There is scope to bring down this price further. The normative fixed costs adopted by the APERC for different kinds of NCE units are quite high. Besides these fuel prices allowed are also high. One of the reasons for high fuel prices, particularly in the case of bio mass units, in some places is more capacity was allowed to be established than the local conditions can support. For example in Krishna district while the estimated capacity that could be supported with the locally available resources is 12.25 MW only, in fact units with total capacity of 24 MW were set up. Also, tariff to NCE units can be differentiated on the basis of their contribution to system peak (peak and non-peak energy charges). This is necessary because energy supplied from these units is erratic, seasonal and during non-peak hour but are charged heavily.

Besides this, we would like point out that the water royalty being collected by the irrigation department from the mini-hydel stations is very high. This is as high as 39 paise per unit of power generated. This is nearly equal to variable cost of some thermal power stations like NTPC's Talcher plant. Here it is to be noted that mini-hydel units use water from reservoirs/canals/natural resources in non-consumptive way. Also, we think that it would not be proper for the government that should have promoted environment friendly non-conventional energy to impose such high water royalty. We appeal to the present government of AP to see that these mini-hydel units use water at no cost to them and power consumers. This will directly benefit the power consumers with lower tariffs with out imposing any burden on the government.

These measures will help to bring down burden from power purchases from NCE units.

While renegotiating and redrawing PPAs it is to be seen that they have retrospective effect. This can be done by adjusting the past excess payments with the payments to be made in the future.

In sum, by renegotiating and redrawing the PPAs with all IPPs including mini power plant developers and NCE developers power purchase costs can be brought down considerably and ease subsidy burden on the state government.

APGENCO:

While in the case of IPPs immediate need is to bring down power purchase costs, in the case of APGENCO the urgent issue is to save it from imminent collapse because of the decisions taken by the GoAP and APERC in the past.

The following table provides a picture of the emerging situation:

Rs in crore

Year	DISCOMs' Profits	TRANSCO Profits	GENCO Losses	Total Profits of all the three entities
2003	2	10	41	- 29
2004	29	137	133	33
2005	267	170	277	159
2006	290	259	321	228
2007	283	342	177	449
The Table is extracted from the Letter of Development Policy of GoAP dated 29th December 2003 sent to the World Bank through GoI as a part of its commitments for Second AP Economic Reforms Loan/Credit from the World Bank.				

The above table shows that while DISCOMs and TRANSCO are reaping higher and higher profits year after year, GENCO is incurring larger and larger losses year after year. As GENCO losses are soaring without respite one day or the other it is going to collapse. According to a document submitted by GENCO to APERC by the year 2004 the accumulated losses stood at Rs. 1101 crore which is 50% of its equity. For all practical purposes it has become a sick industry. By the year 2007 its losses are supposed to be accumulated to Rs. 2436 crore, wiping its equity completely forcing it into insolvency/bankruptcy. In other words if the present situation continues GENCO is going to collapse soon.

Even after all the changes that are taking place in the power generation front GENCO still accounts for more than 50% of the power consumed in the state. If GENCO collapses economy of AP also will be caught in severe crisis. If we take into account the fact that nearly 50% of the irrigated agriculture in the state is under pumpset irrigation one can imagine the nature of the things that will unfold if the GENCO is allowed to collapse.

GENCO reached such a pitiable condition because of the conscious decision taken by the erstwhile state government under the guidance of the World Bank as a part of the power sector reforms in the state. According to the schedule of the reform programme DISCOMs are to be privatized in the initial stages. In order to make them attractive all the debt of the erstwhile APSEB towards the terminal benefits of the Board employees, even after their allotment among the unbundled entities, was completely placed on GENCO, thereby relieving DISCOMs of this responsibility. This debt amounted to about Rs. 4500 crores. At the same time no provision was made for the payment of principal and interest on this debt burden. The APERC also did not allow making it a part of power purchase costs from GENCO. The result of it is sinking of GENCO.

This is also reflected in lower fixed costs allowed by APERC to be paid to APGENCO. While this is welcome as it reduces the burden on the consumers, at the same time steps should be taken to see that APGENCO is not unduly burdened leading to its unacceptable closure.

The ARR for the year 2004-05 (page 5) mentions that the fixed costs to be paid to APGENCO for the year 2002-03 are reduced by Rs. 412 crores.

Fixed Costs to be Paid to APGENCO

(Rupees In Crores)

Year	2003-04 ARR	2004-05 ARR
2001-03	1923	****
2002-03	2150	1738.7
2003-04	2010	1738
2004-05	****	1738

From the above table it is clear that while during 2002-03 Rs. 412 crores towards fixed costs are reduced, during the next year it is brought down by Rs. 272 crores. This fixed cost is being maintained during the ensuing year 2004-05. This may be because of the Commission's order regarding the PPA with APGENCO. Following this the payments towards terminal benefits as mentioned above and SLBHES fixed costs as per the transfer scheme are not allowed.

In the past in our submissions we had requested the Commission not allow expenditure on both of these as they are unnecessary and uncalled for burden on the consumers. We are happy that the Commission had accordingly passed the order. But here we would like to state that it was only one part of our submission. The other part deals with the saving of GENCO from the debilitating impact of this burden. But unfortunately the Commission had not taken this into account. We are of the opinion that when the Commission disallowed payments towards terminal payments the Commission also should have disallowed the transfer scheme, which imposed these payments on the GENCO. In this background we request the GoAP to reexamine the asset transfer orders.

According to the Electricity supply Act 1948 it is the responsibility of the GoAP to see that APSEB earned minimum statutory returns. If there was any gap it was the responsibility of the GoAP to fill that gap. At the time of finalizing the transfer scheme it was found that there was unfunded liability of about Rs.4500 crores towards terminal benefits. As these amounts relate to the period preceding the unbundling and asset transfer it is the responsibility of the GoAP bear this burden. It is unjustified to burden only GENCO with this. The correct alternative to this situation is for the GoAP to take over this liability and save GENCO from imminent collapse resulting from this lopsided asset transfer. In turn the GoAP can evolve a scheme that will not burden it much.

Also, as the distribution of personnel of erstwhile APSEB among different unbundled entities is already completed, if there is any liability left over after the GoAP meeting its responsibility the other entities should also share this responsibility to the extent of proportion of employees working with them including APTRANSCO. This can be done by suitably altering the asset transfer/distribution among the unbundled entities.

