

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

O.P.No. 4 / 2002.

Dated: 12-04-2003

Present

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

Between

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

...Applicant

AND

M/s. G V K INDUSTRIES LTD.
Koh-I-noor, Road No.1, Banjara Hills,
Hyderabad – 500 034.

...to whom notice is given.

- 1 Sri B.V.Raghavulu, S/o B. Venkatasubbaiah,
Secretary, A.P.State Committee, Communist Party
of India (Marxist),
1-1-60 / 2, M B Bhavan,
RTC X Roads, Hyderabad – 500 020.
- 2 Sri M.Venugopal Rao, S/o. M. Venkatrayudu,
Special Correspondent,
Prajashakti Telugu Daily,
1-7-139/43, Risalgadda, Hyderabad – 500 048.
- 3 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.
- 4 Sri. Suravaram Sudhakar Reddy, Secretary, CPI,
AP State Council, Makhdom Bhavan,
Himayathnagar, Hyderabad – 500 029.
- 5 Dr. V. Brahma Reddy, Vice President, Jana Vigna
Vedika, 6-3-609 / 24 / 1, Anand Nagar Colony,
Khairathabad, Hyderabad – 500 004.

- 6 Sri K.Raghu,
President, APSEB Engineer's Association,
6-3-596/21/4, Venkataramana Colony,
Hyderabad – 500 004.
- 7 Sri. P. Mohan Reddy, Associate President, Ravi
Colony Welfare Assosication, Plot No. 174, Road
No. 2 H, Ravi Colony, Mahendra Hills,
Secunderabad – 500 026.
- 8 Sri. S.R. Vijayakar, Lok Satta, 401 / 408, Nirmal
Towers, Dwarakapuri Colony, Punjagutta,
Hyderabad – 500 082.
- 9 Sri. Dr. T. Chandra Sekhar Rao, Camp Hyderabad,
House No. MIG 1 B-53, Sector 9, MVP Colony,
Visakhapatnam – 530 017.
- 10 Sri. K.P. Rao, IDAS (Retd), Formerly Member
(E & C), CEA and Member (Fin). Telecom
Commission & Secretary to Government of India
- 11 Sri V M Ravi Shankar, Associate President,
APSEB Assistant Engineers Association, H.No. 1-
10-247/4, Near IAS Study Circle, Ashok Nagar,
Chikkadapally, Hyderabad – 50
- 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,
First Line,
Ashok Nagar, Vijayawada – 520 010.
- 14 Sri. K.P. Reddaiah Yadav, Ex-MP,
8-3-976 / 85, Shalivahana Nagar,
Hyderabad – 500 0073

The Commission having considered the application of APTRANSCO to give consent to the Power Purchase Agreement with M/s. G V K Industries Ltd., and having heard the respondent and Members of the Public and duly taking into account the material on record passed the following order:

ORDER

CHAPTER – I BACKGROUND

1. M/s. G V K Industries Ltd were permitted by Govt of Andhra Pradesh (GoAP) on 14-02-92 to set up a Gas based power plant of 400 MW at Jegurupadu based on a gas allocation of 1.5 MCMD made to the then APSEB by the Ministry of Petroleum and Natural Gas (MoP&NG). However, as the gas allocation was subsequently (on 09-10-92) reduced to 0.75 MCMD by the MoP&NG, M/s. GVK Industries Ltd was permitted to install the plant in two phases.
2. Accordingly M/s. GVK Industries Ltd installed a 216 MW combined cycle power project during 1996-97 under phase I and submitted to CEA a proposal to setup a 235 MW combining cycle power project with naphtha as fuel, under phase II, on 26-03-96 for which CEA gave “In principle” clearance on 31-03-96.
3. GoAP accepted on 22-01-98 the proposal for 240 MW plant with one Gas Turbine and one Steam Turbine with dual fuel capability (Naphtha and natural gas) with conditions that PPA terms and conditions shall be same as those approved by the GoAP in the cases of other short gestation power projects. However, to be on par with M/s. Gautami whose offer was to be adopted as bench mark for phase II of M/s. GVK Industries, the latter’s plant capacity was permitted to be enhanced to 360 MW under Phase II subject to the condition that obtaining fuel allocation was developer’s responsibility.
4. MoP & NG, Govt of India allocated 1.1 MCMD of Natural Gas for the expansion project to M/s. GVK Industries vide their letter L-1211/7/98/GP_(PF) Dt. 08-07-99.
5. M/s. GVK Industries, after protracted negotiations, conveyed their acceptance vide letter dt. 10-04-2000 for the tariff and conditions as applicable in the case of 359 MW M/s. Gautami Power Project, however, allowing one paise reduction in other fixed charges.
6. GoAP in its letter dt. 19-05-2000 consented to recommend allotment of gas for Phase II of the project of M/s. GVK Industries for the 359 MW subject to the

condition of reducing 3 paise in OFC instead of 1 paise, making the capacity charges of tariff as 0.6 cents FDSC and 66.9 paise OFC.

7. On acceptance of above terms by M/s. GVK Industries vide their letter dt. 23-05-2000, GoAP recommended the project for the balance gas allocation by MoP & NG, adequate for a total capacity of 359 MW under Phase II of the extension of project.
8. MoP & NG in their letter dt. 01-09-2000 stated that all available gas in the KG basin had already been allocated and further gas allocation was possible only when gas availability in KG basin increased.
9. GoAP recommended to the company to execute their extension project in two stages for the total capacity of 359 MW the first stage with the gas already allocated and Stage II, after additional gas is allocated.
10. M/s. GVK Industries proposed vide their letter dt. 03-11-2000 to execute the extension project for a total capacity of 440 MW in two stages with the first stage for 220 MW on the allocated gas of 1.1 MCMD and balance 220 MW under stage II after obtaining balance gas allocation.
11. GoAP, vide their letter dt. 15-12-2000 permitted M/s. GVK Industries to implement the project in two stages of 220 MW each, as proposed, subject to the following conditions.
 - (a) Terms and conditions governing both stages would be the same as consented for other short gestation gas projects at the time of permitting switching over to natural gas including committed incentive energy (CIE) over and above 80% PLF in the incentive regime. The reduction in other fixed charges by 3 paise as agreed to for stage I of Phase II shall also be applicable to the Stage II.
 - (b) The responsibility of obtaining gas allocation rested solely with the developer and permission for stage II will be given only after obtaining the necessary gas allocation.

- 12.** APTRANSCO submitted the draft Power Purchase Agreement duly signed by APTRANSCO and the Developer, on 5-12-2001 for the consent of the Commission u/s 21 of APER Act, 1998. The PPA incorporated the scheduled date of completion of the project as 24 months from the date of financial closure with combined cycle mode expected in 2004-05. The draft PPA is stated to be applicable to Stage II 220 MW of the extension project also, subject to certain minor modifications.
- 13.** The important features of the draft PPA are as follows. The nominal installed capacity is 220 MW 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%. Supply of 96.3 MU over and above the PLF of 80% as the CIE payable at a fixed rate of Rs.0.0669 per unit. FDSC is 0.6 US Cents / unit payable only for the period ending on the 11th anniversary of the COD of the last generating unit and OFC is Rs.0.669 / 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. 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 project is 24 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 achieve financial closure not later than 12 months from the date of signing the PPA failing which both parties have the right to terminate the Agreement 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). The PPA is applicable to the second 220 MW of the extension project with certain modifications.
- 14.** The Commission decided to invite objections and suggestions on the PPA dated 29-11-2001 (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 12 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.GVKIL was also requested as above, leaving the option of responding to them. Specific objections received from Sri. M.V. Mysura Reddy, MLA vide letter dated 21-10-2002 was referred to APTRANSCO and M/s. GVKIL. M/s. GVKIL responded on 05-12-2002 and APTRANSCO responded on 12-12-2002. The Commission fixed the date of public hearing as 19.12.2002.

