

**ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
HYDERABAD**

Present: 1) Sri. G.P.Rao, Chairman
2) Sri. K.Sreerama Murthy, Member
3) Sri. Surinder Pal , Member

Dated 05-02-2004

Transmission Corporation of Andhra Pradesh (APTRANSCO)
Vidyut Soudha, Khiratabad,
Hyderabad.

Applicant

In the matter of consent for
Draft Power Purchase
Agreement with M/s. Krishna
Godavari Power Utilities Ltd.
(Developer), Plot No. 265 N,
Road No. 10, Jubilee Hills,
Hyderabad –500 034.

The Commission having considered the above application, the written views of the APTRANSCO, written representation of M/s. Krishna Godavari Power Utilities Limited (Developer henceforth to be called as M/s. KGPUL) and taking into account, the other material on record passed the following Order.

O R D E R

Government of Andhra Pradesh (GoAP) during 1995, reviewed the power position in the State in the context of developing infrastructure for attracting new industry to the State and noted the following.

- ◆ Large sized power plants required long gestation periods.
 - ◆ The proposals for setting up the power projects costing more than Rs.100 Crores had to be referred to Central Electricity Authority for approval, causing delay in setting up the projects.
 - ◆ Mini power plants of capacity upto 30 MW could be implemented in a period of 12-18 months at suitable locations where industries are concentrated to meet the demand of industries without any supply interruptions.
- 2) In this background the Government framed a scheme under G.O.Ms.No.116 dated 05-08-1995 offering to permit prospective generators to set up short gestation generating stations of a capacity of about 30 MW, named as Mini Power Plants (MPPs), involving investment of less than Rs.100 Crores, on the terms specified therein.
 - 3) The G.O.Ms.No.116 dated 05-08-1995 was modified by G.O.Ms.No.152 dated 29-11-1995. The revised policy framework envisaged that the MPPs will essentially be group captive, dedicated power stations to supply power to identified consumers who have entered into an agreement with them preferably through a dedicated distribution system, spread over small compact areas.
 - 4) Consequent to the above G.O., 31 MPPs were issued permissions/ sanctions to generate energy based on residual fuels. GoAP accorded permission to M/s. KGPUL vide letter dated 09-12-1995 to setup 2 Nos 30 MW Mini Power Plants one each at Wadapalli & Irrikigudem Villages

of Nalgonda District, based on Naptha as fuel initially but later approved change of fuel from Naptha to imported coal by letter dated 22-11-1997.

- 5) None of the MPPs, except for two, could complete the work within the time granted by the Government. The Government as a part of extending time limit for implementation of other projects has extended the time limit in case of M/s. KGPUL upto 31-10-2001.
- 6) Commission with a view to review the policy of permitting 3rd party sales by MPPs, held discussions with representatives of MPP developers, obtained APTRANSCO's views and concerns and conducted a public hearing on 03-04-2001.

After hearing the parties, APERC in its order in O.P.No.70-A / 2001 dated 04-05-2001 while prohibiting third party sales by M/s. KGPUL and seven other mini power plant developers directed the following:

- ◆ Developers shall send a specific proposal for sale of power to APTRANSCO in writing based on Central Govt. Notification and on the basis of their project cost within a fortnight of receipt of the above order with a copy to the Commission.
- ◆ APTRANSCO shall respond communicating its views on the offer to the MPPs and the Commission within another fortnight.
- ◆ If APTRANSCO and the MPPs agree on the price and other terms and conditions, a Power Purchase Agreement (PPA) may be drawn

up and sent for the consent of the Commission under section 21 (4) of APER Act 1998.

- 7) Pursuant to the orders of the Commission, M/s KGPUL, vide their letter dated 30-11-2001 have furnished their firm proposal for sale of power to APTRANSCO for a period of 15 years with 1st year tariff as Rs. 2.78 per unit. The proposal envisages implementation of two projects each with a capacity of 30 MW.

After holding series of discussions with the Developer, a PPA was signed between APTRANSCO and the Developer on 22-08-2003 and APTRANSCO submitted the same to the Commission for consent vide Chief Engineer / IPC, APTRANSCO letter /D. No. 170 / 2002 dated 27-08-2003.

- 8) The following are the salient features of the Project & PPA:
- ◆ The proposal is for 1 x 60 MW unit to be located at Wadapalli in place of 2 x 30 MW as approved by GoAP (Change in configuration of units is at the instance of Transco and yet to be approved by GoAP) at a capital cost of Rs. 254.5 Crs.(Cost / MW works out to Rs. 4.241 Crs.)
 - ◆ Term of Agreement is for 25 years.
 - ◆ The proposal is tariff based with firmed up variable and fixed cost for 25 years as indicated in Schedule – A of the PPA.

