Application Form for Submission of Technical Proposal for Development of Wind Farms in Private Land in Kerala

ANERT
Agency for Non-conventional Energy & Rural Technology
(Established by Government of Kerala)

August 2005

Application Form for Submission of Technical Proposal for Development of Wind Farms in Private Land in Kerala

General Information

1. Wind Resource Assessment Survey conducted in Kerala by Ministry of Non-conventional Energy Sources (MNES) and ANERT identified 16 sites having wind characteristics suitable for economic exploitation. (Details are given in Annexure 1.) Total assessed wind potential is 605 MW. To give impetus to harnessing the wind power potential available in the state through private developers, Government of Kerala have issued policy guidelines vide GO (MS) No:23/2004/PD dated 06.11.2004. (Annexure 2).
2. A Developer desirous of setting up wind farms in private land shall submit a Technical Proposal in the format given in Annexure 3 to ANERT for approval. A DD drawn in favour of Director, ANERT payable at Thiruvananthapuram towards non-refundable Processing Fee @ Rs. **25,000/- per MW** (subject to a minimum of Rs.25,000/-) shall be sent along with the Technical Proposal. Applications without DD for the prescribed fee will be summarily rejected.
3. The wind data given in Annexure 1 is likely to vary with time and atmospheric conditions and hence ANERT shall not be responsible for sub-optimal generation of electricity on account of change in wind data. The applicant shall ascertain the feasibility of the site and expected energy output from the wind farm prior to selection of a site.
4. Before submitting the technical proposal, the applicant shall complete the micrositing and finalise the WEGs. WEGs approved by the Centre for Wind Energy Technology (C-WET), MNES shall only be installed. (Details of approved machines are available in the website of C-WET, http://www.cwet.tn.nic.in.) The distance from the WEG to the boundary of the plot shall be at least equal to three times the diameter of the rotor in the predominant wind direction and two times the diameter of the rotor in the direction perpendicular to the predominant wind direction. Micrositing Report prepared shall be enclosed with the Technical Proposal.
5. A Detailed Project Report (DPR) prepared in the format given in Annexure 4 shall be sent along with the Technical Proposal. (Details of consultants working in this field are available in the web site of MNES, http://mnes.nic.in.) Proof for various claims made as indicated in the format shall be enclosed with the Technical Proposal.
6. The technical approval accorded will be based on the information provided by the applicant and ANERT shall not be responsible for the non-performance, deviation from specifications, manufacturing defects, warranty, or guarantee of WEGs or any other commercial breaches whatsoever that may arise between the buyer and supplier of WEGs.
7. The implementation of the project shall be strictly in adherence to the GO (MS) No: 23/2004/PD dated 06.11.2004, technical approval, and any other relevant rules and regulations. The applicant shall

obtain from concerned authorities all the statutory permissions/clearances required for setting up of wind farm.

8. ANERT or Government will not reimburse any expenditure incurred by the applicant on the investigation, survey or any other activities in connection with applying for Technical Approval.
9. For projects in different locations, separate technical Proposals shall be submitted. Duly filled format with enclosures shall be sent to the following address.

DIRECTOR, ANERT
TC No 14/649, Opp Thycaud House
Thycaud P O, Thiruvananthapuram-695 014
Kerala
Ph : 0471-2329854 (Director)
0471-2338077, 2334122, 2333124
Fax : 0471-2329853
Website : http://www.anert.gov.in

10. For clarification please contact the Director, ANERT

Annexure 1

Potential sites in Kerala

Sl. No.	Station	District	Taluk	Latitude (N)	Longitude (E)	Elevation	Annual Mean wind Speed		Annual Mean Wind Power Density	
							At 20 m	At 30 m	At 20 m	At 30 m
1.	Kailasamedu	Idukki	Udumbanchola	9^0 51'	77^0 10'	1160	23.20	24.50	251	300
2.	Kanjicode	Palakkad	Palakkad	10° 47’	76° 49’	130	22.60	23.70	218	249
3	Kolahalamedu	Idukki	Pirmed	9° 40’	76° 56’	1000	16.90	17.80	146	174
4	Kotamala	Palakkad	Alattur	10° 40’	76° 36’	150	19.20	20.50	154	187
5	Kottathara	Palakkad	Mannarkkad	11° 07’	76° 39’	750	19.70	20.70	207	243
6	Kulathummedu	Idukki	Udumbanchola	9° 44’	77° 13’	1040	19.09	22.02	180	239
7	Kuttikanam	Idukki	Pirmed	9° 35’	76° 59’	1000	16.50	18.00	140	181
8	Nallasingam	Palakkad	Mannarkkad	11° 06’	76° 44’	840	22.90	24.10	324	377
9	Panchalimedu	Idukki	Primed	9° 32’	76° 57’	950	20.20	20.90	258	285
10	Parampukettimedu	Idukki	Udumbanchola	9° 54’	77° 12’	1160	26.40	28.40	447	525
11	Ponmudi	Trivandrum	Nedumangad	8° 46’	77° 08’	1074	18.50	18.70	216	220
12	Pullikanam	Idukki	Primed	9° 44’	76° 52’	1100	18.20	18.50	178	187
13	Ramakalmedu	Idukki	Udumbanchola	9° 49’	77° 14’	920	29.70	29.70	532	534
14	Senapathi	Idukki	Udumbanchola	9° 57’	77° 11’	1240	19.30	20.70	192	233
15	Sakkulathumedu	Idukki	Udumbanchola	9° 52’	77° 13’	1040	28.55	28.63	531	533
16	Tolanur	Palakkad	Alattur	10^o 42’	76° 30’	100	15.70	17.20	115	157