15. 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 obligations 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.

16. 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.

17. 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.
18. 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 21.01.2003, 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. GVK Industries Ltd.

It may be convenient to set out the suggestions made by the general public and the responses of APTRANSCO and GVK Industries Ltd under different points as under.

GENERAL :

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

a) Objection / Suggestion: Cancellation of the proposed gas-based power projects need not affect the prospects of power generation in the state. If APGENCO is given a 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 on 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. GVK Response: APTRANSCO may reply.

20) 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 BAPL 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. GVK Response :** APTRANSCO may reply.

21) 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. GVK Response: Comparison between gas based power projects and coal based projects is not proper. In this connection, it may be noted that the gas projects are not against any coal projects. In a balanced power system, it is necessary to have a mixed generation stations depending upon availability of the fuel. The concept of setting up gas projects in the state has come up since natural gas is available for power generation in K-G basin. Hence, it is necessary to put up gas projects also to supplement power with other sources to the extent available since gas projects are more environment friendly, quick to implement and ideally suited for quick start-up, loading / unloading and for base load as well as peak load operations. Further, the thermal efficiency of the gas projects is higher than the projects with coal as fuel.

SPECIFIC :

22) Capacity increased without the requirement for additional installed capacity, reasons given are questionable: :

a) Objection / Suggestion: Irrespective of requirement of additional installed capacity, the erstwhile APSEB unilaterally proposed increase in the proposed capacity of the extension project. Later the capacity is increased to 440 MWs (Stage –I & II of Phase –II), meaning a 65% addition to the original proposed capacity of 400 MW. Allowing this addition in the background of surplus power is in explicable and unacceptable. The reason given for this is questionable. Only when additional



demand is projected, fresh bids need to be floated in order to select economical, efficient, and optimal power suppliers. This may result in lowering of unit costs in as much as interest rates & construction costs have come down and if provisions such as Escrow are incorporated in the bid condition itself, further reduction may be possible.

b) APTRANSCO Response: The GOAP permitted GVK Industries to implement project with a capacity of 360 MW as expansion project subject to the following conditions. (i) The PPA for expansion project would be generally in line with the PPA for short gestation projects and keeping in view the Tariff fixed for short gestation projects selected in ICB and (ii) Natural Gas allocation shall be the responsibility of the Developer. The Developer in April, 2000 agreed to implement the expansion project with a capacity of 360 MW on the same terms as that of Gautami Private Power Ltd, and accepted the price of 0.6 cents plus 68.9 Ps. ie One Paise less than that of Lowest Bench Mark Price of Gautami Power Private Ltd . The GOAP insisted that the developer agree to reduce 3 Paise in OFC and not One Paise as offered. The Company agreed for reducing 3 Paise in OFC and GOAP has permitted M/s. GVK to implement expansion project with the same capacity as that of Gautami i.e., 360 MW. (iii) Heat rate of 1850 Kcal/ Kwh same as that of Gautami (iv) Tariff 0.6 cents plus 66.9 paise / Kwh less by 3 paise compare to the lowest tariff of Gautami. The reduction of 3 Ps./kWh in OFC and accepting the same heat rate of 1850 Kcal/kWh by GVK for the expansion project is advantageous to APTRANSCO. Further, the power procurement plan presented on 16.1.2002 during the Public Hearing establishes the need for capacity addition from this project. It is not a good option to go in for fresh bidding, as it will lead to further delay in capacity additions required to meet the demand up to 2005. Even if fresh bids are called for now, APTRANSCO feels that the tariff that might be quoted may not be at the present lowest rate.

c) M/s GVK Response: The Jegurupadu Expansion project is benchmarked to the short gestation projects both in terms of its tariff and capacity. The tariff of a power project is highly dependent on the capacity that is being set up due to the advantages of economies of scale. Therefore, when we were asked to match the tariff and heat rate of the 445 MW Gautami short gestation project, we agreed to do

so with the condition that we would be allowed to set up the same capacity. Further, over and above the short gestation tariff we agreed for a reduction in tariff to compensate for savings in common infrastructure between both phase I and the Expansion. It may be noted that all other short-gestation projects namely Konaseema and Vemagiri are also approved with higher capacities of 445 MW and 468 MW (in the first stage) respectively. As per the decision of GoAP to go in for the projects with natural gas as fuel and to limit the capacity to the firm allocation of gas, GVK has proposed the Expansion project initially for 220 MW with the available firm gas allocation and another 220 MW as and when additional gas is available and AP grid requires the additional power. Hence, there is no irregularity in approving the 440 MW GVK Expansion project to be set up in two phases of 220 MW each. The company has agreed to maintain the tariff of phase I Expansion for the phase –II Expansion as well. Further the phase –II Expansion will be taken up only with the consent of GoAP / APTRANSCO when additional gas is made available. Further, the tariff fixed for Jegurupadu Expansion Project is lower than the tariff of all other short-gestation projects under reference. Further, even if fresh bids are called for, there is no guarantee that prices offered would get reduced for the following reasons. (i) There is adverse foreign exchange variation, which will result in increase in the FDSC. (ii) Though the interest rates are coming down, the construction and other costs are going up especially the labor and material costs. (iii) While submitting the bids, the developers have already taken into consideration the Escrow and security provisions in the project and offering Escrow may not result in offering lower rates. Escrow is a requirement of Lenders.

23) Issuance of in principle approval to GVK with out going for ICB is in violation of Gol guidelines:

a) Objection / Suggestion: The Gol have issued instructions to all State Govts by a notification that after 1995, no MOU shall be adopted. They were asked to choose International Competitive Bidding route. Issuing “in principle” approval for M/s. G V K Industries Ltd vide letter dt. 31-03-1996 for 235 MW project with naphtha as fuel is in complete violation of Gol notification. It is to be noted that M/s. GV K Industries Ltd is not a party in short gestation power projects selected through ICB route nor was this project offered in response to the ICB tender. Permitting

M/s. G V K Industries to set up extension plant as per the terms and conditions of some other company namely M/s. Gautami Power Generation Ltd is not in order. It is therefore requested to withdraw consent. APTRANSCO may drop the proposal and call for fresh ICBs with standardization of each and every item of the tender.

b) APTRANSCO Response: Gol issued policy guidelines regarding expansion of power projects in private sector in D.O.No. 2/5/96 IPC-2/10th January 1997. It has been mentioned therein that as regards the extension projects in projects being implemented by IPPs, (regardless of the route through which IPP was selected for setting up into first phase) it is preferable to follow the MOU / LOI etc. route with selection of EPC / Turnkey contract through ICB route as it would lead to substantial benefit in project cost reduced tariff and smooth operation & maintenance of the composite project. Therefore giving sanction to GVK expansion project is as per the Gol guidelines only. So far as the EPC contract is concerned, it is not yet finalized and to select the EPC contract by the company, the Gol guidelines will be enforced. Extension projects promoted through MOU / LOI route and having a projected cost of Rs. 250 crores vide Gol notification dated 2nd June, 1999 would require to obtain CEA's, technical clearance as per the existing policies of Gol in this regard. The tariff however would need to be negotiated between the developer and the State Government to ensure the availability of benefits of the expansion projects to the SEB and consumer. GVK has submitted the Detailed Project Report (DPR) to CEA and TEC is awaited. Therefore it is pre-mature to comment on the capital cost. Further, M/s. GVK has accepted the tariff fixed by GoAP for implementation of 440 MW project. Therefore it is felt that queries raised do not carry any merit.

c) M/s GVK Response: As per Gol guidelines dt.10/01/1997, the Expansion projects should preferably be taken up through MoU / LoI route regardless of the route through which the initial phase of the IPPs were selected. As per Ministry of Power letter dt.29/08/2002, projects with less than Rs.2,500 crores are not required to obtain TEC from CEA.