- ◆ Technical and Financial parameters provided in the PPA and corresponding norms of Government of India are as follows

Sl. No	Technical / Financial Parameters	Provision in PPA	Gol norms (for plants of 200 MW & above)
1	Threshold PLF for fixed charges	85% upto 5 years 80% thereafter	80% (CERC)
2	Station Heat Rate a) Stabilisation period b) Normal operation	2600 Kcal / kWh 2500 Kcal / kWh	2600 Kcal / kWh 2500 Kcal / kWh
3	Auxiliary consumption (Plant with cooling towers)	9.5%	9.5% (Normal operation) 10% (Stabilisation period)
4	Secondary fuel oil consumption	2.5 ml / unit	3.5 ml / unit 5 ml / kWh (Stabilisation period)
5	O & M Charges	2% of the capital cost	2.5% of the capital cost
6	Return on Equity	12.5% (14.09% levelised)	16%
7	Debt Equity Ratio	70 : 30	70 : 30
8	Incentives	a) 50% of the capacity charge per unit at PLF(I) (85% upto 5 years and 80% thereafter) for actual generation between PLF(I) and 90% PLF(I) with ceiling of 21.5 Ps/unit b) For generation beyond 90% PLF(I) at 50% of the rate as applicable in case of (a) above.	a) 50% of the capacity charge per unit at 80% PLF for actual generation between 77% PLF and 90% PLF with ceiling of 21.5 paise/unit b) For generation beyond 90% PLF at 50% incentive payable as stated in (a).
9	Stabilisation period PLF during this period	4 months from COD 63.75%	180 days from COD 60 to 65%

◆ Other financial conditions :-

(i)	Interest on term loan	-	13.0%
(ii)	Interest on Working capital	-	12.5%
(Item (ii) to be reviewed at the end of every 3 years)			

◆ Annual Escalations :-

Coal price	-	5.5%
Secondary fuel	-	3.5%
O & M charges	-	4.0%

◆ Others :

Income Tax payable from 15th year

MAT payable as applicable.

Despatch Instructions two per day

The plant operates on imported coal but with a price ceiling for the landed cost of coal, corresponding to the cost of coal from Singareni coal fields.

Coal Supply Agreement for imported coal is valid upto 31-12-2001.

Revolving Letter of Credit of a value equal to one month's estimated tariff bill for a minimum period of three (3) months to be opened in favour of the company.

LC shall be opened 30 days prior to scheduled COD.

◆ Tariff

Salient Tariff

1 st year	-	223 paise/unit (FC 133 + VC 90)
25 th year	-	405 paise /unit (FC 85 + VC 320)
Levelised tariff	-	245 paise /unit (FC 109 + VC 136)

Details

Particulars	1st year	5th year	10th year	15th year	25th year	Levelised Tariff
Fixed Cost Ps/ kWh	133	114	95	96	85	109
Variable Cost Ps/kWh	90	111	144	188	320	136
Total cost Ps/ kWh	223	225	239	284	405	245

9) On scrutiny of the PPA, the Commission vide its letter dated 20-10-2003 directed APTRANSCO to further negotiate with Developer on the following key issues besides seeking additional information / documents.

- a) For inclusion of a provision to revise the tariff once the actual capital cost is finalized on completion of the project as the capital cost considered for devising tariff as at present is tentative with EPC contract and fuel agreement yet to be finalized and on swapping the loans.
- b) For the revision of Clause 3.1.2 to include a ceiling on the price to be paid for infirm power delivered during stabilization period based on normative parameters to be specified as against the existing provision of payment of actual cost of fuel consumed.
- c) For revision of Clause 3.2 of PPA to make capacity charges payable for cumulative energy availed upto 85% or 80% PLF as the case may be as against the present provision of total cumulative energy availed.

- d) For revision of Clause 3.4.1 to stipulate that tax paid on incentives received is not reimbursable by APTRANSCO.
- e) For inclusion of a Clause on liquidated damages to be levied in case the project is not completed within the stipulated time.
- f) For the provision of a Clause on Buy out process.
- g) For the inclusion of a provision to consider lower of the two costs namely (i) Escalated cost of coal and secondary fuel at a fixed rate of escalation of 5.5% for coal and 3.3% for secondary fuel and (ii) Actual escalation for coal and oil prevailing during their supply.
- h) Information / documents sought for
 - (i) Detailed Project Report
 - (ii) Details of financial package along with details of monthly drawal schedule, monthly development schedule for the project, details of interest rates loan-wise and loan repayment schedule.
 - (iii) Details of competitive bidding specification issued for fixing up EPC contract and copy of EPC contract, if finalized.
 - (iv) Copy of the sanction for the capital cost for the project from CEA or any Competent Authority.
 - (v) Point of inter connection to the grid.
 - (vi) Copy of Coal Supply Agreement covering 25 years period from the likely date of COD as the agreement entered

into with M/s. PT Adaro Indonesia for the supply of imported coal expired by 31-12-2001.

- (vii) Information on methodology of computation of gross calorific value and deemed delivered cost of the coal supply from Singareni Collieries Company Ltd.
- (viii) Coal and secondary oil analysis.
- (ix) Technical data on voltage / frequency limits and other information required to fill up the blank columns in Schedules E, H & I and Article 5.1.

10) APTRANSCO after having negotiations with the Developer filed Amendments to Draft Power Purchase Agreement dated 05-08-2003 enclosing the responses of the Developer and APTRANSCO on different issues vide letter dated 02-12-2003, which are discussed below.

11) **Reasonableness of Project Capital cost and Tariff :**

a) **Issue:** - As the principles and methodologies for determination of the tariff applicable to generating companies are not yet specified by CERC, A.P Regulatory Commission is not in a position to specify the terms and conditions for determination of tariff under Section 61 of Electricity Act, 2003. Consent for the PPA has to be granted as per the existing procedure under A.P. Reforms Act, 1998, in line with the proviso to Section 61 of E.A. 2003. As per procedures adopted so far, obtaining approval for the capital cost of the project from a Competent

Authority is a pre-requisite for giving consent. Developer has to submit the same to assess the reasonableness of the capital cost assumed.

b) Response of APTRANSCO: - Developer has clarified by letter dated 22-07-2003 that the current project cost with one generating unit of 60 MW is actually Rs.255.45 Crs but cost considered in the financials submitted on 01-07-2003 is Rs. 254.5 Crs, the difference being absorbed by them. Tariffs are arrived with capital cost of Rs. 254.5 Crs and the tariff is firmed up and fixed for each progressive tariff year. The tariff does not vary with variations in the capital cost.