Annexure 2

G. O. (MS) No: 23/2004/PD dated 06.11.2004
POLICY GUIDELINES FOR THE DEVELOPMENT OF WIND POWER IN KERALA THROUGH PRIVATE DEVELOPERS

Preamble

Government of Kerala has brought out a Kerala Renewable Energy Policy in 2002 to promote power generation from Non-conventional energy sources within the State. Enactment of Electricity Act 2003 (EA 2003), wherein the generation sector has been de-licensed, has necessitated changes to be incorporated in the Kerala Renewable Energy Policy 2002. As revision of the existing Policy may take some time, Government of Kerala (Government) feels it appropriate to come up with these guidelines for developing wind power generating stations through private developers. Necessary modifications to Kerala Renewable Energy Policy 2002 are being made in these guidelines to address the provisions of the EA2003.

Background

Agency for Non-conventional Energy and Rural Technology (ANERT), the State Nodal Agency for the development of non-conventional energy has conducted wind power potential studies in the State with the help of the Ministry of Non Conventional Energy Sources (MNES). The technical wind potential available in the State is assessed as 600 MW. Ramakkalmedu in Idukki District with an estimated potential of about 80 MW is identified as
the most potential site in the State and one of the best sites available in the Country for developing wind power.

Guidelines

These guidelines are issued to give impetus to harness the wind power potential available in the State through private developers. The development of wind power generating stations through private developers includes development in Government and private lands. Any developer is free to set up wind power in private lands subject to the provisions in these guidelines. Government lands will be allotted to the developers on the basis of bids. Competitive bids will be invited for Captive Power Producers (CPPs) and Independent Power Producers (IPPs). Public Sector Undertakings and Power Intensive Industries within the State will be given preference in the allotment of Government land for the development of wind power under CPP category. These guidelines consist of three parts.

1. Guidelines for development of wind power in Government lands under CPP category through private developers
2. Guidelines for development of wind power in Government lands under IPP category through private developers
3. Guidelines for development of wind power in private lands.

1 GUIDELINES FOR DEVELOPMENT OF WIND POWER IN GOVERNMENT LANDS UNDER CPP CATEGORY THROUGH PRIVATE DEVELOPERS

1.1 Objective

This part of the guidelines addresses the development of wind power in Government lands under CPP category through private developers.

1.2 Eligibility

All HT/EHT industrial consumers of Kerala State Electricity Board (KSEB) with contract demand 500 KVA and above or group of such consumers forming a consortium are eligible to apply for the development of wind projects under CPP category.

1.3 Installed Capacity

Installed Capacity for the development of Wind Farm for each potential site shall be fixed with a view to harness the optimum generation potential.

1.4 Capacity ceiling for allotment for CPPs

CPPs (Developer) can undertake wind power projects such that the total installed capacity from the project(s) will not exceed the contract demand of CPP(s) with KSEB / State Transmission Utility (STU) plus the capacity addition required subsequent to proposed expansion/ diversification, being carried out within ten years from the date of allotment.

1.5 BOOT period

Government land will be licensed to CPPs on payment of a licensing fee for the development of wind power for a period of 20 (twenty) years from the date of allotment. After this period the land with Wind Energy Generators (WEGs), evacuation arrangements and all other facilities shall be returned back to the Government.

1.6 Basis of Allotment

1.6.1 Allotment of Government land will be based on a two-stage bidding process. In the first stage applicants will be pre-qualified. Pre-qualification evaluation will be based on balance sheets, annual reports and other reports/ evidence of financial and technical capacity. The weightage to be given to financial capacity, technical capability, past experience and other relevant attributes of the applicants, their inter-se weightage and the criteria for evaluation will be specified in the bid document for pre-qualification. Based on the above criterion, the applicants will be shortlisted and pre-qualified.

1.6.2 Proposals and bids of the pre-qualified applicants shall only be considered for allotment. For each Government land proposed for allotment, the bidders have to quote a premium payable upfront to the Government. Minimum threshold premium will be specified in the tender documents. Projects will be allotted to bidders making the highest bids. Bids with lesser premiums than the threshold premium will be summarily rejected.

1.7 Milestones for development of Project

1.7.1 The Developer shall be responsible for all statutory clearances and approvals from the concerned agencies. Government/ ANERT will provide all possible assistance in this regard. The Developer shall submit the Technical Proposal, after conducting micro-survey micrositing etc., to ANERT for scrutiny and approval, within a period of 14(fourteen) months from the date of allotment. The Developer shall also submit all necessary documents to ANERT for evaluation and approval of Technical Proposal. ANERT shall scrutinise and take a decision on the Technical Proposal within a period of 120 days from the date of submission, failing which the company shall be entitled to proceed with the project as if the Technical Proposal has been approved.

1.7.2 On getting the Technical Proposal approved, the Developer shall complete the project after obtaining all necessary statutory clearances within a period of six months from the date of completion of evacuation facility by ANERT. In the case of projects where interconnection facility is already available, the project shall be completed within a period of thirty months from the date of approval of Technical Proposal.