24) A tariff more than 80 paise / kwh, is totally unjustified where large extra monies were deemed to have been spent in the initial stage itself for common facilities:

a) **Objection / Suggestion:** In 1997, Gol allowed, as a policy, expansion of existing projects without open bids, on negotiated tariff, (if the second phase was originally envisaged) on certain important considerations viz., (a) There will be substantial cost saving due to common facilities (b) Ease of raising finances at lower interests rates (c) Much shorter time for setting up of the plant. The crux of the matter is that the expansion now being allowed to GVK without participating in the bids of short gestation projects, should result in substantial saving in tariff as envisaged by Gol. The project cost of the original stage (216 MW) was allowed, in 1996, as Rs. 816 Crs at Rs. 32/- per US \$, whereas for the extension the cost is being shown by GVK itself as Rs. 1072.74 crs (Rs. 4.97 per MW). But the present rolling project should not exceed Rs. 3crs per MW. Thus the project cost today should be Rs. 660 crs for the proposed 220 MW expansion, against Rs.1072.74 Crs for the original project. This is in fact the figure at which GVK themselves have finalized the project cost for this expansion. Apparently the higher project cost for the initial stage of 216 MW can therefore, be only appreciated as having been used mainly to fund substantial common facilities, and rights and options from EPC contractor for future expansion, and other costs that can have relation only for a future expansion which was even initially envisaged. It will be noticed that all the other green field developers of gas based short gestation projects had agreed to a tariff of 0.96 paise / kwh as fixed cost, which works out to a project cost of about Rs. 3crs per MW. Even if one takes only 50% of the additional cost Rs. 400 crs of common facilities referred to above as relatable for this expansion, the appropriate tariff reduction by GVK for this expansion compared to the other bid green field projects need to be atleast 0.29 paise / kwh ($200 / 660 \times 96 = 29$) lower. But what has been offered by GVK and now being proposed in the draft PPA submitted to APERC, is a measly 3 paise / kwh. The fixed tariff may have to be at best, 67 paise against 93 paise being offered. Further, it is also on record that APGPCL was contemplating an expansion of their existing 270 MW. They have offered a fixed tariff of 80 paise / kwh on a PPA through MOU. Since both are expansion projects and not a green field projects, they are clearly comparable. In any case there is no

justification to allow for such an expansion project, where large extra monies were deemed to have been spent in the initial stage itself for common facilities, a tariff more than 80 paise / kwh. APERC should direct APTRANSCO to renegotiate the tariff accordingly. Further, Both A.P Transco and GVK Industries Ltd, in their replies completely evaded the issue of reducing the cost of the extension project of GVK realistically. It was brought to the notice of the Hon'ble Commission that the cost of the Ramagundam project of BPL worked out to Rs.5.28 crore per MW (as per the calculation made by the CEA based on the exchange rate prevailing then) against the estimated cost of R3.57 crore per MW of RTPP stage II and is unjustifiable. Against this criticism, the GOAP, through a statement issued in the name of the Minister for Energy issued on 12-12-2002, argued that "the comparison of capital cost of BPL with RTPP expansion project is inappropriate. BPL is a green field project developed in the private sector while RTPP is an expansion project" implying that the huge difference in per MW cost of the two projects is justified. Among the four gas-based projects, three are green field projects and the project of GVK is an extension one. However, compared to the other three green field projects, the cost of GVK extension project is reduced by a pittance of 3 paise of the other fixed cost only, that is by 4.47% of the other fixed cost. Obviously, GVK is allowed to take undue advantage under garb of tariff bid in which it did not actually participate. Going by the attempt of the GOAP to justify the huge difference of 47.9% in per MW cost of BPL and RTPP stage 11, I request the Hon'ble Commission to get the cost of the extension project of GVK examined thoroughly and reduce the same realistically, if not to 47.9%.

b) APTRANSCO Response: The project is awarded based on tariff but not on capital cost. The tariff is 3 paise less (Taking all infrastructure facilities into consideration viz land and site development) than lowest bench mark tariff of 0.6 cents plus 69.90 paise per kwh of Gautami Power Pvt Ltd obtained under ICB. Further, APGPCL project is developed on recourse finance and the cost at the time of APGPCL project is less when compared to present day rates. Further, the expansion projects of coal and gas cannot be compared since coal plants have more auxiliary units when compared with gas projects and the infrastructure cost of coal projects is high when compared to that of gas based projects.

c) M/s GVK Response: The phase I Jegurupadu power plant, which was approved for Rs. 816 crores is based on two part tariff concept and the fixed tariff is arrived at using the capital cost of the project. The expansion of project now under consideration is based on negotiated fixed tariff without any reference of capital cost. The capital cost approved for Phase – I does not provide for any works of the Expansion project and it is a stand alone project wherein all the works executed are essential to run the existing project and we confirm that no excess capacity is built up for any of the works of the Expansion project. The capital cost estimate of Phase – I was scrutinized and approved by CEA and APSEB and no Expansion project works were included. However, as the Expansion project is proposed to be implemented in the same site as the existing project, some of the available infrastructure facilities such as the approach roads to the project, land (about 10 acres) CW / Raw Water pipelines, some vacant quarters in the colony, compound wall and part of storage reservoir capacity are proposed to be utilized for the Expansion project without affecting the existing plant requirements. The cost saving due to these infrastructure facilities would be around Rs. 8 to 10 crs when compared to green field projects. This amount would translate to one paise reduction in the tariff when compared to green field projects such as Gautami. GoAP / APTRANSCO however, insisted on us to accept at 3 paise reduction during the negotiations and GVK has agreed reluctantly for the same. The fixed cost component of tariff of the Expansion project (93 paise) is the lowest of all projects in the country. There will be a saving of Rs. 9 crs to APTRANSCO annually with 3 paise reduction at 80% PLF. Any further reduction in tariff will make the project unviable. Further, it is not appropriate to compare the coal based projects to gas based projects. In the case of Rayalaseema Stage- I project, the auxiliaries are designed and executed taking into account the expansion, whereas in the case of GVK Expansion project, no additional works are executed for Stage – II. Hence, comparison of Greenfield / expansion projects of Rayalaseema and Ramagundam cannot be compared to GVK project.

25) 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 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 resource of gas availability beyond 2004 and requirement of power in the State.

c) M/s. GVK Response: The decision is taken by Gas Linkage Committee of Gol. Further, for G V K existing plant, the firm allocation of gas supply is now 0.9 mcmd, which is adequate to operate upto 85% PLF. The power generation is now being restricted to gas supply only and no alternate fuel is being used. No deemed generation is payable beyond 85% PLF for dispatches for the existing projects.

