

ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
4th & 5th Floors, Singareni Bhavan, Red Hills, Hyderabad – 500 004

O.P.No. 5 / 2002.
Dated: 12-04-2003

Present

Sri G.P.Rao, Chairman
Sri D.Lakshminarayana, Member
Sri K. Sreerama Murthy, Member

Between

APTRANSCO,
Vidyut Soudha, Khairatabad, Hyderabad – 500 082.

...Applicant

AND

M/s. Gautami Power Pvt. Ltd.,
41, Nagarjuna Hills, Panjasgutta,
Hyderabad – 500 082

...to whom notice is given.

- 1 Sri B.V.Raghavulu,
Secretary,
A.P. Communist Party of India (Marxist),
1-1-602, M B Bhavan,
RTC X Roads, Hyderabad – 20.
- 2 Sri M.Venugopal Rao,
Special Correspondent,
Prajashakti Telugu Daily,
1-7-139/43, Risalgadda, Hyderabad – 500 048.
- 3 Sri K.Raghu,
Associate President, APSEB Engineer's
Association,
6-3-596/21/4, Venkataramana Colony, Khairatabad
Hyderabad – 500 004.
- 4 Dr. V. Brahma Reddy, Vice president, Jana
Vignana Vedika, 6-3-609 / 24 / 1, Anand Nagar
Colony, Khairatabad, Hyderabad – 500 004.
- 5 Sri M.Timma Reddy,
Convenor,
People's Monitory Group on electricity Regulation,
C/o. Centre for Environment Concerns,
3-4-142/6, Barkatpura, Hyderabad – 27.

6. Dr. T. Chandra Sekhar Rao, Camp Hyderabad,
House No. MIG 1 B – 53, Sector 9, MVP Colony,
Visakhapatnam – 530 017.
- 7 Sri. S.R. Vijayakar, Loksatta,
401 / 408, Nirmal Towers, Dwarakapuri Colony,
Punjagutta, Hyderabad – 500 082.
- 8 Sri Suravaram Sudhakar Reddy, Secretary, CPI,
AP State Council, Makhdum Bhavan,
Himayatnagar, Hyderabad – 500 029.
9. Sri. P. Mohan Reddy, Associate President, Ravi
Colony Welfare Association, Plot No. 174, Road
No. 2 H, Ravi Colony, Mahendra Hills,
Secunderabad – 500 026.
- 10 Sri V.M.Ravi Shankar,
Associate President,
APSEB Asst. Engineers Association,
H.No. 1-10-247/4, Near IAS Study Circle,
Ashok Nagar, Chikadapally,
Hyderabad –50.
11. Sri K.P. Rao IDAS (Retd), Formerly Member
(E & C), CEA and Member (Fin). Telecom
Commission & Secretary to Govt of India.
- 12 Sri. M.V. Mysura Reddy, (MLA), Congress
Legislature Party, Road NO.2, Banjara Hills,
Hyderabad.
- 13 Sri. A. Punna Rao, FIE., FIPE.,
Dy, Chief Inspector of Boilers (Retd), 59-2-1,
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- 14 Sri. K.P. Reddaiah Yadav, Ex-MP,
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The Commission having considered the application of APTRANSCO to give consent to the Power Purchase Agreement with M/s. Gautami Power Pvt. Ltd. and having heard the Members of the Public and duly taking into account the material on record passed the following order:

ORDER
CHAPTER – I BACKGROUND

1. The Government of Andhra Pradesh (GoAP) and the erstwhile Andhra Pradesh State Electricity Board (APSEB) noticed in 1995 that there was shortage of electricity in the State resulting in power cuts. The GoAP and APSEB considered permitting private parties to set up short gestation power projects to quickly bridge the gap between demand and supply. The APSEB called for global bids (in Bid No.CE/PLG/1/95-96) on tariff basis in May, 1995 for the establishment of short gestation gas/naphtha/fuel oil based power stations with a total capacity of about 2000 MW, as an immediate measure to bridge the demand and supply gap. The bids were received and opened on 09.02.1996. GoAP approved the setting up of power projects with Naphtha as fuel for a cumulative capacity of 1623 MW by six bidders by letter No.8919/Pr.I.1/95, dated 24.07.96.
2. GoAP approved the offer of M/s.Satyam Constructions Company Ltd.(M/s.SCCL) to set up a 300 MW power plant at Peddapuram with Naphtha as fuel.
3. M/s.SCCL incorporated a Generating Company by name M/s.Gautami Power Ltd. (GPL) and a Power Purchase Agreement (PPA) was entered into on 31.03.1997.
4. M/s.GPL requested the erstwhile Board and the GoAP for enhancement of the nominal capacity of the project from 300 MW to 358.9 MW vide letter dated 14.05.1998.
5. GoAP approved the request for enhancement of capacity from 300 MW to 358.9 MW vide letter dated 22.05.1998 with a condition that the developer should supply 157.2 MU per annum over and above 80% PLF in the incentive regime as Committed Incentive Energy (CIE) and reduce 2 paise / kWh in other fixed charge (OFC) from 71.9 paise to 69.9 paise per unit.
6. Consequent to the approval of GoAP, an Amendment Agreement to the PPA dated 31.03.1997 was entered into on 17.07.1999 for enhancement of the

capacity with a reduced “OFC” of 69.9 paise / kWh and suitable provisions for supply of committed incentive energy of 157.2 MU at the rate of 6.99 paise / kWh.

7. As part of the same exercise, M/s.Usha Martin Industries Ltd., Calcutta, was also selected for setting up a 100 MW capacity plant at Visakhapatnam with Foreign Debt Service Charge (FDSC) of US\$ 0.0044 + OFC of Rs.0.936. However, the Company did not execute the PPA.
8. Subsequently, GoAP awarded the project to the next ranked bidder, M/s. Nagarjuna Construction Company Ltd. (NCC) for setting up a of power station of 227 MW capacity at Ammanabrolu, Prakasham District. M/s. NCC entered into a PPA on 31.03.1997.
9. M/s.NCC incorporated a new Generating Company with the name of M/s. NCC power corporation Ltd (M/s.NCCPCL).
- 10.GoAP has considered the request for change of project location from Ammanabrolu to Bhimavaram and Jaggamagaripeta (V) of Peddapuram and Samalkot Mandals respectively in East Godavari District, A.P on 17.08.1998.
- 11.Accordingly, Amendment No:1 dated 13.03.1998 for change of name to M/s. NCCPCL and Amendment No:2 dated 16.11.1998 for change of location is issued.
- 12.None of Short Gestation Project developers except Lanco Kondapalli Power Ltd., could achieve Financial Closure.
- 13.Due to the steep rise in the cost of Naphtha, GoAP decided in March 2000 to convert the short gestation power projects to operate on Natural Gas only instead of Naphtha to have least cost generation.
- 14.GoAP recommended allocation of Natural Gas to the lowest tariff project of Gautami Power Pvt. Ltd on 19.03.2000.
- 15.M/s.NCCPCL agreed to match the lowest tariff of Gautami Power (P) Ltd. and requested GoAP to permit a capacity of 239 MW against 227 MW earlier.

- 16.** GoAP while permitting 239 MW decided to fix full fixed charge recovery at 85% PLF, adopt a heat rate of 1900 k cal / kWh and agreed not to insist the Committed Incentive Energy, keeping in view the smaller size.
- 17.** The MoP & NG allocated Natural Gas of 1.22 MCMD to M/s.GPPL and 0.74 MCMD to M/s.NCCPCL.
- 18.** As the gas allocations made were not sufficient to run the projects at full capacity, the GoAP gave option to the two developers to (i) to restrict their capacities to the quantities of gas allocated (ii) to form a consortium with other developers to implement the project with allocated gas (iii) to implement the project in two stages.
- 19.** M/s. Gautami Power Pvt. Ltd. and M/s.NCCPCL submitted a proposal on 25.10.2000 for merger of the two projects to implement the combined project of 597.9 MW in two stages, 464 MW in stage –I with the combined gas allotment of 1.96 MCMD and balance 133.9 MW in stage –II after obtaining the additional gas required.
- 20.** GoAP accorded permission to implement the project by M/s.GPPL after merger with M/s.NCCPCL with a combined capacity of 464 MW in stage-I and 133.9 MW in Stage –II subject to the following conditions : (a) All the commercial terms covering the project in respect of stage – I and II shall be same as per the terms and conditions awarded at the time of permitting switch over to gas in respect of both the projects. The CIE of 157.2 MU per annum was apportioned between stage – I and stage –II to the extent of 97.8 MU in stage-I and 59.4 MU in stage – II. (b) It is the responsibility of the developer to secure the additional gas required for the stage-II of the project and permission to proceed will be given only thereafter. (c) The implementation schedule for the project shall be approved by APTRANSCO with reference to load requirements and the plan for evacuation facilities.
- 21.** GoAP issued permission under section 18 (A) of Electricity Supply Act, 1948 to M/s.GPPL to establish operate and maintain a gas based project to be

implemented with 464 MW in stage-I and 133.9 MW in stage-II, using Natural Gas as fuel at Peddapuram in East Godavari District in Andhra Pradesh.

- 22.** Hon'ble High Court approved the scheme of amalgamation of NCC power corporation (P) Ltd. with M/s. Gauthami Power Pvt. Ltd vide High court order dated 29.01.2001 in which it is stated that M/s. NCC Power corporation (P) Ltd., will cease to exist with effect from 15.03.2001.
- 23.** M/s.GPPL executed the combined Gas Supply Agreement (GSA) with GAIL on 18.10.2001 for supply of 1.96 MCMD of Natural Gas, including 0.74 MCMD earlier allotted to M/s. NCC Power Corporation Ltd., transferring the rights of M/s. NCC Power Corporation Ltd. to M/s.GPPL.
- 24.** GoAP directed APTRANSCO on 15.12.2000 to finalise the amendments for the revised capacities keeping in view the Government instructions.
- 25.** Accordingly the draft Amendment Agreement to the Power Purchase Agreement dated 31.03.1997 (as subsequently modified on 17.07.1999) of M/s.Gautami Power (P) Ltd. is initialed and submitted for according consent of APERC as per Section 21 (4) of APER Act 1998 vide APTRANSCO letter dated 13.12.2001.
- 26.** The Amendments relates to change of name, amalgamation, enhancement of the capacity of the project, fixed charges, change of fuel, station heat rate, incentives, interconnection facilities, change in scheduled date of completion and the date of its reckoning together with the conditions related to extensions, requirement for completion of evacuation facilities, payment of liquidated damages and payment of penalties, reliable capacity to be maintained throughout the agreement, financial closure etc.
- 27.** The important features of the draft Amendment Agreement to the PPA are as follows. The nominal installed capacity is 464 MW (292 MW being Gautami Share & 172 MW being NCC Share) with payment of capacity charge in respect of Cumulative available energy upto (but not exceeding) an amount of Cumulative available Energy, which is equivalent to PLF of 80% in respect of Gautami share and 85 % in respect of NCC share. Supply of 97.8 MU over and above the PLF of 80% as the CIE payable at a fixed rate of Rs.0.699 per unit in respect of

Gautami share and no CIE in respect of M/s. NCC share. FDSC is 0.6 US Cents / unit payable only for the period ending on the 11th annual anniversary of the COD of the last generating unit and OFC is Rs.0.699 / unit fixed for the term of the Agreement. Natural Gas is the primary Fuel and on, non-availability of Natural gas, Naphtha or Low Sulphur Heavy Stock and the like is to be used as alternate Fuel. Station Heat Rate is 1,850 k.cal/kWh in respect of Gautami portion and 1900 k.cal / kWh in respect of NCC portion. The dispatch provisions are that, no dispatch instruction shall require the Project to be operated below 60% of installed capacity or such lower declared capacity and the aggregate duration of backing down should not exceed 1200 hours in a Tariff year and the number of instructions should not exceed one per day, except in emergencies. Scheduled date of completion of the First & Second units is 24 months and that of the third (last) unit is 27 months with provision for day for day extension for any delay arising on account of Board default or failure of the Board to complete interconnection facilities and for payment of penalties. The Developer has to cause financial closure to occur not later than 12 months from the date of signing the Amended and Restated PPA with the right to terminate the Agreement by either party upon 30 days notice without liability or obligation whatsoever. The Agreement is for a period of 15 years from the project Commercial Operation Date (COD).

- 28.** The Commission decided to invite objections and suggestions on the Amendment Agreement to the PPA dated 31-03-1997 (along with three other similar PPAs) from the public and to hold a public hearing. APTRANSCO were requested (by letter dated 05.01.2002) to publish a notice in two prominent news papers inviting public objections / suggestions. The notification was published in English and Telugu news papers on 08.01.2002. The last date for submission of objections/ suggestions was extended from 08.01.2002 to 22.04.2002 at the request of Sri.M.Thimma Reddy, convenor, People's Monitoring group on Electricity Regulation on the ground that more time was required for the public to intervene on all the four PPAs to make the public intervention meaningful. The Commission received 11 objections with respect to the subject PPA. By letter dated 5.10.2002 APTRANSCO was requested to file replies to the Commission with copies to the objectors, M/s.GPPL was also requested as above, leaving the option of

responding to them. The Commission fixed the date of public hearing as 19.12.2002.

- 29.** Since the developer had entered into a Gas Supply Agreement (GSA) with GAIL, certain issues arising out of GSA were referred to ONGC and GAIL on 09.12.2002 to be clarified before the Commission during the public hearing. The important issues included, need for the GSA to be co-terminus with the PPA term, construing firm allocation as firm supply of gas, reducing the obligation on minimum guarantee off-take, Gas availability projections upto 2020 and Gas price projections upto 2020, Operation & Maintenance costs after 31.12.2010 (being the expiry date of the GSA). ONGC by letter dated 12.12.2002, informed that the issues mentioned had arisen out of the GSA signed by GAIL with the respective customers and accordingly GAIL would be asked to make a presentation. They also stated that ONGC's representatives would remain present for any clarification in respect of gas availability and gas price projections.
- 30.** M/s. GAIL made a presentation before the Commission on 19.12.2002 and ONGC representatives were also present to answer queries. However, since their presentation did not cover all the issues raised and their statements as part of their presentation gave rise to further queries, they were, asked by letter dated 02.01.2003 to make written submissions on certain issues. GAIL responded vide letter dated 15.1.2003 and ONGC responded on 31-01-2003. In addition to the above, the Secretary, Ministry of Petroleum (MoP) was requested to arrange for a presentation by a senior official of the Ministry on the issue of factors affecting gas prices in the near future. In response, Director, MoP & NG stated that the issue of Gas Price is under the consideration of the Cabinet and hence, MoP & NG may not be in a position to apprise the Commission on the likely gas price but that the new discoveries under NELP enjoy the freedom to have their own market determined prices and that it would be possible for a Government representative to explain the salient points of the pricing policy, only after a view is taken by the cabinet on the pending proposals.
- 31.** Since an affidavit filed by NTPC requesting for escrow coverage on par with the IPPs was pending before the Commission, NTPC was also asked by the

Commission to present their case in person on 19.12.2002. However, NTPC did not appear before the Commission on the date of public hearing.