However as the PPA is for 1 x 60 MW on clubbing two projects of 30 MW each sanctioned earlier, the developer has been requested to obtain required clearances as has been indicated vide Para (18) of Preamble.

c) Submission of Developer: - Since the clubbing of two plants of 30 MW each sanctioned earlier, into a single plant of 60 MW to optimize Station Heat Rate & Auxiliary Consumption was at the behest of APTRANSCO, the original sanction granted for 2 x 30 MW will automatically authorize the capital cost of the combined project.

Further Article 7 of the Electricity Act, 2003 does not contemplate any capital cost approval from CEA or State Govt., for thermal projects.

d) Commission's observations: - Consent / concurrence from CEA for the projected capital cost in terms of Clause (vi) of notification of Ministry of Power GoI No. So. 465 (E) dated 02-06-99, is a

pre-requisite for the project of this category as the capital cost is above Rs. 250 Crs.

However as per the provisions of Electricity Act 2003, CEA's concurrence for capital cost is not required any more. Reasonableness of capital cost can be ascertained by comparing cost per MW of similar projects approved by CEA in the recent past. The cost / MW of 19 out of 21 private thermal power projects cleared by CEA in the recent past are in the range of Rs. 4.27 Crs to Rs.5.1 Crs. (Annexure – 1) as against the cost per MW of Rs. 4.241 Crs of the project under consideration despite the following facts:

- ◆ Projects cleared by CEA are of capacities in the range of 250 to 500 MW compared to the capacity of 60 MW of the present plant (normally cost per MW for smaller plants will be higher than that for larger plants due to economy of scale.)
- ◆ Exchange rate considered while arriving at the total cost of the projects cleared by CEA was in the range of 1 US \$ = Rs. 35.5 to 42/- which is much less compared to the present exchange rate of 1 US \$ = about Rs.45.50. On consideration of changed exchange rate, the cost per MW of projects cleared by CEA would be even higher.
- ◆ Further the capital costs as referred to were cleared by CEA between 1996 and 2001 and are still comparable now.

Hence the projected capital cost of Rs. 254.5 Crs for a capacity of 60 MW is considered reasonable

12) Revision of tariff based on Actual Capital cost / swapping loans

a) **Issue:** With EPC contract and fuel agreement yet to be concluded the capital cost considered and tariff arrived thereon are tentative. Provision for Tariff reduction shall be there (a) if the actual cost on completion of the project is less than the adhoc capital cost considered and (b) on swapping the loans.

b) **APTRANSCO:** - The developer has agreed to take the risk in relation to the variation in the capital cost. Hence the provision of the revision of the tariff is not included in the PPA.

c) **Developer:** - The present offer is based on the tariff which is lowest and also firm with respect to capacity and energy charges. The firm will take risks in relation to variations in capital cost / fuel cost.

d) **Commission's observation:** - Although the capital cost was negotiated by APTRANSCO, the PPA is based on fixed two part tariff firmed up for 25 years. As it is a fixed tariff based PPA with tariff derived on the basis of cost / MW, which is one of the lowest and commercial factors like ROE, interest on term loan and interest on working capital considered in deriving the tariff being much less than those adopted in case of PPAs consented in the recent past, the Commission is of the opinion that there is no need to impose a condition that the project cost and consequently the tariff would be revised as per the audited accounts after completion of the project.

13) Ceiling for Infirm power rate during stabilization period based on norms.

a) **Issue:-** Draft PPA stipulates reimbursement of infirm power delivered during stabilization period at the delivered cost of coal and secondary fuel oil actually consumed (Clause 3.1.2) . It is suggested that normative parameters shall be stipulated for the stabilization period as ceiling for the price of infirm power.

b) **APTRANSCO & Developer:** Both have agreed to the modification with the following parameters which are within the limits of CEA's norms

Plant heat rate = 2600 kcal / kWh

PLF = 63.75 %

Specific oil consumption = 2.5 ml / kWh

Auxiliary Consumption = 9.5%

c) **Commission's observations:-** Clause 3.1.2 of the PPA shall be suitably amended to fix up a ceiling limit for the price of infirm power based on the norms stated above, as per Annexure - A.

14) A) Capacity charges to be limited to units corresponding to a threshold PLF of 85% or 80% as the case may be

a) **Issue:-** Clause 3.2 Stipulates that capacity charge payment shall be equal to the product of capacity charge and cumulative available energy without limiting it to threshold PLF. It is suggested that capacity charge payment shall be limited to cumulative energy available upto 85% PLF for first 5 years and 80% PLF thereafter.

b) **APTRANSCO & Developer:-** This has been accepted both by the Developer and APTRANSCO.

c) **Commission's observations:-** It is noted by the Commission that the detailed tariff calculations submitted by letter dated 08-10-2003 indicate that the capacity charge per unit payable is calculated on the basis of availability at the interconnection point, for a PLF of 85% or 80% as the case may be taking into consideration Auxiliary Consumption at 9.5%. This works out to an availability of 76.925% PLF for first 5 years and 72.4% thereafter at the interconnection point. Commission directs that the capacity charges payable shall be limited to energy made available at 76.925% PLF for first five years and 72.4% PLF thereafter at the interconnection point and the Clause 3.2 shall be modified accordingly.