PPA:

26) Mockery of Scheduled date of completion and Liquidated Damages:

a) Objection / Suggestion: In the PPA, the scheduled date of completion (24 months) is to be reckoned from the date of financial closing. However no time limit is fixed for financial closing. Thus indefinite extension of date for financial




closure ad infinitum makes a mockery of the scheduled date of completion of the project and the provision for the liquidated damages. This is also an irresponsible and undue favor shown to the IPP, who will be free to effect financial closure at any time. This provision facilitates the IPP, with out any liability, to delay execution of the project which in turn will lead to hike in FDSC in view of the fast depreciating Re vis a vis \$.

b) APTRANSCO Response: Reckoning the Schedule Date of Commissioning from Financial Closure is advantageous to APTRANSCO as it will be clearly establish and firm the project schedule and APTRANSCO can also make planning and implementation of the 400 KV evacuation system with the realistic schedules. Further the implementation schedule is as per Load requirements and therefore this provision is advantageous to APTRANSCO.

c) M/s. GVK Response : As per clause # 7.1(e) of the PPA, the Company is required to use all reasonable efforts to cause the date of Financial Closure to occur within 6 months from the date of signing of the PPA. In case the Financial Closure does not occur within 12 months from the date of signing of this agreement, AP Transco can terminate this agreement with a 30 days notice and there will not be any liability. Hence, there is a limitation in the PPA for implementing the project and the company cannot delay the scheduled commissioning date beyond what is provided for in the PPA. Further, we have already agreed for a fixed schedule for the completion date from the date of signing of PPA

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

a) Objection / Suggestion: As per Article 3.1 of the PPA of M/s GVK Industries Ltd., capacity charge (calculated as per Article 3.2) in respect of cumulative available energy is to be paid up to (but not exceeding) equivalent to a PLF of 80%. Further, as per Article 3.2 (A), Committed Incentive Energy (CIE) of 96.3 MUs is to be supplied by the company over and above 80% PLF. APTRANSCO shall deem the initial energy units delivered by the company, subject to a maximum of 96.3 MU in a  year at the generator terminals as CIE, which is to be paid at Rs 0.0669 per unit. 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 GVK Industries Ltd for the purpose of calculating capacity charge, with out any provision for deemed generation.

b) APTRANSCO Response: The Bid and PPA is structured on the principle of recovery of fixed charge on cumulative available Energy as per GOI guidelines. If the objectors suggestions considered, APTRANSCO has to pay more for 90% of PLF from threshold level of 80% (Bid condition) by an amount of $(220 \times 0.10 \times 8.76) \times 96.3 \text{ps}$ = 18.5589 Cr. /annum.

c) M/s. GVK Response: The capacity charges are payable in respect of the cumulative available energy provided by the project up to a PLF equivalent to 80%. Thereafter for the units generated beyond 80% incentives are only payable. The incentives payable are only a fraction of the capacity charges payable, which is 10% / 15% of the other fixed charges (OFC). Therefore, if the PLF threshold were to be fixed at 90% then APTRANSCO would have to pay full capacity charges for the 10% of PLF beyond 80% instead of paying incentives at 10 / 15% of other fixed charges (OFC).

28) Committed Incentive charge should not be permitted :

a) Objection / Suggestion: APTRANSCO has agreed to pay committed incentive charge on 96.3 MU over and above the generation at 80 % PLF to M/s GVK Industries Ltd. 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 should not be permitted.

 APTRANSCO Response: Committed Incentive is not a new provision incorporated in the PPA. It is provided as per GoI guidelines on achieving the specified PLF. Committed Incentive is not part payment for fixed cost. Fixed Cost will be recovered 80% PLF at Cumulative Available Energy (CAE) basis in a year. Committed Incentive will be paid over and above 80% of actual generation. The Committed Incentive Energy is to be actually delivered over and above 80% actual generation. Further if this quantum of energy of 96.3 MU is to be obtained from other sources, APTRANSCO has to pay 89.61 paise more per Unit (96.3-6.69 paise)

c) M/s. GVK Response: For recovering the full fixed charges, the Company will have to generate at 85% PLF, which includes the committed incentive energy of 96.3 MU. In effect it means that though the PLF threshold is 80% for receiving of full fixed charges, the Company will be supplying 96.3 MU without any fixed charges. Further, the 96.3 MU will be deemed to have been delivered as initial energy units. For the committed energy between 80 to 85%, no fixed charges are payable by AP Transco instead only 10% of the OFC (6.69 paise per kWh) plus variable cost are paid.

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

a) Objection / Suggestion: The incentive at 90% works out to 25% of Other Fixed Charges (OFC) and remains at the same level for PLF above 90%. Further, different incentive structures are proposed, for GVK –Phase-I (0.7 % of ROE), BPL (0.525 % of ROE), RTPP –II Stage (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 should be determined as a percentage of “savings” of fixed cost for generation above the threshold PLF and should be uniform for all generators including APGENCO. An incentive of 1 Paise per unit above the threshold PLF is to be permitted as recommended by K.P. Rao committee. Fixing a maximum limit of PLF for incentive purposes 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 may also be accordingly revised.

b) APTRANSCO Response: Incentive is given to motivate the developer beyond 80% PLF at nominal cost, and thus benefiting the consumer with additional generation at a nominal price. The incentive structure is normally negotiated with the GOI guidelines as ceiling and it is based on actual generation. Incentive structure is to be considered along with other commercial principles negotiated as a package and cannot be seen in isolation. 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. He may give them incentives if higher PLFs are achieved or levy penalties if PLFs 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.

c) M/s. GVK Response: Under the committed incentive regime the company would be entitled to recover its full capacity charges only if it achieves a PLF of 85%, as it is required to supply 96.3 MU over and above the PLF of 80% under the committed incentive regime. This 96.3 MU will be deemed to have been delivered as initial energy units. For the committed energy between 80 to 85%, no fixed charges are payable by AP Transco instead only 10% of the OFC plus variable cost are paid. APTRANSCO will be in a position to get the 93.6 MU at a capacity charges of just 6.69 paise per kWh. Beyond 80% PLF, A P Transco need to pay only incentives which are a fraction of the capacity charges. Fixing an upper limit for incentives, is not in the best interest of APTRANSCO as it would lose out on the opportunity of taking cheap power if there is a requirement. Further, the O&M contract cannot be back to back with the terms and conditions of PPA, because of the risks that the developer is going to be exposed to, as a result of failure of O&M contractor.

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

a) Objection / Suggestion: The condition that the aggregate duration of backing down pursuant to dispatch instructions (including ramping up 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 purchased when it does not fit into the 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 fixed and variable charges fully (iii) APTRANSCO will have to pay committed incentive charge for 96.3 MU over and above the PLF of 80% (iv) Absorbing 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 a must run condition in the PPA would force APTRANSCO to absorb costly power irrespective of availability of cheaper power (say, from APGENCO). This is precisely the predicament in which the Maharashtra State Electricity Board found itself regarding the Dabhol power project. Purchase from GVKIL has to be strictly on the basis of merit order and APTRANSCO has 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 would be closed for 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 ($100-(8.3 + 5.5\%)$). The plant will be getting incentive for actual generation beyond 80% PLF (I). APTRANSCO feels that the existing provisions for backing down, meet the requirements and offer enough flexibility, since the incentive regime is only based on actual generation. APGENCO Power Stations and IPPs also will be dispatched as per an integrated merit order. APGENCO Power Stations are also paid fixed charges of Rs.2150.04 Crs./annum irrespective of generation committed to by APGENCO. It is not technically safe nor is it a prudent utility practice to operate gas based Combined Cycle Power Stations below 60% of the capacity, with out the risk of going into an 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 the Merit Order dispatch keeping in view the interests of Consumers.

c) M/s. GVK Response: The statement made that “the IPP is entitled to run the project at PLF of 86.4% after the dispatch of 1200 hrs” is not correct since this

depends on the plant availability. In reality the plant is required to be shutdown for scheduled maintenance and for other statutory inspections like Boiler inspection etc. If the scheduled and unscheduled maintenance are taken into account and 1200 hrs dispatches, the plant cannot be operated at a PLF of more than 85% on an annual basis. AP Transco may permit the plant on secondary fuel only if they need power. This also would be based on the merit order dispatch and its absolute requirement. The question of costlier power does not arise when there is no alternative. The gas based stations do have technical limitations and reduction of generation to any level is not possible. A reduction of load and below 60% will have serious effect on efficiency and heat rate and also on maintenance.