- 32.** Certain other objections / suggestions were also filed before the Commission on the date of public hearing. They were made available to APTRANSCO, inter-alia, through letters dated 07.01.2003, 18.1.2003, 20.1.2003 & 23.1.2003. APTRANSCO have responded vide letters dated 27.12.2002, 10.02.2003, 22.02.2003. Since the responses furnished vide letter dated 27.12.2002 were unilateral and did not take into account the views of the developer, APTRANSCO vide letter dated 4.1.2003 were requested to respond after discussion with the developer. The responses of APTRANSCO were received on 21.1.2003, APTRANSCO was again asked vide letter dated 23.1.2003 to discuss with the developer certain further objections and forward their replies along with their remarks. The further replies are received under letter dated 10-02-2003 and 22-02-2003.

CHAPTER - II

OBJECTIONS / SUGGESTIONS MADE BY GENERAL PUBLIC AND RESPONSES BY APTRANSCO / M/s. GPPL

It may be convenient to set out the suggestions made by the general public and the responses of APTRANSCO and M/s. GPPL on different points as under.

GENERAL :

33) Changes made in the terms of the original bid and therefore fresh bids to be called:

a) Objection / Suggestion: State Government had permitted amalgamation of the two companies (M /s Gautami Power Ltd. and M/s NCC Power Corporation Ltd.), change in installed capacity and location of the project, without regard to the terms of the original bid. Almost all the parameters on the basis of which bids were won had changed making a mockery of the whole process. Therefore there is a need for fresh bids in order to select economical, efficient and optimal power suppliers, which will result in lowering of unit costs in as interest rates & construction costs had come down and if provisions such as Escrow are incorporated in the bid condition itself, further reduction may be possible.

b) APTRANSCO Response: Generally in agreement with M/s GPPL response as below. Calling fresh Bids, for including in the 10th Plan will take 3 to 4 years. Even with this exercise, it is very doubtful if the tariff would be on par with the lowest tariff obtained in the ICB i.e., 0.60 cents FDSC plus 69.90 Ps. OFC of Gautami Power Project Ltd.

c) M/s. GPPL Response: After tracing the circumstances under which the bids were called, the fuel was changed and two companies amalgamated to sign a fresh PPA with APTRANSCO, it is pointed out that as the present proposal is only for the first stage, the capacity is in fact lower. There is, thus, no deviation from the Bid conditions. Hence the allegation, that the state Government had permitted the

installed capacity of the project to be changed, without regard to the original bid is not correct.

34) Short gestation projects have lost their relevance due to Inordinate delay:

a) Objection / Suggestion: As per the original PPA the project of Gautami was to be completed by 30.6.1999 and as per the amendment dated 17.7.1999, the project should have been completed by 16.10.2001. Similarly NCC project was to be completed by 1.9.1998. As per the amendment agreement dated 12.12.2001 the project was to be completed by 11.3.2004. Due to inordinate delay in execution the short gestation projects have lost their meaning, since, in 1995 these projects were permitted to add capacity in a period of scarcity of power and imposition of power cuts to the industries. Further, it is also to be noted that at the time of evaluating these projects weightage was given for completing the project in a short duration (20% for completion time and 80% for unit costs) at the expense of the unit cost.

b) APTRANSCO Response : After tracing the developments from time to time, it is stated that the delay in implementation of the Project cannot be attributed to the developer. It is also pointed out that GOAP allowed the implementation of the projects after obtaining reduction in fixed charge resulting in saving of Rs. 1041.99 Crs. over the 15 years PPA period.

c) M/s. GPPL Response: The delay cannot be attributed to the developers and fresh completion dates are now specified in the Amended and Restated PPA.

35) Liquidated Damages not collected :

a) Objection / Suggestion: As per the terms and conditions of the original PPA and till the signing of the amendment agreement dated 12.12.2001 with GPPL, APTRANSCO should have collected liquidated damages to the extent of Rs.77.78 crs from GPPL and Rs.109.28 crs in respect of M/s. NCC.

b) APTRANSCO Response : In view of the change in policy of the GOAP to switch over to Natural Gas (the delay can not be attributed to the developer), and

permission to implement in two stages (1st stage-464 MW with available Gas), there were savings of Rs. 1041.99 Crs. with reduction in Tariff which offset the liquidated damages amount of Rs.389 Crs leviable.

c) M/s. GPPL Response: The delay cannot be attributed to the developers and fresh completion dates are now specified in the Amended and Restated PPA and therefore no Liquidated damages can be levied on the basis of the old PPA.

36) Undue favors shown to the IPP without terminating the PPA:

a) Objection / Suggestion: The state Government and APTRANSCO had shown undue favour to M/s.GPPL to take up the project after merger, giving extension after extension with out terminating the agreements as provided for in Article 6 of the PPAs when financial closure had not occurred within 12 months of the signing of the agreement. It will be prudent to terminate the PPA with M/s Gauthami power Pvt. Ltd.

b) APTRANSCO Response: After tracing the developments APTRANSCO points out that by terminating the agreement wrong signals will be sent to the lenders, which will hamper further investments. Calling fresh Bids, including in 10th Plan will take 3 to 4 years. Even after this exercise, it is very doubtful, whether the tariff would be on par with the lowest tariff obtained in the ICB i.e., 0.60 cents FDSC plus 69.90 Ps. OFC of M/s.GPPL. It is not correct to say that favouritism was shown to the developer. Hence, the allegation that “APTRANSCO has shown undue favor to M/s. Gautami Power Private Ltd., by not terminating the Agreement” is denied.

c) M/s. GPPL Response: The delay arose essentially due to the direction of Government on the change in the fuel and lowering of tariff, and can hardly be attributed to the developers, who were otherwise close to financial closure. Termination was therefore, impracticable.

37) APGENCO can set up new projects if return & other statutory payments made:

a) Objection / Suggestion: Cancellation of gas-based power projects need not affect the prospects of power generation in the state. If APGENCO is given reasonable rate of return, along with other statutory payments, it can take up new coal-based power projects with lesser capital and variable costs. If the GoAP gives a one time grant of Rs 1000 crores, with its internal resources, APGENCO can invest 30% equity and borrow the balance 70% amount to invest in new projects. It can recycle future returns projects to take up new projects again. This way, by working out a long term plan on the basis of a realistic load forecast and giving long-term orders to BHEL, APGENCO can take up new projects and add 500 MW per annum to the installed capacity which will be quite adequate to meet the growing demand for power in the state. As such action must be taken to set up VTPS – IV stage and KTPS – VI stage with coal as fuel.

b) APTRANSCO Response: APGENCO programmed RTPP Stage II of 420 MWs capacity in the 10th Plan. The initialed PPA of RTPP of Stage-II with Coal as fuel contains provisions relating to ROE etc., which is consented by the Commission. In case APGENCO comes up with any proposal for new Power projects they will be considered subject to system requirement and consent of APERC.

c) M/s. GPPL Response: It may be recalled that APSEB (of which APGENCO was part) was finding it difficult to garner the resources needed for these Capital Intensive projects. What could have been done if it had the cumulative reserves can only be a matter of conjecture and the fact is that the IPPs were invited and have invested large sums already.

38) No information whether all available reasonable options taken into account as per the guidelines:

a) Objection / suggestion: The guidelines for Load Forecast, Resource plans and power procurement dated 28.2.2000 state that “ Each Licensee must be able to demonstrate, through a process of integrated resource planning, that it has examined the economic, technical, system and environmental aspects of all

available reasonable options to satisfy the energy service needs of its consumers in its area of supply, and that such examination has been carried out in accordance with these guidelines. “No information is available whatsoever of the “all available reasonable options”.

b) APTRANSCO Response: The power procurement plan dt.16.1.2002, has been finalized following the guidelines issued by APERC. The APERC is reviewing the load forecast and power procurement plan and the decisions are awaited. The capacity indicated in the presentation made on 16.1.2002, in connection with BSES hearing are the requirements of the licensee which are to be added to the system. They need not match with the project capacities.

c) M/s. GPPL Response : No response.

39) APGENCO PPA to be approved first:

a) Objection /suggestion: APERC is requested to approve the PPA between APGENCO & APTRANSCO first and then the PPAs between present IPPs and APTRASNCO.

b) APTRANSCO Response : No response.

c) M/s GPPL response : No response.

40) Coal Projects to be preferred to gas projects.

a) Objection / Suggestion: The unanimous opinion of the CEA, NTPC and other experts is that power planning should be done on the basis of indigenous coal, which provides for cheaper variable costs. The Commission is therefore requested not to give consent to the gas based power plants. It may be argued that the price of other fuels, including coal, also will increase. However, indigenous coal stands on a different footing. It will not have any impact of the fluctuations in exchange rate of Rupee-Dollar. Unlike petroleum products, indigenous coal price is not linked to international prices.

b) APTRANSCO Response: Coal reserves in India are estimated to last for 40 to 50 years. Hence it is not prudent to depend only on coal. Alternative fuels & renewable fuels are necessarily to be thought off. Huge investments are necessary for extraction of indigenous coal, which will naturally increase the price of indigenous coal considerably. Hence it will not be prudent to drop the proposal of gas based power projects on the presumption of future hike in natural gas prices. Further, the power procurement plan of APTRANSCO also envisages generation through coal based projects of 1940 MW capacity (NTPC – Simhadri 1000 MW + BPL 520 MW + RTPP Stage –II 420 MW).

c) M/s. GPPL Response : Both have their own advantages and disadvantages and for a stable power plan, a mix of both is inescapable. Some of the most important problems of coal as against gas are :

1). Coal has very low thermal efficiency of 30% against 56% for gas in combined cycle. Even supercritical technology (with increased capital investment) can raise this only to 35%.

2) Indian coals has abnormally high ash content in excess of 45% (power grade coal), involving high transport cost, serious environment problems, or huge washing charges and 25% loss of coal in washing.

3) The report of “Energy Policy Committee of the Planning Commission – 1999”, estimates a serious shortage of coal availability (10% in 2001-2002 rising to 25% in 2007-2008).

4) Coal transport will put impossible strain on railways that can result in virtual shutdowns. Besides the rail freight has been rising at 13% per annum (CAGR).

5) The capital cost (Fixed Tariff) is very high. For example – the fixed tariff of BPL is Rs.1.96/Kwh compared to Rs.0.94/Kwh in the case of gas, both at 80% PLF.

PPA :

41) Fix PLF at 90% for the purpose of calculating capacity charge:

a) Objection / Suggestion: As per Article 3 of the original PPAs of Gautami and NCC, capacity charge in respect of cumulative available energy is to be paid up to (but not exceeding) equivalent to a PLF of 80%. However, in respect of M/s Gautami in the amendment agreement dated 17.7.1999, Committed Incentive Energy 3.2 (A) of 157.2 MUs is provided which was subsequently, at the time of amendment agreement dated 12.12.2001, changed to 97.8 MU over and above 80% PLF for 292 MW portion. Further, it is provided in the amendment agreement for computation of capacity charge corresponding to a PLF of 80% for 292 MW portion and 85% for 172 MW portion. Gas based projects are working at a PLF of 90% and even more, therefore, it is requested to fix PLF at 90% for M/s.GPPL for the purpose of calculating capacity charge, with out any provision for deemed generation.

b) APTRANSCO Response: The Capacity Charge is payable to the developer for all the Capacity up to 80% of Cumulative Available Energy (CAE). If the condition of taking capacity to 90% PLF, as suggested by the developer is accepted, the Cumulative Available Energy (CAE) will increase by 10% and fixed charge payments per annum increase by 10% (i.e., Rs. 25.4 Crs. per annum), which is not in the interests of APTRANSCO, as the project is based on Tariff.

c) M/s. GPPL Response: No response.

42) Committed Incentive charge should not be permitted :

a) Objection / Suggestion: APTRANSCO has agreed to pay committed incentive charge on 98.8 MU over and above the generation at 80 % PLF to M/s.GPPL. It means that even if APTRANSCO does not require this extra power, it will have to purchase it and even if it does not purchase it will have to pay. This is an undue favour shown by APTRANSCO.

b) APTRANSCO Response: As per the Bid condition, incentive is to be paid for actual generation only, over and above the threshold PLF of 80%. The Committed

Incentive Energy (CIE) is actual generation to the extent of 97.80 MU, applicable to the apportioned capacity of Gautami's portion of 292 MWs at the rate **6.99 Ps./Unit**. If CIE is deleted, APTRANSCO may have to buy this quantum of energy from other generators at a minimum price of **98.70 Ps./kWh** computed with the FDSC and OFC of 0.6 cents plus 69.9 paise. Therefore CIE is an advantageous proposition to the APTRANSCO and does not form part of payment for the fixed costs. The developer is required to incur additional O&M expenditure and other expenses to generate beyond 80% PLF. It is cheaper to buy the additional units required under incentive regime than to buy from other IPP.

c) M/s. GPPL Response: In fact the supply of Committed Incentive Energy (CIE) is a burden imposed on the developer. He will be bound to supply this additional energy at 6.99 paise/kWh as against 1.05 paise in respect of the 80% PLF. APTRANSCO is clearly benefited as the average levelled unit rate without and with CIE will be : (a) without CIE -0.96 (b). With CIE - 0.93. CIE (at low tariff) of around 4% PLF is to be provided first. Besides incentive at 3% of OFC will not be paid unless that additional power beyond 80%+CIE, is actually needed and drawn by APTRANSCO.

43) Incentive to be nominal & Uniform and beyond 90% PLF only:

a) Objection / Suggestion: For 292 MW portion of the capacity the incentive at 90% works out to 25 % of Other Fixed Charges (OFC) and for the 172 MW portion of the capacity it is 10 % of OFC and remains at the same level for PLF above 90%. Further, different incentive structures are proposed, for GVK (0.7 % of ROE), BPL (0.525 % of ROE), RTPP (maximum of Rs.0.215 per kWh) and BSES (2 % of OFC over 85 % for every one percent increase in PLF and above 90 %, 10 % of OFC). Incentives therefore should be nominal as a percentage of "savings" of fixed cost for generation above the threshold PLF and they have to be uniform for all generators including APGENCO. Fixing a maximum limit of PLF for incentive purpose is also desirable from the point of view of sustainability of plant. Further, incentive should not be allowed for PLFs less than 90% in view of the recent technical developments and with due regard to the other project contracts such as EPC, Maintenance & O & M. The disincentive clauses also to be accordingly revised.

b) APTRANSCO Response: Incentive is to motivate the developer beyond 80% PLF at nominal cost, benefiting the consumer for additional generation at nominal price. The incentive structure is normally negotiated within GOI guidelines and incentive is based on actual generation only. Incentive structure is to be considered along with other commercial principles negotiated as a package and cannot be seen in isolation. The developer is obligated to supply energy to APTRANSCO at 80% PLF to recover the full fixed charge. In order to ensure this, the developer may be taking higher PLF guarantees from the EPC and O&M Contractors. The contracts which may carry incentives to them if the PLFs achieved are more than guaranteed figures and penalties when they are less than the guaranteed figures. The incentives from the APTRANSCO to the developer for the units actually delivered has no direct connection with the incentives offered by the developer to the EPC and O&M Contractors. The incentive structure is a negotiated position.

c) M/s. GPPL Response: These Incentive rates are really nominal and abnormally low compared to those in the Case of GVK (1st Stage) or Spectrum and BPL and are also not linked to US\$ exchange values as in the latter cases.