Another reason for the financial crisis of GENCO is the huge investments in unviable project like Srisailam Left Bank Hydro Electric Station (SLBHES). More than Rs. 3,500 crores are tied up in this project. The APERC did not allow recovery of fixed costs of this station. The SLBHES has become a millstone around the neck of GENCO. The investment made on it is the most irrational one. But once committed, now the question is how to save it from its deadly impact. Our suggestion in the past and in the present is to separate SLBHES from GENCO, and if necessary declare it insolvent and liquidate it. And this practice is not new in the corporate world. To give a latest instant, the L&T demerged its cement business from the parent company to save the latter. To quote a newspaper report, "The much-resisted demerger of the cement division into a separate company has after all turned out to be a bonanza for L&T balance sheet. Post demerger, Larsen&Toubro's liabilities would come down by 55% while there will be only 30% decline in its networth. The new cement company, CemCo will absorb around Rs. 1700 crore worth of liabilities out of L&T's total loans and borrowings of roughly Rs. 3100 crore" (Economic Times, 27, January 2004). Then why not GENCO do the same thing to save itself from being drowned in Srisailam waters.

Despite the unviable nature of this project the APGENCO is going ahead with the tail pond at the Srisailam reservoir. On the first count given the water availability in the river even this tail pond may not be of much use. Also hydel power is the last claimant on the available water. Command area farmers may demand even the water stored in the tail pond. Besides this, the tail pond's actual cost is supposed to be only Rs. 60 crores, but officially it was estimated at Rs.100 crore. It is shattering to note that even after the realization that the GENCO is sinking there is no hesitation to siphon off funds from it and cripple it even more. Every attempt should be made to curb such wasteful expenditure and conserve the existing resources.

By addressing the fixed costs issue of APGENCO every year nearly Rs. 400 crore can be saved at the same time protecting GENCO from imminent collapse.

Declining Purchases from GENCO Thermal Stations and Closure Of RTPP:

The crisis surrounding the GENCO can also be seen in the shape of declining power purchases from it. This is a result of discriminatory treatment meted out to it. The fact of discrimination against APGENCO is taking a concrete shape. The thermal power stations of APGENCO are bearing the brunt of this discrimination. What is more important it is the efficient stations that are at the receiving end.

YEAR	Total power Purchased from APGENCO (MU)	Thermal Power Purchased from APGENCO (MU)
2002-03	24,555	20,752
2003-04	22,271	19,452
2004-05	23,489	17,066

From the above table it is clear the power being purchased from APGENCO in absolute terms is coming down in spite of its contribution to the power sector in the state, and in spite of its efficient functioning. Though the total power to be purchased from APGENCO is shown to be high in 2004-05 compared to the current year this is mainly because of the estimation of higher power availability from hydel sources. In case this comes down because of poor rainfall and poor inflows in to the reservoirs the total will come down. The startling fact that comes out from the above table is the continuous decline in thermal power being procured from APGENCO. This declines from 20,752 MU in 2002-03 to 17,066 MU in the year 2004-05.

The victims of this discrimination are the RTPP and NTS. According to the tariff filings of APTRANSCO for the year 2004-05 though a few million units (8 MU) are planned to be procured from NTS not even a single unit will be procured from RTPP. Subsequently the APERC revised the power availability from the hydel sources downwards and allowed the power purchases from RTPP also. Here it is to be noted that the power purchases from RTPP are linked to hydel power availability, and if more hydel power is available in the coming days the purchases from RTPP will be reduced proportionately. In this context it is to be noted that RTPP received many awards in recognition of its efficient functioning. Also it served the backward Rayalaseema region, which was facing severe power supply problems, particularly voltage fluctuations and breakdowns. It is interesting to note that the variable cost, which is taken as the basis for categorizing the plants on the merit list, of RTPP has increased. In the ARR for the year 2003-04 the variable cost of RTPP was shown as Rs. 1.19/kWh and it has increased to Rs. 1.41/kWh according to the ARR for the year 2004-05. During the same period while variable cost of VTPS remained the same, that of KTPS declined. It is very important to look into this and see that efficient generation stations like RTPP are not cold shouldered and left to decay. But, the closure of such efficient generating stations that help to stabilize power supply and voltages in areas, which are far away from other power generation stations, will only lead to inefficient power sector in the state.

Discrimination against APGENCO:

One of the debilitating aspects of the present dealings with APGENCO is the absence of a long term PPA making its future uncertain. The provisions of this PPA should not be discriminatory and treat it equally with the IPPs. In fact it should be given preference given its service to the state. The proposed PPA also should help to formalize the past practices without harming the interests of the consumers. In fact the relation in the past before the unbundling should be treated as an old PPA. Declaring all thermal stations of APGENCO as must run stations should form part of this PPA.

In terms of giving incentives also GENCO shall be treated equally with IPPs. The incentives norms should be made the same for all the generators. The Commission has ordered that GENCO shall be given incentives for achieving higher PLF. However it is learnt that these incentives are being added to the variable costs of GENCO units. This is leading to backing down of GENCO thermal stations units as the increased variable costs are affecting merit order of GENCO. Hence the incentives paid to GENCO shall be added to fixed costs or shown separately as in the case of IPP projects. Besides this, GENCO is not allowed even minimum rate of return on equity.

The LC and escrow facility available to the IPPs shall also be available to GENCO also. In fact GENCO shall have first claim on the revenues of TRANSCO/DISCOMs, as it is the earliest power generator in the state. Though the Commission has also ordered that LC shall be opened by APTRANSCO for payments to be made to GENCO for energy supplied. However so far no LC is opened and this is leading to worsening of GENCO's finances.

APTRANSCO is getting rebates by making advance payments to IPPs and delaying payments to APGENCO. Until the opening of LC and escrow in favour of GENCO the benefit of rebate shall be shared with APGENCO.

APGENCO is also incurring heavy expenditure because of the consultants engaged by it. At present there are 45 consultants and more than Rs. 10 crore are spent on them. While some of these consultants were paid monthly, some were paid on daily basis, some route their payments to the front organizations being controlled by their relatives and friends. Because of the activities of these consultants existing employees are being sidelined and demoralised. Reduction of the number of these consultants will lead to substantial reduction in the costs and also will result in pushing up the morale of the employees.

FUEL PRICE ISSUES:

The prices of coal and gas decide overall production cost of power. Attention should be paid in containing the prices of these fuels.