1.7.3 Failure to reach the milestones in 1.7.1 above will result in automatic cancellation of allotment of the site and no compensation will be payable by the Government in this regard.

1.7.4 Failure to reach the milestones as in 1.7.2 above would result in a liability to pay a penalty by the Developer to the Government.

1.7.5 The Developer may surrender the allotment back to Government, if, on completion of Technical Proposal within the time frame, the Developer establishes to the satisfaction of ANERT that the site is commercially unviable. However in such a case, the Technical Proposal shall become the property of the Government.

1.8 Technical Proposal

The Technical Proposal shall cover all aspects connected with the development of the Wind Farm including technical specification of WEGs, spacing between WEGs, boundary clearances, evacuation plans, cost of civil and electrical works, cost of WEGs, cost of transmission lines for evacuation of power upto KSEB grid, interconnection point including all metering and protective equipments etc.

1.9 Development of the Wind Farm

The Developer should develop the Wind Farm at the full installed capacity as per the approved Technical Proposal. Development in stages will not be allowed. Station should be developed and operated in optimum capacity for achieving optimum utilization.

1.10 Infrastructure Development

The Developer at their own cost and responsibility shall carry out development of necessary infrastructure facilities such as approach roads, improvements to existing roads etc.

1.11 Transmission, Grid interface, metering

1.11.1ANERT shall finalize and develop the pooling substation and transmission

line from the pooling substation to the KSEB substation/ interconnection point in consultation with the KSEB/ STU as per the laid down specifications.

1.11.2 The Developer shall construct and maintain the tie lines/ evacuation lines up to the pooling substation, at their own cost.

1.11.3 The Developer shall pay 50% of their share towards the cost of establishment of pooling substation and evacuation line from the pooling substation to KSEB substation/interconnection point, to ANERT at the time of allotment. Balance 50% of the above cost, to be borne initially by ANERT, shall be paid by the Developer on achieving Commercial Operation Date (COD).

1.11.4 Cost of any modification/ up-gradation/ strengthening of substation of KSEB/ STU for drawing power from the Wind Farm shall be borne initially by ANERT, which will also be included in the cost being collected from the Developer.

1.11.5KSEB/ STU will carry out upkeep and maintenance of pooling substation and evacuation line upto KSEB interconnection point. The operation and maintenance cost for the above shall also be borne initially by ANERT and this shall be collected subsequently from the Developer.

1.12 Maintenance

The maintenance of the project components, equipment and transmission line upto pooling substation shall be carried out by the Developer at his own cost in co-ordination with and as per the directions of KSEB/ STU.

1.13 Metering

Necessary main and check meters having import–export registering facility and allied equipments as prescribed by KSEB/ STU shall be installed at the interconnection point at the cost of the Developer. Cost of installing and maintaining the meters, CT, PT, protective equipments etc. including their replacements/ repairs whenever necessary shall be borne by the Developer.

1.14 Wheeling

KSEB/ STU will provide its surplus transmission capacity available with it for wheeling power from the wind generating station to their captive consumption end on payment of wheeling charges and other levies as determined by SERC.

1.15 Transmission and Distribution losses

Transmission and distribution losses for wheeling power will be accounted at the rate determined by SERC.

1.16 Generation Restriction

In extra ordinary circumstances arising out of threat to security of the state, public order or a natural calamity or such circumstances arising out of public interest the Developer shall have to operate and maintain generating station in accordance with the directions of the Government/ State Load Dispatch Centre (SLDC). In case of shut down no claims on account of loss of generation shall be entertained.

1.17 Grid Discipline

The Developer shall operate as per the instructions of SLDC or other grid control centers established by KSEB/ STU.

1.18 Consumption restrictions

General restrictions for drawing KSEB power will be applicable to the Developer. The Developer shall not be eligible for any exemption from restrictions such as hours of supply, limitations in load, etc. However, the Developer will be eligible for exemption on the share of energy supplied at the consumption end from the captive wind generating station. The CPP shall abide by grid discipline and will not be eligible for any compensation in the event of grid failure, shut down, interruption in power supply etc., resulting in non-consumption of generated energy.

1.19 Consumption of energy during periods of non-generation

In case generation from the wind generating station of the Developer is stopped due to various reasons for a period, energy consumed from the grid will be charged at the rates applicable to the particular category of consumer to which the CPP belongs to.

1.20 Purchase of Power

1.20.1KSEB will have the first right to purchase the energy, if any, generated by the CPP over their captive consumption requirement at the rates specified for a tariff period by the Kerala State Electricity Regulatory Commission (SERC). The purchase will be subject to the energy requirements of the State, grid frequency, other system parameters and financial viability of such purchase. If KSEB is not intending to purchase the excess power from the CPP, then the CPP is permitted to sell the power in excess over their requirement to any other party (consumer(s)/ licensee) at a rate approved by SERC, which shall include applicable surcharge, additional surcharge and/or transmission/distribution charges.

1.20.2 Consumption of Power by the CPP at the point of consumption from grid over and above his captive generation shall be charged at the ruling rates of KSEB applicable to the same category of consumer.

