

## Amendments to NIT and Tender for 18 MW Wind Power Project

(Based on pre bid meeting dated 11 and 16 June, 2010)

Sr. No.	Clause No.	Page No.	Original Clause	Amended Clause
1	NIT, 2.2	2	<p>BEML will place three separate purchase orders (POs) as mentioned below:</p> <p>a) Arranging the required land for project (either as outright purchase or on a long lease, as applicable), micro-siting of wind turbines, all approvals, detailed engineering, and submission of drawings and designs for the project.</p> <p>b) Manufacturing, supply, and construction of wind turbines including towers, blades, nacelles, transformers and electrical works to be carried out.</p> <p>c) Transport of equipment and materials, erection and commissioning of wind turbine generators, civil works including sharable building and storage place and O&amp;M of wind farm for a 10 year term initially, which shall be renewable for another 10 years.</p>	<p><b><i>BEML shall place four separate purchase orders/work orders as mentioned below:</i></b></p> <p><b><i>a. The first PO shall be placed for manufacturing, supply and construction of wind turbines including tower, blade, nacelles, transformers and electrical equipments and accessories etc to be carried out.</i></b></p> <p><b><i>b. The second PO shall be placed for transportation of equipment and materials, erection and commissioning of wind turbine generator, electrical works, other civil works etc.</i></b></p> <p><b><i>c. The third PO shall be placed for arranging the required land for the project (either as an outright purchase or on a long lease as applicable), micro-siting of wind turbines, all approvals, and submission of drawings and designs for the project</i></b></p> <p><b><i>d. The fourth PO will be for the comprehensive operation and maintenance (O&amp;M) of the wind farm initially for a period of 10 years (first two years free O&amp;M) which may be renewed for further period of 10 years thereafter.</i></b></p>
2	NIT, 5	6	<p>The time for commissioning and handing over of the entire the wind farm shall be no later than 9 months, subject to complete project commissioning positively before 30 September 2010, which shall be reckoned from the date of the purchase order and 3 months thereafter (i.e. by December 2010) for stabilization, documentation, and handing over of the entire project and its ownership to the BEML Limited but not later than 31 March 2011 under any circumstances.</p>	<p>The time for commissioning and handing over of the entire the wind farm shall be no later than 9 months, subject to complete project commissioning positively before <b>31 December 2010</b>, which shall be reckoned from the date of the purchase order and 3 months thereafter (<b><i>i.e. by 31 March 2011</i></b>) for stabilization, documentation, and handing over of the entire project and its ownership to the BEML Limited but not later than 31 March 2011 under any circumstances.</p>

3	NIT, 7	6	<p>a. 10 % of the total contract value to be given as an interest bearing (SBI PLR + 0.5%) mobilization advance, after signing of contract, against a bank guarantee of equivalent amount from any scheduled bank (co-operative banks not accepted). This mobilization shall be adjusted against running accounts (RA) bills by deducting 10% of the amount from each RA bill.</p> <p>b. 50% of the total contract value shall be released on pro-rata basis (based on the number of WEGs) after supply and successful erection of WEGs at site.</p> <p>c. 20% of the contract value shall be released on pro-rata basis (based on the number of WEGs) after commissioning of WTG.</p> <p>d. 10% of the contract value shall be released on transfer of land title as applicable and completion certificate issued by BEML Limited, which means completion of all activities/documentation related to the project and acceptance by BEML Limited.</p> <p>e. Final 10% payment shall be released, against submission of bank guarantee of equivalent amount for defect liability period and average energy generation guarantee duration and valid for 40 months after the successful stabilization and handing over of the wind farm to BEML Limited for operation.</p>	<p><b>a. 10 % of the total contract value to be given as an interest bearing (SBI Cash Credit rate of interest plus 0.5%) mobilization advance, after signing of contract, against a bank guarantee of equivalent amount from any nationalised bank valid for a period of 12 months. This mobilization advance shall be adjusted against running accounts (RA) bills by deducting 10% of the amount from each RA bill along with the interest accrued.</b></p> <p><b>b.30% of the total contract value shall be released on pro-rata basis (based on the number of WTGs) after supply of WTGs at site.</b></p> <p><b>c.30% of the contract value shall be released on pro-rata basis (based on the number of WTGs) after successful erection of WTGs.</b></p> <p><b>d.10% of the contract value shall be released after successful commissioning of WTGs in full along with the principal component of mobilisation advance recovered from the RA bills.