B) Payment of Incentives:

a) **Issue: -** As per the provisions of the PPA (Cl. 3.7) Incentives shall be paid for actual generation above a PLF (I) of 85% for the first 5 years and 80% thereafter (at generator terminal). But as per the definition of PLF (I), it is derived considering Delivered Energy (at the interconnection point) and Installed Capacity without considering Auxiliary consumption. Thus there is an inherent contradiction in the threshold PLF indicated for Incentive and the way the PLF (I) is defined.

b) **Commission's observations:-** The Developer shall be entitled to the payment of Incentive corresponding to the energy in excess of 76.925% PLF (I) during first 5 years and 72.4% thereafter as

delivered at the interconnection point. Cl. 3.7 may be corrected accordingly.

15) Liquidated damages for delay in commissioning: -

a) **Issue:** - The provision for levying liquidated damages on the firm in case project is not completed within the stipulated time shall be included.

b) **APTRANSCO:-** Liquidated damages for not achieving scheduled date of completion within 18 months from the date of financial closure would be included in the PPA as per Commission's order.

c) **Developer:** - As the inter connection facility including 132 kV line and metering are at the expense of the company levy of liquidated damages may not arise.

d) **Commission's observations:** - The plant is included in the Generation expansion plan approved by the Commission for the period FY 2002-2007. Any delay in project implementation will thus affect power distribution. Hence the following clause stipulating Liquidated damages is to be included in the PPA under the Article 8 (undertakings) included as item 8.1 (g) under "Covenants of the company". *"8.1(g) S: - Make all efforts to ensure commercial operation date of the generating unit as per the scheduled date of completion. For any delay beyond 30 months from the date of execution of amended PPA after the consent of the Commission. PPA or 18 months from the date of financial closure, whichever ever is earlier the company shall pay "Liquidated damages" for the period of delay at the rate of*

12.23 lakhs for each week till the COD of the generating unit is achieved with a maximum limit of 6.36 Crs (2.5% of the capital cost of Rs. 254.5 Crs considered.)

However the company shall be relieved from its obligation to pay Liquidated Damages under this clause to the extent the delay in scheduled COD is attributable to (i) Political Force Majeure; or (ii) any act of God or (iii) TRANSCO's failure to provide electricity and other facilities for start up in terms of Article 8.2 (d) in time or (iv) TRANSCO's failure to receive and utilise all power that such Generating Unit would have been other wise capable of generating.

The Liquidated damages pursuant to this clause shall be due 30 (thirty) days after the scheduled COD of the generating unit and every 30 days thereafter”.

16) Validity of Fuel Supply Agreement :-

a) Issue: - The validity of Fuel Supply Agreement with M/s. PT Adaro Indonesia was valid upto 31-12-2001 only. Revalidated agreement covering 25 years period from COD is to be furnished.

b) APTRANSCO :- Developer is requested accordingly. Revised FSA will be submitted soon on receipt from the developer.

c) Developer:- Our overseas fuel supplier has been contacted and confirmation regarding extension of commencement date and extension of the agreement for 25 years will be furnished shortly.

d) Commission's observations:- This shall be included as one of the “conditions precedent” for the implementation of the agreement

and a new clauses 4.1.d & 4.1.e as stated below, shall be included under Article 4.

4.1.d - A valid FSA enforceable over a period of 25 years from the date of COD has been entered into by the Company.

4.1.e. - In a Force – majeure situation, when there is a disruption in fuel supply, from the foreign supplier the company has to make arrangement to procure coal from the market (or linkage), payment for which will be on actuals limited to price of coal from the nearest mine of Singareni Collieries Company Ltd., (resulting in the lowest transport cost to the project).

17) Escalation of Coal Cost: -

a) Issue :- Annual escalation of 5.5% of coal price is considered without any linkage to the calorific value. Developer shall seek a lower cap in case of supply of coal of lesser GCV. Further escalations of 5.5% for coal and 3.5% for oil as provided shall only be the ceiling limits with a condition that the above stipulated escalation or actuals which ever is lower shall be considered for the payment.

b) APTRANSCO: - This is a tariff based project with even variable charges firmed up for each progressive year. Coal price and oil price are agreed to be escalated respectively by 5.5% and 3.5% annually. Fuel cost adjustment on account of GCV variations is not allowed and firm escalation factors as stated in the PPA are accepted. The coal price is subjected to further limitation in Article 2.3 and Schedule – G based on the price of coal delivered from Singareni Collieries.

c) **Developer** :- CEA allows ERV at 6.8% per annum and WPI at 6% per annum. In the present case the ERV including escalation in the prices is capped at 5.5% for coal and 3.5% for oil for the entire 25 years of the contract. The negotiated escalation factors are much less compared to the figures normally adopted for other plants. In addition M/s. KGPUL has agreed to bear any Foreign Exchange risk in importing the coal. Hence the escalation factors be retained as it is.

d) **Commission's observations:** - As the variable charges are firmed up for each progressive year considering a specific station heat rate, the effect of lesser GCV will have no impact on APTRANSCO.

The coal price is subjected to a limitation based on delivered coal price from Singareni fields.

In the light of explanations given by APTRANSCO & the Developer, annual escalations of 5.5% for coal price and 3.5% for oil price as proposed in the PPA are considered reasonable.