Gas Prices:

In the name of reforms and market based price determination attempts are being made to hike gas prices that benefit a few private gas companies at the cost of power sector in the state. Gas prices are going to affect the power being purchased from IPPs and other private power generators. But these power generators given the guarantee of power evacuation provided in the PPAs are unconcerned about the hike in gas prices. As a test case GAIL notified that the gas to be supplied from one of Cairn energy's Ravva satellite offshore field is to be sold at market prices. At present under administered price mechanism the price of gas is Rs. 2,850 per 1000 SCM. In the name of market determined prices the gas prices are sought to be increased to Rs. 5,600 per 1000 SCM.

While at Rs. 2850 per 1000 SCM itself ONGC's profits are quite substantial one can imagine the profits that will accrue to it if Rs. 5600 per 1000 SCM is introduced. While Rs. 2850 is the administered price that includes substantial returns, Rs. 5600 is said to be market-determined price. This market price is said to be determined by supply – demand forces. Scarce supplies in the face of rising demand are said to be driving the gas prices high. In other words, in the name of market forces the Joint Ventures in gas production will be reaping enormous profits, in turn burdening the consumers in the country with high tariffs. Nowhere it is explained how Rs. 5600 per 1000 SCM is arrived at. It appears to be a fictitious figure arbitrarily arrived to benefit the private companies. If it is a market determined price it should have been fluctuating through out the period. But, strangely their market price of Rs. 5600 per 1000 SCM remained unchanged for the last few years raising the suspicion that this is a fictitious figure.

In a letter dated 18 – 06 – 2003 the then Chief Minister of AP wrote to Prime Minister of India expressing apprehension, *" the fourth issue relates to the "market structure" of natural gas. At present, the market structure is monopolistic with mismatch between demand and supply. Under such monopolistic structure, any increase in gas prices would be advantageous to the producers of natural gas, and will not provide any added advantage to the consumers. Further, the benchmarking of pricing under the present structure may encourage market manipulations."*

If one examines the situation in India the Joint Ventures and new companies under New Exploration and Licensing Policy (NELP) should be charging less as they got the drilling blocks at below the prices as its original owner ONGC was not suitably compensated for the expenditure incurred in the initial exploration. But in the name of market-determined prices these private companies are being rewarded unearned profits. The question is how is this price determined? Or is it just pegged to international prices, which again are not uniform?

Region	Gas prices (US $ per mmbtu)
Western Europe	3.00
US	3.15
Argentina	1.50
Trinidad	1.25
Indonesia	1.20
Russia	0.60
Venezuela	0.50
Middle East	0.50
North Africa	0.40

The above table shows that there is no single uniform price. It is changing from country to country.

According to the Chief Minister of AP's letter mentioned earlier, *" the second issue that needs consideration is the basis for proposing parity between the price of natural gas and the international price of a basket of fuel oils. As gas exploration and production efforts are fully indigenous, there is no justification to internationalise and denominate the price in dollars. Internationally, the prices of natural gas are not linked to fuel oil prices. While the fuel oil prices are influenced by the agencies such as OPEC, such prices have no bearing on the natural gas price, as the modes of transportation and processing for fuel oil and natural gas are different. Therefore, the direct linkage proposed between prices of fuel oil and natural gas appears to have no rationale."*

The price of Rs. 2,850 per 1000 SCM is based on costs involved in producing this gas. But it could be surmised that the price of Rs. 5,600 is based on the import price of LNG from Rasgas by Petronet in to India from Gulf. But the production costs of natural gas that is being supplied to power generators from Krishna-Godavari basin gas wells and LNG is completely different and both of them cannot be priced on equal footing.

We, PMGER, approached the High Court to stay the gas price hike for this particular field as it is discriminatory. In spite of its importance the APTRANSCO completely ignored our petition in the High Court, and did not file the counter though it was mentioned as one of the respondents. We think that this stands for its attitude and approach towards many of the legal cases pending or already over.

In this case we appeal to the present state government to pick up the threads where the last government left it and see that the present gas price system is maintained. Otherwise, its burden on the state government, even with out free power to agriculture, will be too much to bear.

Coal Prices:

The price at which APGENCO is buying coal from Singareni coal fields (SCCL) is also a source of concern. This is also reflected in variable costs incurred by APGENCO. A

comparison with NTPC's Talcher power station clearly brings this out. Both the NTPC's Talcher power station and KTPS are pit head stations. Still the variable cost of the later is twice that of the former. While variable cost of Talcher is Rs 0.50/kWh, for KTPS it is Rs. 0.99. This difference is because of the coal prices. While APGENCO is buying F grade coal from SCCL at Rs. 890 per tonne, NTPC Talcher units are purchasing same grade coal from Mahanadi coal fields (MCL) at Rs. 480 per tonne. It is the SCCL, which benefited from this higher coal price. While between 1989 and 1997 SCCL incurred a total loss of Rs. 1200 crore, between 1998 and 2003 it earned a profit of Rs. 1600 crore. This shows that there is scope to bring down the price of coal purchased from SCCL. According to APERC estimation 19,789 MU of thermal power is going to be procured from APGENCO. **By bringing down coal costs by 40 paise per unit total power purchase costs can be reduced by Rs. 791 crore.**

As a part of reforming/restructuring public sector units SCCL was also sought to be privatized. We appeal to the present state government to desist from such a step. If SCCL is privatized state power sector will become a hostage to that private company. Its implications will be too severe to be brushed aside.

Savings also can be made form streamlining coal transportation. For the last few decades same transport company is said to be handling coal transportation. Considerable leakage is said to be taking place at transportation stage. This calls for reexamination fuel transport agreements along with fuel supply agreements.

PREFERENTIAL TREATMENT TO FERRO ALLOYS INDUSTRIES

Some of the industries are being treated differently. Ferro alloys industries are getting preferential treatment in terms of very low tariff for the power consumed by it. For the last three years these industrial units are paying Rs. 2.12 per unit. For the last three years there is no change in this rate. Nowhere the reason for this preferential treatment is explained. This is Rs. 1.50 less per unit of what other industries pay in the state. These industries are reaping huge profits. There is no need to give them such preferential treatment. Their tariff can be increased to the level of other industries thereby increasing the incomes of the APTRANSCO/DISCOMs, and reducing the burden on the state government.

CROSS-SUBSIDY FROM WHEELED ENERGY:

The APERC did not levy any surcharge towards cross subsidy from the wheeled energy. The collection of cross-subsidy from the wheeled energy consumers will add to the income of the DISCOMs and reduce burden to that extent on the GoAP. Recently APERC started an exercise to include cross subsidy in the wheeling charges. A positive order on this will help to ease the situation.