</b></p> <p><b>e.10% payment shall be released, against submission of bank guarantee for equivalent value for defect liability period and average energy generation guarantee duration and valid for 40 months after the successful stabilization and handing over of the wind farm to BEML Limited for operation.</b></p> <p><b>f.10% of the contract value shall be released on transfer of land title as applicable and completion certificate issued by BEML Limited, which means completion of all activities/documentation related to the project and acceptance by BEML Limited.</b></p> <p><i>Note: i) The total contract value for the purpose of payment and furnishing of BG shall be considered as the sum of values of POs placed for a), b) and c) of clause 2.2 of NIT only. ii) The BG for O&amp;M PO shall be against PO value of (d) of clause 2.2 of NIT.</i></p>
4	NIT, 10	7	<p>Closing date of tender 30.06.2010</p> <p>Last date and time of submission of bids Up to 1500 hrs (IST) on 30.06.2010</p> <p>Opening of techno-commercial bids 1600 hrs on 30.06.2010</p>	<p><b>Closing date of tender : 29 July 2010</b></p> <p><b>Last date and time of submission of bids up to 1700 hrs (IST) on 29 July 2010</b></p> <p><b>Opening of technical bids 1100 hrs on 30 July 2010</b></p>
5	Form of tender		<p>.....earthing arrangements etc., 33/66/132 kV power evacuation line inside the wind farm and linking to the approved KPTCL sub-station and including civil works such as approach roads, control rooms, staff quarters and water supply arrangements complete in all respects for the wind farm at.....</p>	<p><b>..... earthing arrangements etc., 33/66/132 kV power evacuation line inside the wind farm and linking to the approved KPTCL sub-station and including civil works such as approach roads, control rooms, and water supply arrangements complete in all respects for the wind farm at .....</b></p>

6	Form of tender		3. The equipment shall be delivered, erected, and commissioned before 30 September 2010.	3. The equipment shall be delivered, erected and commissioned by <b>31 of December 2010</b> . <b>Delivery/handing over of the project will be within maximum of three months from the date of project commissioning.</b>
7	2.1	5 of 178	The tenderer shall plan the project activities in such a way that the project gets completed and commissioned before 30/09/2010. Delay in commissioning the project due to rain at site shall not be considered a force majeure. Any proposed construction activity on site shall be completed by the time of commissioning.	The tenderer shall plan the project activities in such a way that the project gets completed and commissioned <b>by 31 December 2010</b> . Delay in commissioning the project due to rain at site shall not be considered a force majeure. Any proposed construction activity on site shall be completed by the time of commissioning. <b>The project will have to be handed over to BEML in totality within three months from the date of commissioning after stabilisation of the wind project as per stabilisation criteria.</b>
8	2.5.2	8-9 of 178	The land (Revenue/Forest/Private) where the wind farm is proposed to be set up by the bidder should be available with the bidder by way of lease from Karnataka Renewable Energy Development Limited (KREDL) or any other authorized state agency in the bidder favour without having absolutely any encumbrances and impediments to set up the plant. The bidder should be authorized by KREDL or as the case may be to sublet the land including the wind farm to BEML. The land should have all statutory clearances and should be free of all disputes whatsoever....	The land (Revenue/Forest/Private) where the wind farm is proposed to be set up by the bidder should be available with the bidder by way of lease from Karnataka Renewable Energy Development Limited (KREDL) or any other authorized state agency in the bidder favour without having absolutely any encumbrances and impediments to set up the plant. The bidder should be authorized by KREDL or as the case may be to sublet the land including the wind farm to BEML. The land should have all statutory clearances and should be free of all disputes whatsoever. <b>Land in the name of associate/group company will be considered. The company will have to get into a consortium agreement with group/associate companies and will have to submit the consortium agreement to BEML confirming the availability and transfer of land for the proposed project.</b>
9	2.5.8	10 of 178	The wind data and their analysis for full one year duration along with the raw data validated by C-WET should be provided in hard and soft format.	The wind data and their analysis for full one year duration along with the raw data validated by C WET should be provided in hard and soft format. <b>The validation certificate from CWET for the wind data at proposed site should be submitted to BEML within two months from the date of PO. Any delay beyond this shall automatically extend the period of warranty by equivalent days.</b>