1.21 Technical Requirements

1.21.1 The Developer shall install necessary current limiting devices to maintain a power factor more than 0.95 lag. In cases where the Developer installs WEGs using induction generator, adequate compensating equipments shall be installed to maintain power factor more than 0.95 lag.

1.21.2 The Developer shall pay for the reactive power drawal when the voltage at the metering point is below 97%. SERC may decide the charges for reactive energy used by WEGs.

1.21.3 The Developer shall design, supply, erect, commission, operate and maintain the tie line including transformers from the export point of WEG to the

pooling substation. WEGs approved by the Centre for Wind Energy Technology (C-WET), MNES with unit capacity of 500KW and above shall only be installed.

1.21.4 The Developer shall comply with Grid Code including load dispatch and system operation schedule, metering, protection code, safety code etc. and all accepted codes and prudent utility practices as applicable from time to time.

1.22 Technical Information

ANERT will provide available information about wind potential, transmission access etc. to the prospective bidders on payment.

1.23 General Conditions

a. The Developer shall pay taxes, duties and other levies to the Central/ State Government as per statutes and rules in force.

b. Once the land is allotted, no transfer of land other than take over by Government is allowed. However, if it so requires, the Government reserves the right to re-auction/ re-bid the same land. Re-allotment will be done for the highest bid for taking over the land with the existing liabilities and payment obligations.

c. The allotment of Government land is only for the development of wind power and the land shall not be used for any other purpose.

d. The Developer shall develop the Wind Farm in accordance with the Technical Approval given by ANERT.

e. In case the Developer leaves the project incomplete or closes the industry or abandons the project or violates any of the conditions of allotment, the Government reserves the full right to take over the project without any compensation and free from all encumbrances. Developer shall not pledge, hypothecate or mortgage the Government Land without the consent of the Government. On completion of BOOT period, the land shall be transferred back to the Government free from all encumbrances. The Government will not take the liability to take over the employees engaged in the Wind Farm, by the Developer. In case the Government do not extend the BOOT period and if the Developer does not transfer the land allotted to him as specified above, the Government shall have the right to recover the property with all the project components. The Developer shall solely be liable for any subsisting liability at the time of such take over.

f. Any remedial/ compensatory measures directed by competent agencies to protect environment or any other activity found necessary by concerned Government Departments/ Local Bodies will have to be carried out by the Developer at his own cost.

g. All benefits available to CPP(s) shall be limited to the captive consumption requirements of the CPP(s).

h. The Developer shall abide by the rules and regulations framed by the Government from time to time in matters of Electricity and related activities by private agencies.

i. The final authority of allotment vests with the Government.

j. All directions/ approvals/ rules laid down in the relevant Acts/ controls/ rectifications issued by CEA/ CERC/ SREB/ SERC or other Government Departments/ Agencies from time to time as adopted by the Government shall be binding on the Developer.

k. In case of dispute, the interpretation of the guidelines by the Government shall be final. In all such matters, to the extent possible, an opportunity will be given to the affected stakeholders.

II. GUIDELINES FOR DEVELOPMENT OF WIND FARMS IN GOVERNMENT LANDS UNDER IPP CATEGORY THROUGH PRIVATE DEVELOPERS

2.1 Objective

This part of the guidelines addresses the development of wind power in Government lands under IPP category through private developers.

2.2 Eligibility

Any individual/ Company/ Body Corporate/ Partnership firm/ Joint Venture, whether incorporated or not, or artificial judicial person is eligible for bidding under IPP category (Developer).

2.3 Installed Capacity

Installed Capacity for the development of Wind Farm for each potential site shall be fixed with a view to harness the optimum generation potential.

2.4 BOOT period

Government land will be licensed to IPPs on payment of licensing fee for the development of wind power for a period of 20 (twenty) years from the date of allotment. After this period the land with Wind Energy Generators (WEGs), evacuation arrangements and all other facilities shall be returned back to the Government.

2.5 Basis of Allotment

2.5.1 Allotment of Government land will be based on a two-stage bidding process. In the first stage applicants will be pre-qualified. Pre-qualification evaluation will be based on balance sheets, annual reports and other reports/ evidence of financial and technical capacity. The weightage to be given to financial capacity, technical capability, past experience and other relevant attributes of the applicants, their inter-se weightage and the criteria for evaluation will be specified in the bid document for pre-qualification. Based on the above criterion the applicants will be shortlisted and pre-qualified.

2.5.2 Proposals and bids of the pre-qualified applicants shall only be considered for allotment. Criterion for selection from amongst the pre-qualified bidders will be the lowest levelised tariff quoted for the sale of electricity for the entire BOOT period.

2.6 Acceptance of Offer

Government will accept or reject the offer considering the financial viability of the quoted rate.

2.7 Milestones for development of Project

2.7.1 The Developer shall be responsible for all statutory clearances and approvals from the concerned agencies. Government/ ANERT will provide all possible assistance in this regard. The Developer shall submit the Technical

Proposal, after conducting micro- survey, micro-siting etc., to ANERT for scrutiny and approval, within a period of 14 (fourteen) months from the date of allotment. The Developer shall also submit all necessary documents to ANERT for evaluation and approval of Technical Proposal. ANERT shall scrutinise and take a decision on the Technical Proposal within a period of 120 days from the date of submission, failing which the company shall be entitled to proceed with the project as if the Technical Proposal has been approved.