NEED TO REVIEW THE INVESTMENTS ON TRANSMISSION AND DISTRIBUTION NETWORK

Under the power sector reform project hundreds of crores of rupees are being spent to strengthen transmission and distribution system in order to reduce transmission losses. In a period of 7 to 9 years Rs. 25,000 crores are sought to be spent on improving transmission and distribution network in the state. But the outcome is far below expectations. During 2001-02 Rs. 518.90 crores were spent leading to reduction in transmission losses by mere 0.5%. In 2002-03 Rs. 428.7 crores expenditures helped to reduce these losses by 0.25% and in 2003-04 Rs. 311 crores are spent and the APTRANSCO claimed to bring down transmission losses by 1%. During 2004-05 Rs. 564 crores are going to be spent to bring down losses by 0.25%. Going by this in order to reduce transmission losses by two percent an investment of more than Rs. 1800 crores are spent. This is more than the estimated expenditure, i.e., it was said that Rs. 800 crore investment is needed to reduce transmission losses by one percent.

T&D LOSSES AND CAPITAL EXPENDITURE UNDER DISCOMS

DISTRIBUTION LOSSES

DISCOM	2002-03		2003-04				2004-05	
	Actual		APERC Order		Present Estimate		Present Estimate	
	MU	%	MU	%	MU	%	MU	%
EPDCL	989	16.80	1049	16.0	1019	16.02	1019	15.50
SPDCL	2030	21.23	1901	19.43	1878	19.42	1838	18.50
CPDCL	3908	22.66	3271	19.19	3730	21.03	3519	19.2
NPDCL	1592	21.23	1608	20.34	1545	20.56	1519	19.50
Total	8519	21.19	7829	18.96	8172	19.79	7885	18.50

According to the above table the distribution losses declined by 1.4% between 2002-03 and 2003-04. During 2004-05 these losses are expected to decline by another 1.3%. But given the past experience this is difficult to expect. DISCOMs' delivery was always below their claims. Then if we take in to account the fact that projections of agriculture consumption continue to include distribution losses these losses should have been much higher.

We have to examine these distribution losses in the background of huge investments in improving (?) the distribution network. But given the above dismal performance the appropriateness of this expenditure is to be examined.

ASSETS ADDED DURING THE YEAR (Rs in Crores)

DISCOM	2003	2004	2005	Total
EPDCL	124.10	201.38	161.99	487.47
SPDCL	141.40	182.57	181.62	505.59
CPDCL	326.65	398.40	428.62	1153.67
NPDCL	116.07	194.09	134.73	444.89
Total	708.22	976.44	906.96	2591.62

According to an earlier claim of the Licensees Rs. 800 crore investments should lead to reduction of one percent in losses. Regarding the reduction in distribution losses achieved one of the licensees CPDCL explains, " This is largely been possible on account of efficiency improvement measures such as a reduction in metering losses, theft by consumers, regulation of agricultural supply and improvement in the service provided to customers" (p.3). Then, what is the contribution of these capital investments improving the transmission and distribution network?

According to the APTRANSCO losses declined to 6.5% during 2003-04. In the past it was felt that the transmission losses were too high and commercial losses at HT level might be reason for this. The Commission also directed the APTRANSCO to conduct a study and the latter claimed to have implemented the directive, and also implemented the necessary steps to stamp out commercial losses at HT level. But a few months back an industry was raided for stealing power at HT level. Shall we believe that commercial losses at HT level are completely a thing of the past?

Similar is the case with DISCOMs. The T&D loss figures given by the DISCOMs are still not reliable. In the section dealing with agriculture we have expressed our apprehension that still substantial portion of T&D losses continued to be shown as agriculture consumption. There is need to reassess the T&D losses. At both APTRANSCO and DISCOMs level technical losses and commercial losses need to be separated and proper schemes need to be designed to bring down these losses.

Given the nature of the commodity it is not possible to resort to theft without the knowledge of the TRASCO/DISCOM personnel. Some one in the hierarchy should also be made responsible for the theft of power. While compounding fee is collected from the consumers who are caught stealing power, the personnel also should be made to pay some amount, which may be some proportion, say 10 to 25 percent, of the compounding money collected from the consumers.

Then there are time over runs in implementing the capital works. The delay in execution of the capital projects adds to the expenditure. The following table extracted from APERC's tariff order for the year 2004-05 provides us a picture of the magnitude of the problem.

Capital Outlay Performance During 2002-03 (Rs. Cr)

Agency	Filing	Tariff Order	Actual	Shortfall
APTRANSCO	907.08	818.99	362.62	456.37
APEPDCL	151.49	236.83	196.19	40.64
APSPDCL	194.52	194.52	209.55	15.03 (excess)
APCPDCL	443.92	443.92	371.41	72.51
APNPDCL	194.58	194.58	206.49	11.91 (excess)

From the above table it is clear that except Southern and Northern DISCOMs other agencies were not able to execute the works in time. In the case of APTRANSCO the shortfall in performance was more than 50%. The time over runs in the implementation of the capital projects leads to higher additional expenditure by way of increased interest payments, service payments, foregone services because the instruments were not installed in time and trial run in the stipulated time. By streamlining the implementation of capital works considerable savings can be achieved.

It was also felt by the APTRANSCO and DISCOMs themselves that the investments in the transmission and distribution network are leading to negative returns. This also raises the need to examine the appropriateness and optimality of these investments. What is the money earned through improvements/investments and what is money outgo through depreciation and interest payments? The other question is whether the same works could have been achieved with lesser cost. Given the present expenditure levels the whole programme need to be reexamined and necessary corrections introduced. Otherwise it will lead to unnecessary and additional burden to the consumers and the state government. In this context it is also necessary to review the procedures introduced as a part of the World Bank conditionalities.

INTEREST PAYMENTS

Substantial savings can be achieved by restructuring the debt burden of APTRANSCO and DISCOMs. The payment towards interest continues to be a major item of expenditure. The expenditure towards interest payments is increasing every year. Under the present financial markets where the interest rates have declined considerably the interest burden should have come down significantly. The Commission also advised Licensees to restructure the loans, swap the costly loans for cheaper ones. Instead of this the Licensees continue to pay higher interest loans. There appears to be no impact despite the Commission's suggestion to explore low interest loans.

There appears to be no respite on APTRANSCO on this count. The APTRANSO claimed in the press that it has saved substantial amount (nearly Rs. 60 crores) through loan swapping. But in spite of it the interest payments during the year 2003-04 overshot the amount approved by the Commission by Rs, 8 crore (From Rs. 359 crores to Rs. 367 crores). During the ensuing year (2004-05) the interest burden is proposed to increase further by Rs. 25 crores to Rs. 392 crores.