10	2.5.10	11 of 178	....vi. The wind generating machines shall be equipped with fault ride through capability as per recent IEGC guidelines. In general wind farm shall comply to IEGC.	<b>Following is an additional sub-clause to 2.5.10</b>  <b>.....vii. BEML acknowledges the fact that IEGC norms were applicable as on 16th of June 2010, but due to the contractors not knowing the exact cost implications and the modalities of implementation, BEML and bidders shall equally share the costs arising out of such a situation, if any, at the time of implementation and before handing over of wind farm to BEML.</b>
11	2.15.1 (f) iii	18 of 178	Technical particulars of the 33 kV or above switchgear kiosk offered in the bid (in the pro forma shown in Annexure M)	Technical particulars of the 33 kV or above switchgear kiosk offered in the bid (in the pro forma shown in Annexure M). <b>Outdoor type 33 KV VCB shall be acceptable. Any suitable technology that will best complement the working of the wind turbine is acceptable in this regard.</b>

12	2.15.1 (n)	19 of 178	An un-priced list of recommended spares, special tools and tackles, instruments and appliances for normal operation of the plant for the first two years to be supplied under the contract in the proforma shown in Annexure I.	<b>The clause 2.15.1 (n) hereby stands deleted</b>
13	2.15.1 (P)	19 of 178	Organization chart/set-up A chart showing the organization of the bidder proposes for the aforementioned scope of work at the site Details of specialist personnel available with the company or their associates. CVs of specialists, who would be responsible for executing this work, both in the bidder office and on site, to be provided. The details of personnel to be deployed for O&M of wind farm.	<b>Organization chart/set-up A chart showing the organization of the bidder proposes for the aforementioned scope of work at the site. Details and CVs of key specialist personnel available with the company/their associates should be provided.</b>
14	2.15.1 (q)	19 of 178	Quality assurance and in-house testing plan of electro-mechanical equipment to be offered by bidder's organization.	Quality assurance and in-house testing plan of electro-mechanical equipment to be offered by bidder's organization. <b>Final inspection will be carried out by BEML. Test reports and certificates for internal tests carried out for 10% of the total turbines as per the QAP of the company to be submitted to BEML before the dispatch of materials. Simplified QAP needs to be submitted along with the bid document.</b>
15	2.16.4	22 of 178	<p>2.16.4 The tenderer shall furnish the minimum guaranteed annual generation based on the estimated output per wind turbine generator for the proposed site using the wind data of the site quoted by him/her and applying a discount factor for all uncertainties and level of confidence perceived by the tenderer. The yearly wind regime will be correlated with the given wind data and any change in minimum guaranteed generation arrived at will be accounted as follows:</p> <p>a. In the case of yearly wind regime being equal or better than the one given by the tenderer for the site selected by him/her, the minimum guaranteed generation will only be considered as the base for the purpose of invoking penalty.</p> <p>b. In the case of yearly wind regime being less than the one furnished, reduction in the minimum guaranteed generation on this account will be allowed by the purchaser while invoking the penalty.</p> <p>The probability estimates for energy generation at minimum P90 confidence level will be considered for tender evaluation. Bidders shall provide energy generation estimates at P60, P75, P90 and P95 confidence levels.</p>	<p>2.16.4 The tenderer shall furnish the <b>average guaranteed annual generation based on the estimation for the entire wind farm at the proposed site</b> using the wind data of the site quoted by him/her and applying a discount factor for all uncertainties and level of confidence perceived by the tenderer. The yearly wind regime will be correlated with the given wind data and any change in <b>average</b> guaranteed generation arrived at will be accounted as follows:</p> <p>a. In the case of yearly wind regime being equal or better than the one given by the tenderer for the site selected by him/her, the <b>average</b> guaranteed generation will only be considered as the base for the purpose of invoking penalty.</p> <p>b. In the case of yearly wind regime being less than the one furnished, reduction in the <b>average</b> guaranteed generation on this account will be allowed by the purchaser while invoking the penalty.</p> <p>The probability estimates for energy generation at minimum P90 confidence level will be considered for tender evaluation and <b>for calculation of the average guaranteed generation</b>. Bidders shall provide energy generation estimates at P60, P75 <b>and P90</b> confidence levels.</p>
16	2.18	25 of 178	.....The generation details shall be provided for all the machines at different confidence levels (P50, P75, P90, and P95). P75, P90 and P95 derived with uncertainty factors.....	..... The generation details shall be provided for all the machines at different confidence levels ( <b>P50, P75, and P90</b> ). <b>P75, and P90</b> derived with uncertainty factors.....