2.7.2 On getting the Technical Proposal approved, the Developer shall complete the project after obtaining all necessary statutory clearances within a period of six months from the date of completion of evacuation facility by ANERT. In the case of projects where interconnection facility is already available, the project shall be completed within a period of thirty months from the date of approval of Technical Proposal.

2.7.3 Failure to reach the milestones in 2.7.1 above will result in automatic cancellation of allotment of the site and no compensation will be payable by the Government in this regard.

2.7.4 Failure to reach the milestones as in 2.7.2 above would result in a liability to pay a penalty by the Developer to the Government.

2.7.5 The Developer may surrender the allotment back to Government, if, on completion of Technical Proposal within the time frame, the Developer establishes to the satisfaction of ANERT that the site is commercially unviable. However in such a case, the Technical Proposal shall become the property of the Government.

2.8 Technical Proposal

The Technical Proposal shall cover all aspects connected with the development of the Wind Farm including technical specification of WEGs, spacing between WEGs, boundary clearances, evacuation plans, costs of civil and electrical works, cost of WEGs, cost of transmission lines for evacuation of power upto KSEB grid, interconnection point including all metering and protective equipments etc.

2.9 Development of the Wind Farm

The Developer should develop the Wind Farm at the full installed capacity as per the approved Technical Proposal. Development in stages will not be allowed. Station should be developed and operated in optimum capacity for achieving optimum utilization.

2.10 Infrastructure Development

The Developer at their own cost and responsibility shall carry out development of necessary infrastructure facilities such as approach roads, improvements to existing roads etc.

2.11 Transmission, Grid interface, metering

2.11.1 ANERT shall finalize and develop the pooling substation and transmission

line from the pooling substation to the KSEB substation/ interconnection point in consultation with the KSEB/ STU as per the laid down specifications.

2.11.2 The Developer shall construct and maintain the tie lines/ evacuation lines up to the pooling substation, at their own cost.

2.11.3 The Developer shall pay 50% of their share towards the cost of establishment of pooling substation and evacuation line from the pooling substation to KSEB substation/interconnection point, to ANERT at the time of allotment. Balance 50% of the above cost, to be borne initially by ANERT, shall be paid by the Developer on achieving Commercial Operation Date (COD).

2.11.4 Cost of any modification/ up-gradation/ strengthening of substation of KSEB/ STU for drawing power from the Wind Farm shall be borne initially by ANERT, which will also be included in the cost being collected from the Developer.

2.11.5 KSEB/ STU will carry out upkeep and maintenance of pooling substation and evacuation line upto KSEB interconnection point. The operation and maintenance cost for the above shall also be borne initially by ANERT and this shall be collected subsequently from the Developer.

2.12 Maintenance

The maintenance of the project components, equipment and transmission line upto pooling substation shall be carried out by the Developer at his own cost in co-ordination with and as per the directions of KSEB/ STU.

2.13 Metering

Necessary main and check meters having import-export registering facility and allied equipments as prescribed by KSEB/ STU shall be installed at the interconnection point at the cost of the Developer. Cost of installing and maintaining the meters, CT, PT, protective equipments etc. including their replacements/ repairs whenever necessary shall be borne by the Developer.

2.14 Purchase of Power

KSEB will have the first right to purchase the power generated by the IPP at the bid rates subject to approval of SERC. The purchase will be subject to financial viability of such purchase and other system requirements. If KSEB is not intending to purchase the power from IPP, then the Developer is permitted to sell the power to any other party (consumer(s)/ licensee) at rates approved by SERC.

2.15 Generation Restriction:

In extra ordinary circumstances arising out of threat to security of the state, public order or a natural calamity or such circumstances arising out of public interest the Developer shall have to operate and maintain generating station in accordance with the directions of the Government/ State Load Dispatch Centre (SLDC). In case of shut down no claims on account of loss of generation shall be

entertained.

2.16 Grid Discipline
The Developer shall operate as per the instructions of SLDC or other grid control centers established by KSEB/ STU.

2.17 Consumption restrictions
The Developer shall abide by grid discipline and will not be eligible for any compensation in the event of grid failure, shut down, interruption in power supply etc., resulting in non-consumption of generated energy.

2.18 Technical Requirements

2.18.1 The Developer shall install necessary current limiting devices to maintain a ower factor more than 0.95 lag. In cases where Developer installs WEGs using induction generator, adequate compensating equipments shall be installed to maintain power factor more than 0.95 lag.

2.18.2 The Developer shall pay for the reactive power drawal when the voltage at the metering point is below 97%. SERC may decide the charges for reactive energy used by WEGs.

2.18.3 The Developer shall design, supply, erect, commission, operate and maintain the tie line including transformers from the export point of WEG to the pooling substation. WEGs approved by the Centre for Wind Energy Technology (C-WET), MNES with unit capacity of 500KW and above shall only be installed.

2.18.4 The Developer shall comply with Grid Code including load dispatch and system operation schedule, metering, protection code, safety code etc. and all accepted codes and prudent utility practices as applicable from time to time.

2.19 Technical Information

ANERT will provide available information about wind potential, transmission access etc. to the prospective bidders on payment.