18) Tax on incentives not reimbursable

a) **Issue:-** Article 3.4.1 does not specifically rule out reimbursement of tax paid on incentives received by the firm for additional generation over and above that corresponding to a PLF of 85% or 80% the case may be. Such tax is not normally reimbursed.

b) APTRANSCO & Developer have agreed to incorporate suitable amendments to the Clause 3.4.1.

c) **Commission's observations:** - Suitable amendments may be made in the PPA for Article 3.4.1 as given in Annexure - A.

19) **Provision of Buy-out Clause**

a) **Issue:** - The agreement does not contain any Clause on Buy-out process, which is normally included in the PPA.

b) **APTRANSCO:** - The right of first refusal in a Buy-out situation rests with APTRANSCO. A suitable Clause indicating the above provision in the event of Buy-out would be included in the PPA as per the directive of Commission.

c) **Developer :-** The Buy-out Clause is not included in the PPA at the instance of APTRANSCO.

d) **Commission's observations :-** Suitable Buy-out Clause shall be included in the PPA as proposed above.

20) **Requirement of sanctions / approval from Competent Authority**

a) **Issue:-**

i) Sanction for implementation of the Project expired by 31-10-2001 requiring extension of implementation time.

ii) Clubbing of two plants of 30 MW each sanctioned earlier into a single plant of 60 MW requires approval from Competent Authority as stated in Para (18) of the Preamble of Draft PPA.

iii) Clearances from other agencies consequent to enhancement in the capacity from 30 MW to 60 MW

- b) **APTRANSCO:-** A suitable Clause is included in the PPA requiring the Developer to obtain clearances wherever necessary.
- c) **Commission's observation :-** In the light of provisions U/S 7 of E.A.2003 not requiring any licence for setting up a Generating plant, permission from State Govt., for clubbing up of two plants or extension of time limit for the implementation of the project may not be relevant. But clearances from other agencies may be still required, as stated in the PPA, in view of the enhancement in capacity of Wadapally unit from 30 MW to 60 MW. However the PPA it self makes obtaining of all required clearances a "condition precedent" i.e. pre condition for the implementation of the agreement [Clause 4.1 (b)]. Commission considers that the conditions of PPA are adequate to ensure that the Company obtains all the required clearances.

21) **Tolerance limits for Rated and demonstrated capacities**

Provisions of PPA:- The following definitions are given in Article 1.1 of PPA.

Rated capacity means demonstrated capacity of generating unit as guaranteed by the company in any capacity notice. It shall be 60 MW subject to the tolerance limits of + or - 5%.

Demonstrated capacity means the output measured at the inter connection point during any performance test.

Installed capacity means the lower of rated capacity and the demonstrated capacity provided demonstrated capacity is not less than 90% of the rated capacity.

Clause 10.2 (g) states that the failure of company to demonstrate in a test conducted in accordance with Schedule – F (including any permitted re-tests) that the project has an installed capacity of atleast 95% of output initially guaranteed by the manufacturer or supplier of generating units as at project COD shall be deemed a default on the part of the company, a ground for termination of the agreement (in case of company's default the Licensee has a choice to terminate the agreement).

(i) Inconsistencies in the definitions :

a) Issue

Rated capacity by its limitation to $\pm 5\%$ of 60 MW refers to output at generating terminals. But in its definition it is stated as "Demonstrated capacity" while as per the definition, Demonstrated capacity means capacity actually demonstrated in a test at interconnection point. The presence of the word Demonstrated capacity in the definition of Rated capacity is misleading.

Further the installed capacity is defined as the lower of the

- (i) Rated Capacity and
- (ii) Demonstrated Capacity

But the Rated Capacity is itself defined as Demonstrated Capacity as guaranteed by the Company in the Notice thus leading to

inconsistency. Further the Installed capacity definition as stated above is subjected to a limitation that the Demonstrated Capacity shall not be less than 90% of the Rated Capacity. As stated earlier, Rated Capacity refers to Generating terminals whereas Demonstrated Capacity refers to Interconnection point. With Auxiliary consumption of 9.5%, the limitation stated in the definition of Installed capacity virtually means that Demonstrated Capacity can only be 99.5% of Rated Capacity.

Cumulative available energy as defined refers to Declared capacity without actually defining the term Declared capacity in the definitions.

There is a need to redefine all the above terms keeping in view that metering is at the interconnection point.

b) Commission's observations:

Because of the inconsistencies as detailed in the previous paragraphs it is decided that there shall be only two definitions i.e. for "Installed capacity" and "Declared capacity" as given below, similar to the provisions in the PPAs on Gas Power Plants consented recently.

(i) Installed Capacity: means the maximum electrical generating capacity of the Project, in megawatts ("MW") as measured at the generator terminals, determined from time to time pursuant to the tests given in Schedule F.

Explanation 1: Where the output of the Project, in final tests to be specified by the APTRANSCO is higher than the output initially guaranteed by the manufacturer/supplier thereof, the output initially guaranteed by the manufacturer/supplier will be the Installed Capacity. However, where the output of the Project, in final tests to be specified by the APTRANSCO is lower than the output initially guaranteed by the manufacturer/supplier thereof, that lower output alone will be the Installed Capacity thereof.

Explanation 2: The Installed Capacity shall not exceed 60 MW and for Installed Capacity determined as per Explanation 1 above, a tolerance limit of minus 5% is only permitted.

As there is no specific definition on declared capacity, the Commission directs to define declared capacity as follows:

(ii) Declared Capacity

“Declared Capacity for any settlement period shall mean the maximum output the Project is capable of generation in that settlement period at the Generator terminals in MW at Rated parameters as stated in Schedule–F”. However this shall not exceed 100% of the Installed capacity established.