17	2.19.1 - 2.19.2	26 of 178	<p>2.19.1 No deviations or exceptions are permissible.</p> <p>2.19.2 No deviations or exceptions to BEML's terms and conditions and /or pricing requirements will be accepted. The bidder may make due allowance in his/her prices for compliance with the terms and conditions contained herein.</p>	<p><b>2.19.1 Hereby deleted.</b></p> <p><b>2.19.2 Under extremely unavoidable circumstances the deviations may be mentioned in deviation sheet as per the annexure-N.</b> The bidder may make due allowance in his/her prices for compliance with the terms and conditions contained herein.</p>

18	2.21.1	26 of 178	The bidder whose bid is accepted by BEML shall be issued a letter of intent (LOI) prior to the expiry of bid validity. Subsequently, a detailed work order split in three parts as mentioned in NIT will be issued to the successful bidder.	The bidder whose bid is accepted by BEML shall be issued a letter of intent (LOI) prior to the expiry of bid validity. Subsequently, four POs/work orders/contracts as mentioned in NIT will be issued to the successful bidder. <b>The contract agreement against each PO shall be modified in line with PO/contract. A draft contract agreement is placed at annexure R.</b>
19	2.23	27 of 178	The quoted price shall be inclusive of all taxes, duties, etc. according to the legislation in effect as on the date 15 days before the bid opening date. However, on account of change in law or levy of any additional service-tax or any other tax or duty in the nature of indirect tax in respect of the services rendered by the contractor, the same shall be payable by the contractor in addition to the charges calculated on the basis of the quoted amount. Similarly, the contractor shall transfer any downward changes in taxes and duties to BEML.	The quoted price shall be inclusive of all taxes, duties, etc. according to the legislation in effect as on the date 15 days before the bid opening date. <b>However, any upward change/ new introductions in taxation within the stipulated commissioning date will be borne by BEML. Beyond the stipulated commissioning date it will be to bidder's account. Any downward change in taxation will be passed on to BEML.</b>
20	2.25.1	28 of 178	.....The bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of the around 18 MW wind power project by 30.9.2010. In case of delay beyond 30.9.2010, the contractor shall be liable to penalty as per terms and conditions of special conditions of contract.	.....The bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of around 18 MW wind power project by <b>31 December 2010</b> . In case of delay in commissioning <b>beyond 31 December 2010</b> , the contractor shall be liable to penalty as per terms and conditions of special conditions of contract.