Interest Payments by DISCOMs (Rs in Crores)

DISCOM	2003 (Actuals)	2004 (APERC)	2004 (Estimate)	2005 (Projections)
EPDCL	35	51	67	66
SPDCL	90	82	103	101
CPDCL	132	130	187	199
NPDCL	74	78	93	90
TOTAL	331	341	450	456

The above table shows the interest burden of the DISCOMs is also substantial. And it is increasing every year. In the past they explained that the swapping chances have for them is not available as the given possibilities are used by the TRANSCO only, and as it is the TRANSCO which is organising the loans it seems it did not pay attention to the loans contracted by the DISCOMs. As the DISCOMs are supposed to be independent bodies answering for themselves shifting the blame will not help any one. It is high time they use existing opportunities to bring down the interest burden. The GoAP could help them in swapping costly loans for cheaper loans.

One of the important sources of interest burden is market borrowings for cash deficit contracted to bridge the gap between operating cash inflow and cash outflows. In the case of APTRANSCO this is expected to stay at Rs. 473.8 crores during the year 2004-05. This could be reduced considerably if arrears/receivables are properly managed. While payables of APTRANSCO proposed to decline by Rs. 5 crores during the ensuing year, the receivables are proposed to increase by Rs. 281 crores during the same period (from Rs. 1171 crores in 2003-04 to Rs. 1452 crores in 2004-05).

The same thing applies to DISCOMs also. The GoAP's initiative in writing off of arrears from agriculture consumers will considerably reduce this. Still, the remaining arrears from other consumers are substantial and attempts should be made to bring down these arrears.

Arrears of DISCOMs

Rs in Crore

Year	2003	2004	2005
EPDCL	105.03	133.97	164.72
SPDCL	226.92	314.41	373.59
CPDCL	651.77	993.18	1363.75
NPDCL	380.78	490.23	606.52
Total	1364.50	1931.79	2508.58

An examination of the details of arrears given in the Filings show that a substantial proportion 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.

Another reason shown for the arrears is that of court cases. The CPDCL in its filing claimed that arrears under court cases have been pursued and got disposed in favour of the Company and realization process is in progress. But the facts show otherwise. While according to the last year's filings amount due under court cases stood at Rs. 79.63 crore according to this years filing it stands at Rs. 101.11 crore, an increase of more than Rs. 20 crores. Then, the reason for this should lie in the unwillingness to pursue the arrears seriously.

Rs. 360 crores of arrears are from the disconnected services. How would DISCOMs recover these arrears? Given the fact these arrears are more than the arrears involved in court cases it may appear that the Licensees are not making any effort to recover these arrears.

MANPOWER ISSUES

Savings are also possible in the manpower front.

In the case of APTRANSCO expenditure on employees is projected to jump by Rs. 40 crores or more than 50% during the year 2004-05. During 2002-03 the expenditure on employees was Rs. 65 crores. This increased to Rs. 71 crores during the next year i.e., 2003-04. In fact during this year this expenditure declined by Rs. 4 crores compared to the allowance made by the Commission. But during the year 2004-05 this is projected to increase to Rs. 111 crores. No explanation was given for this sudden jump by more than 50%. In fact compared to the year 2002-03, the number employees working during the year 2004-05 will be lower. Even then the costs are expected it increase. Also the 'Plans for Rationalisation of Existing Manpower' (Guideline – 10c, Volume II, p.78) mentions the intentions and plans of the Licensee. According to it number of employees working with it will come down from 4,723 as on 31-3-2003 to 4,058 five years later. From this also is difficult to visualize sudden increase in employee costs.

Employee Costs of DISCOMS (Rs in Crores)

DISCOM	**2003**	**2004**	**2005**
EPDCL	100	119	131
SPDCL	179	191	203
CPDCL	229	244	267
NPDCL	118	131	138
Total	626	685	739

Similar is the case with DISCOMs. The above table shows that the cost towards employees is quite considerable and it is increasing. This will give a false picture that the strength of the employees is on the rise. But the fact is otherwise. According to the last year's filings there is a huge gap between the sanctioned posts and the actual working. The Licensees have assured that they will fill the vacancies. But no such thing took place, and exactly the opposite is taking place. The number of employees in the roles of these companies is coming down. According to the response of CPDCL to the APERC's

directive No. 28 the average manpower deployment as on 30-9-2003 is 2.7 employees per 1000 services, as against the prescribed norms of 4 persons for 1000 services (p.126). The response to this is, "It is not contemplating any reduction in manpower in the promotional cadre posts. However in the initial recruitment level such as AEs, LDC, typist, LMD, Sub-engineers, JLM, all the existing/arising vacancies are not being filled-up as the workloads in certain areas are reduced due to outsourcing of certain activities…" (p.136).

The above response as well as the new practices being followed raises many issues: When the number of employees is declining how is it that the cost towards employees is increasing? Is it that a small number of people are churning away the cream at the cost of service to the consumers, as there are no adequate numbers of employees to render necessary and adequate service? Is it the reason for the increasing arrears, breakdowns, and unauthorized connections? Are the statutory work norms, like statutory minimum wages, being followed?

The facts show that two opposite movements are taking place. While all the sanctioned posts of the officers cadre are filled and their pay scales are improved, in the case of workers/technicians only half of the sanctioned posts are filled and their service conditions in terms of wages and working norms are changed to their disadvantage. The recent tenders for the maintenance of the substations show that the amount quoted is not sufficient to pay the statutory minimum wages. In the erstwhile APSEB there were only nine directors. But in all the unbundled entities of APSEB put together there are nearly 50 directors.

This could be addressed by increasing the coordination among all the unbundled entities. Some of the operations of the DISCOMs could be brought under one umbrella. For example, corporate affairs of all the entities until recently were managed by APTRANSCO.