44) Project to run strictly on merit order only by removing the must run conditions:

a) Objection / Suggestion: The condition that the aggregate duration of back down pursuant to dispatch instructions (including ramping time) shall not exceed 1200 hrs in any tariff year (Scheduled D: Article 3.4 (iii)) entitles the IPP to run the project at a PLF of 86.4% and has the following serious implications (i) If power is not required when it does not fit into merit order, APTRANSCO will have to pay full fixed charges at a PLF of 86.4% (ii) If the IPP generates power at 86.4% PLF, APTRANSCO will be forced to pay both the fixed and variable charges fully (iii) APTRANSCO will have to pay committed incentive charge for 98.9 MU over and above the PLF of 80% (iv) Absorbing the power with high variable cost due to use of alternate fuel if permitted (v) Payment of minimum fuel off take in respect of primary fuel being gas in the event of not accepting the delivery of net electrical energy whether due to force majeure events or other wise . Such must run conditions in the

PPA would force APTRANSCO to absorb costly power irrespective of availability of cheaper power (APGENCO). This is precisely the predicament in which the Maharashtra State Electricity Board found itself regarding the Dabhol power project. Purchase from Gauthami power Pvt. Ltd. is to be strictly on merit order and APTRANSCO to be given full control on backing down as there is no technical problem to reduce generation to any level in gas based power stations.

b) APTRANSCO Response: The Dispatch instructions of the PPA are negotiated positions. Normally, the plant takes one month for annual maintenance which is equal to 8.3 % PLF. The backing down rights of 1200 hours and upto 60% of the capacity of the plant works out to 5.5%. The plant will always be available at 86.2% PLF (100-(8.3 +5%)). The plant will be getting incentive for actual generation beyond 80% PLF (I). APTRANSCO feels that the existing provisions for backing down will meet the requirements and offers enough flexibility, since the incentive regime is only based on actual generation. APGENCO Power Stations as well as IPPs will be dispatched as per the integrated merit order. APGENCO Power Stations are also paid fixed charges of Rs.2150.04 Crs./annum irrespective of generation committed by GENCO. It is not technically safe as per prudent utility practices to operate Gas Based Combined Cycle Power Stations below 60% of the capacity, with out the risk of going into Open Cycle Mode, resulting in a higher variable cost (130 %). The APERC, in the Tariff Order for 2002-03 clearly stipulated that “ while drawing a merit-order the contractual obligations and technical conditions must be taken into consideration. The Commission views the exercise of drawing up a merit-order as the optimum generation schedule for the ensuing year of Licensees’ operation that would result in minimum overall costs for the consumers keeping in mind the contractual and technical constraints”. A must run condition for any station is not permitted by APERC, except the promoted category of Non-Conventional Energy (NCE) Based Projects. All the projects of GENCO or IPPs will be dispatched as per APERC approval and Merit Order dispatch keeping in view the interest of Consumers.

c) M/s. GPPL Response: The limitation of 1200 hrs dispatch, is besides the need of the project for taking shut downs- (Scheduled or Forced), which will bring the

PLF far lower. Besides, there is the overall right of APTRANSCO to limit the fixed charge payment to a PLF of 80% (+CIE) under the Art. 3.1.

45) Excess monthly payments with adjustments at the end of the year result in loss of interest to APTRANSCO:


a) Objection / Suggestion: As per Article 5.2 (b) and 5.2 (c) monthly payments are to be made assuming a PLF of 80 %. At the end of the year, if the PLF is less than 80%, the company shall refund the excess as a credit against the amounts due in the next monthly tariff bill(s). This will result in loss of interest to APTRANSCO. Therefore the refund has to be made month wise and if there are any practical difficulties, refund may be made with interest after completion of tariff year.



b) APTRANSCO Response: The Article is in line with the provisions of GOI guidelines. "The payment of fixed charges shall be on monthly basis, proportionate to the electricity drawn by the respective Boards. Necessary adjustment based on actuals shall be made at the end of each year".

c) M/s. GPPL Response: This has two sides to the coin. The developer, even if he supplies more than 80% in month, gets payments limited to 80%. Besides no incentive is paid for extra drawal of Power, except at the end of the year. This averaging is one of the standard methods used.

46) LOC & ESCROW only after examining certain issues and with out affecting consumers:

a) Objection / Suggestion: As per Article 5.9 & 5.10 Letter of Credit and Escrow accounts are to be opened. Commission is requested to examine aspects like (i) Escrowable capacity of APTRANSCO (ii) In how many PPAs and to what extent APTRANSCO has agreed to provide LC and Escrow account (iii) whether such facility has been provided to APGENCO which supplies 65% of power (iv) The escrow policy of APTRANSCO on projects for which and to what extent APTRANSCO can afford to b its funds in escrow accounts and at what cost? APTRANSCO should permit such facility with out affecting the interests of the consumers.

b) APTRANSCO Response: The Escrow facility provided in the PPA is a Bid condition and a requirement stipulated by financial Institutions. However, APTRANSCO decided that the escrow cover proposed in the PPAs is to be reduced to 100% of average monthly bill as against 120% as per the PPA. Eventually APTRANSCO would like to restrict this amount to Debt servicing plus variable charges per month subject to financial Institutions agreeing to such a provision. Further, Escrow account is a default account operative on failure of payment of energy charges through direct payment / letter of credit.

c) M/s. GPPL Response: In our submission, the structure of Escrow in the PPA does not block any revenues of APTRANSCO in any Escrow Account, as it is only a transit account, until a payment default by APTRANSCO has actually taken place. APGENCO was part of APSEB and the nature of financing is quite different from that of an IPP. Escrow clearly is inescapable in a single buyer structure. Escrow in AP is a back up support and comes into effect only when there is a default in the other modes of payment, i.e. by LC, and does not tie up any funds of APTRANSCO until after such default has occurred. Besides, Escrow arrangement has no cost to APTRANSCO.

47) MoA and its implications must be known:

a) Objection suggestion: It was reported by the media that GoAP and APTRANSCO have signed a Memorandum of Agreement with the financial institutions that are extending loans to M/s.GPPL. It is not clear whether the approval of APERC has been taken for this arrangement. Unless the contents of MoA is made public, its implications for APTRANSCO and the consumers of the State can not be known.

b) APTRANSCO Response: The Memorandum of Agreement is initialed and it is under the scrutiny of the lending institutions. The document is not yet signed. The MOA is to be executed for enabling the Lenders to fund the IPPs without insisting for escrow to be in place at the time of Financial Closure.

c) M/s. GPPL Response : No Response.

48) The benefit of lower capital cost of Rs 1300 Crs need to be passed on to the consumers:

a) Objection suggestion: The stated capital cost of the project of Rs 1300 crs, works out to Rs 2.80 crs / MW. This is much cheaper than any of the other gas based IPP projects that are existing to day. However, since the payment of the capacity charge for this project is not dependent on capital cost, the benefit of the low capital cost is not passed on to the consumers. The same needs to be done.

b) APTRANSCO Response: The IPP is selected in ICB Route on tariff basis. The capital cost is not having any bearing on tariff. The Capital Cost estimated by the Company is Rs.1300 Crores for 464 MWs and 2.8 Crores per MW. The Debt Equity ratio and other elements for computation of Fixed Charge have no relevance since the Project is allowed on Tariff base. The “FDSC: and “OFC” are fixed in numbers for 11 years and 15 years. The Fixed Charge of 99.30 paise /kwh at 1US\$=Rs.49/- is the lowest in the Country.

c) M/s. GPPL Response : The Capital Cost is based on a US \$ exchange rate of Rs. 47 and euro rate then prevailing. These have gone up which will increase the Capital Cost. Tariff is based on competitive bids and the risk of such cost increases has to be borne by the developer. This is the very basis of tariff based bidding and capital cost and tariff calculations are not relevant in that context.

49) The normal plant life is 18 to 20 years :

a) Objection / suggestion: The normal life of any gas-based plant is 18 to 20 years against the stated life of 15 years. For example the Plant life for Spectrum Project at Kakinada is 18 years.

b) APTRANSCO Response: The term of the Power Purchase Agreement for M/s.KEOPL. is 15 years as per Bid conditions. Plant life is 15 years as per GOI notification on ‘depreciation’. So far as GVK and Spectrum PPAs are concerned, the PPA’s are finalised on MOU basis and tariff is to be based on approved capital cost. The Agreement period is a negotiated one, however it can be extended on mutually agreed terms & conditions subject to the consent of APERC.

c) M/s. GPPL Response: The bid was for 15 years and the bidders competed with their bid tariffs accordingly. With a 18 year PPA the bid tariff would have taken into account the escalated O&M and additional Major Overhaul and other costs beyond the 15 years. Even now it is open for the parties to extend the period on mutually agreed terms.

50) Buy-Out procedure:

a) Objection / suggestion: Since already 90% of the project cost is recovered by the IPP by way of depreciation, the actual cost of the plant shall be only 10 % of the total capital cost. But as per PPA a higher buy out price is in place.

b) APTRANSCO Response: A developer is allowed to recover only 90% of the Project Cost through depreciation. Out of which, 70% will be in Debt and 20% will be Equity. Balance 10% is still remaining in the Project. When Buy Out occurs all these factors will be considered to fix BUY OUT Price. A procedure is laid down for fixing the Buy Out Price in the PPA.

c) M/s. GPPL Response : The terminal value is determined as 50% of the Depreciated Replacement Value. This is essential because, the transfer back is made as a running plant, after proper maintenance and not as scrap.

51) PPA should exclude any reference to stage -II. :

a) Objection /suggestion: PPA should exclude any reference to stage -II. Extension if any only to be considered after completion of stage –I. Any commitment should be given only after stage -I is set up, track record proven and they are able to tie up fuel. As such committing an agreement for extension stages is not in the interest of APTRANSCO.

b) APTRANSCO Response: The total Stage II capacities of M/s.GVK, M/s.VPGL & M/s.GPPL are 503.9 MW. The implementation of these projects of Stage II is after obtaining gas linkages by the developers and as per system requirements. Thus Stage-II projects implementation is not considered in the capacity addition of 2007. This present Amendment Agreements to the PPAs through power purchase

agreements for which consent is asked for, is only for the Stage-I capacities, in respect of Gautami Pvt. Power Ltd., Vemagiri Power Generation Ltd. and GVK Industries Ltd.

c) M/s. GPPL response: As the capacity is reduced to 464 MW(292 Gautami+172 MW NCC) from 597.9 MW (358.9 MW + 239 MW) based on the available Natural Gas linkage during 1st Stage. Implementation of balance capacity of 133.7 MW under Stage-II would be permitted after obtaining Natural Gas allotment and approval of APTRANSCO with reference to load requirements and evacuation facilities to be in place. The application for consent now requested for is for 464 MW only. This is also true in respect of Gautami, Vemagiri, and GVK projects.

52) Over all impact on the end tariff needs to be seen :

a) Objection / suggestion: Before extending consent, the over all impact on the end tariff needs to be seen. This becomes important because, as, going by the proposals of APTRANSCO, the addition of gross capacity will be 1574 MW, including 98 MW of NTPC Talcher against the projected requirement of 835 MW of additional capacity by that year, resulting in surplus capacity. On this, APTRANSCO should note Hon'ble Commission's observation in its order dated 29.7.2002 on load forecast that APTRANSCO cannot plan for surplus capacity for selling power outside the state. Therefore, scheduling of new projects should be in accordance with the estimated growth of demand.

b) APTRANSCO Response: Though a surplus situation is shown in ARR 2002-03, there is actually a deficit to the tune of 4000 MU due to monsoon failure and loss of hydel generation consequent to low inflows into the reservoirs. Heavy load shedding was resorted to, to safeguard the kharif crop. The estimated projections for the year 2002-03 will be of the order of 44000 MU as against 39500 MU approved by APERC. This is a tariff based project. Hence the cost of project has no bearing on the tariff. A power surplus situation may arise for a short while by additional generation from gas power stations. It cannot be so for the entire future. In such situations, APTRANSCO can derive the benefits taking advantage of the price of power from the project (being the lowest in the entire Country for any IPP project). Any additional capacity which comes at this price is

welcome and to the advantage of the State. Even as of today, APTRANSCO has made arrangements to sell power to the neighboring states at Rs.2.50 per Kwh.

c) M/s. GPPL Response : No Response.

53) Technical & the underlying commercial parameters to be uniform in the plant:

a) Objection /suggestion: In respect of M/s Gauthami power project, two heat rates and two levels for fixed charge payment are provided and they cannot be accepted for the same plant. Heat rate shall be 1850 Kcal/ kWh for the entire plant and fixed charges to be paid up to 80% for the entire plant, Further, the committed incentive energy shall be 157.2 MU against 97.8 MU.

b) APTRANSCO Response: The original Project capacity sanctioned for GPL & NCL is 597.9 MW i.e., 358.9 (GPL) + 239 MW to implement in two stages i.e., Stage-I of 464 MW with allotted gas of 1.96 MCMD and balance 133.9 MW after obtaining gas allotment. The Station Heat Rates originally accepted for individual IPPs of 292 MW at 1850 Kcal/Kwh for GPL & 1900 /Kwh for NCC for 172 MW is agreed in proportion to this capacities & there is no deviation for the agreed proportions as per original bid. The weighted average heat rate does not arise. The incentive is proportional based on capacities in respect of GPL to be executed under Stage-I & Stage-II i.e., with Committed Incentive of 97.8 MUs for Gautami and without Committed Incentive for NCC.

c) M/s. GPPL response: (A) In the first place it must be mentioned that the present Gautami Project is quite different from the original one. It is presently a project being put up as a consortium by two of the original bidders, namely NCC Power with an approved capacity of 239 MW and Gautami Power with an approved capacity of 358.9 MU. NCC Power were forced to join Gautami Power mainly due to inadequate allocation of Gas (to both). They strictly observed the directions of Government of Andhra Pradesh that every one should restrict their capacities to the Gas allocated. As a result it had to reduce its share of capacity to 172 MW from 239 MW.(B) At the time of joining the consortium, both NCC Power, as well as BAPL (BSES Andhra Power) were allowed the same parameters of Heat Rate of

1900 K.Cal/Kwh, PLF of 85% and no CIE. This was despite the fact that while NCC Power had originally an approved Heat Rate of 1925 K.Cal/Kwh for its bid for 239 MW now truncated to 172 MW, BAPL had bid for 1900 K.Cal/Kwh only, that too for each of the 100 MW projects which were later merged to a single 200 MW and subsequently increased to 220 MW. Thus the Heat Rate, PLF and CIE of the portion of project relating to the consortium member (NCC Power) has been equated with that of BAPL. The bid parameters of the other consortium member, (Gautami) has been left untouched in relation to its reduced capacity of 292 MW in the consortium.(C) It is understood that APERC has already approved these parameters of 1900 K.Cal/Kwh, 85% PLF and no CIE, for BAPL. It will be making an invidious discrimination against NCC Power (now part of the consortium in Gautami Power) to allow these parameters to BAPL for a project where the bid itself was for 1900 K.Cal/kwh for each 100 MW, later allowed to merge upwards to 200 MW (then to 220 MW), and who did not follow the Government direction to go for projects only to the extent of Gas allocated, as compared to NCC Power for whom the bid Heat Rate as accepted was 1925 K.Cal/Kwh (now reduced to 1900 K.Cal/Kwh), who were forced to reduce their capacity from 239 MW to 172 MW, to observe Government directions.