21	2.25.2	28 of 178	The bidder shall indicate the duration of all the activities in a PERT chart in conformity to the overall schedule of completion of the project. This PERT chart shall be discussed and finalized and shall form an integral part of the contract.	The bidder shall indicate the duration of all the activities in a PERT chart in conformity to the overall schedule of completion of the project. This PERT chart shall be discussed and finalized and shall form an integral part of the contract. <b>Alternatively MS-Project based BAR chart shall be acceptable.</b>
22	3.1	31 of 178	BEML may place three separate purchase orders/work orders as mentioned below a. The first PO shall be placed for arranging the required land for the project (either as an outright purchase or on a long lease as applicable), micro-siting of wind turbines, all approvals, detailed engineering, and submission of drawings and designs for the project. b. The second PO shall be placed for manufacturing, supply and construction of wind turbines including tower, blade, nacelles, transformers and electrical works to be carried out. c. The third PO shall be placed for transportation of equipment and materials, erection and commissioning of wind turbine generators, civil works including building and storage place and operation and maintenance (O&M) of the wind farm initially for a period of 10 years which shall be renewable for another term of 10 years from the date of commissioning.	<b>BEML shall place four separate purchase orders/work orders as mentioned below:</b> <b>a. The first PO shall be placed for manufacturing, supply and construction of wind turbines including tower, blade, nacelles, transformers and electrical equipments and accessories etc to be carried out.</b> <b>b. The second PO shall be placed for transportation of equipment and materials, erection and commissioning of wind turbine generator, electrical works, other civil works etc.</b> <b>c. The third PO shall be placed for arranging the required land for the project (either as an outright purchase or on a long lease as applicable), micro-siting of wind turbines, all approvals, and submission of drawings and designs for the project</b> <b>d. The fourth PO will be for the comprehensive operation and maintenance (O&amp;M) of the wind farm initially for a period of 10 years (first two years free O&amp;M) which may be renewed for further period of 10 years thereafter.</b>

23	3.7.1	33 of 178	<p>3.7.1....., the contractor will furnish to BEML the comprehensive security –cum-performance bank guarantee equal to <b>10% of the total PO value</b> in the form of a bank guarantee in the pro-forma appended hereto as Annexure P from a nationalized bank within 15 days from the date of placement of the work order. This bank guarantee shall be valid initially for 9 months or up to the handing over of the wind farm assets to BEML and thereafter for another 40 months which shall include the average energy performance guarantee for <b>first three years of operation and equipment warranty period of two years</b> from the date of handing over of the wind farm for O&amp;M purposes.</p>	<p>3.7.1....., the contractor will furnish to BEML the comprehensive security in the form of bank guarantee equal to 10% of the total contract value in the pro-forma appended hereto as Annexure P from a nationalized bank within 15 days from the date of placement of the PO/work order/contract. This bank guarantee shall be <b>valid for 12 months or up to the handing over of the wind farm assets to BEML.</b></p> <p><b>Thereafter performance bank guarantee equal to 10% of contract value shall be executed in the pro-forma appended hereto as annexure P from a Nationalised bank valid for 40 months (effective from the date of handing over)which shall include the average energy performance guarantee for first three years of operation and equipment warranty period of two years from the date of handing over.</b></p>
24	3.7.2	34 of 178	<p>Further during the O&amp;M contract, the contractor will replace/extend the above performance guarantee equal to 3% of the EPCC contract value from the 40th months (i.e. after handing over to BEML) up to 10 year of the remaining O&amp;M period.</p>	<p><b>Further during the O&amp;M contract after two years of free O&amp;M period, the bidder shall provide performance bank guarantee equal to 10% of the highest annual O&amp;M contract value of contract period including taxes and duties, valid for entire O&amp;M contract period.</b></p>
25	3.15	37 of 178	<p>If at any time from the commencement of the work, BEML shall for any reason whatsoever not require the whole work including supplies or part thereof as specified in the contract to be carried out, BEML shall give notice in writing of the fact to the contractor, who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which he/she might have derived from the execution of the contract in full, but which he/she did not drive in consequence of the full amount of the work not having been carried out, neither shall he/she has any claim for compensation by reason any alterations having been made in the original specification, drawing, designs and instruction which shall involve any curtailment from the work originally contemplated.</p>	<p>If at any time from the commencement of the work, BEML shall for any reason whatsoever not require the whole work including supplies or part thereof as specified in the contract to be carried out, BEML shall give notice in writing of the fact to the contractor and the <b>reasons thereof. On receipt of such notice the contractor shall not proceed further or supply as stated in the notice. Any compensatory claims by either party shall be settled by the arbitrators/umpire appointed mutually as per Clause 3.40 of the tender document.</b></p>