As these definitions are taking care of the other aspects like Demonstrated Capacity and the Rated Capacity, those definitions as they appear in the draft PPA submitted for consent shall be deleted and definition given for Installed Capacity in the draft PPA shall be

modified as stated above. Relevant changes may be carried out in the PPA wherever the term Rated Capacity appears in the draft PPA.

Correspondingly PLF shall be redefined with reference to generating terminals as approved in PPAs of gas power projects.

If there is inconsistency in arriving at the tariff numbers or incentives on account of these modifications in the PPA, the order of this Commission will prevail over the existing PPA definitions / conditions.

(ii) Limiting capacity charges :-

a) Issue

Further as this is a tariff based PPA, permitting Rated Capacity, which can become installed capacity with a positive tolerance above 60 MW will lead to payment of capacity charges for additional number of units resulting in higher payments for the same capital cost incurred.

b) Commission's observations: - The term Rated capacity is already directed to be deleted. Further ceiling limit of 60 MW is provided for "Installed capacity" and for "Declared Capacity" which will limit the total fixed charge payment to that corresponding to the capital cost of Rs. 254.5 Crs considered.

(iii) Tolerance Limit

a) Issue : - The negative tolerance limit provided in case of Rated capacity is (-) 5% whereas for installed capacity the lower limit is

90% of the Rated capacity thus permitting Installed capacity to go down by $0.95 \times 0.90 = 0.855$ of guaranteed capacity.

Whereas Clause 10.2 (g) provides a choice to licensee to terminate the agreement in case the output demonstrated during the acceptance test is less than 57 MW (60×0.95), as the manufacturers guaranteed output as at COD will not be, normally, less than 60 MW. The two provisions are conflicting with each other.

b) Commission's observations: - With the term "Rated Capacity" deleted and "Installed capacity" redefined this conflict gets cleared. However, to maintain uniformity with the PPAs cleared in the recent past the default Clause 10.2 (g) be changed as given below.

"The failure of company to demonstrate in test conducted in accordance with Schedule – F that the project has an installed capacity of at least 90% of the output initially guaranteed by the manufacturer or supplier of generating unit as at the project COD".

22) Dispatch Instructions

a) Issue :- Clause 3.4 (b) limits the backing down to 1000 hrs in any tariff year. This imposes restriction in the flexibility to back down between a threshold PLF i.e., 80% for major part of PPA period and installed capacity.

b) Commission observations :- Commission directs that 1000 hrs provided shall exclude the duration of any dispatch instruction requiring the project to operate at a gross generating capacity between 100% to 80% of installed capacity.

23) Commission directs that the following additional provision be included in the Draft PPA.

- ◆ In schedule –G, the mine from which the transportation charges to Vishnupuram railway station is to be calculated is not indicated which may lead to disputes while limiting the coal price. Singareni mines located nearest to the plant, resulting in the lowest transportation cost, shall be indicated in the Schedule –G.

24) Number of discrepancies and typographical errors are present in the draft PPA submitted for consent. Proper care shall be taken to correct them. Some of the typical discrepancies are indicated in Annexure–B.

25) Commission takes note of the following :

M/s. KGPUL power project having a capacity of 60 MW comes under distributed generation category having the following advantages.

- ◆ Reduction in Transmission & Distribution Losses.
- ◆ Maintaining the quality of supply, especially the improved voltage levels, at different points of the system.
- ◆ Scheduled maintenance or breakdown of the units will cause least disturbances in the system.

26) Considering all the above, the Commission is pleased to issue consent for the Draft Power Purchase Agreement dated 05-08-2003 entered into between M/s. Krishna Godavari Power Utilities Ltd., and APTRANSCO for the purchase of power from the 60 MW coal based

Mini-Power Plant at Wadapalli, Nalgonda District under Section 21 (4) of the A. P. Electricity Reform Act, 1998, subject to incorporating the amendments / modifications suggested at Paras 13 to 16 and 18 to 24 of this order.

Revised PPA, incorporating the above amendments, may be submitted to the Commission within six weeks from the date of this order for the record in the Commission .

This Order is signed by the Andhra Pradesh Electricity Regulatory Commission on 5th February, 2004.

(BY ORDER OF THE COMMISSION)

SECRETARY

Copy to:

- 1) M/s. Krishna Godavari Power utilities Ltd,
265 N, Rd. No. 10, Jubilee Hills, Hyderabad-33.
- 2) The Chairperson & Managing Director / APTRANSCO,
Vidyut Soudha, Somajiguda, Hyderabad-500 082.