31) 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 the 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. GVK Response: APTRANSCO may reply.

32) 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 block 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. GVK Response: The opening of Escrow Account does not bring any additional financial burden to AP Transco as what is envisaged is a default escrow, which will be triggered only in the event of payment default by APTRANSCO under the LC Mechanism. AP Transco will be able to utilize the amount in the Escrow account as long as there is no default. This Escrow facility is a requirement of financial institutions.

33) 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. GVKIL. 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. GVK Response: MOA has not been signed. The signatories are AP Govt, APTRANSCO, Financial Institutions and Power Finance Corporation.

34) The benefit of lower capital cost of Rs 760 Crs need to be passed on to the consumers:

a) Objection suggestion: The stated capital cost of the project is Rs 760 crs, working out to Rs. 3.45 crs per MW. Against this, the ICICI indicated (October 1995) that there was a sharp down turn in the power equipment prices of gas based plants and present per MW capital cost works out to Rs. 2.74 crs (report of the Comptroller and Audit General of India for the year ended 31 March, 1997: P 110). Further, it is not clear, how the cost could be so high compared to the project of similar capacity i.e BAPL which is executed for Rs 700 crs. However, since the payment of the capacity charge for this project is not dependent on capital cost, it becomes irrelevant. The burden on APTRANSCO and the consumers will be much less if tariff is worked out based on the capital cost taking into account debt repayment obligations and return on equity as allowed to other IPPs. Further, this being a MoU project TEC must be given.

b) APTRANSCO Response: The capital cost has no bearing on tariff of 0.6 cents FDSC plus 66.9 Ps. OFC as these are tariff based projects. The FDSC is for 11 years period and the OFC is for 15 year period. The tariff is the lowest obtained in the Country.

c) M/s. GVK Response: The capital cost of the project has no bearing on the tariff of the project, as this is a fixed tariff based project. Rs.760 crores capital cost is for Stage-I of Expansion project only. The comparison of capital cost of BSES and GVK-II is not proper since these are not identical e.g. (a) The gas turbine equipment of BSES is with type V94.2 of Siemens machine, while for GVK Expansion project, it is type 13E2 of Alstom, which is having higher efficiency. The frames, capacities and OEM are different. (b) The heat rate allowed for GVK is much lower than that of BAPL resulting in lower variable cost per unit for GVK expansion project. Alstom machine gives lesser heat rate than that of Siemens. (c) In the case

of BAPL, the HT system voltage is only 220 kV, whereas GVK is providing 400 kV, which requires additional capital cost. (d) In BAPL plant, the boiler is of 2 pressure type while in GVK it is 3 pressure HRSG.

35) 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. GVK Response: The plant life for gas based power projects is 15 years as per Sec 43- A of Electricity (Supply) Act, 1948. The PPA duration of agreement is 15 years, which can be extended, if required. Further, the 18 years referred to is a PPA term and not plant life.

36) 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 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. GVK Response: AP Transco to reply. The Buy-out provisions of the PPA do not envisage a Buy-out situation by AP Transco at the end of the PPA term.

37) 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. Further, this is important because capacity additions are based on the load requirement.

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 upto 2007. This present Amendment Agreements to the PPAs through power purchase agreements for which consent is asked for, is only to the Stage-I capacities, in respect of Vemagiri Power Generation Ltd., Gautami Pvt. Power Ltd., Konaseema EPS Oakwell Power Ltd (No Second Stage) and GVK Industries Ltd. (Extn project)

c) M/s. GVK Response: Originally GVK project was envisaged with a capacity of 400 MW which was pruned down to 216 MW as a result of reduction in the gas availability. When GVK proposed to set up Expansion project, the fuel envisaged was naphtha as for to the other short-gestation projects. Since GVK were required to match the tariff of Gautami, which was setting the project with 360 MW capacity, GVK had also proposed that it would be in a position to match the tariff if it was allowed to set up a similar capacity of 360 MW. Subsequently since GoAP had allowed increase of capacities of other short-gestation projects, a similar increase was also allowed to GVK taking it to 440 MW. GOAP had subsequently instructed all the short-gestation projects including GVK to go in for natural gas only as the fuel and disallowed naphtha. Since the gas allocated was 1.1 MCMD is sufficient for 220 MW, GVK has decided to take the other 220 MW as Stage-II of the Expansion

project as and when gas is available. It is beneficial to APTRANSCO / GoAP since the company has committed to the (same) tariff conditions of Stage-I of Expansion Project (which is the lowest tariff) for Stage-II also. However, Stage-II of the Expansion Project can be taken up by the company only after permission by APTRANSCO / GoAP and also when the gas is available for the project. GVK is willing to maintain the same terms and conditions of Stage-I of the Expansion Project for Stage-II also, which is beneficial to AP Transco. In the PPA it is clearly mentioned that Stage-II of the Expansion Project can be taken up only after availability of natural gas for Stage-II and also after obtaining clearance from APTRANSCO / GoAP. APTRANSCO will have the right to assess the feasibility of the project with respect to tariff and other terms and conditions before giving its clearance.

38) 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. GVK Response: APTRANSCO may reply.

39) 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 ensure 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. GVK Response: The revised dispatch instructions based on BAPL, as requested by APTRANSCO were agreed by GVK for dispatch from 100-90% and limiting dispatches to a minimum of 1000 hrs in a year for capacity between 60-90%.

40) 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. GVK Response: Lower heat rate of 1850 kCal/kWhr is already taken into consideration using modern technology based gas turbine as against 1900 kCal/kWhr and 2000 kCal/kWhr permitted to earlier projects.

41) 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) GVK Response: Not available.

42) 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 Gol guidelines / notification. The fuel cost is on actuals and is a pass through in tariff.

c) M/s. GVK Response: The projects under consideration are only fixed tariff based projects without any reference to capital cost. Interest rates will depend on national and international economic conditions. Further, though the interest rates are coming down, the construction and other costs have gone up because of the delay in implementation of the project.

43) 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, which 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. GVK Response: The PPA does not require the EPC Contract and O&M contracts be made to public as the project under reference is a tariff based project. The Schedule-A "Technical Limits" of PPA consists of AP system parameters, AP grid requirements and dynamic parameters. The AP system parameters as well as grid requirements are common for all the projects in AP and the same will be incorporated in the final PPA. The dynamic parameters are to be furnished by the EPC contractor, which will be finalized during the detailed engineering stages and will be made part of the PPA

44) 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 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. GVK Response: Full fixed charges are received only at a PLF of 80%. In case the PLF is less than 80%, then the Company will not be in a position to recover the full fixed charges, which itself is a disincentive. Over and above this when the PLF is less than 68.5%, there are penalties that are payable by the Company.

45) 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 derived 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. GVK Response:** The need for augmenting the generating capacity and fixing the tariff need not be based on particular letter of an individual but it should be examined in totality taking into consideration the price level, years of implementation, the capacity of plant and its efficiency. The Vijjieswaram plant cannot be compared with new power projects now under consideration, since Vijjieswaram plant was implemented in the year 1998, whereas the new projects are being considered to be commissioned in 2005 and beyond. The fixed charge of 93 paise obtained is the lowest for any gas based projects tariff in the country.