26	3.22.2 (b)	39 of 178	<p>The contractor shall submit full details, designs, drawings etc of construction plants, equipment and machinery proposed to be deployed for the work along with its planning schedule. The schedule submitted by the bidder should conform to the construction schedule.</p>	<p>The <b>bidder</b> shall submit full details, designs, drawings etc (<b>as per the list provided in the clause 7.1.30</b>) of construction plants, equipment and machinery proposed to be deployed for the work a along with its planning schedule. The schedule submitted by the bidder should conform to the construction schedule.</p>
27	3.24.1	41 of 178	<p>All materials and workmanship shall be of respective kinds described in the contract document and in accordance with the instructions of the engineer-in-charge and shall be subjected from time to time to such tests at the contractor's cost as the engineer-in-charge may direct at the place of fabrication or at the site or at any such place. The contractor shall provide assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any workmanship as may be selected and required by the engineer-in-charge or the BEML representative.</p>	<p>All materials and workmanship shall be of respective kinds described in the contract document and in accordance with the instructions of the engineer-in-charge and shall be subjected from time to time to such tests at the contractor's cost as the engineer-in-charge may direct at the place of fabrication or at the site or at any such place. The contractor shall provide assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any workmanship as may be selected and required by the engineer-in-charge or the BEML representative. <b>This clause stands in accordance to the amended clause 3.82.1</b></p>

28	3.24.2	41 of 178	All the tests that will be necessary in connection with the execution of the work as decided by engineer-in-charge shall be carried out at the cost of the contractor at a government or any other testing laboratory as directed by the engineer-in-charge.	This clause is hereby deleted
29	3.25	41 of 178	.....engineer-in-charge for approval when requested, or if required by the specifications, adequate samples of all materials and finishes to be used in the work. Such samples shall be submitted before the work is commenced and in ample time to permit tests and examinations thereof. All .....	The clause 3.25 hereby deleted
30	3.26	41 & 42 of 178	Materials obtained from dismantling If the contractor in the course of execution of the work is called upon to dismantle any part for reason other than those stipulated in para 3.25	Clause is hereby deleted
31	3.35.4	45 of 178	On completion of inspection and checking and after passing the no load pre-commissioning tests satisfactorily, the complete equipment shall be placed on initial operation during which period the complete equipment shall be operated integral with subsystems and supporting equipment as a complete plant. On satisfactory completion of the cold tests, the contractor shall commission the plant.	<b>The pre-commissioning checks shall be conducted as per the standard technical requirements of the WTG model to be offered. The commissioning permission is required to be obtained from DISCOM/ CEIG as practiced in the wind industry. Successful bidder has to follow standard Industry practices in this regard. Required certificates to be obtained by the contractor and shall be submitted to BEML.</b>
32	3.35.5	45 of 178	The WEGs shall be then on trial operation during which period all necessary adjustments shall be made while operating at prevailing wind conditions enabling the plant to be made ready for the performance and guarantee test. During this period the plant shall be in continuous operation. The trial operation shall be considered successful provided the complete equipment for each unit operates continuously at the specified operating characteristics during the period of trial operation.	The WEGs shall be then on trial operation during which period all necessary adjustments shall be made while operating at prevailing wind conditions enabling the plant to be made ready for the performance test. The trial operation shall be considered successful <b>and wind turbine stabilized provided each wind turbine operates and exports electricity to the grid for minimum 96 hrs continuously at the specified operating characteristics during the period of trial operation.</b>
33	3.35.8	46 of 178	The contractor before the start of commissioning the projects will submit the following documents.  i. The technical documents according to which the work was carried out.  ii. Three sets of as-built drawings along with one reproducible copy showing therein the modification and corrections made during completion or during the course of execution, signed by the engineer-in-charge.  iii. Completion certificate for embedded and covered- up works.  iv. Certificate of tests performed for various works.	The contractor <b>on completion</b> of commissioning the projects will submit the following documents.  i. The technical documents according to which the work was carried out.  ii. Three sets of as-built drawings along with one reproducible copy showing therein the modification and corrections made during completion or during the course of execution, signed by the engineer-in-charge.  iii. Completion certificate for embedded and covered- up works.  <b>iv. Final certificate of tests performed for various critical components like Tower, Blade, Nacelle, Transformer etc.)</b>