Annexure - I**Private Sector Power Projects Cleared by CEA**

Sl. No	Name of the Project	Capacity In MW	Capital Cost Incl. IDC	Exchange Rate	Capital cost in Rs. in Crs	Cost per MW Rs. in Crs	Year of sanction
1	Rosa TPP (PH-I)	2 x 283.5 = 567 MW	US \$ 280.726 M + 1435.5204 Crs	1 US \$ = Rs.35.50	2432.11	4.289	08 / 1997
2	Jamnagar Petcoke	2 x 250 = 500 MW	US \$ 434.36 M + Rs. 726.429 Crs	1US \$ = Rs. 42	2550.74	5.1	05 / 1999
3	Korba (East) TPS	2 x 535 = 1070 MW	US \$ 863.95 M + 1623.04 Crs	1 US \$ = Rs.35.50	4690.06	4.38	12 / 1996
4	Pench TPS	2 x 250 = 500 MW	US \$ 284.708 + Rs.1172.155 Crs	1 US \$ = Rs.35.50	2183.58	4.367	08 / 1997
5	Bina TPP	2 x 289 = 578 MW	US \$ 419.699 M + 999.781 Crs	1 US \$ = Rs. 35.50	2443.36	4.227	09 / 1997
6	Raigarh TPP	2 x 275 = 550 MW	US \$ 85.176 M + DEM 240.656 M + Rs. 1628.075 Crs	1 US \$ = Rs. 35.50 1 DEM = Rs. 20.50	2423.835	4.40	11 / 1997
7	Bardravati	2 x 536 = 1072 MW	5187	-	5187	4.83	12 / 1994
8	Vasakhapatnam TPP	2 x 520 = 1040 MW	US \$ 943.75 M + Rs.1324.993 Crs	1 US \$ - Rs. 35	4628.18	4.45	03 / 1996
9	Ramagundam TPP	2 x 260 = 520 MW	US \$ 369.3 M + 1073.56 Crs	1 US\$ = Rs.35.5	2384.58	4.59	02 / 2001
10	Krishnapatnam "B"	2 x 260 = 520 MW	US \$ 355.131 + 960.614	1 US \$ = Rs. 35.5	2221.33	4.27	01 / 1998
11	Torangallu TPS	2 x 130 = 260 MW	US \$ 106.87 M + 725.16 Crs	1 US \$ = Rs. 35.5	1104.55	4.248	03 / 1996
12	Mangalore TPS	4 x 253.3 = 1013.2 MW	US \$ 809.505 M + 1671.98 Crs	1 US \$ = Rs. 31.5	4221.92	4.167	04 / 1996

13	Nagarjuna TPP	2 x 507.5 = 1015 MW	US \$ 273.975 M + GBP 277.4 M + 1792.685 Cr + FFR 907.KOM	1 US \$ = Rs. 35.5 GBP = Rs. 68.5 1 FFR = 7.20 M	5318.82	5.06	04 / 1999
14	Tuticorin TPS	1 x 525 = 525 MW	US \$ 321.779 M + DEM 145.893 M + Rs.875.389	1 US \$ = Rs. 35.5 1 DEM = Rs. 21	2324.09	4.43	
15	North Madras TPP-II----- ----++	1 x 525	US \$ 147.915 M + GBP 122.927 M + F.Fr. 458.023 M + Rs. 736.56 Crs	1 US \$ = Rs. 35.5 GBP = Rs. 57 1 F.Fr = 6.21 M	2246.77	4.28	07 / 1998
16	Ib. Valley TPP (Units 5)	2 x 250 = 500 MW	US \$ 326.02 M + Rs. 983.90 Crs	1 US \$ = Rs. 42.50	2369.49	4.73	02 / 1999
17	Duburi TPP	2 x 250	US \$ 313.596 M + Rs. 952.83 Crs	1 US \$ = Rs. 39.5	2191.53	4.38	04 / 1999
18	Jojobera TPS	2 x 120 = 240 MW	Rs. 1025.19	-	1025.19	4.27	12 / 1998
19	Balagarth TPS	2 x 250 = 500 MW	US \$ 227.96 M + Rs. 1517.02 Crs	1 US \$ = Rs. 31.5	2235.09	4.47	08 / 1995
20	Gouripore TPP	1 x 150 = 150 MW	US \$ 28.07 M + Rs. 548.566 Crs	1 US\$ = Rs. 39.5	659.45	4.39	04 / 1999
21	Bakreshwar TPP	2 x 210 = 420 MW	US \$ 23.400 M + J. Yen 20544.270 M + Rs. 925.157 Crs	1 US \$ = 39.5 and J. Yen = Rs. 0.294	1621.588	3.86	05 / 1998

**Annexure – A to Order No. _____ Dated _____ on
consent to PPA between M/s. KGPUL and APTRANSCO for Power
purchase from 60 MW coal based power plant at Wadapalli, Nalgonda
District.**

Sl No	Clause No	Existing Provision	Modification
1	3.1.2	In respect of all infirm power delivered by the Project, AP Transco shall reimburse the company the Delivered Cost of coal and Delivered Cost of secondary fuel actually consumed.	In respect of all infirm power delivered by the Project, AP Transco shall reimburse the company the Delivered Cost of coal and Delivered Cost of secondary fuel which shall be lower of the a) Fuel cost computed considering a station heat rate of 2600 kcal/kwh, secondary oil consumption of 2.5 ml/kwh, auxiliary consumption of 9.5% at generator terminals and a PLF of 63.75% And b) Delivered cost of coal and secondary oil as consumed. Infirm power bill shall be delivered on the last day of the month.
2	3.2	Capacity Charge Payment :- Capacity Charge Payment (CCPm) for any Billing Month shall be equal to $CCm * CAEm$ where CCm is the Capacity Charge for the Billing Month and CAEm is the Cumulative Available Energy for the Billing Month.	This shall be corrected as given below Capacity Charge Payment (CCPm) for any Billing Month shall be equal to $CCm * CAEm$ where CCm is the Capacity Charge for the Billing Month and CAEm is the Cumulative Available Energy for the Billing month limited to the energy made available at 76.925% annual PLF for first 5 years after COD and 72.4% annual PLF there after at the interconnection point.