2.20 General Conditions

a. The Developer shall pay taxes, duties and other levies to the Central/ State Government as per statutes and rules in force.

b. Once the land is allotted, no transfer of land other than take over by Government is allowed. However, if it so requires, the Government reserves the right to re- uction/ re-bid the same land. Re-allotment will be done for the highest bid for taking over the land with the existing liabilities and payment obligations.

c. The allotment of Government land is only for the development of wind power and the land shall not be used for any other purpose.

d. During project implementation, transfer of ownership would be permitted if the transferee satisfies pre-qualification requirements, subject to the approval of the Government. Free transfer of controlling shares will be permitted in the Developer Companies as per the procedure laid down in bid

documents/ Power Purchase Agreement (PPA) after project implementation.

e. The Developer shall develop the Wind Farm in accordance with the Technical Approval given by ANERT.

f. In case the Developer leaves the project incomplete or closes the industry or abandons the project or violates any of the conditions of allotment, the Government reserves the full right to take over the project without any compensation and free from all encumbrances. Developer shall not pledge, hypothecate or mortgage the Government land without the consent of the Government. On completion of BOOT period, the land shall be transferred back to the Government free from all encumbrances. The Government will not take the liability to take over the employees engaged in the Wind Farm, by the Developer. In case the Government do not extend the BOOT period and if the Developer does not transfer the land allotted to him as specified above, the Government shall have the right to recover the property with all the project components. The Developer shall solely be liable for any subsisting liability at the time of such take over.

g. Any remedial/ compensatory measures directed by competent agencies to protect environment or any other activity found necessary by concerned Government Departments/ Local Bodies will have to be carried out by the Developer at his own cost.

h. The Developer shall abide by the rules and regulations framed by the Government from time to time in matters of Electricity and related activities by private agencies.

i. The final authority of allotment vests with the Government.

j. All directions/ approvals/ rules laid down in the relevant Acts/ controls/ rectifications issued by CEA/ CERC/ SREB/ SERC or other Government Departments/ Agencies from time to time as adopted by the Government shall be binding on the Developer.

k. In case of dispute, the interpretation of the guidelines by the Government shall be final. In all such matters, to the extent possible, an opportunity will be given to the affected stakeholders.

III GUIDELINES FOR DEVELOPMENT OF WIND FARMS IN PRIVATE LANDS

(Revised as per G.O (MS) No.7/2007/PD dt 11-5-2007)

3.1 Objective

This part of the guidelines addresses development of wind farms in private land. These guidelines are being issued in supersession of earlier Government orders in this regard. In case of any inconsistency with any of the provisions of existing orders, clauses in this document shall prevail.

3.2 Developer

3.2.1 Any individual, company, body corporate, partnership firm, joint venture-whether incorporated or not, artificial judicial person intending to set up wind farm in private land (hereafter referred to as developer) shall obtain technical approval from ANERT.

3.2.2 Wind power and wind power potential sites being gifts of nature are natural resources of the State. Government intends to ensure utilization of their natural resources to suit the overall development strategy of the State in public interest. Thus permission for development of wind farms as CPPs will be given only after ascertaining the end user of electrical energy generated from the wind farms. As a policy, Government will not allow development of wind farm as CPPs by power intensive units which do not strictly adhere to the pollution control standards laid out from time to time.

3.3 Procedure for Technical Approval

The developer shall submit technical proposal in the prescribed format after conducting micro-sitting and other surveys/investigation and finalization of Wind Electric Generators (WEG) to ANERT. A Demand Draft in favour of Director, ANERT payable at Thiruvananthapuram towards non-refundable processing fee at the rate fixed by the Executive Committee of ANERT shall be sent along with the technical proposal. Technical proposals without Demand Draft for the prescribed fee will be summarily rejected. Certified copy of title deeds and copy of sale agreement/lease agreement/consent letter from owner of the land shall also be submitted along with the technical proposal. The documents relating to the proposed land are for their identification by ANERT. According technical approval to the proposal no way indicates confirmation of any right of the developer on the proposed land.

ANERT shall scrutinize and take a decision on the technical proposal within a period of 120 days from the date of receipt. ANERT may inform the developer in case of any defect in his proposal within 60 days from the date of receipt of proposal after initial scrutiny and give the developer one month time to resubmit the proposal after rectifying all the defects. The developer shall be entitled to proceed with the implementation of the project if the Technical Proposal is not rejected within 120 days after receipt of modified proposal by ANERT. The technical approval shall be valid for 2 years from the date of issue. On getting technical clearance, a detailed project report will have to be submitted by the developer to ANERT before starting the installation work.

3.4 Technical Proposal

3.4.1 The technical proposal shall cover all aspects connected with the development of the Wind Farm including technical specifications of WEGs, details of the proposed land, latitude, longitude and altitude information of the location of WEGs, spacing between WEGs, boundary clearances, evacuation plan etc.

3.4.2 The developer shall ascertain the feasibility of the site and expected energy output from the Wind Farm prior to submission of technical proposal.

3.5 Infrastructure Development

3.5.1 The Developer at their own cost and responsibility shall carry out necessary infrastructure development such as construction of approach roads, improvement to existing roads etc. In addition to that developer shall pay development charge to KSEB/STU.