GAS AVAILABILITY:

46) 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 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 which is falling short of current requirements. The gas requirement 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 about 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. GVK Response: As per the Fuel Supply Agreement(for 1.1 MCMD-firm allocation), with GAIL, the gas allocated would be supplied up to 2010 with a provision to extend the contract for a further period. This is a standard clause in all FSAs including those with NTPC. It may be noted that all the short-gestation projects have been envisaged based on the gas projections made by Ministry of Petroleum &

Natural Gas. The gas based projects are environmental friendly and can be executed in a short time and is ideally suitable for peak load operation compared to other sources of energy. As per the projections of ONGC and joint venture companies RIL and Cairn Energy, there is huge natural gas potential available both on-shore and offshore in the K-G basin. Government of India has allotted some of the potential possible locations to private companies like Reliance and Cairn Energy for exploration works. Hence, there may not be any shortage of gas if these exploration yield results. In the recent gas explorations made by Reliance Industries Ltd., the gas has struck in a huge potential to an extent of 40 mcmd and hence there may not be any shortage of natural gas in K-G basin for this project. Further, other private entrepreneurs have also taken up large-scale exploration of gas and it is reported that huge reserves of natural gas is available in K-G basin. In addition to the above, on preliminary discussions with GAIL and ONGC, we were given to understand that there are huge reserves of natural gas available in K-G basin. The Reliance and Cairn Energy the private parties are exploring the gas reserves on large scale in off-shore and they are stating that they would be in a position to make available at least 5 to 6 MCMD gas by 2004-05. GoAP have also form a committee to explore the possibilities of maximum utilization of the new gas findings with in the state. It may be noted Mr. T.L.Shankar is the Chairman of the Committee. Hence, there may not be any shortage of gas for the project. The Commission may verify from ONGC, Reliance, Cairn Energy, the availability of gas for the project. Further, the contract period of Gas Supply Agreement is now extended upto 15 years upto 2019 and amendment to this effect is signed on 30-01-03.

47) 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 sellers 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 which 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 a private company. 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 an alternative supplier.

c) M/s. GVK Response: The gas-based projects are not planned to take up against or in place of any thermal coal based projects. These gas based projects concept came in the year 1988 when the natural gas was struck in the K-G basin by ONGC and offered natural gas for power generation in AP. Accordingly, some projects are commissioned from 1990 onwards and other projects are being planned to take up with the offered natural gas source for power generation by ONGC/GAIL. As for as GVK project is concerned, we have already signed Fuel Supply Agreement (FSA) with GAIL, Government of India for supply of 1.1 MCMD of natural gas and required cash deposit and bank guarantee were given to them in 1999. As per the FSA, the gas would be made available for GVK project by year 2003-04. Accordingly, GVK planned to put up 220 MW gas based power project with the allocated gas of 1.1 MCMD. As per the discussions we had with GAIL officers, they said that they would be in a position to supply gas committed to our project without any change and they will stand by their commitment. Further, as seen from the recent media reports, huge gas reserves was found by RIL in K-G basin and the potential available is as high as 40 mcmd. Further exploration is going on and as per the reports, huge potential of natural gas is available in K-G basin and there may not be any shortage of natural gas to this project. Further, the gas

based projects have added advantage over other projects in terms of environment green house, quick start-up loading and unloading and also ideally suited for peak load operation. These projects are short-gestation projects. In this connection, we would like to mention once again that the gas-based projects are not being planned against coal based projects. In any power system for reliability and flexibility, it is always better to plan mixed generation projects namely coal-thermal, coal-nuclear, gas-hydro, gas-non-conventional source depending upon the quantum of generating source of fuel is available to develop and for augmenting energy requirements in any ideal power system. Further, FSA is a standard one being adopted for all gas consumers including NTPC.

GAS PRICE :

48) 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. GVK Response: The Government of AP is encouraging gas based power plants in the state, since the state has got natural gas reserves, which most of the other states do not have. Most of the states are highly dependent on coal based power projects and they are paying a higher tariff compared to the gas power plants. With the low fixed cost, even when gas prices are increased by 100% more than the present price, the unit rate per kWh from these projects under consideration will be around Rs. 2.50 only and are comparable to the unit cost of coal based power projects likely to come up at the same time. The increase in price of gas is to be determined by GoI and applies to all gas based projects in the country including NTPC. Govt of AP has already taken up with GoI not to increase the gas price. Further, there are added advantageous in gas based combined cycle projects when compared to coal-based project such as efficiency, eco friendliness and other technical advantages like short-gestation in implementation, quick start and loading & unloading. They are also ideally suited for peak load operations. The prices of coal and its transport charges also may go up and we understand the base price of coal and the transportation charges from Singareni coal are increased by about 50% and 90% respectively over the last 6 years period.

49) 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.GVKIL 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. GVK Response: We understand from GAIL that the transportation charges would be arrived based on the expenditure they incur for the pipeline, which includes the pipeline lying, maintenance of the pipeline from the gas wells to the gas supply point at plant and the regular O&M of the GAIL terminal at the project site for the contract period. These transportation charges will form part of the natural gas prices.

50) 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. GVK Response: These monthly transportation charges as understood from GAIL are basically for the pipeline charges including O&M of the pipeline as

well as GAIL terminal at the project site for the term of the agreement. Hence, this forms part of the gas cost.

LOAD FORECAST:

51) 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, which 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 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. order (an addition of 1500 MU is estimated each year), 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 also Transmission and Distribution (T&D) loss reduction are 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. GVK Response: APTRANSCO may reply.

52) 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. GVK Response: APTRANSCO may reply.

53) 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 Srisaillam 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; but 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. GVK Response: Not available.

54) Why Public hearing with out 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. GVK Response: Not available.

MISCELLANEOUS :

55) 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: Did not respond.

c) M/s. GVK Response: APTRANSCO / APERC may reply

56) 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. GVK Response: Details called regarding CMD and Directors of GVK are already been furnished to APTRANSCO.

CHAPTER –III

PRESENTATION BY STAFF & RESPONSES OF APTRANSCO AND M/s GVK INDUSTRIES LIMITED (GVKIL)

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 GVK Industries Limited to the points made by the staff.

57) 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 KEOPIL 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) GVK response: Not available

58) 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: The Company agrees for supply of 96.3 MU i.e., 5% of the installed capacity. APTRANSCO accepts the suggestion of APERC Staff that CIE should correspond to 5% of the Installed Capacity. The company agreed for APERC staff suggestion for the incentive structure. Further, the incentive regime for PLF (I) should be on actual generation only.

c) GVK response: The company is agreeable to supply 96.3 MU (5% of 220 MW) in the Tariff Year as committed incentive energy as provided for in the PPA, we are also agreeable for a flat rate of incentive @ 2% of OFC for 1% increase subject to a maximum of 10% beyond 85% PLF. This will be in addition to the committed incentive energy at fixed rate of Rs. 0.0669 per energy unit.

59). 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) GVK response: Not available.

60) Extension project to be permitted only after firm gas for the full capacity of the existing plant:

a) Staff Concern / Suggestion: The extension project of M/s GVK Industries Limited is to be permitted only after firm gas linkage for the full capacity of the existing plant (M/s GVK Phase – I) is obtained.

b) APTRANSCO Response: The Company has stated that the firm allocation of natural gas to the existing project at Jegurupadu is sufficient to operate the project at a PLF of 85% even without using fallback allocation. It is further mentioned that the Natural gas allocation for the expansion project is sufficient to run the project at 100% PLF. Hence there is no need to link up the expansion project approval with the firm allocation of the existing project.

c) GVK Response: The Company has stated that the firm allocation of natural gas to our existing project at Jegurupadu is increased from 0.75 MCMD to 0.90 MCMD with a fall back allotment of 0.15 MCMD vide MoP & NG letter # L-12011/3/02-GP dt. 24-12-02. With this revised firm allocation of 0.9 MCMD, the plant can be operated at around 83% PLF and with 5% extra drawl over 0.9 MCMD normally being allowed by GAIL, the plant can be operated at 85% even without using fallback allocation. Hence, there is no need to link up the Expansion Project approval to the firm gas allocation of the existing project. Both the projects will have full gas for operation.