3	3.4.1	Taxes	Add at the end “Provided that Income Tax levied on the incentive payments received by the firm will not be reimbursed by APTRANSCO.
4	2.5	Add a new Clause	In each Tariff year the Company shall subject to the Power Station’s technical limits and prudent utility practices and except for any periods of scheduled outage, maintenance outage or forced outage, generate and sell power to APTRANSCO even when the annual PLF (taking into account any deemed generation) equals or exceeds eighty five percent (85%).
5	3.4.2		Add at the end “Depreciation and losses for the Project will not be used for any other business of the company”.
6	10.1	3 rd sentence “Defined in Article 10.2 or any breach by the company of its obligations hereunder”.	Add the end “or an event of any force majeure”.

Annexure – B to Order No. _____ Dated _____ on
consent to PPA between M/s. KGPUL and APTRANSCO for Power
purchase from 60 MW coal based power plant at Wadapalli, Nalgonda
District.

Discrepancies to be attended in the draft PPA.

- 1) Preamble – 3 :- The word APSEB should be modified to Andhra Pradesh State Electricity Board (APSEB).
- 2) Preamble – 11 :- The date of suo-motu hearing by the Commission has to be corrected from 04-05-2001 to **03-04-2001**. The wording of the para needs to be redrafted in line with Commission's order dated 07-05-2001.
- 3) Preamble 15 :- The words “including Mini Power Plants capacity additions of 126 MW, the capacity totaling to 54 MW of the two Mini Power Plants of M/s. KGPUL being part of this 126 MW” shall be corrected as given below.

Including capacity addition through two Mini Power Plants of a capacity totaling upto 126 MW with M/s. KGPUL of 54 MW being a part of that 126 MW.
- 4) Preamble – 17 :- Para needs redrafting as it is giving meaning as though APTRANSCO agrees to put one single largest plant in place of two plants of 30 MW.
- 5) Preamble – 20 (New addition) :- Needs to be added with the provision that this agreement is enforceable subject to obtaining consent of the Andhra Pradesh Electricity Regulatory Commission as per section 21 of Andhra Pradesh Electricity Reform Act, 1998.
- 6) Article 1.1 definitions – construction contract (Page 5) – needs correction of the word prossvide to **provide** .

- 7) Article 1.1 definitions - Dispatch instructions – needs addition of the words “State Load Dispatch Center (SLDC)” after the word APTRANSCO.
- 8) Article 1.1 definitions – Inter connection facilities means facilities to be installed by or for the APTRANSCO on the APTRANSCO side of inter connection point to enable APTRANSCO to receive and utilize power from the project.
There is no clarity about the cost to be borne for such facilities.
- 9) Article 1.1 definitions - misdeclaration of availability. The word “Board” in the clause needs replacement with “APTRANSCO / SLDC”.
- 10) Article 1.1 definitions –
 - (a) Scheduled date of Financial closing shall be related to “date of execution of amended PPA after consent of ERC” rather than to the “date of execution of this agreement”
 - (b) Scheduled date of completion - It is mentioned that scheduled date of completion means date on which COD of generating unit is required to occur which shall be 18 months from the date of financial closure or such other date as mutually agreed.

This needs to be changed as **scheduled date of completion means date on which COD of generating unit is required to occur which shall be 18 months from the date of financial closure or 30 months from the date of execution of amended PPA after consent of ERC which ever is earlier.**
- 11) Article 1.2 – The word “Electricity Supply Act, 1948” needs to be replaced by “Electricity Act, 2003”.
- 12) Article 2.21 – The word “**Up on**” needs correction as “**upon**”
- 13) Article 3.8 – The word in second line **wil** needs correction as **will**

- 14) Article 5.1 – The word **communications** needs correction as **communication**. Further it may also be clarified who has to bear the cost of PLCC i.e., optical fibers or microwave radio communication if proposed to be installed. In case, this is not envisaged the words in bracket may be deleted to avoid confusion.
- 15) Article 6.4 - The in-correct last sentence may be corrected as “atleast 30 days prior to the date when Income tax is required to be paid by the Company, the Company shall submit a bill to the AP Transco. AP Transco in turn shall arrange payment within twenty five (25 days) of the presentation of the bill to AP Transco by the Company or 5 days before the date on which tax is required to be paid which ever is later”.
- Add New Sentence: AP Transco shall have complete access to relevant information and records of the Company as is reasonable to enable it to ensure the correctness or otherwise of the supplementary bill.
- 16) Clause 6.7:- In the last sentence the words “A 6.6” shall be corrected as “Article 6.7”.
- 17) Article 8.2 (c) – The words “Inter connection facilities” shall be replaced by “AP Transco’s side of Inter connection facility” as certain Inter connection facilities are to be provided by company also.
- 18) Article 15.1 – Variations, waivers and modifications – This provision should be subject to the prior approval of the Commission.
- 19) Article 15.10 – Relationship to other agreements – The word Board in the last line needs to be corrected.
- 20) Schedule – E: - Codes specifications – unfilled columns needs to be filled as per the data furnished in the letter dated 02-12-2003.

- 21)** Schedule – G: - Methodology for computation of deemed delivered cost of Indian coal shall be provided as per the information given in letter dated 02-12-2003 and correction suggested in para 23 of this order.
- 22)** Schedule – H: - Technical limits – Voltage limits and frequency limits may be corrected as per performance standards / grid code.
- 23)** In number of Clauses like Demonstrated capacity reference is made to more than one generating unit as against single unit being commissioned. Corresponding corrections may be attended to.