54) Uniformity of back down provisions based purely on technical constraints to be ensured:

a) Objection / Suggestion: There seems to be no uniformity in fixing the limits of backing down for various projects. For example, APTRANSCO is permitted to ask for backing down to a maximum of 20% of available energy in the case of BPL, while the same is fixed at 40% in case of RTPP-II stage. For BSES Andhra Power Ltd (BAPL) the aggregate duration of back down is fixed at a maximum of 280 MU in a year for a gross generating capacity between 85% to 100% and at a maximum of 1000 hrs in a year for a capacity between 60% to 85%. APERC is requested to maintain uniformity in fixing the maximum limit for backing down for projects of similar nature, taking the technical constraints (As per APTRANSCO it is not technically safe to operate the gas based plants less than 60% of the capacity) into consideration and ensuring smooth operation of merit order dispatch. This is in line with the commission's observation in the tariff order for the year 2002-03.

b) APTRANSCO response: The existing provisions are negotiated positions. It will be examined inline with BAPL revised provisions, subject to developer's concurrence.

c) M/s. GPPL response : No Response.

55) Auxiliary consumption and Heat Rate - agreed parameters or Actuals which ever is lower to be taken in to account :

a) Objections / suggestions: For all the four gas based projects a provision may be included in the PPA that the agreed rates of heat and auxiliary consumption or the actuals, which ever is lower, should be taken into account for the purpose of calculation of tariff, to derive benefit from the modern technology being used.

b) APTRANSCO response: The heat rate and Auxiliary consumption are negotiated positions and are lower than the heat rate of 2000 Kcal / kWh provided in the GOI guidelines. They are for the entire term of the agreement. It may be noted that there will be impact of several features such as relative humidity, ambient temperature, frequency and load, on the heat rate and they are more predominant in respect of gas power projects. Generally, the heat rate is guaranteed at ISO conditions by the manufacturers. Some of the Developers have requested APTRANSCO to give suitable allowance for Station Heat Rate for deviation in ambient temperature, relative humidity etc., but APTRANSCO did not agree to that.

c) M/s. GPPL response: No Response.

56) Commission to reconsider its decision by deciding the criteria to be followed by the fuel supply committee:

a) Objections / suggestions: In order dated 13.12.2002, relating to the PPA of BAPL it was mentioned that when BAPL arranges a firm fuel tie up (with 100% fuel linkage) for natural gas and generates with alternate fuel, the tariff shall be computed based on the cost of the alternative fuel as decided by the fuel supply committee. The Hon'ble Commission leaves the issue unsettled and delegates its authority, as well as responsibility, to the fuel supply committee. Commission has to lay down the

criteria to be followed by the fuel supply committee in deciding the cost of alternate fuel. Commission is requested to reconsider its decision. Commission should also have a say for itself in appointing members of the committee to ensure fairness. Further, as the power project of BAPL is completed, the Commission need not apply the criteria it adopted in granting consent to the PPA of BAPL, to the PPAs of the proposed four gas-based power projects. As these four projects have not achieved financial closure, leave alone completion, they stand on a different footing.

b) APTRANSCO Response : Did not respond.

c) M/s GPPL Response : No Response.

57) Lower Interest rates should reflect in reduction of FDSC and OFC:

a) Objections / suggestions: These PPAs were drafted in the background of a high rate of interest regime. During the last few years the RBI has brought down the lending rates quite substantially. Recently, it has reduced the prime lending rate to 6.5%, In response, banks and other financial institutions have brought down their lending rates to 9.25%. In this background, it is necessary to see whether the proposed fixed as well as variable charges reflect this change. In other words there is need to bring down FDSC and OFC. Since financial closure has not been effected the benefit of the lower interest rates needs to be reflected in the tariff. Other wise IPPs will have windfall profits at the cost of ordinary consumers. Further, there should be a clause in the agreement to reduce power purchase rates on par with decreasing interest rates.

b) APTRANSCO response: As already stated the present tariff is the lowest in the country for the IPP projects and the payment obligations are limited to the fixed charges and the variable charges as per PPA. Further, the Projects were awarded for implementation based on Tariff based Bids as per GoI guidelines / notification. The fuel cost is on actuals and is a pass through in tariff.

c) M/s GPPL Response : Fixed tariff is not based on the capital cost.

58) MOA date shall be the date of Financial Closure:

- a) Objections / Suggestions: Date of completion of the project is from the date of achieving financial closure and not from the date of signing of PPA. The date of Memorandum of Agreement between APTRANSCO and IPPs be taken as the date of financial closure and SDOC and COD be calculated accordingly.
- b) APTRANSCO response : Financial Closing means “the signing of the Financing Documents and their approval by the Authority, the GOI and / or the GOAP, to the extent required by Law, and the fulfillment or waiver of all conditions precedent to the initial availability of funds there under and the receipt of commitments for such equity as required by the Company in order to satisfy the requirements of the lenders”. Hence the IPPs shall have to achieve financial closure as per the international norms in vogue. The implementation period starts from the date of achievement of financial closure.
- c) M/s GPPL response : No Response.

59) EPC and O & M contracts to be made available:

- a) Objections / suggestions: EPC and O & M contracts need to be made available in as much as they are signed on the strength of the PPA. The contention that since it is a tariff based PPA there is no need to disclose them is untenable. Further, in the absence of EPC / O&M contracts, the impact on the tariff, particularly the impact of the exchange rate variation is difficult to assess.
- b) APTRANSCO Response: The developer is obliged to supply energy to APTRANSCO at 80% PLF to recover the full fixed charge. In order to ensure this, the developer may be taking higher PLF guarantees from the EPC and O&M Contractors, the contracts may carry incentives to them if higher PLFs are achieved and penalties for less than the agreed PLF. The incentives from the APTRANSCO to the developer for the units actually delivered has no direct connection with the incentives offered by the developer to the EPC and O&M Contractors. The incentive structure is a negotiated position.

c) M/s. GPPL Response: The Capital Cost, Means of Finance, EPC and O&M are structures to be designed by and at the risk of the developer. When the final tariff is already fixed, neither the FDSC nor OFC will change, with any change in the cost or the Currency Components of the Capital Cost, or the ups and downs of EPC or O&M cost. The change in FDSC will be only with reference to the US \$ to Rupee exchange rate directly and can be easily computed. This is very low in this case, being US\$ 0.006 / kwh.

60) Disincentives :

a) Objection / Suggestion: According to the PPA in question disincentives will be effective if the PLF is less than 68.5%. According to the earlier versions of the PPAs, PLF of 68.5% is the threshold level and if the plant operates above this level it will be paid incentive and if it is below this level it will attract disincentives. While the threshold level for incentives is changed, for disincentives the threshold is not changed. In the background of changes made to incentives and also in accordance with relevant provisions in the EPC and Maintenance Contracts, these disincentives also need to be changed. In keeping with changing technical conditions, disincentives should be effective if PLF is below 90%.

b) APTRANSCO response: In earlier PPAs like GVK Stage I with capacity of 216 MW, the threshold level for recovery of Fixed Charges is 68.5% and incentive payment is for PLF above 68.5%. The Fixed Charges will be suitably reduced proportionately if the PLF is below 68.5%. The Incentive/ Disincentive structure in the present case is an improvement over GOI guidelines, as detailed below:

- i) The threshold PLF is 80%.
- ii) If the **actual** generation is above 80%, the Incentive will be paid.
- iii) If the PLF is less than 80% but more than 68.5%, then the Fixed Charges will get reduced proportionately.
- iv) If the PLF is less than 68.5% then disincentive structure as per Article 3.6 will operate.

The disincentive provision is effective in case the project is unable to achieve a PLF of 68.5% as per Article 3.6 of PPA.

PLF	Penalty (%)
68.5%	Nil
Below 68.5% to 60.5%	2% for every 1% shortfall in PLF (i.e., for a PLF of 60.5% the penalty will be 16% of the OFC)
Below 60.5% to 50.5%	3% for every 1% shortfall in PLF (i.e., for a PLF of 50.5% the penalty will be 16%+30%=46% of the OFC)
Below 50.5%	Same as for 50.5% i.e., 46% of the OFC

c) M/s GPPL response: It needs to be appreciated that the “disincentive” in the case of GVK etc for generation below 68.5% PLF is a proportionate reduction in fixed charges payments. In the case of Gas Projects, the tariff is paid for Cumulative Available Energy (PLF achieved) which automatically reduces Fixed Charge Payments proportionately for generation below 80% PLF. The “Disincentives” referred to in Art. 3.6 of the PPA of Gas Project for PLF below 68.5% are in addition to the above proportionate reduction, which means a double penalty to these Gas Projects.

61) Fixed charge per KWH of Rs. 0.93 is not the lowest as claimed by APTRANSCO:

a) Objection / Suggestion: As can be seen from the letter dt. 10-12-1998 from Sri. T.L. Shankar, IAS, Director / APGPCL & Principal ASCI, Hyderabad to Sri .V.S. Sampath, IAS, Prl. Secretary, Energy, GoAP seeking permission to setup 172 MW gas turbine based power plant at Vijjeswaram, the levelised fixed charges for KWH is Rs. 0.80 (over a period of 15 years based on 4.85% Forex inflation and 8% discounting) which is the lowest in the country. Therefore, the bench mark fixed

charge per KWH of Rs. 0.93 is not the lowest as stated by APTRANSCO. The reply of APTRANSCO that APGPCL project is on recourse finance and IPP projects are on non recourse finance is not satisfactory. The very object of privatization of generation is to produce power at a cheaper rate. It is developer's look out to procure finance at the cheapest rate. Hence, Commission is requested to fix the fixed charges for KWH as Rs. 0.80 or the cost arrived from Spectrum which is even lower than all the IPPs (GVK Stage – I, Spectrum, Lanco, BAPL) by using powers and functions provided in the Act.

b) APTRANSCO Response : The public hearing is conducted for 4 Nos new gas projects. The irregularities pointed out pertaining to Spectrum project are noted. The letter referred is a communication between APGPCL and GoAP. APTRANSCO has not received any firm offer nor any details regarding how the levelised fixed charge is arrived at. It appears APGPCL proposed to develop III Stage extension as IPP Project and not as an expansion project. APGPCL reported levelised fixed charges of Rs. 0.80 / Kwh over a period of 15 years based on 4.85% Forex inflation and 8% Discount Factor. But for the present (for IPP projects) the forex inflation is taken as 6.68% and Discount Factor as 12% over a period of 15 years. If these rates are applied it may result in higher fixed charges of more than 80 Paise / Kwh. In the absence of details of fixed charge components of OFC and FDSC exact calculations can not be made. A firm offer of 93 Paise / Kwh first year fixed charges cannot be compared with the tentative offer of levelised fixed charges of 80 Paise/Kwh without any further details.

c) M/s. GPPL Response: A P Gas Power Corporation, did exist when the bids were called for in 1995 and were free to bid. It is known that they, after having considered the issue, chose not to bid. They cannot offer a bid after the bids were opened and finalized. Besides, APGPCL is an existing plant and cannot be compared to Greenfield projects like Gautami.

GAS AVAILABILITY:

62) Fuel availability and its implications:

a) Objection / suggestion :

i) The Gas requirements are as given below:

Sl.No	Type of plants	Capacity in MWs	Annual Requirement at 85 % PLF in BCM
1	<u>Existing *</u>	1051	1.62
2	Other users of ONGC / GAIL	-	0.96
3	Other plants for which gas has been partly allocated **	2443	3.65

Total

6.23

*APGPCL 1 & 2 (272 MWs), GVK (216 MW), Spectrum (208 MW), Kondapally (355MW)

** BAPL (220 Mw), Spectrum (220 Mw), Konaseema (445 MW), Vemagiri (520 MW), Goutami & NCC (598 MWs), GVK (440 MW)

(b) As per FICCI Report 2000, the reserves in K-G basin were estimated as 37.35 Billion Cubic Metres (BCM). The reserves would (assuming 40 BCM) last for 6.4 years as against plant life of 18 years.

(c) According to the Fourth National Power Plan 1997-2012 drawn up by the CEA, the estimated gas reserves are only 16.36 BCM and they would last not more than 3 years. With the existing commitments alone, the reserves would barely last for 6 years.

Further, in the light of non-availability of natural gas in adequate quantities (As per letter D.O No. No. L/12011/14/99-GP dated 22.1.2002 written by The Secretary of Ministry of petroleum to the Chief Secretary of GoAP), there was uncertainty of its

future supply despite firm allocations, as the production of gas is likely to be adequate only for the existing gas based stations. The existing plants which are not being supplied adequate gas by GAIL are either being backed down or are using naphtha / HSD in lieu and high cost of alternate fuels. As recommended by the committee of experts comprising the Principal of ASCI, the Principal Secretary for Department of Energy (GoAP) and the Chairman and Managing Director of APTRANSCO, appointed by GoAP, no new gas based projects are to be permitted. It is also to be noted that Naphtha –based projects with a total capacity of 3000 MW are already idle in the country as the power generated by them is the costliest. As such, a reasonable ceiling of say Rs. 1 or Rs 1.20 per unit, should be fixed for the variable cost, and in case the projects use alternate costly fuel due to non-availability of gas, the variable costs to be paid to them should not exceed the ceiling limit of price of gas. Otherwise, if consent is given in their present form of the PPAs, the private sources from whom these projects expect to get gas in future are likely to fix the price of gas at a much higher price because these projects have to willy-nilly purchase gas from them.