Under the changed management pattern Consultants have come to play very 'influential' role in return for fat pay cheques. The introduction of Consultants of the so-called reputed international consultancy agencies besides draining the coffers of the entities only helped to demoralize the competent cadre working in APTRANSCO and DISCOMs. Their critical and constructive contribution to the sector is negligible. The High Level Committee of the Government of Orissa which reviewed the power sector reforms in that state observed that though the Consultants accounted for more than Rs. 100 crore they did not make any contribution to the improvement of any kind, either in management practices, or in financial practices. In this context it is very important to reexamine the role of the Consultants and consultancy agencies in AP also. Savings on this account will not be small.

e-seva INITIATIVES

The Licensees are declaring the opearation of e-seva with much fanfare (CPDCL p.41 of the Tariff filings for the year 2004-05). But the question is how far these initiatives are economical? When under the existing practice each bill is being collected at the cost of less than one rupee why pay Rs. 5 per bill under e-seva. During the last years hearings we raised the same issue before APERC during tariff hearings but we did not get any satisfactory response. We were told then that it would not burden the consumers. We fail to understand wherefrom they will get funds to pay for these. We raised this issue again in the meeting of the State Advisory Committee of APERC held in March of this year. The Chairman of the Commission responded saying that additional burden will not be borne by the consumers but by the Government. But why should the state government bear this unnecessary burden?

Under the existing system the collection agents are being paid 60 to 100 paise per one bill collection (collection agent will be paid one rupee for collection of one bill if total bill collection is more than 80% and 60 paise in bill collection is less than 80%). But under the e-seva system Rs. 5 are paid for collection. Besides this the bi-monthly billing is converted to monthly billing. Because of this instead of one rupee or even less the DISCOMs are paying 10 rupees. In other words, hitec instead of bringing down the costs increasing the costs by more than 10 times.

Some of the state government departments like Police department pay only two rupees per transaction. As the volume of transactions under the electricity is more this charge should be less, less than one rupee. Further, the premises and other infrastructure is provided by respective DISCOMs at no cost to e-seva management. If e-seva managements are not ready for this the work can be reverted to the respective DISCOMs' EROs thereby saving substantial amount of money for the state government.

FREE POWER TO HT IRRIGATION:

The government announcement also included the HT lift irrigation schemes under the free power scheme. These lift irrigation schemes were set up by the government on streams/rivers/canals at the government expense, unlike under the bore wells where farmers met all the expenses. In the later stages the management and maintenance of these lift irrigation schemes were handed over by the GoAP to farmer cooperatives. These need not be treated equally with the bore well farmers who have borne all the risks. A tariff that is equal to the irrigation cess paid by the command areas farmers can be collected from the HT lift irrigation farmers. It is also to be mentioned that farmers under these lift irrigation schemes are also facing problems, particularly related to operation and maintenance of these high capacity motors. A decision on this can be taken after discussing the problem with these farmers and farmers' associations.

AVOID WASTAGE OF POWER

In different quarters apprehensions are being expressed that free power will lead to wastage of precious power. In order to avoid wastage of power a limit on per pumpset consumption of power can be placed and those who use more than the allotted quantity will be asked to pay full cost of the excess power consumption. As there are no individual meters on each pumpset the limit can be placed on the agriculture DTR level consumption and the group of farmers under each DTR be made responsible for any excess consumption. Also strict action should be taken against phase converters.

An incentive scheme for reducing power consumption can be formulated to encourage farmers to save power and also help in curbing power theft. Every unit of power saved will be an income of two rupees to the DISCOMs. At present pumpset efficiency is said to be only 20 to 30 percent. There is scope to improve pumpset efficiency. To realize this also an incentive scheme need to be put in place. A disincentive provision should also be taken up to discourage excessive use of power.

For this it is very important to involve farmers at different levels. At the state level a meeting with the representatives of different farmers' organizations shall be held to chalk out a programme for effective and successful implementation of this very important scheme. Apart from this transformer and substation level farmers' committees should be set up to contain misuse of power under this scheme.

Agriculture Task Force was appointed by the previous government to examine power supply to agriculture and recommend measures to take up. We learn that that Task Force had already submitted its report. Any good suggestions contained in this Task Force report can be taken up. For this it is also important to share it with the farmers' representatives and other public.

CAUTION TO BE TAKEN

While the free power supply to agriculture is to be welcomed, at the same time some precautions need to be taken to see that this measure has no adverse outcomes. This is particularly the case with regard to environment issues. Because of indiscriminate drilling of bore wells the ground water levels have gone down to precarious levels. Along with this with the bore wells going deeper and deeper water is being contaminated with fluoride. In the past fluoride incidence was limited to some areas in Nalgonda and Prakasam districts. Now complaints of fluoride contamination is emerging from almost all the districts that depend on bore wells for irrigation like Anantapur and Chittoor. To curb this indiscriminate drilling of bore wells exploitation of ground water should be regulated strictly. Otherwise it may lead to severe health hazards, thereby further burdening the state government. Some of the steps to be taken shall include banning further bore well drilling in areas which are already categorised as black and gray zones,

and also areas where water is contaminated with fluoride. In these areas no new power connections should be given to agriculture pumpsets. Before taking these steps farmers should be educated about the dangers posed by indiscriminate bore well drilling.

The recent spate of suicides of farmers also holds out some lessons regarding bore well irrigation. Majority of the farmers who committed suicide come from predominantly dry land areas. As an answer to the uncertainty of dry land agriculture they attempted bore well drilling. Given the depleting ground water level they went on drilling one bore well after another. In the course of this they contracted huge debts, beyond their repaying capacity. The bore well irrigated agriculture also turned out to be as uncertain as rainfed dry land agriculture. The only way to avert this disaster is to support dry land agriculture, and go to the rescue of the distressed farmers at right time. Some of these steps can include proper marketing facilities to the dry land agriculture products as they are falling prey to middlemen both during good and bad years, suitable insurance schemes that will rescue the farmers from adverse situations, putting together necessary mechanism to track distress signals and implement rehabilitations schemes. In this scheme of things along with the land owners/cultivators agriculture workers should also find suitable place. In sum, necessary attention should be paid to dry land agriculture.

Along with this credit facilities for the agriculture sector should be improved. As the existing formal facilities are not sufficient farmers are forced to approach the village moneylenders who charge exorbitant interest ranging from 24 percent per annum to 60 percent. While agriculture contributes more than 30% to national income its share in institutional credit is only 18%, which is categorized as priority sector lending. Normally agriculture sector does not receive even this 18% of the credit. It is high time agriculture receives 30% of the institutional credit. This will help to solve agriculture crisis in the state to a large extent.

An important reason for increasing pressure on agriculture land reflected in indiscriminate drilling of bore wells is lack of employment opportunities in rural areas. By enhancing the avenues for non-farm rural employment also the increasing dependency on agriculture can be brought down.

We request the Chief Minister to consider all the issues raised above and take suitable action to reduce burden on the state government.