3.5.2 Government in consultation with KSEB/STU will fix the development charge from time to time on a per Mega watt (MW) basis and the developers shall remit the charges to KSEB/STU. KSEB/STU shall issue permission for interconnection to the grid on a first come first served basis based on payment of the development charge. For small developers proposing to install single WEG, KSEB/STU may permit payment of the development charges in 2 equal installments (one before interconnection permission and the other before interconnection) considering the merit of the application. In the case of small developers (Proposing to install WEGs of capacity upto IMW), KSEB/STU may permit interconnection to the grid on payment of 50% of the development charges and the balance shall be paid before interconnection, considering the merit of the application.

3.5.3 For technical proposals already under consideration as on 31-12-2006, the infrastructure development charge is tentatively fixed as Rs.20 lakhs per MW which will be finalized in consultation with KSEB and the difference, if any, will be settled between the developer and KSEB/STU.

3.6 Interconnection permission

An application for interconnection for power evacuation shall be submitted to KSEB/STU in the prescribed format with a copy to ANERT. The application shall contain.

(1) Technical details of WEGs and their locations.

(2) Proposed evacuation plan including specifications of transformer tie-line, transmission line/sub-transmission line, metering and protective equipment etc. and drawings.

(3) Estimate of implementing the above evacuation plan.

Non-refundable application fee of Rs. 20,000/MW shall be paid as Demand Draft in favour of KSEB/STU.

The developer shall enter into bulk power supply/wheeling agreement with KSEB/STU/Successor entities of KSEB or other buyers for sale of power. But, power can be sold to other buyers only if KSEB/ Successor

entities of KSEB refuses to purchase power.

3.7 Evacuation facility

3.7.1 KSEB/STU shall develop the evacuation facility according to a master plan prepared in consultation with ANERT to evacuate the total power from each of the potential areas. The plan shall include construction of pooling station, transmission/sub transmission line from pooling station to KSEB/STU substation and augmentation/up-gradation required for existing substations and grid for further evacuation. KSEB/STU shall also prepare an estimate for such evacuation facility beyond and including pooling station. The estimate shall also include supervision charges payable to KSEB/STU. Construction and maintenance of evacuation lines from WEGs to the pooling station shall be at developers' cost and responsibility.

3.7.2 In case of developers willing to undertake development of evacuation facility, KSEB/STU may permit such requests upon satisfaction of developer's technical and financial qualifications. The developer shall develop the evacuation facility as per the master plan in full or part as per KSEB/STU design. However in case where the evacuation facility is permitted to be developed by the developer in part, that has to be carried out according to KSEB/STU's proposal and not according to the capacity requirement of the developer. KSEB/STU will reimburse the cost as per the sanctioned estimate for the work after deducting the supervision charges. Developer shall be eligible for adjustment of infrastructure development charges in the estimated cost..

3.8 Metering

Necessary main and check ABT compatible Special Energy Meters (SEM) of 0.2 accuracy class having import-export registering facility as per applicable IEC/BIS standards shall be installed at the cost of the developer, as per applicable CEA (Installation & Operation of Meters) regulations 2006 with its amendment there upon.

3.9 Type Certification

C-WET/MNRE approved machines shall only be given Technical Approval by ANERT. Technical Proposals with machines under type certification can be submitted and in such cases, a conditional Technical Approval may be given. However, installation can be started only after obtaining permission from ANERT producing the type approval/certification from C-WET.

3.10 Distance between WEGs and Boundary Clearances

The micrositing of WEGs shall be done so that

(1) The minimum distance between any two WEGs (existing and having technical approval) is 5 times the diameter of the rotor (1) in the predominant wind direction and 3 times the diameter of the rotor in a direction perpendicular to the predominant win direction.

(2) The distance from the WEG to the boundary of the plot proposed by the developer shall be at least half the rotor diameter plus 5 meters.

(3) The site will be inspected by a technical committee constituted by ANERT and its recommendations regarding boundary clearance inter machine spacing etc. accepted by ANERT shall be binding on the developer.

3.11 Technical Requirements

3.11.1. The developer shall install adequate compensating equipment to maintain power factor more than 0.95 lag.

3.11.2. The developer shall pay for the reactive power drawn by the WEGs at the rate decided by KSERC.

3.11.3. The developer shall comply with grid code including load dispatch and system operating schedule, metering protection code, safety code etc. and all accepted codes and prudent utility practices as applicable from time to time.

3.12 Transferability of Technical Approval

The technical approval is transferable to investors upon satisfying the conditions in Clause 3.2.2., if the transferee is ready to abide by the terms and conditions on which technical approval had been issued for the project. For transferring the technical approval, the developer shall submit a transfer application along with the transferee's undertaking and remit a non-refundable transfer fee of Rs.100,000/- per MW capacity to ANERT. If the transferring unit is below the capacity of IMW the same would be counted as IMW for this purpose.

3.13 Carbon Credit

The benefits of carbon credit if any available shall be shared equally between STU/buyer and investor.

3.14 Other Conditions

3.14.1 The Developer shall pay taxes, duties and other levies to the Central/State Government as per statutes and rules in force.

3.14.2 The Developer shall develop the Wind Farm in accordance with the Technical Approval given by ANERT.

3.14.3 Any remedial/ compensatory measures directed by competent agencies to protect environment or any other activity found necessary by concerned Government Departments/Local Bodies will have to be carried out by the Developer at his own cost.

3.14.4 The Developer shall abide by the rules and regulations framed by the Government from time to time in matters of Electricity and related activities by private agencies.