61) Justification for reduction of only 3 paise / kWh to be furnished:

a) Staff Concern / Suggestion: M/s GVK Industries Limited had offered a reduction of 3 ps/ kwh over that of other green field projects for its extension project. APTRANSCO is required to furnish justification for reduction of only 3 ps/ kwh.

b) APTRANSCO Response : It is a negotiated position based on the cost of infrastructure facilities for 216 MW Stage I Project. The Company has not agreed for further reduction beyond 3 paise in the fixed cost.

c) GVK response: The Jegurupadu existing power plant, which was approved for Rs. 816 crores by CEA and APTRANSCO is based on two part tariff concept and the fixed cost arrived using the capital cost of the project. No works of Expansion Project are included in the approved capital cost of the existing project and existing project is a standalone project and all the works executed are essentially required for the operation of the existing project. However, as the Expansion Project is proposed to be implemented at the same site of the existing project, some of the infrastructure facilities available in the project are proposed to be shared with the Expansion Project, like approach roads to the Project, security houses, compound wall, raw water pipeline, hostel facilities in the colony, land to an extent of 10 acres for location of the plant, lay down area for storing materials, part capacity of the storage reservoir without effecting the performance of existing units. The total cost of these infrastructure facilities works out to only about Rs. 8 to Rs. 10 crores Rs. Eight crores of saving in capital cost in using these facilities compared to green field project works out to about only one paise in the fixed cost. So, one paise reduction in fixed cost (OFC) was proposed initially. However, at the insistence of GoAP and APTRANSCO, three paise reduction was agreed reluctantly during the negotiations and GoAP also approved the same. Hence, there is no question of any further reduction beyond three paise in the fixed cost. The above changes, which have been accepted by the Company is on the understanding that similar changes would be accepted by the other short gestation projects.

62) 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: It is stated by the Developer that GAIL has provided online chromatograph at their existing project for obtaining the hourly calorific values on continuous basis and suggested that the calibration of online chromatograph can be witnessed by APTRANSCO and the Developer periodically. Hence the Company opined that joint sampling may not be required. This online system may be accepted and included in the PPA.

c) GVK response: The company has stated that GAIL has provided online chromatograph at our existing project for obtaining the hourly calorific values on a continuous basis. The hourly average during a month of the calorific values are being taken for the purpose of billing. Hence, the joint sampling of APTRANSCO and developer every 10 days may not be required. The calibration of the online chromatograph can however be witnessed by APTRANSCO and the developer periodically.

63) 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 is not accepting APERC's BAPL Order on Dispatch Instructions. APTRANSCO insists on acceptance of the terms of APERC's BAPL Order on Dispatch Instructions on backing down hours and two Dispatch Instructions per day, as agreed by KEOPL and VPGL.

c) GVK response: The Company has stated that the revised Dispatch Instructions suggested by APTRANSCO are as given below.

- i) Limit of dispatches to 1000 hours annually, below 85% PLF upto a minimum load of 60% of the installed capacity.
- ii) Not to count the dispatches from 100% - 85% in the figure of 1000 hours. The company is agreeable to the above proposal if the dispatches are made from 100% to 90% PLF instead of 100 – 85% suggested and the dispatches in this band need not be considered in

the figure of 1000 hours in a tariff year. The dispatches between 90 – 60% is limited with a cap of 1000 hours during a tariff year. 100% to 90% is basically requested in order to minimize the heat rate increase when the plant is operated on partial loads. When the gas turbine is operated at partial loads of below 90%, the heat rate will go up resulting in higher fuel cost to the Company. APTRANSCO is suggesting to have a cap of 10% for the incentive payments above 85% PLF at a rate of 2% of OFC for every 1% increase in PLF. This will not allow the company to earn incentives above 90% PLF. To be in line with this limit, we are agreeable for dispatches to be made from 100% - 90% without the same being considered in the 1000 hours proposed. Regarding number of dispatches in a day, we are not agreeable for two nos. (2) in a day as against one no. (1) dispatch provided for in the draft PPA. However, if the declared capacity is changed in a day, we are agreeable for the second dispatch also. The number of dispatches will result in variation in temperature of the Hot Gas Path components due to a change in the load resulting in undue stress on the HGP parts in the combustion chamber leading to the necessity of advancing the major maintenance.

64) 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 condition that the SDOC is subject to any conditions. The SDOC for combined cycle operation in 27 months from the date of signing of the Power Purchase Agreement after the consent by APERC is given, may be agreed to.

c) GVK response: The Company is agreeable to firm up the schedule of the COD of GVK Expansion Project from the date of signing of PPA, after receipt of approval of APERC. The COD will be 27 months from the date of signing of PPA instead of 24 months from the date of Financial Closure given earlier. It may please be noted that COD of Jegurupadu Expansion Project is for combined cycle mode commissioning and no simple cycle mode is contemplated. This date has been firmed up on the assumption that Financial Closure can be achieved within 3 months from the date of signing of PPA. To achieve the FC, the following inputs are required to be provided by APTRANSCO / GoAP.

- a) GoAP Gurantee to be given within one (1) month of signing of PPA.
- b) Payments security like Escrow in a form acceptable to Financial Institutions within one month of signing of the PPA.

In case there is any delay in giving the above inputs, the COD has to be extended day for day of delay.

65) 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 Developer is having Firm allotment of Natural Gas of 1.1 MCMD. The price of Natural Gas if purchased from other sources other

than GAIL, lesser of the price shall be applicable. The developer is not accepting the cost of alternate fuel to be limited to that of NG supplied by GAIL or from any other source in case of non availability of Natural Gas. This clause is as per BAPL – APERC’s order dt. 13-12-2002 [para 16 (c)] and the same should be uniformly applicable for this and all gas based projects. Usage of alternate fuel is subject to prior approval of Fuel Supply Committee. Further, the Company has stated that GAIL has agreed to extend the duration of FSA upto 2015 and the company will pursue the same with GAIL and get the FSA amended. The FSA for the extended period of supply should be received before signing the PPA. If natural gas is purchased from other sources, the price shall be limited to the price of GAIL or the other source whichever, is less.

c) GVK response: APTRANSCO’s suggestion is to allow gas cost only when the alternate fuel is used. We presume that this is applicable for the plants, which are not having FIRM gas allocation for 100% operation. As per APERC’s order dt. 13-12-2002 clause # 16 (c) for BSES project, the payment of alternate fuel cost as approved by the Fuel Supply Committee is allowed to be made if the project has full firm gas allocation. As our Expansion Project has got 1.1 MCMD firm allocation of natural gas, which is sufficient for operation of 100% capacity, the same condition of APERC as applicable to BSES project may be applied to our project in reimbursing the alternate fuel cost, whenever the plant is to be operated on alternate fuel. Further, the Financial Institutions may not allow the Company to agree for reimbursement of variable charges based on actual gas cost when alternate fuel is used. To the extent natural gas is used from sources other than GAIL, we are agreeable to adopt the price of natural gas of **other sources**. Further, on the issue of extending GSA beyond 2010, GAIL has indicated that they are agreeable to extend the duration of FSA upto 2015 during the public hearing, and it will be pursued, to get FSA amended accordingly. We also request APTRANSCO & APERC to help us in getting the duration of FSA extension upto 2015, as this issue is common to all the developers.

66) 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 for gas but also other fuels. 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 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) GVK response: Not available.

67) 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) GVK response: Not available.