M. Thimma Reddy
Convenor.

ANNEXURE – I

Estimating Agricultural Consumption

1. Agricultural consumption is largely not metered and hence has to be estimated. The quantum of power consumed in the agriculture sector has remained a controversial issue in the recent past. While the suppliers claim that agriculture sector is consuming nearly a third of power and contributing just three percent of revenues that forcing them to bankruptcy, agriculturists claim that they are getting raw deal in the supply of power. There is an urgent need to address this issue. It is thus important to ensure that agricultural consumption is estimated in a scientific way. In this note an attempt is made to arrive at the power consumed by the agriculture sector based on the data provided in the present tariff filing, which provides good approximation to the ground reality.
2. As a first step towards this, Energy metering at some of the LT side of the Distribution Transformers (supplying agricultural load) has been carried out by the DISCOMs to arrive at better estimates of the energy consumption. Census of pump sets has also been carried out in some districts. These are positive steps and the data provided in the ARR's has been consolidated in Table-1.
3. Metering data from distribution transformers for 30-day period has been provided. Metering has been carried out in the months of October-November and can be considered as a good indicator of the typical consumption pattern. Metering has been carried out in 5 circles in each of the DISCOMs. These are Anantapur, Kurnool, Mahaboobnagar, Nalgonda, Medak and Rangaraddy from CPDC; Eluru, Vzianagaram, Rajahmundry, Srikakulam and Visakhapatnam from EPDC; Warangal, Karimnagar, Khammam, Nizamabad and Adilabad from NPDC; Vijayawada, Guntur, Ongole, Nellore and Tirupati from SPDC. The sample size of measurement is 366 MW and is a good sample of the total agricultural load. The percentage of metered Agricultural power works out to 4.76% if the agricultural load is taken as 7691 MW and 7.07 % if the load is taken as 5178 MW. This is also shown in Table-1.
4. Column 5 of Table-1 shows that for this 366 MW of agricultural load, the metered consumption for 30 days is 50.38 MU.
5. Columns 8 of Table-1 shows the Average hours of Pump operation/day calculated on the basis of the figure of Units consumed per HP per month. Average number of hours per day = units per HP per month /(30*0.745). Average hours of operation of pump sets are 4.59. This number of hours of operation of pump sets reflects real situation. Using this figure and considering 200 days/year of pump operation, the average number of hours of operation/year can be calculated for each DISCOM. Average number of hours per year = Average number of hours per day *200.
6. The average number of hours of operation/year calculated thus for each DISCOM is given in column 10 of Table-1. It works out to be 1573 hours/year for CPDC, 735 for EPDC, 1025 for NPDC and 950 for SPDC. The weighted average (weighted on

connected HP of measurement) works out to be 918 hours/year. For comparison, the ARR 2001 has taken 1800 hours/year for CPDC, 1355 for EPDC, 1140for NPDC and 1180 for SPDC. This works out to a weighted average of 1415 hours/year.

7. Tables-2a and 2b summarise the number and load information of pumpsets. Data on this is available from 2 sources. First is from ARR 2001-02 which gives the DISCOM-wise information on the number of pumpsets and the average HP. This data can be used to calculate the total agricultural load and gives a figure of 7691 MW from 19.85 Lakhs pumpsets as shown in Table-2a. The second source is ARR 2000-01, which had given the HP range wise, break of the number of pumpsets. Using this data, the agricultural load works out to be 4568 MW from 18.2 Lakhs pumpsets. Extrapolating the MW value (taking an average 5 HP power for the extra 1.6 Lakhs pumpsets) gives a value of 5178 MW for the agricultural load in 2001-02 from this data. This is shown in Table-2b.
8. In the ARR of each DISCOM, the total agricultural consumption for 2000-01 and 2001-02 has been estimated and is given in Table-3. The total agricultural consumption estimate given for 2000-01 is 10860 MU and 2001-02 is 10,500 MU.
9. Metering of Agricultural consumers was in place in 1981. Table 4 gives the data for 1981-82 on the number of pumpsets and metered energy consumption. This data can be extrapolated to arrive at the agricultural consumption levels today. In this procedure power consumption in 1981-82 is divided by the then existing pumpsets and the resultant figure is multiplied by the present number of pumpsets ([942/4.86] x 19.85) = 3847 MU. This is shown in Table-4.
10. We submit that the estimate given for power consumption in the agriculture sector in ARR 2001-02 is very high. Estimates are high because of two major reasons:

a) The average duration of operation of pumpsets has been taken as 1415 hrs/year, and this is high as available metered data show that this could be 918 hrs/year.
b) The connected MW agricultural load is taken as 7691 MW, which is very high.

11. Having done the good work of metering 5-7% of agricultural load spread over 20 circles for a period 0f 30 days, it will be scientific to use this data to prepare estimates of agricultural consumption by proper extrapolation methods. The metering data given in the ARR's can be used to calculate alternate estimates of agricultural consumption. In ARR submission, DISCOMs have stated inability to use this data right now for estimation. To quote from Section 2.2.1.2 of the ARR of CPDC, one of the DISCOMs (Similar text is present in the ARRs of other DISCOMs): “APCPDCL intends to use the metering and census information for developing its future agricultural forecasts. However, for making projections this data would need to be refined and would be needed for a substantial period of time. APCPDCL will be happy to share the data with the Hon’ble Commission, as it is available and arrive at an appropriate basis for developing agricultural projections. However for the ensuing year it requests the Commission to accept its estimate of agricultural consumption of 4,795 MU”. We submit that the metering data given in the ARR can be used to calculate alternate estimates of agricultural consumption. Estimates based on 7 different alternate methods are given in Table 5.