Further, the reply of APTRANSCO clearly brings out the current production of gas as 7 MCMD and is falling short of current requirements. The gas requirements for 1500 MW works out to 7.84 MCMD against 5.67 MCMD indicated by APTRANSCO. Gas requirement of 5.67 MCMD will only enable a daily generation of 72% on average. This will lead to under utilization of assets and cost push. In fact the dispatch instructions and fixed cost computations suggest that these plants will operate at about 85% PLF. Also when there is no assured gas availability power projects should not be planned on hypothetical assumptions and expectations. Non-availability of gas can be a chronic problem and as such it should be ensured that no fixed charge should be allowed in case gas is not available.

b) APTRANSCO Response: The GOAP and APTRANSCO have allowed these least cost generation plants with natural gas as fuel with firm fuel linkages. The allocation of natural gas is made by MOP&NG. Further Gas Supply Agreements (GSAs) in uniform standard format across the country have been entered with validity upto 2010 and it is expected that GSAs will be suitably extended for the full term of the PPA. As the MoP & NG has given the gas linkages originally, they

would honour the commitments. As per the indications given by GAIL the present projected availability by ONGC is about 8 to 9 MCMD of Natural Gas and the current supply is about 7 MCMD. In future, ONGC will not be the only source for gas. It is indicated that private agencies like CAIRN are expected to supply 3 to 4 MCMD from 2004 – 05. Further, the explorations being conducted by Reliance are expected to yield good results in the order of 18 MCMD by 2004-05. APTRANSCO foresees no difficulties in operating these projects with natural gas as fuel. It is not correct that the Committee of Experts appointed by GOAP concluded that “no new gas-based power projects would be permitted in view of shortage for gas, likely hike in its price and high cost of alternate fuels”. As far as APTRANSCO is aware, no such recommendation has been given by the Expert Committee to the GOAP. Further, generation with alternate fuel will be as decided by the fuel supply committee and as per the merit order dispatch as approved by APERC. The total capacity of Gas stations that are already generating energy is 2196 MW. The second stage of generation sanctioned for VPGL 150 MW, GVK 220 MW and GPPL 134 MW will be implemented only after Gas is available and allotted. They need not be considered now. For the sanctioned Projects LNG is not considered. The fixed cost is 0.6 cents plus 69.9 paise and variable cost is around 76.71 paise for the gas based projects. Hence Gas Projects is the least cost generation option.

c) M/s. GPPL Response : The Government of India has made a firm allocation of Gas, and GAIL has entered into a Gas Supply Agreement. Indications are that K.G. Basin will have adequate gas, taking account the gas finds of private explorers like Cairn Energy and Reliance

63) Firm allocation doesn't mean firm commitment for supply of gas:

a) Objection /suggestion: Certain terms in the GSA are frightening, such as gas supply is “ subject to availability of gas and seller's ability to supply the same..”, the requirement of dual fuel capabilities to be designed and most significantly inclusion of non-supply of gas by ONGC as a Force Majure clause. All this goes to say that firm allocation doesn't mean firm commitment for supply of gas. Since gas as per GSAs is not dependable, reliance on Naphtha becomes inevitable. Naphtha was discarded by GoAP while permitting to run on gas. GAIL must unhesitatingly

guarantee assured supply of gas for the full requirement. The main issue is not whether it is fall back allocation or firm allocation but firm supply of gas.

b) APTRANSCO Response: The allotment of Natural Gas to the IPPs is given by GAIL on firm / fall back basis taking into account the available Natural Gas in KG basin and expected explorations. As per the indications given by GAIL the present projected availability by ONGC is about 8 to 9 MCMD of Natural Gas and the current supply is about 7 MCMD. It is also indicated that private agencies like CAIRN are expected to develop 3 to 4 MCMD from 2004 – 05. Hence there is no difficulty to meet the requirement of gas for this project. The Fuel Supply Agreement is of GAIL a GOI organization, which is applicable to all generating stations, whether they belong to Government or private agencies. The FSA is between the GAIL & Developer for supply of specific fuel only i.e., like Natural Gas. Hence in case GAIL/ONGC fails to supply adequate gas for which agreement was entered it is the responsibility of developer to source out from the alternative supplier.

c) M/s. GPPL Response : No response.

64) Full capacity of the existing plants to be used on gas before adding new capacities:

a) Objection / suggestion: While existing gas based plants were allotted only a part of the gas needed by them, it is not meaningful to allot gas to other plants. Full capacity of the existing plants needs to be used before adding new capacities. If gas is available, the same should be first allocated to the existing plants including NFCL etc., and new plants should be allotted gas only after wards. Other wise this will lead to unnecessary burden on the consumers. Further, in the circumstances, where the already full installed capacities are not being used, the Minimum guaranteed off take (take or pay) Clause in the GSA for the proposed projects will mean extra burden to the consumers.

b) APTRANSCO Response: Existing gas based projects are operating at above 85% PLF. In case supply to existing gas projects is limited to Firm Gas allocation, GVK & Spectrum can work up to 69% against full fixed charge recovery @ 68.5% PLF. The liability for the incentive regime up to 85% PLF may have to be borne by

APTRANSCO in case they are not allowed to operate on alternate fuel in the merit order dispatch. However this situation may not arise in view of abundant gas availability beyond 2004 and beyond the requirement of power in the State.

c) M/s. GPPL Response : No response.

GAS PRICE :

65) Proposed price hike and its implications

a) Objection / Suggestion: The GoI, has declared its intention to dismantle the Administered Price Mechanism (APM) for petroleum products, including natural gas, from April 1, 2003 and the buyer has to pay the seller a price which is market related as per the Gas Supply Agreement (GSA- Article 10.01). The GoI has reportedly proposed to hike the price of natural gas by 107 % -from Rs 2850 to Rs 5900 per standard cubic metre. In fact there are contractual commitments to allow international prices for NELP programs and this will also apply to ONGC / GAIL supply to avoid discrimination. The Hon'ble Chief Minister in his letter dated 19.9.2001 to the Hon'ble Prime Minister stated: "Natural gas in Andhra Pradesh is used mainly for power generation and there are already three power projects with a total installed capacity of 784 MWs supplying to the grid and the fourth, viz., BAPL (220 MW) is expected to go on generation during October, 2001. If the proposed increase in natural gas price is given effect, it would increase payment of variable cost additionally to the tune of Rs 563 crores in one-year. The power consumers in AP can ill afford a significant tariff hike consequent to the steep increase in the variable cost on account of natural gas price increase." The additional cost of natural gas for all the five pending gas based private power projects (including BAPL) would be around Rs 1596 crs per year, if the price of gas is increased by 107%. APTRANSCO have also furnished a computerized sheet showing the levellised cost of power at Rs 2.14 / kwh. The calculation is faulty because (a) The price of Rs 5800 / 1000 SCM should be taken into account being the price expected to prevail well before the project construction starts (b) Since the gas price is linked to international prices of a basket of fuel oils, foreign exchange variation should be applied on fuel price at 6.68% p.a as is done in other cases (c) In addition to the above, further escalation of 6% p.a (which is quite low for oil prices) has to be considered (the


escalation could be in the range of 20% p.a). With the above, the variable cost may exceed Rs. 3/- and the levelised tariff will be well above Rs 4.00. It is therefore not prudent to permit gas-based power projects. If APTRANSCO / GoAP continue to insist on getting clearance for these projects, Commission should get a commitment from GoAP that the additional burden on account of hike in gas prices would not be passed on to the consumers.

b) APTRANSCO Response: The fuel policy is to be decided by GOI & increase in price of natural gas is not finalised. However GOAP have addressed their concerns to the GOI that the increase in natural gas price as proposed by MOP & NG will impose intolerable burden not only on the power consumers of AP but also in the Country as a whole since some power projects are being operated by NTPC with Natural Gas as fuel. The proposed increase will significantly retard the efforts of the State Government to mitigate the effects of tariff increase. GOI was requested to ensure that there is no increase in the price of Natural Gas. The total capacity of Gas Stations in service and stations sanctioned is 2196 MW. The second stage sanctioned for Vemagiri Power Generation Ltd. 150 MW, G V K Industries Ltd 220 MW and Gautami Power Pvt Ltd 134 MW will be implemented only after Gas is available and allotted. They need not be considered now. For sanctioned Projects, LNG is not considered. The fixed cost is 0.6 cents plus 69.9 paise and variable cost is around 76.71 paise in case of M/s.Gautami Power Private Limited. Hence a Gas Project is the least cost generation option with the present gas prices. Further, GOI is considering establishment of a Regulatory Mechanism to over see the pricing and other related matters in the petroleum sector in the post APM period. Petroleum Regulatory Board Bill 2002 provides for: “monitor prices & take corrective measures to prevent profiteering by entities”. APM and Inflation are factors requiring consideration not only for gas but also for other fuels as well and have to be taken into account. Even if the gas cost is doubled, the cost of generation in the first year will work out to only Rs.2.52 paise per kwh (FC – Rs.1.00 + VC 1.52) which is affordable and competitive. In a regulatory mechanism prices will be fixed by the Regulator taking into account the interest of all Stakeholders, consumer being one of the Stakeholders. This is a GOI policy affecting all the power projects and industries which run on Natural Gas. Hence, in a Regulatory regime, the Regulator will have to consider the interests of the Consumer. Fuel Supply Committee (FSC) would

periodically review the reasonableness of the fuel pricing under the existing FSA in light of the availability and feasibility of use of alternate fuel supplies including inter-alia (i) domestic fuel supplies which might become available at a lower delivered cost to the project or (ii) short term spot market fuel supplies. When permitted under the PPA the FSC may require the company to utilize such alternate fuel to meet all or part of the fuel requirements of the project which is feasible and cost effective.

c) M/s. GPPL Response: While the dismantling of A.P.M. does free the price from Government Control, it is anybody's guess what would be the impact on gas prices. As the unit Cost (variable) today is 0.70 paise/kWh even doubling of the price will make these projects (with very low fixed tariff of 0.94 paise) very competitive and viable. Further, Petroleum Regulatory Board Bill 2002 provides for : "monitor prices & take corrective measures to prevent profiteering by entities". In a Regulatory Mechanism prices will be fixed by the Regulator taking into account the interest of all Stake Holders, one of the Stake holders being the consumer. This is a GoI policy affecting all the power projects and industries which run on natural gas. Hence, in Regulatory Regime, the Regulator will have to protect the interest of the Consumer.

66) Payment of Gas transmission charges to be linked to supply of gas:

a) Objection / Suggestion: Under the terms of the PPA, APTRANSCO would have to pay to M/s.GPPL monthly transmission charges even if natural gas is not supplied or partly supplied. This will impose undue burden on the consumers. Commission is requested not to permit this provision for payment of charges (monthly transmission and additional transmission charges) by APTRANSCO in case of non-supply of gas. In case of part supply of gas, payment of proportionate charges may be permitted. 

b) APTRANSCO Response: The Monthly Transmission Charges are being collected by GAIL as per the GSA. It is a standard feature in all gas supply contracts entered with by GAIL.

c) M/s. GPPL Response: Primarily these are determined by GOI on which no developer (Not even if the project is set up by GoAP) has any control. There is a

provision in the PPA for the intervention of APTRANSCO in the GSA. The developer would only be too happy if APTRANSCO or GoAP can bring down these charges.

67) Take or Pay provisions in the GSA increase the fixed charges over what is stated:

a) Objection / suggestion: GSA consists of take or pay provisions for supply of gas. These provisions will abnormally increase the burden of fixed charges on APTRANSCO.

b) APTRANSCO Response: This is a GAIL condition as stipulated by MoP & NG and is applicable for all projects whether Government / Private.

c) M/s. GPPL Response: In the first place, the Gas Supply Agreement is dictated by Government of India and no one, including APSEB could make any impact. Minimum off-take of gas is an internationally acceptable Clause. Unlike Coal, gas cannot be stored to avoid this. For coal, the tariff bears the holding cost of such storage. Besides, the PPA restricts this liability by a host of conditional terms (provisos (i) to (iii) to Art. 3.2 (b) refer). Primarily these are determined by Government of India on which no developer (not even if the Project is set up by Government of A.P.) has any control. There is a provision in the PPA for the intervention of APTRANSCO in the GSA. The developer would only be too happy if APTRANSCO or Government of A.P can bring down these charges.

68) Consumers to be insulated from the costs prior to the operation of the plant under GSA:

a) Objection /suggestion: According to Article-5.02 of the GSA for the first year of gas supply or for the period upto 30.6.2004, which ever is earlier the buyer guarantees to pay the seller for actual quantity of gas supplied by the seller to the buyer subject to the minimum of 80% of the monthly forecast quantities. The consumers should not be loaded with the payments made before the operation of the plant and measures to be built to insulate consumers from such avoidable burdens.

b) APTRANSCO Response: The payment obligations will come into operation after COD of the Project based on actual generation and no commitments is on

APTRANSCO to meet the obligation of the developers to the gas supplier before COD of the Project.

c) M/s. GPPL Response : No response.

LOAD FORECAST:

69) Un realistic load forecast :

a) Objection / Suggestion: The Load Forecast of APTRANSCO continues to be unrealistic and inflated, obviously, with a view to providing justification for permitting private power projects. As per the order of the Hon'ble Commission dated 16.8.2001, APTRANSCO proposed to add an installed capacity of 4709 MW up to 2006-07 to reach a total installed capacity of 12210.19 MW. The same is reduced by APTRANSCO on 16.1.2002 to 4270 MW and 12008 MW respectively. A reserve margin of 14% is proposed by APTRANSCO, is obviously unwarranted, in the light of the more than 30 % T & D losses in the state. The demand growth in the state continues to be sluggish. Power purchases by APTRANSCO / DISCOMS are coming down. Reduction in distribution losses have taken care of additional requirement of power by DISCOMS and the scope for further reduction continues to be substantial. For the year 2002-03 APTRANSCO projected a surplus energy of 7149 MUs in the ARR filed by it before the commission. As of now power from the existing gas-based private projects is not required. Future requirement of power can be taken care of by APGENCO and the share of the state from NTPC and other central generating units. There is no justification for permitting gas based private power projects. Further, when the NTPC –Simhadri project reaches its full production and RTPP-II, for which consent is awaited, takes off, there would be additional surplus. This aspect also needs to be taken into account. Further, the load growth of 4% as suggested by Sri. T.L Sankar should be taken for demand projections.

b) APTRANSCO Response: On January 16th of 2002, during the presentation of PPA with BSES, APTRANSCO had submitted the Load Forecast with 7.38% load growth, 66% load factor and 1% LOLP towards system reliability and arrived at a capacity addition of 4270 MW for the period FY 2002 to FY 2007. APERC in their order dated 29.7.2002 had ordered APTRANSCO to adopt a load growth of 6.8% as

against 7.38%, 70% load factor as against 66% and 14% reserve margin as against 1% LOLP towards reliability which resulted in a capacity addition of 3180 MW as against 4270 MW submitted by APTRANSCO. APERC directed APTRANSCO to consider the prospects of Srisailem Left Bank Project not contributing to the system peak. APTRANSCO protested against the above Load Forecast and have submitted to APERC in its revised load forecast and power procurement plan pleading that a capacity addition of 5251 MW is needed for the period from FY2002 to FY2007. This capacity addition is estimated considering 6.8% growth rate & 70% load factor as per APERC order, the proposal for 24 hrs supply to rural areas over and above APERC order as per Govt. directive (yearly additional requirement of 1500 MU is estimated), and a reduction of about 1000 MU of hydel energy (due to impact of Almatti Reservoir etc in the upper stream riparian states of river Krishna, based on Hydrological simulation studies for 30 years . This reduction takes into account SSLBPH in a conventional mode of operation), 1% LOLP considered as reliability index as per Central Electricity Authority (CEA) norms against 14% reserve margin in APERC order. Further the estimated unserved energy is also reduced. This load forecast is based on a historical trend and also the effect of power cuts and load shedding. The proposed capacity addition of 5251 MW is based on necessities and can meet the impact of Availability Based Tariff (ABT). By 2004-05 there will be shortage of about 1000 MW capacity as per APERC load forecast and hence the four gas projects are proposed (totaling to 1454 MW). This excess capacity is planned considering present scenario where a) Financial Institutions (F Is) are reluctant to fund power projects b) capacity additions did not keep pace with demand, at all India level, during 9th plan. Out of projects cleared in private sector, only 28.8% achieved capacity addition. The Demand Side Management (DSM) measures and Transmission and Distribution (T&D) loss reduction are also considered in estimating the Ex-Bus energy requirement. The proposed gas projects are included in the supply expansion plan submitted to APERC.

It will not be out of place to mention that one of the objectors, Sri-S.R.Vijayakar, Loksatta has expressed the opinion that “we prefer to accept the APTRANSCO’s forecast as it is specially concentrated on AP with the help of Consultants, unlike CEA’s forecast which covers all the States of India. It appears more realistic under today’s situation”.