68) 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 : It is stated by M/s. GVK Industries Ltd that as per the requirement of the EPC Contractor, 400 kV back feed supply is required 6 months prior to COD to carry on the process of commissioning of GT, HRSG and other auxiliary equipment. Hence providing of interconnection Facility six months prior to COD is incorporated in PPA as required.

c) GVK response: In the case of GVK Expansion project, no simple cycle operation is envisaged and COD will be declared only after achieving the combined cycle mode of operation. As per the requirement of the EPC Contractor, 400 kV back feed supply is required 6 months prior to COD to carry on the process of commissioning of GT, HRSG and other auxiliary equipment. Hence, 6 months period is provided in the PPA for making available the 400 kV interconnection back feed as per the requirement of the EPC Contractor.

69) 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 : The suggestion of APERC is acceptable to the Company, subject to lender's acceptance.
- c) GVK response: No objection to the PPA being assigned to Discom provided the same is acceptable to the Lenders.

70) 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) GVK response: Not available.

CHAPTER - IV

Commission's Analysis:

71) 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) Justification in reduction of fixed cost in expansion project
- f) Incentives
- g) Dispatch instructions
- h) Assignment

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

Demand:

73) 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:

74) 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. 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.

75) As GVKIL has consented to accept the tariff as per the lowest bid and also the other conditions accepted by the successful bidders, acceptance of its offer is in order.

Key Issues:

76) 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.

77) 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.

78) 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 GVKIL has agreed to reckon the scheduled date of commissioning from the date of signing of the PPA. They have revised the schedule date of commissioning to 27 months from 24 months. Further GVKIL has insisted on the Memorandum of Agreement (MoA) in addition to escrow. MoA should be provided as per conditions pertaining to the APTRANSCO.

c) Commission's Analysis:

As per the existing provisions of the PPA, the scheduled date of commissioning of the first unit is 24 months from the date of financial closure. While agreeing for linking the scheduled date of commission to the execution of the Amended Agreement, GVKIL has extended the commissioning dates by 3 months. 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. GVKIL has agreed to reckon the dates from the date of signing the PPA but has insisted on the provision of MoA and APTRANSCO has agreed for the same. But the Commission is of the opinion that the linking of scheduled date of commissioning should be without any additional condition as maintained by the APTRANSCO in other gas based projects which were posted for hearing along with this PPA and is accepted by them.

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.

79) 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 Ps. 81 / 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 by GAIL. The weighted average GAIL price of Natural gas for Andhra Pradesh is expected to be revised upward by Rs.360 / 1000 SCM and the resultant variable cost would go up by Ps. 9 per 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 0.81 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 entire 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 are 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. GVKIL confirmed that they would pursue with GAIL and get the FSA amended accordingly.

ii) Commission's Analysis:

The gas supply agreement between GVKIL 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, GVKIL had no fuel linkage from GAIL. But GVKIL had subsequently entered into an amendment to the above agreement on January 30, 2003 to extend the term till December 31, 2019. The amendment also mentions that the gas supply would commence from July 1, 2003 or from any earlier date that may be mutually accepted between the seller and the buyer. It implies that the present gas supply agreement is valid for the entire term

of the PPA. This takes care of the objection that there is no firm fuel linkage for the entire duration of the PPA.

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

At the public hearing, the staff of the Commission suggested that this extension project could be permitted only after firm arranged for gas linkage for the full capacity of the existing project.

APTRANSCO responded that the existing project has firm allocation of 0.90 MCMD, which is sufficient to run the project at a PLF 85%. Apart from this, the existing project has fallback allotment of 0.15 MCMD. Similarly, according to APTRANSCO, the extension project has sufficient gas allocation to run the project to full capacity. APTRANSCO suggests that there is no need to link up the gas allocation for the extension project with the gas allocation for the existing project.

The Commission agrees with APTRANSCO.

80) Issue 3 : Justification in reduction of Fixed cost in expansion project:

The Commission advised APTRANSCO / GVKIL to justify the reduction of 3 paise / kwh for the extension project when compared to the fixed cost negotiated with other developers.

a) APTRANSCO response :

GVKIL has stated that no works of extension project are included in the approved capital cost of the existing project and the existing project is on a stand-alone basis. However, some of the infrastructure facilities like approach roads, security houses, compound wall, raw water pipe line, sharing of the storage reservoir, hostel facilities, land to an extent of 10 acres in the project are proposed to be shared with the extension project without affecting the performance of the existing plant. The total cost of these infrastructure facilities works out to Rs. 10 Crs. GVKIL

has on this basis, offered 1 paise / kwh as reduction on the benchmark of Gautami fixed cost. However, the reduction was increased to 3 paise / kwh at the instance of GoAP.

b) Commission's Analysis:

The reduction in the project cost for the extension project is mainly on account of the sharing of common facilities between the existing project and the proposed extension. Further there is bound to be a reduction in the infrastructure expenditure when compared to the green field projects. From APTRANSCO's response it appears that subsequent to the negotiations between GoAP and GVKIL the fixed cost has been reduced by 3 paise / kwh compared to the 1 paise / kwhr originally offered by GVKIL based on the fact that the total cost of infrastructural facility proposed to be shared is only Rs. 10 Crs. Considering the fact that this reduction is already on the lowest negotiated tariff of US\$ 0.006 plus 69.9 paise per kwh, the reduction is considered reasonable.

The Commission advises APTRANSCO to verify upon completion of the extension project that there are no more shared facilities than those listed by GVKIL (as detailed in APTRANSCO's response vide their letter dated March 10, 2003). If upon completion it is found that there are additional shared facilities between the existing and extension projects, then GVKIL and APTRANSCO must determine the same and pass on the commensurate reduction in fixed cost to the consumers with the approval of the Commission.

81) 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.

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%. The committed incentive charge 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. 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%. GVKIL has agreed to this suggestion.

The draft PPA may be amended accordingly.

82) Issue 5: Dispatch instructions:

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

- i) 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.

ii) Aggregate duration of backing down should not exceed 1200 hours in a tariff year.

iii) 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:

GVKIL agrees to the provisions as in APERC's order dated 13.12.2002 on BSES Andhra Power Ltd (BAPL) regarding Dispatch instructions after adjusting for difference in installed capacities. APTRANSCO endorses GVKIL'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.

GVKIL 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 280 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 provided that the installed capacity worked out as per clause 1.1.35 of PPA is not more than 220 MW. Clause 1.1.35 and Clause 3.4 of Schedule-D of the PPA may be amended accordingly.

83) Issue 6: Assignment:

As per the existing PPA provisions, APTRANSCO cannot assign to third party without the prior approval in writing from GVKIL. 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:

GVKIL 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”.

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

84) 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. 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 74, 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. As GVKIL has conformed to the lowest price and the other conditions offered by the successful bidders, it may be said acceptance of his offer was reasonable.

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). As this is an extension project, there is an additional reduction of 3 paise / kwhr in the fixed cost after negotiation with GoAP / APTRANSCO.

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 Para 79 (b) on Fuel tie-up.
- (iii) The installed capacity arrived at as per clause 1.1.35 of PPA is not more than 220 MW.
- (iv) 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.
- (v) Modification of Clause 3.4 of schedule D in the PPA as per Para 82 (b) so that the company can follow the merit order dispatch as required by the system operator.
- (vi) Modification of Clause 15.3 of the PPA with regard to assignment as drafted in Para 83 (b).

As the developer and APTRANSCO have both agreed to carry out the amendments on these lines, Commission grants its consent in principle to the PPA for Stage –I of the extension of the project (220 MW). 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 issued by the Andhra Pradesh Electricity Regulatory Commission on the 12th April, 2003.

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

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

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

CERTIFIED COPY