    11.1 S.No 1 is the estimate prepared using the average hours of pumpset operation per year calculated in Table-1 (918 hours) and the total agricultural

load estimated based on ARR 2000 data extrapolated to 2001 (Table 2: 5178 MW). (5178MW x 918hrs x 1000kwh/1,000,000 = 4751 MU)

11.2 S.No 2 is based on extrapolating the energy consumption for the metered sample to the total agricultural load. As per Table-1, the metered sample of 366 MW consumes 50.38 MU in 30 days. This figure is extrapolated to the total agricultural load of 5178 MW for a period of 200 days to give the yearly consumption. {(50.38MU x [5178MW/366MW] x [200days/30days]) = 4751 MU}

11.3 S.No 3 uses the metered agricultural consumption available for 1981-82 as given in Table 4. This figure was for 4.86 Lakhs pumpsets. The number of pumpsets has increased 4 times and therefore the energy consumption figure of 1981-82 is extrapolated to get the consumption for 19.85 Lakhs pumpsets. ([942 MU/4.86 Lakh pumpsets] x 19.85 lakh pumpsets = 3847 MU)

11.4 S.No 4 calculation is similar to that of S.No 1. The only difference is that the total agricultural load is taken as the higher figure of 7691 MW as given in ARR 2001 (Table 2). (7691MW x 918hrs x 1000kwh/1,000,000 = 7057 MU)

11.5 S.No 5 calculation is similar to that of S.No 2. The only difference is that the total agricultural load is taken as the higher figure of 7691 MW as given in ARR 2001 (Table 2). {(50.38MU x [7691MW/366MW] x [200days/30days]) = 7057 MU}

11.6 S.No 6 uses the average hours of pumpset operation per year for each DISCOM as given in Table 1 (Column 10) and calculates the energy consumption for each DISCOM based on the MW load as given in Table 2, last column. The individual MU figures for the DISCOM's are added up to get the total MU figure.

11.7 S.No 7 uses the total agricultural load as 5178 MW (ARR 2000 figure extrapolated to 2001). It is assumed that half this load is on the grid for two periods of 9 hours each for 200 days in a year. Based on this assumption, the yearly MU figure is calculated. (5178MW x 0.5 x 9hrs x 2shifts x 1000kwh x 200hrs = 9320MU)

12. All these estimates have used base data from TRANSCO. The basis for TRANSCO's estimate of 10,500 MU is not clear. Basis for the 7 alternate estimates is briefly given in section 11 above. From Table- 5, it can be seen that all estimates are smaller than the estimate of 10,500 MU given in ARR. In fact the estimates vary from 37 % (3847 MU) to 89 %(9320 MU) of the ARR estimate (10,500 MU).
13. We submit that the real life metering information available with TRANSCO and DISCOM's should be used to arrive at the estimates of Agricultural Consumption. Our feeling is that Estimates 1 and 2 (4751 MU) may be closer to the actual agricultural consumption in AP.
14. We request the Commission to get clarifications/comments from TRANSCO on these estimates and accordingly suggest to revise the ARR figures for agricultural consumption.

Table-1

Agricultural Metering Data Summary

1	2	3	4	5	6	7	8	9	10
DISCOM	**Period of Metering**	**No of Transformers metered**	**Connected load in HP**	**Consumption recorded (MU)**	**Units per HP per Month**	**No of Days of Measurement**	**Avg hrs of operation per day**	**Number of days of operation/year**	**Number of hrs of operation/year**
CPDC	oct-nov	71	6678	1.17	176	30	7.87	200	1573
EPDC	oct-nov	1784	125071	10.27	82	30	3.68	200	735
NPDC	oct-nov	911	89526	10.26	115	30	5.13	200	1025
SPDC	jun-oct	3601	270058	28.67	106	30	4.75	200	950
Total		**6367**	**491332**	**50.38**					
			366	**MW**					
Weighted Avg					**103**	**30**	**4.59**		**918**

Estimate for Total Agricultural Load (MW)

1. From ARR 2001 — 7691
(Based on no of Pumpsets per DISCOM and the Average HP)

2. From ARR 2000 — 5178
(From the HP wise count of pumpsets in 2000 and extrapolated to 01)

Metered portion as % of total Agl.Load (Sample Size)

Considering 7691 MW as Total Load	4.76
Considering 5178 MW as Total Load	7.07

Table-2a
Number and Load of Pumpsets
From ARR 2001

DISCOM	**No of Sets(sept-00).L**	**Average HP**	**HP (L)**	**MW**
CPDC	7.63	5	38	2842
EPDC	1.33	8	11	793
NPDC	6.22	5	31	2317
SPDC	4.67	5	23	1740
Total	**19.85**		**103**	**7691**

Table-2b
Number and Load of Pumpsets
From ARR – 2000

HP Range	Average HP	Number of Pumpsets(L)			
		DPAP	Others	Total	MW
< 3	2	3.15	6.1	9.3	1378.3
3 to 5	4	2.28	5.13	7.4	2208.2
5 to 10	7.5	0.26	1.09	1.4	754.3
> 15	15	0.00363	0.2	0.2	227.6
Total	**3.37**			**18.2**	**4568.3**

Total MW Extrapolated to 2001 **5177.8**

Table-3
Agricultural Consumption Estimate in ARR

DISCOM	MW	2001(MU)	2002 (MU)
CPDC	2842	5082	4795
EPDC	793	1076	1088
NPDC	2317	2646	2577
SPDC	1740	2056	2040
Total	**7691**	**10860**	**10500**

Table-4
Data in 1981-82, when metering was in place & Present

Year No	Number of Pumpsets-Lakhs	MU	No of hrs of supply
1981-82	4.86	942	18
2000-01	19.85	3847	9

Source :
APSEB Power Development (Statistics)
1998-99

Table-5

Estimates for Agricultural Consumption in AP, 2001-02

S.No.	MU	Source	Method	% of ARR Estimate
1	4751	Calculated	Based on total agl load as per ARR00 extrapolated to 01 (Table-2:4568 to 5178 MW), Number of hours of operation calculated based on measured data given in ARR01(Table-1:918 hrs)	45
2	4751	Calculated	Use the recorded MU consumption of measured load (Table-1: 366 MW) and extrapoloate to total load (5178 MW). 30-day consumption extrapolated to 200 days.	45
3	3847	Calculated	Using the Consumption figures available in Table 4 for 1981-2 (942MU) when 4.86L pumpsets were metered. Extrapolated for the current no of pumpsets (19.85L)	37
4	7057	Calculated	Based on total agl load as per data given for DISCOMS in ARR01 (Table-2: 7691MW), Number of hours of operation averaged for the 4 DISCOMS based on measured data given in ARR01 (Table-1: 918 hrs)	67
5	7057	Calculated	Use the recorded MU consumption of measured load (Table-1: 366 MW) and extrapoloate to total load (7691 MW). 30 day consumption extrapolated to 200 days.	67
6	9082	Calculated	Based on total agl load as per data given for DISCOMS in ARR01 (totalling to 7691MW), Number of hours of operation of each DSCOM based on measured data given in ARR01	86
7	9320	Calculated	Based on half the total agl load as per ARR00 extrapolated to 01 (Table-2: 4720 to 5178 MW), operating for two shift of 9 hrs each for 200 days	89
8	10500	ARR 2001-02	Added up the consumption figures for the DISCOMS	100