Hence, even with APERC's projections, about 1000 MW capacity addition is required by FY 2005. Against this capacity addition, APTRANSCO proposed the following four numbers of Short Gestation Gas Projects- 445 MW Konaseema, 370 MW Vemagiri, 464 MW Gauthami and 220 MW GVK extn amounting to 1499 MW gross and 1454 MW net. They are also the least cost projects (fixed cost : 0.6 Cents + 69.9 paise and variable cost : 78 paise).

In the present climate of general reluctance on the part of Financing Institutions for funding power projects, it is difficult to assess with any degree of accuracy, as to how many of the proposed gas projects will be able to achieve financial closure. In the general climate of inadequate capacity addition in the region and in the country as a whole, it would be in the interests of the State to move as many projects as possible within the zone of consideration of financial closure.

c) M/s. GPPL Response: Apparently it is to be settled by APTRANSCO/APERC. However, the fact remains that on the specific invitation of Government of AP/APSEB, the developer started the project and incurred considerable expenditure coming close to Financial Closure twice (once on Liquid Fuel and now on Gas). On the issue of possible mismatch between COD date and Power Procurement Plan, the Commission undoubtedly will be assessing the power needs and matching the COD with such needs.

70) Load forecast & the Least cost plans to be finalized through public process :

a) Objection / Suggestion: Load Forecast plans help in analyzing any PPA from the perspective of the need for any new power project and therefore the same need to be finalized through separate public process. Further, In the power procurement plan upto 2006-07 presented during the Public hearing on 16.1.2002 with regard to BAPL plant, gas based plants are mentioned as CC-1, CC-2, CC-3, CC-4. The plan mentions only four CC plants. If BAPL is one of the these plants only three other plants are going to be added to the grid before 2006-07. But on 8.2.2002 four public notices were issued for consent to four PPAs and the reasons for placing all the four projects needs to be explained.

b) APTRANSCO Response: The Commission may kindly examine the request of the objector on the issues raised in the first part of the above paragraph. There are five Combined Cycle Gas Plants sanctioned with different capacities. The implementation of these projects can start only after achieving the Financial Closure. For all the five plants the PPAs are submitted to APERC for consent. The implementation of these projects depend on the communication of consent by APERC and the ability of the developer to achieve Financial Closure. Hence, the projects are represented as CC-1, CC-2, etc. All the Projects are covered under the Power Procurement Plan for the FY 2002 to FY 2007.

c) M/s. GPPL Response : No response.

71) If SSLB-PH is not to be reckoned for the purpose of capacity additions, the issue calls for a public debate:

a) Objections / Suggestions: Four units of SLBPH had already been commissioned and the remaining two units of 150 MW each are expected to be commissioned next year. During the last rabi and this year's kharif seasons SLBPH has generated power, both peak and non-peak, though both the years are drought – affected with bad monsoon (the factual position can be confirmed from APGENCO). Both the SLBPH and Srisailem Right Bank power project (7 x 110 MW) can be run in conventional mode to generate both peak and non peak power. A bad monsoon year should not be taken as the basis for judging the scope of capacity utilization of any hydel power project. Hydel power projects are basically intended to meet peak demand. With the availability-based tariff coming into effect from January next, generation of peak power will be an advantage, even if the cost per kWh is higher. Unlike Nagarjuna sagar reservoir, water in Srisailem reservoir can be used for generating hydel power and released to be stored in Nagarjuna Sagar reservoir. According to a presentation made by the Director (Hydel) of APGENCO on the occasion of commissioning of the third unit of SLBPH, the average energy available from SLBPH is 1500 MU. In the earlier procurement plan, APTRANSCO included a generation of about 1386 MU per year from SLBPH. There is no justification in not reckoning a project which was constructed at a huge cost of more than Rs 3000 Crs for capacity addition. Commission in its order directed that SLBPH's capacity for

contributing to the peak needs, to be critically reviewed. As per, APGENCO a study on this subject is expected to be completed in January next. SLBPH got clearance to be run in the pumping mode operation and as such is intended to meet peak demand. Meanwhile, it can run in conventional mode of operation. To meet peak demand, it is not prudent to set up another base load project instead of utilizing the capacity of a hydel project with an installed capacity of 900 MW. To meet peak demand with an open cycle gas based station, it would cost not less than Rs 5 per unit which is prohibitive. It seems that the proposal to exclude SLBPH for the purpose of capacity additions till 2008 is made at the behest of GoAP with a view to accommodate the four gas-based power projects in the capacity addition and power procurement plan. Even if the expected generation of hydel power comes down in a year of bad monsoon, the reserve margin of 14% permitted by the Hon'ble Commission would take care of the deficit. In any case, if the proposal of APTRANSCO not to reckon SLBH till 2008 for the purpose of capacity additions is to be accepted, the issue calls for a public debate and it is requested to hold a public hearing on the issue. Further, any right to exclude a project should be considered only after the right of APGENCO to sell power from any of the projects to buyers other than Transco / Discoms is first conceded.

b) APTRANSCO Response: The water storage and utilization pattern in the upstream riparian states also increased significantly over the recent past years compared to the historical values. The above factors result in not only reduction in the quantity of inflows into the Srisailem Reservoir but also the timing and pattern of arrival of flows into the Reservoir. In the recent past, it has been observed that there is a delay of about 6 weeks before the inflows reached Srisailem. Both Srisailem and Nagarjuna Sagar Reservoirs are multi-purpose reservoirs. Irrigation is the primary purpose and all others, namely, municipal water, power and recreation are of secondary nature. These water user groups have often conflicting and competing interests. Hydro simulation studies are carried out by SNC Lavalin, the Consultants, for the period from FY1971 to FY2002 to study the impact of above hydrological variations due to Almatti Reservoir etc. in the upstream riparian states and the results are as follows: The inflows into Srisailem Reservoir, on the average, could drop by about 140 m³/s/year. AP, on the average, could lose about 1000 MU/year due to regulation of Almatti & other reservoirs even with SLBH in

conventional mode operation. As per GOAP order, the minimum draw down level of Srisailem should be above 834' while to date it was maintained at 800'. Due to the change in Minimum Draw Down Level (MDDL) of Srisailem from 800' to 834' the loss in live storage is about 51 TMC ft. In order to run SLBH in pumping mode, the water level at Nagarjuna Sagar must be higher than 531.5'. As per the design, it is feasible to run the SSLBPH in pumping mode by maintaining water level of Nagarjuna Sagar Reservoir at 531.5'. However, due to the hydraulic constraints in the riverbed, it is not possible to start pumped mode operation when NSR level is below 531.5'. It requires six years to eliminate them. CMD of APGENCO in its letter dated 15.11.2002 had expressed his opinion that it may not be possible to have a pumped mode operation in the present planning period of 2002-07 for the reason that it needs substantial sum of money as well as time. In conventional mode Srisailem Left Bank Power House will deliver about 1000 MU on an average during monsoon period. This will meet the debt servicing of the Project. Though for the purpose of installed capacity additions, the capacity of 894 MW is shown; the effective capacity SLBH is negligible for peaking purposes, till the hydraulic constraints in the riverbed are removed within about six years from now. This Project has been started well before the Reforms Act came into the force and investments made on this project are to be recognised. The PPAs between APGENCO and APTRANSCO for 2001-02 as well as 2002-03 provides for debt servicing of this Project. The 14% system reserve margin is based on deterministic approach. The capacity addition estimated can't meet the system peak at all times.

c) M/s GPPL Response: No response.

72) Why Public hearing without the gen projects appearing in the revised expansion plan :

a) Objections / Suggestions: In order dated 29.7.2002, the commission has stated that the Power Purchase Agreements submitted before the commission for consent and pending public hearing would be taken up by the Commission after they appear in the revised supply expansion plan. We are not able to comprehend as to what necessitated the public hearing.

b) APTRANSCO response: All the proposed gas projects are included in the supply expansion plan submitted to APERC.

c) M/s. GPPL response : No response.

MISCELLANEOUS :

73) Subsequent public hearing or circulation of draft final order on the new proposals requested:

a) Objection / suggestion: Commission is requested to hold public hearings on new proposals (received subsequent to the initial public hearing) submitted by APTRANSCO and the developers of power projects after negotiations as directed or advised by the Hon'ble commission, suo motu or at the direction of the Hon'ble commission and give an opportunity to the objectors to present their objections or suggestions. Alternately, a copy of the draft final order may be sent to the objectors to elicit their objections or suggestions within a week or ten days, examine the same and then finalize its order.

b) APTRANSCO Response: No response.

c) M/s. GPPL Response: No response.

74) Names of CMDs and Board of Directors to be furnished:

a) Objection / Suggestion: Names of Chairman and Managing Directors and names of Board of directors of the above 4 companies and their past experience, their status, financial soundness etc., should be furnished to decide whether these companies fulfill the qualifying requirements of the tender.

b) APTRANSCO Response : The Developers have submitted the information as per the directions of APERC. This information is being sent to the Objector and also to the Commission.

c) M/s. GPPL Response: The list of Directors of the Company were submitted to APTRANSCO at the time of bidding the Project. Only after ascertaining the credentials, APTRANSCO has awarded the Projects to NCC Power and Gautami Power. The present project is continues to be promoted by the same bidding parties.

CHAPTER –III

PRESENTATION BY STAFF & RESPONSES OF APTRANSCO AND M/s. GAUTAMI POWER PRIVATE LIMITED (GPPL)

As the members of the Public would not be very conversant with some of the highly technical provisions of a Power Purchase Agreement (PPA), the staff of the Commission made a presentation after an independent study / assessment of the PPA from the point of view of the consumer. It was made clear at the public hearing that the views of the staff are their own and do not represent the views of the Commission. This chapter sets out the various points made by the staff in their presentations and the response of APTRANSCO and M/s. Gautami Power Private Limited to the points made by the staff.

75) Restrict capacities to the firm gas allocation or limit the fixed charges to the capacity, firm gas allocation, can support:

- a) Staff Concern / Suggestion: The Developers may be required to restrict the capacities of the plants to the firm gas allocation available to them. Alternately, the fixed charge payment should be limited to the capacity of the plant corresponding to the firm gas allocation.
- b) APTRANSCO Response : The developers can achieve 80% to 100% PLF with existing firm allocations and KEOPL can achieve 100% PLF with the fall back allocation. In view of firm gas allocation ranging from 80% to 100% PLF for these projects, fixed charges will be paid as per PPA provisions.
- c) M/s. GPPL Response: Not available

76) CIE shall be 5% of the capacity on actual generation above 80% :

- a) Staff Concern / Suggestion: While approving enhancement of capacity from 300 MW to 358.9 MW in respect of M/s Gautami power Limited, it was decided that fixed charges are payable up to 80% PLF on availability of 85% PLF and further that a Committed Incentive Energy (CIE) of 157.2 MU (corresponding to 5% of 358.9

MW) has to be provided. However, the CIE of 157.2 MU does not represent 5% of the capacity in all cases. It is suggested that CIE should correspond to 5% of the installed capacity, uniformly, in respect of all the gas projects and should be payable on actual generation for PLFs above 80%. Further, incentives should begin at a level above 85% at the rate of 2% for every 1% increase in PLF (I) subject to a maximum of 10%.

b) APTRANSCO Response: While the Developer agreed for CIE corresponding to 5% of the installed capacity and payable on actual generation for PLFs above 80%, they did not accept the suggestion of the staff with regard to incentives at a level above 85%. As per amended PPA for PLF between 85% to 90% i.e., for 194.91 MU, the incentive as per existing PPA is Rs.2.043 crs. As per APERC staff suggestion the amount will be Rs.1.3624 crs. APTRANSCO accepts APERC staff recommendation. However, the incentives shall be only on actual generation and not on deemed generation.

c) M/s. GPPL Response: In relation to the capacity of Gautami project portion of 292 MW, they agree to the change of Committed Incentive Energy to 5% PLF of the related capacity. As for as the capacity related to NCC they did not agree for CIE for the reasons given elsewhere. Further, with regard to incentives beyond 85% PLF, they said that the incentive based on actual energy delivered shall be as per the existing terms of the PPA.

77). The PPA for Stage-II to be considered separately:

a) Staff Concern / Suggestion: A reference is made with regard to Stage – II of the Projects in the PPAs submitted for consent in respect of Stage-I. The conditions and the PPA applicable for Stage – II Projects shall be considered separately based on the then conditions at the time of filing of application for consent in respect of Stage – II.

b) APTRANSCO Response: This is as per the terms and conditions of M/s. GPP. The tariff is the lowest in the country for IPP projects. However, the implementation of Stage – II project with the same commercial principles is subject

to availability of gas, load requirement and evacuation facilities and is subject to consent of APERC.

c) M/s. GPPL Response: Not available

78) Joint sampling to be provided for determination of Calorific value:

a) Staff Concern / Suggestion: It was mentioned that Calorific Value of gas for billing purposes shall be as mentioned by GAIL in the invoice. It is suggested that a provision for joint sampling by GAIL, developer and APTRANSCO may be made.

b) APTRANSCO Response: Accepted the M/s. GPPL's view.

c) M/s. GPPL Response: The company agreed to the association of APTRANSCO in the joint sampling of fuel (No. of samples per day and extra 4th sample for umpire or sampling procedure to be clarified).

79) Commercial & Technical parameters to be uniform across the Plant:

a) Staff Concern / Suggestion: In respect of the project of M/s Gautami Power Private Limited different parameters have been accepted in respect of NCC portion and M/s Gautami portion, including heat rates. All parameters provided in respect of M/s Gautami portion shall be applicable for the entire plant including the heat rate of 1850 kcal/kWh.

b) APTRANSCO Response: The company has not accepted uniform heat rate of 1850 Kcal / kWh for the entire plant and also not accepted all parameters of Gautami for NCC portion. For this project heat rate and all other parameters must be same for entire plant.

c) M/s. GPPL Response: Govt of AP has already recognized the background under which NCC and Gautami (before merger), formed a consortium and ordered in their letter dt 15-12-2000 that "since there are varying commercial terms between the two constituent projects of the consortium, while finalizing the amended PPA for the combined project, APTRANSCO will devise a suitable mechanism so that the commercial terms governing the sanction of the projects per

each of the developers are not altered in the combined project". This was in the background of NCC project and BSES project being allowed 85% PLF and 1900 kcal / kWh heat rate by GoAP. APTRANSCO gave effect to this order of Govt as now, through the initial amendments to PPA. The full details of an inconsistency in relation to BSES project terms, have been already submitted to APERC, bringing out the anomaly. The company has requested APTRANSCO to support the stand already taken by them in line with the orders of the GoAP.

80) Greater flexibility for Despatch instructions to be provided to ensure merit order Despatch:

a) Staff Concern / Suggestion: As per Schedule-D (Scheduling, Co-ordination and Despatch Procedures) no Despatch instructions shall require the Company to operate the project at a gross generating capacity below 60% of the Project's installed capacity or such lower declared capacity for any period of time except in an emergency. Further the aggregate duration of back down shall not exceed 1200 hrs in any Tariff year. The number of Despatch instructions are to be limited to 1 (one) per day. These restrictions come in the way of Merit Order operation. Greater flexibility for Despatch instructions should be provided to ensure merit order Despatch.

b) APTRANSCO Response : The company agreed to APTRANSCO's suggestion of adopting Dispatch Instructions as per APERC order on BAPL, except for two dispatch instructions per day. APTRANSCO insists on two dispatch instructions per day as agreed by M/s. BAPL, M/s. KEOPL, M/s. VPGL. Provisions relating to Cumulative Available Energy of Schedule – D will not affect the Dispatch Instruction.

c) M/s. GPPL Response: Agreed to the level of flexibility in Dispatch Instructions as agreed to by the APERC in case of BAPL in APERC's order dt. 13-12-2002. However, they have suggested that the number of Dispatch Instructions may be retained as one per day. It is agreed that any such backing down will not affect the mode of computation of Cumulative Available Energy based on availability declaration by the Company and related provisions of the PPA in computing the PLF.