3.14.5 All directions/approvals/rules laid down in the relevant acts/controls/ rectifications issued by CEA/CERS/SREB/KSERC or other Government Departments/ Agencies from time to time as adopted by the Government shall be binding on the developer.

3.14.6 In case of dispute, the interpretation of the guidelines by the Government shall be final. In all matters to the extent possible an opportunity will be given to the affected stakeholders.

Annexure 3

TECHNICAL PROPOSAL SUBMITTED TO ANERT FOR DEVELOPMENT OF WIND FARM IN PRIVATE LAND

1. Name of Applicant	:
2. Address of Applicant for Correspondence	: Telephone No. Fax No. E-mail id.
3. Legal status (Tick appropriately) (Wherever applicable, enclose copy of certificate(s) of registration issued by statutory/Government body with whom the applicant is registered.)	Individual Company Body Corporate Partnership Firm Joint Venture (specify whether incorporated or no) Artificial Judicial Person
4. Name and Designation of the authorised representative (if the applicant is not an individual)- Enclose a copy of such authorisation	
5. Proposed mode of operation (Tick appropriately)	CPP/IPP
6. Capacity of proposed Wind Farm (in MW)	
7. Details of proposed Wind Farm Location (A revenue map of the village showing adjoining plots is to be enclosed with the application form.)	: Extent of land (in Ha) Survey No. Place (Also give any land mark nearby) Village, Taluk & District Latitude, Longitude & Elevation:
8. Type of holding on land (Tick appropriately)	:own/on lease/others (please specify)

9. Details of proof for holding on land (Attach certified copy of document)	:

10. Details of NOC obtained from Local Self Govt. (Attach certified copy)	
11. Whether contour survey of the area was conducted (Both soft copy and hard copy-signed and sealed by the applicant-of output indicating the location of WEGs be submitted along with this application)	Yes/No
12. Location of nearest Wind Monito-ring Station of MNES and dista-nce to it in km (refer Annexure 1)	
13. Details of Wind mast installed for collecting one year data used for preparation of DPR (The wind data collected should be submitted in a CD/Floppy along with this application)	Location: Height of wind mast: Make of sensors used: Period of measurement:
14. Details of other wind machines/ wind farm presently operating/ proposed in the locality	
15. Details of any wind machine/wind farm in the state owned by the Applicant	
16. Details of WEGs	Make: Capacity: No. of Machines: Type: Power Factor: Details of pf compensation: Whether C-WET approved: Details of approval (copy of proof to be attached)
17. Details of transformer and tie lines	:
18. Details of evacuation facilities	

19. Details of KSEB Substation to which the wind farm is to be connected	Place: Voltage :----------kV Capacity:----------MVA Distance from wind farm:
20. Estimated cost of the Project in Rupees (Excluding the cost of evacuation facilities)	
21. Estimated cost of evacuation facilities in Rupees	
22. Estimated cost of the Project in rupees (including the cost of evacuation facilities)	
23. Expected generation per year (in kWh)	
24. Estimated cost of generation (in Rs. per kWh)	
25. Expected date of commissioning	

DECLARATION

I certify that the statements made by me in the above application are true, complete and correct to the best of my knowledge and belief. I have carefully read G.O. (MS) No:23/2004/PD dated 06.11.2004, Proceedings No757/WPC/05 dt. 06/08/2005 of the Director, ANERT and the terms and conditions for submission of Technical Proposal for developing wind farms in private land provided with this application form and agree to abide by the same.

(Affix office seal)

Place
Date Name and Signature of Applicant

Enclosures:

1. DD No. ----------dt. ---------- of ---------- Bank for Rs. ---------- towards processing fee
2. Copy of certificate of registration
3. Copy of authorisation for signatory
4. Revenue map of the village
5. Certified copy of proof for land holding

6. CD containing wind resource data of the location
7. Copy of C-WET approval for the machine
8. Contour Survey Report indicating location of WEGs (both soft copy and hard copy)
9. Copy of NOC obtained from LSG
10. Copy of Micro-siting report
11. Two Copies of Detailed Project Report

Annexure 4

FORMAT FOR SUBMISSION OF DETAILED PROJECT REPORT

1. Introduction
2. Details of the applicant/promoters and captive consumers:
3. Details of the project:
    1. Location and site characteristics:
    2. Wind Resource Data:
    3. Estimates of meteorological parameters:
    4. Capacity:
    5. Technical specifications of WEGs, Details of type approval/third party certification:
    6. Wind farm layout with map showing location of WEGS, spacing between WEGs. Boundary Clearances, Configuration/array efficiency etc.:
    7. Land requirement and procurement:
    8. Electrical system, evacuation plans and Grid interface, interconnection point including all metering and protective equipment etc.
    9. Civil engineering works.
4. Project Implementation Plan
5. Cost of the project and financial analysis:
    1. Cost of WEGs
    2. Cost of electrical and civil works
    3. Cost of transmission lines for evacuation of power up to KSEB grid
    4. Cost of interconnection, metering, protective equipment etc.
    5. Means of financing:
    6. Annual energy output:
        i) Capacity factor:
        ii) Availability factor:
    7. Cost of generation:
    8. Utilisation of energy generated:
    9. Details of Central and State promotional/fiscal incentives south to be availed.
6. Operation, maintenance and performance monitoring