81) Project completion dates to be linked to signing of the amended agreement:

- a) Staff Concern / Suggestion: In the amended agreement project completion dates have been revised linking to financial closure. It is suggested that these dates be firmed up with reference to signing of the amended agreement after consent of APERC.
- b) APTRANSCO Response: APTRANSCO does not agree for the developer's contention that the SDOC is subject to any conditions. The SDOC for combined cycle operation is 27 months from the date of signing of the Amended Agreement after the consent by APERC is given, which may be agreed to.
- c) M/s. GPPL Response: Agreed to the reckoning of the completion dates from the date of final execution of the amendment to the PPA after the consent of APERC subject to (a) Escrow facility coming into force as now specified (b) Prior to financial closure, Escrow or an alternative security mechanism, such as Memorandum of Agreement among AP Govt / APTRANSCO / Lenders / Banks is in place to the satisfaction of the lenders (c) The schedule dates of completion are automatically extended to the extent of delay in (a) or (b), apart from other contingencies already specified in the PPA.

82) Non-availability of Gas is a definite possibility, making reliance on costly alternate fuels inevitable:

- a) Staff Concern / Suggestion: As per GAIL presentation dated 15-01-2002, the actual availability of gas is 7.1 MCMD (current supply) against the projected availability of 8 to 9 MCMD, falling short of the total allocation in place viz., 8.69 MCMD (Firm allocation – 6.18 MCMD & Fall back allocation – 2.51 MCMD). Gas Supply Agreements (GSAs) entered into by the IPPs are due to expire by 31-12-2010. KEOPL has 1.6 MCMD as firm allocation and 0.4 MCMD as fall back allocation. Non-availability of Gas is a definite possibility, making reliance on costly alternate fuels inevitable. It is therefore suggested that the fixed charges payable to the developer shall be limited to availability of gas. If APTRANSCO requires the developer to run the plant on alternate fuel, the price has to be capped to that of

Natural Gas. Further the price of natural gas, if purchased from sources other than GAIL, lesser of the prices shall be the cap. In addition to the above, an action plan to run the plant beyond 2010 is also to be indicated.

b) APTRANSCO Response: The company has addressed GAIL to extend the validity of the GSA upto 15 years period to supply 1.96 MCMD of natural gas on firm basis. The GSA for the extended period of the supply should be received before the signing the Amended PPA. Further, if natural gas is purchased from other sources, the price shall be limited to the price of GAIL or the other source which ever is less. The developer is having a firm allotment of 1.96 MCMD. The developer is not accepting the cost of alternate fuel to be limited to that of natural gas supply by GAIL or from any other source in case of non-availability of natural gas. However, this clause is in accordance with BAPL – APERC's order dt.13-12-2002 against para 16 (c), and the same clause should be uniformly applicable for this and all gas based projects. Usage of alternate fuel is subject to prior approval of Fuel Supply Committee.

c) GPPL Response: GAIL has already confirmed in their presentation to APERC on 19-12-2002, their readiness to enter into GSA in line with the term of the PPA. The company has informed that they have approached GAIL to amend Gas Supply Agreement accordingly. Project is stated to have been already apprised by the financial institutions on the basis of the existing provisions of the amendments to the PPA, alternative fuel, being a pre-condition, without which the project would be unbankable. A reference to GoAP's letter No. 3504 / PR.I.1/96, Dt. 29-10-2001 indicates that GoAP accepts the provisions, as this is required by the Lenders. The Company requests that the existing provisions in the Amendment to the PPA may be retained.

83) Increase in gas prices in Post - (APM) scenario may result in steep increase in Tariff besides not fitting into merit order resulting in backing down:

a) Staff Concern / Suggestion: As per media reports, the Petroleum Ministry is contemplating complete de-regulation of the Gas sector by October 2003. It is reported that Ministry proposes to increase the ceiling on prices of gas from the current level of Rs. 2850 / MCM to Rs. 5800 / MCM by April 1st, 2003 and prices

become completely market driven from October 2003. The levelised variable charge in a dynamic scenario and in a de-regulated regime with the gas price at Rs. 5800 / MCM, would range from Rs.1.95 to Rs.2.03 per unit and the corresponding total charges (including fixed charges) would range between Rs. 3.00 to Rs. 3.10 per unit. Increase in gas prices in Post Administered Pricing Mechanism (APM) scenario may result in the gas projects not fitting into the merit order resulting in their backing down. APTRANSCO is required to indicate the impact of post-APM scenario on the price of power from these gas projects.

b) APTRANSCO Response: Petroleum Regulatory Board Bill 2002 provides for monitoring prices and taking corrective measures to prevent profiteering by entities. APM and Inflation are natural phenomena which affect not only gas but also other fuels. Even if the gas price is doubled the cost of generation in the first year will work out to only Rs.2.52 paise per kwh (FC – Rs.1.00 + VC 1.52) which is competitive and affordable. In a regulatory regime prices will be fixed by the Regulator taking into account the interest of all Stakeholders, one of the Stakeholders being the consumer. GOI policy affects all power projects and industries which run on natural gas.

c) M/s. GPPL Response: Not available

84) Minimum guaranteed off take provision to be deleted:

a) Staff Concern / Suggestion: The minimum off take fuel payment for a typical Gas Plant is ranging between 73 % and 74 % of the normal delivered gas costs, making a gas station a “Must Run” station. APTRANSCO and GoAP are requested to take up the issue with M/s GAIL and M/s ONGC for deletion of this clause.

b) APTRANSCO Response: This contingency may not arise, as these projects are needed (as base load stations?) as per the Power Procurement Plan. However the issue will be taken up with GAIL / ONGC / GOI as suggested by the APERC Staff.

c) M/s. GPPL Response: Not available

85) APTRANSCO to explain the reasons for changes with regard to evacuation facilities:

a) Staff Concern / Suggestion: As per the original PPA the evacuation facility shall be provided by APTRANSCO eight (8) weeks prior to the scheduled date of completion of the first unit. This has been amended to twelve (12) weeks in the amended and restated PPA. In respect of M/s GVK Industries the evacuation facilities are to be completed prior to six months. APTRANSCO is required to explain the reasons for the above changes.

b) APTRANSCO Response: This is provided based on the actual firm project implementation schedule committed by the Developers for the purpose of testing and commissioning of the units.

c) M/s. GPPL Response: Not available

86) Provide for assignment of PPA from APTRANSCO to DISCOMs with due regard to Multi- Buyer- Multi-Seller (MBMS) scenario:

a) Staff Concern / Suggestion: With regard to assignment, it is provided that neither party can assign any of its rights or obligations under the PPA to a third party without prior approval of the other party in writing. However, the company can assign or create security for financing the project and APTRANSCO has to co-operate reasonably. The concern is that APTRANSCO cannot assign its rights or obligations under the PPA without prior approval in writing from the developer. The suggestion is to make a specific provision for facilitating assignment of PPA from APTRANSCO to DISCOMs with due regard to the possible Multi- Buyer- Multi-Seller (MBMS) scenario.

b) APTRANSCO Response : Accepted the views of M/s. GPPL

c) M/s. GPPL Response: The Company agreed to the Assignment to DISCOMs as suggested by APTRANSCO in line with the order of APERC dt. 13-12-2002 on the PPA of BAPL, subject to the DISCOMs (particularly if and when they are privatized) cover all the liabilities and provides all the security mechanisms as are now available with APTRANSCO.

87) APTRANSCO should indicate the action plan to handle the surplus capacity:

a) Staff Concern / Suggestion: The State is going to have surplus capacity by 2005 if projects as planned are commissioned. APTRANSCO should indicate the action plan as to how it proposes to handle the surplus capacity.

b) APTRANSCO Response: This Contingency may not arise as these Projects are within the Power Procurement Plan. Power being a vital requirement for growth, the very unlikely scenario of a power surplus due to additional generation from gas power stations, may not last long. In such situations, APTRANSCO can take the advantage of the low cost and the excess power, if any, to trade the power to the needy States / Consumers either through bilateral agreements or through the Power Trading Corporation.

c) M/s. GPPL Response: Not available

CHAPTER - IV

Commission's Analysis:

88) The objections received from public and the concerns/suggestions made by the staff through their presentations on December 19, 2002 at the time of public hearing covering the four gas projects under consideration broadly revolve around the following issues:

- a) Demand
- b) Bidding process
- c) Commissioning schedules
- d) Availability of gas and price
- e) Incentives
- f) Uniformity in SHR and Fixed cost coverage
- g) Dispatch instructions
- h) Assignment

89) Of the above mentioned issues the Commission has identified (c) to (h) as the key issues.

Demand:

90) APTRANSCO made a presentation at the time of public hearing on December 19, 2002 estimating the projected additional capacity requirement as 5251 MW for the period from 2002-2008 by revising their earlier estimate of 4270 MW for the same period. The Commission has issued a separate order in OP No. 179 dated 08-04-2003 after considering the submissions of APTRANSCO fixing the additional capacity required for the period 2002-07 at 5182 MW. All demand/supply expansion related issues are discussed in that order.

Bidding Process:

91) APTRANSCO has submitted a brief note on the process adopted by the erstwhile APSEB on bids. APSEB with the consent of GOAP called for bids on tariff basis during May 1995 for establishment of short gestation power stations. Against global tenders, 36 bids were received and the Board short-listed 23 out of them for

submission of price bids. Except one, all of them (22) submitted price bids. As consultants for APSEB, ICICI completed the evaluation of bids by giving due weightages to price and the gestation periods. APSEB decided to set up projects with a total capacity less than 2000 MW and accordingly issued letters of intent to 6 developers for 8 projects for an aggregate capacity of 1623MW. Except Usha Martin Industries, all the remaining 5 developers confirmed unconditional acceptance of the finalised PPA. The letter of intent of Usha Martin was cancelled and M/s Nagarjuna Constructions, who was the bidder next in the ranking, replaced Usha Martin. As Nagarjuna constructions originally quoted a capacity of 227 MW and replaced Usha Martin(100 MW), the total capacity finalised also stood revised to 1750 MW from the original 1623 MW.

92) The Commission is satisfied that a transparent bidding procedure was adopted by APSEB and APSEB took professional help from ICICI in finalising the successful bidders.

Key Issues:

93) The Commission advised APTRANSCO to respond to the objections raised by the public and the issues and concerns raised by the staff of the Commission. APTRANSCO sent their initial responses on December 27, 2002. The Commission felt that the responses could be more meaningful and the concerns raised at the time of public hearing are better addressed only when a detailed discussion takes place between APTRANSCO and the developers. APTRANSCO was advised to resubmit their responses after discussion with the developers.

94) APTRANSCO accordingly discussed with each developer and forwarded the replies by January 21,2003 for all the projects. Though there were agreements between developers and APTRANSCO on many of the issues, at the instance of the Commission, another round of negotiations was conducted by APTRANSCO with each developer to iron out the remaining inconsistencies between them.

95) The response on each of the key issues is as follows:

a) Issue 1: Commissioning Schedules:

The Commissioning schedules should be linked to the signing of the amended agreement after consent of APERC instead of linking up with the financial closure date.

b) APTRANSCO response:

APTRANSCO has communicated that GPPL has agreed to reckon the scheduled date of commissioning from the date of signing of the PPA subject to the following arrangements being agreed with APTRANSCO:

- a) Escrow cover is provided to GPPL as is agreed to be provided for BAPL in the Commission's Order OP No.539/2001 dated 13.12.2002.
- b) The developer insists that the Escrow agreement or an alternative security mechanism like Memorandum of Agreement has to be provided prior to financial closure.

c) Commission's Analysis:

As per the existing provisions of the PPA, the scheduled date of commissioning the first unit is 24 months and that of the second unit is 27 months from the date of the financial closure. When short gestation projects were being short listed, due weightage was given for both the price and the gestation period while evaluating the bids and selecting the developers. Linking up the commissioning date of this project with the date of financial closure creates uncertainty about commencement of the project. Further, the scheduled date of commissioning is very crucial for determining the liquidated damages as per clause 1.1(54) of the PPA. The Commission leaves the decision of levying/waiving the liquidated damages to APTRANSCO based on the facts and circumstances of the case. But the Commission prefers linking up the Scheduled date of commissioning with the date of signing of the amended Power Purchase Agreement duly consented by APERC rather than linking up with the date of financial closure of the project. GPPL has agreed to reckon the dates from the date of signing the PPA.

APTRANSCO has accepted to provide escrow cover as per Commission's order dated 13.12.2002 in the case of BSES Andhra Power Limited (BAPL). But APTRANSCO is not agreeing for any other condition of the developer. As per clause 5.10 of the PPA, escrow account shall be opened 30 days prior to the Scheduled date of Completion of the first generating unit. Even though the escrow agreement/MOA is entered into well in advance of the opening of escrow account, APTRANSCO has to study the escrowable capacity and the development of the project etc. before entering into any such agreement with the developer. Any such facility before such assessment would jeopardise a more serious contender. Hence, commission is in agreement with APTRANSCO that the linking of the scheduled date of commissioning should be without any additional condition.

The Commission advises suitable amendment in the PPA for linking up the Scheduled date of commissioning with the date of signing of the amended agreement after the consent of APERC.

96) Issue 2: Fuel linkage:

This needs to be addressed in two broad categories (viz.) (i) the availability of gas and the price and (ii) the fuel tie-up for this project.

a) Availability of gas and its price:

During public hearing, serious concerns were expressed by the Commission and several objectors on the availability and the price of natural gas. ONGC and GAIL were invited for the public hearing and they participated in the same with discussions/presentations. The Commission addressed some specific queries to GAIL and ONGC and their clarifications are as follows:

- a) GAIL does not envisage any difficulty in ensuring uninterrupted supply of gas to consumers in the K.G. Basin in the long-term.
- b) All prices are expected to be market driven in the post APM scenario. GAIL would charge the price, which the market would be able to bear and no more.
- c) GAIL intends to follow the cost of service method in the post APM scenario for levying transportation charges on consumers. Any such method would be based on sound international practices for levying transportation charges.

- d) The Petroleum Regulatory Bill 2002 provides for monitoring prices and takes corrective measures to prevent profiteering by entities.
- e) ONGC explained that the Minimum Guarantee Off-take price (MGO) charged by GAIL is mainly to ensure better utilisation of the scarce natural resource and the non-utilisation of the allocated quantities could lead to wasteful flaring of gas.
- f) ONGC also explained that at present, gas is being supplied at highly subsidised prices as compared to other hydrocarbon fuels or feedstock. The reciprocal comfort of guaranteed supply to the buyer would be possible in a free market where price is decided by market forces of demand and supply and the producers and consumers would be free to negotiate gas sales agreements on commercial considerations.
- g) ONGC supplies gas to GAIL at a uniform rate over the day with provision for minor variation (say $\pm 10\%$) to take care of the operational needs. It may not be possible to regulate/ control the gas supply based on consumer requirements since it is not operationally feasible to regulate flow from individual wells spread over a vast field. Therefore, ONGC would not be in a position to provide great flexibility in gas supply to GAIL to match the grid requirements of power producers. If this has to be tailored to the needs of the gas consumer, GAIL needs to examine the possibility of building and maintaining gas storage capacity in their system (pipeline grid, etc.) for this purpose. This would naturally increase the cost of supply.

From the explanations of GAIL and ONGC, it appears that natural gas would be available for the entire term of the project and the price would be market driven. Currently, the base price of natural gas is Rs.2850/1000 SCM and the estimated first year variable cost is Rs79/unit. The letter dated February 18, 2003 from the Ministry of Petroleum & Natural Gas indicates that the gas from Ravva Satellite field is proposed to be directly sold by GAIL (India) Limited at market determined prices. The market price of gas from the Ravva Satellite field is estimated to be around Rs 7,400 per 1000 SCM. The price of gas from Ravva Satellite would be pooled with the gas from other sources of GAIL. The weighted average GAIL price of Natural gas for Andhra Pradesh is expected to go up by Rs. 360/- per 1000 SCM and the resultant variable cost would go up by 9 paise / unit for the existing units. The

estimated market price for Ravva Satellite gas incidentally gives an idea of what the price of natural gas would be when it is totally market driven. The Commission notes that even at the price of Rs 7,400 per 1000 SCM the variable cost of generation would be about Rs 1.50 per Kwhr a rise of nearly 0.70 Ps per Kwhr from the existing rate of 0.79 Ps Kwhr. Serious efforts are being made by APTRANSCO and GoAP to prevent or atleast postpone the increase in the price of natural gas. At the same time, it is also expected that there would be regulatory intervention 'to monitor prices and take corrective measures to prevent profiteering by entities' in determining the gas price. As the timing and revision of price for the gas supply in the State is not predictable, the Commission has to go by the present facts and circumstances and advise APTRANSCO to strictly follow the merit order in dispatching the energy.

b) Fuel tie-up for this project:

The concerns of the objectors and the staff are as follows:

Gas supply agreements was due to expire by December 2010 while the term of the PPA is for a period of fifteen years from the project CoD unless terminated earlier. The developer has to indicate the action plan to run the plant beyond 2010.

i) APTRANSCO response:

At the time of public hearing on December 19,2002, GAIL assured that they would enter into agreement with the developers for supply of gas for the entire term of the PPA. GPPL has requested GAIL (India) Ltd to extend the validity of the contract till December 31, 2018.

ii) Commission's Analysis:

The gas supply agreement between GPPL and GAIL was due to expire by December 31, 2010 while the PPA term is for a period of fifteen years from the project CoD. This implied that for the balance period of the PPA, GPPL had no fuel linkage from GAIL. But GPPL has subsequently sought for the extension of this date till December 31, 2018 based on the assurance given by GAIL that they would enter into agreement with the developers for supply of gas for the entire term of the PPA. APTRANSCO insists that the extension should take place before signing of the Amended PPA.

If natural gas is purchased from other sources, the price shall be limited to the price of GAIL or the alternative fuel supplier whichever is less.

97) Issue 3: Committed Incentive Energy:

The next concern expressed before the Commission was that the Committed Incentive Energy shall correspond to 5% of the Installed capacity of the respective project instead of a fixed quantity of 157.2 Million Units, which happened to be 5% of the installed capacity of 358.9 MW of the original Gautami power Limited. Further, there was no committed incentive for one portion (172 MW of NCC) of the project. The Commission wanted one committed incentive structure for the entire project.

a) APTRANSCO response:

GPPL agreed committed incentive of 127.89 MU i.e. 5% of Gautami (292MW) portion. For the remaining portion of 172 MW it was insisting for the existing provision of incentive.

b) Commission's Analysis:

As per Article 3.2(A) of the PPA, "the Company shall supply in a Tariff Year at the generator terminals 97.8 Million Units over and above the PLF of 80% to APTRANSCO (hereinafter referred to as the "Committed Incentive Energy" applicable to the apportioned capacity of 292 MW). The concept of Committed Incentive Energy originates from the PPA of Gautami power Limited wherein it was taken, as 5% of the Installed capacity of that project which is equivalent to 157.2 MUs. But when the concept of Committed Incentive Energy was incorporated in other projects, the same quantity of 157.2 Million Units was taken as Committed Incentive Energy, while a more rational approach would have been to link up with the installed capacity of the respective project. This was pointed out at the public hearing and GPPL has agreed to the Committed Incentive Energy of 127.89 MU which is equivalent to a PLF of 5% of their installed capacity of Gautami portion which is 292 MW. For the remaining portion of 172 MW which belongs to NCC, GPPL was insisting that there should be no CIE. As this would lead to allowing two incentive structures for the same plant, the Commission insisted on renegotiation.

GPPL communicated subsequently vide their letter dated February 12, 2003 that the committed incentive would be 5% on 464 MW which is the installed capacity of the entire project.

This revised position is acceptable to the Commission provided that the Installed capacity arrived at as per Clause 1.1.35 'Installed capacity' is not more than 464 MW. Clause 1.1.35 and Clause 3.2 (A) of the PPA may be amended accordingly.

98) Issue 4: Incentives:

During the public hearing, the staff suggested the incentive @ 2% of other Fixed Charges for every 1% increase in PLF (I) above 85% subject to a maximum of 10% on Other Fixed Charges. The Commission insisted that this incentive structure should be applicable for the entire PPA.

a) APTRANSCO response:

The developer has agreed to the suggestion regarding incentive for performance above PLF (I) of 85% @ 2% for every 1% increase subject to a maximum of 10%.

b) Commission Analysis:

The present incentive structure is on actual generation beyond PLF (I) of 80% for 292 MW portion. The committed incentive charge for this portion is @ 2% for every 1% increase in PLF (I) for actual generation from PLF (I) of 80% to 85%. Above 85%, the incentive will be 3% for every 1% increase in PLF (I). For PLF (I) of 90%, the incentive will be 10% +15%=25% of the Other Fixed Charges. For generation above 90%, the incentive is at the same level viz., 25% of the Other Fixed charges.

The incentive structure in the PPA for another project with gas as fuel commences only from PLF (I) of 85% @ 2% of Other Fixed charges for every 1% increase subject to a maximum of 10% of Other Fixed charges. Even in the GPPL PPA, 162 MW portion of the incentive structure is same as above.

All the four developers whose PPAs were posted for public hearing on December 19, 2002 were advised to follow the incentive rates of 2% of Other Fixed charges for

every 1% increase in PLF (I) beyond 85% up to 90%. For generation above 90%, the incentive is at the level of 10% of Other Fixed charges. This means that the incentive at PLF (I) 90% is frozen for generation beyond PLF (I) 90%. GPPL has agreed to this suggestion for the entire PPA .

The Commission advises GPPL and APTRANSCO to suitably amend the PPA by giving effect to this revised position.

99) Issue 5: Uniformity in SHR and Fixed cost coverage:

The following are the Station Heat Rate(SHR) and threshold for Fixed Cost Coverage (FCC) provisions in the PPA.

(a) For Gautami portion (292 MW)

SHR – 1850 kcal/kwh

FCC – PLF 80%

(b) For NCC portion (162 MW)

SHR – 1900 kcal/kwh

FCC – PLF 85%

During public hearing it was pointed out that SHR of 1850 and the FCC at PLF 80% should be applicable for the entire project uniformly.

a) APTRANSCO response:

The developer was not agreeable for the uniform SHR and FCC as they were negotiated positions.

b) Commission's Analysis:

The Commission felt that different SHR and FCC for one PPA would create practical difficulties, as the units are not divided in the same ratio as drafted in the PPA. Further, GPPL's position that a higher incentive SHR and FCC were allowed for another project is not tenable as that project was a smaller separate project and not a part of a project. APTRANSCO was advised to renegotiate with GPPL.

GPPL agreed vide their letter dated February 12, 2003 that the SHR will be at 1850 kcal/kwh and the FCC at PLF 80 % for the entire PPA.

This negotiated position is acceptable to the Commission and APTRANSCO and GPPL may amend the PPA accordingly.

100) Issue 6: Dispatch instructions:

The following are the broad provisions of the dispatch instructions in the PPA :

1. The company is not required to operate the project below 60% of installed capacity or such declared capacity for any period of time except in Emergency.
2. Aggregate duration of backing down should not exceed 1200 hours in a tariff year.
3. The number of instructions should not exceed one per day.

It was pointed out by the objectors and the staff that these conditions suggest a limited flexibility in merit order dispatch and this may even lead to backing down of the cheaper stations in a surplus supply situation. It was suggested that more flexibility should be given to the system operators so that they can follow the merit order dispatch effectively.

a) APTRANSCO response:

GPPL agrees to the provisions as in APERC's order dated 13.12.2002 on BAPL regarding Dispatch instructions after adjusting for difference in installed capacities. APTRANSCO endorses GPPL's acceptance and recommends the same for the Commission's consideration.

b) Commission's Analysis:

In the order dated 13.12.2002 on BAPL, the Commission accepted the following negotiated position between BAPL and APTRANSCO:

"BAPL agreed to increase the existing limit (for backing down) of 1200 hours in any tariff year to stipulate that excluding the duration of any Despatch instruction requiring the Company to operate the project at a gross generating capacity between 100% to 85% of the Project's installed capacity, the total hours of backing down shall not exceed one thousand (1000) hours in any Tariff year".

The existing provision of 1200 hours in a tariff year as the aggregate duration of backing down and restriction of the number of instructions to only one, afford the

operator limited flexibility. The Commission desired that the system operator should have more flexibility in dispatching energy under the merit order.

GPPL is agreeable to the amendment in line with the Commission's order on BAPL. Such amendment, apart from increasing the number of dispatch instructions to two, provides the desired flexibility in two stages as under:

- (i) For a gross generating capacity between 85% to 100% - a back down limit of a maximum of about 590 MUs in a year.
- (ii) For capacity between from 60% to 85% - Maximum limit for backing down of 1000 hours in a year.

This has provided more flexibility to the system operator than the earlier provision of 1200 hours in a tariff year.

This negotiated position is acceptable to the Commission. Clause 3.4 of Schedule – D of PPA may be amended accordingly.

101) Issue 7: Assignment:

As per the existing PPA provisions, APTRANSCO cannot assign to third party without the prior approval in writing from GPPL. A provision for assignment is required in the PPA to provide for the necessary flexibility in a Multi-Buyer-Multi-Seller (MBMS) scenario.

a) APTRANSCO response:

GPPL agrees to the provisions as in APERC's order in the case of BAPL

b) Commission's Analysis:

The Commission suggested the following draft language for Assignment clause in the PPA to take care of MBMS scenario in its order dated 29.7.2002 on BAPL PPA.

"The Company acknowledges and accepts that APTRANSCO shall be entitled to assign all its rights, duties, obligations and responsibilities under this Agreement to the distribution licensees namely the four distribution companies a) Central Power

Distribution Company of AP Ltd (APCPDCL) b) Southern Power Distribution Company of AP Ltd (APSPDCL) c) Eastern Power Distribution Company of AP Ltd (APEPDCL) d) Northern Power Distribution Company of AP Ltd (APNPDCL) either wholly or partly and to one or more of them and in such manner as may be agreed to between APTRANSCO and said distribution companies with the approval of Andhra Pradesh Electricity Regulatory Commission and in such an event the assignee company or companies shall be the party to fulfill all the terms and conditions and obligations on the part of APTRANSCO assumed under this Agreement”.

GPPL has also agreed to these provisions. APTRANSCO and GPPL are advised to incorporate this in clause 15.3 of the PPA.

102) Conclusion: Before granting consent to any PPA u/s 21(4) of the A.P. Electricity Reform Act, 1998 the Commission examines the PPA from the following three aspects:

- (a) Whether there is sufficient demand to justify the project.
- (b) Whether transparent procedures have been followed to ensure that there was proper competition among the bidders.
- (c) Whether the Tariff is reasonable from the point of view of the consumers.

Regarding (a), the Commission has separately passed an order on the Load Forecast Plan submitted by APTRANSCO on 08-04-2003 (OP No. 179 / 2003) and determined the additional capacity requirement for the period at 5182 MW. The Commission has also approved a Procurement Plan for the period 2002-2007. This project is included in the Procurement Plan and is scheduled to be commissioned in FY 2005-06.

With respect to (b) above, the Commission advised APTRANSCO to submit a note explaining the procedures adopted in finalising the bids. As explained in para 91 of this order the Commission has noted that six developers were selected out of 36 original bidders and APTRANSCO utilised the services of an independent evaluator (viz) ICICI, for finalising the list of successful bidders.

Finally Regarding (c) the GoAP took a decision to permit the Developers to generate power with Natural Gas subject to the condition that they accepted the lowest benchmark tariff of M/s. Gautami Power Limited, at Rs. 0.94 per unit at an exchange rate of US\$1=Rs.40 towards capacity charges (FDSC 0.6 cents & OFC 69.9 paise).

Commission is satisfied about the availability of natural gas for the entire period of the PPA. As regard the price, the Commission is of the view that even at market determined prices (as estimated at present) the total cost per unit would compare favourably with that of the plants using other fuels.

The price is therefore considered reasonable.

In view of the above, the Commission agrees to grant consent to the PPA (for the reasons explained in the earlier paragraphs) if the following modifications are incorporated in the PPA:

- (i) The scheduled date of commissioning is linked up with the date of signing the amendment agreement.
- (ii) The conditions on fuel are as detailed in Paras 96 (b) on Fuel tie-up.
- (iii) The Committed Incentive Energy is equivalent to a PLF of 5% (which works out to 203.23 MU) of the Project installed capacity of 464 MW.
- (iv) The Installed capacity arrived at as per Clause 1.1.35 of PPA is not more than 464 MW.
- (v) The incentive rate is 2% for every 1% increase in PLF (I) beyond 85% up to 90%. Beyond 90% PLF (I), the incentive is 10% of Other Fixed Charges.
- (vi) The SHR should be 1850 kcal/kwh and threshold for fixed cost coverage should be at PLF 80% for the entire PPA.
- (vii) Modification of Clause 3.4 of schedule D in the PPA as per Para 100 (b) so that the company can follow the merit order dispatch as required by the system operator.

- (viii) Modification of Clause 15.3 of the PPA with regard to assignment as drafted in Para 101 (b).

As the developer and APTRANSCO have both agreed to carry out amendments on these lines, Commission grants its consent in principle to the PPA for Stage –I (464 MW) of GPPL. A copy of the amended PPA duly signed by both the developer and APTRANSCO and incorporating all the changes mentioned above may be submitted for the Commission's record.

This Order is signed by the Andhra Pradesh Electricity Regulatory Commission on 12th April, 2003.

**Sd/-
(K. SREERAMA MURTHY)
MEMBER**

**Sd/-
(D.LAKSHMI NARAYANA)
MEMBER**

**Sd/-
(G.P.RAO)
CHAIRMAN**