34	3.35.10	46 of 178	The EPCC work of the project shall be considered as commissioned and completed on continuous generation of electricity for 3 months stabilization period after the commissioning of each WTG with 98% machine availability of all the WEGs and generation of electricity from the wind farm as per the power curve of the WEGs. The commissioning will be considered for the project as a whole only and not of individual WEGs. The warranty and defect liability period will start after completion of 3 months of trail run / stabilization period of complete wind farm.	The EPCC work of the project shall be considered as commissioned and completed on continuous <b>generation of electricity for 96 hours stabilization period after the commissioning of each WTG with minimum 95% machine availability</b> and generation of electricity from the wind farm as per the power curve of the WEGs. The commissioning will be considered for the project as a whole only and not of individual WTG. <b>The project shall be considered as commissioned after submission of commissioning certificate to BEML as issued by KPTCL/authorised government agency.</b> The warranty and defect liability period will start after completion of 3 months of trail run / stabilization period of complete wind farm <b>or from the date of handing over the whole 18 MW wind farm to BEML which ever is earlier.</b>
35	3.39.1 & 3.39.3	47-48 of 178	The contractor shall not without the consent in writing of BEML, assign, sublet or transfer the contract or the benefits or obligations or any part thereof, directly or indirectly, to any person, firm or corporation. The contractor shall not, without the consent in writing of BEML, sublet to any person or firm for supply of any major shall not apply to subcontractor shall also be in accordance with this contract, and the contractor shall be solely responsible to BEML for any act done by the subcontractor. If BEML for any reason whatsoever subsequently rescinds the approval once given by BEML in favour of a subcontractor, it shall be obligatory on the part of the contractor to act upon it.	<b>3.39.1 Bidders shall submit list of vendors/subcontractors along with the bid document. The written consent for subcontract from BEML may not be required if subcontractor /vendors details are provided with the bid. Otherwise, bidder shall seek the consent of BEML for subcontract of major activity. In view of 3.39.1, clause 3.39.3 stands deleted.</b>
36	3.40	48 of 178	Any issues/disputes arising out of this NIT and tender document, shall be sorted out at the first instance by the committee formed by BEML. If the dispute persists to remains unresolved, it shall be referred to Arbitration and shall be governed by provisions of the Indian Arbitration and Conciliation Act for the time being in shall be applicable. For this purpose, BEML shall appoint the arbitrator. Such an arbitrator will be an officer of a rank, not below that of secretary to the Government of Karnataka.	It is expressly agreed by and between the parties that in the event if any dispute or difference shall arise between them, such disputes or differences shall be referred to Arbitration of two independent persons, one to be appointed by each party with powers to the Arbitrators to nominate an Umpire before proceeding with such reference and this tender shall be deemed to be a submission within the meaning of Arbitration and Conciliation Act 1996, the said Arbitration proceedings shall be governed by the provisions contained in the said Act or any statutory modification thereof and the decision of such Arbitrators or Umpire as the case may be, shall be final and binding on both the parties. The cost of appointment of the Umpire shall be shared equally by the parties. The place of Arbitration shall be Bangalore and the Arbitration proceedings shall be conducted in English language. Courts at Bangalore alone shall have jurisdiction to entertain, try and adjudicate the award of the Arbitral Tribunal.
37	3.43.1	49 of 178	The contractor shall furnish to BEML and his/her consultant a CPM/PERT oriented date-wise schedule for all activities as per the contract. This schedule shall be mutually discussed and agreed upon.	The contractor shall furnish to BEML and his/her consultant a CPM/PERT/ <b>MS-Project based BAR chart/Activity Chart</b> oriented date-wise schedule for all activities as per the contract. This schedule shall be mutually discussed and agreed upon.
38	3.43.3	50 of 178	However, before placement of the order, approval of BEML shall be obtained. In case any purchase order is amended by the contractor at a later date, copies of the amended purchase order in duplicate shall be submitted to BEML.	<b>In case any purchase order is amended by the contractor at a later date, copies of the amended purchase order in duplicate shall be submitted to BEML.</b>

39	3.53	56 of 178	The contractor shall procure and provide all of the materials required for the construction including building materials, tools, tackles, construction materials and equipment for the completion and maintenance of the works. BEML may give necessary recommendation to the respective authority, if so desired by the contractor, and assumes no further responsibility of any nature. BEML may insist on the procurement of materials which bear the ISI mark and/ or which are supplied by reputed suppliers on the DGS&D list.	<b><i>The contractor shall procure and provide all of the materials required for the construction including building materials, tools, tackles, construction materials and equipment for the completion and maintenance of the works. BEML may give necessary recommendation to the respective authority, if so desired by the contractor, and assumes no further responsibility of any nature. BEML may insist on the procurement of materials which bear the ISI mark .</i></b>
40	3.72.1 /	65 of 178	The contractor shall be responsible for and take an insurance policy for transit-cum-storage-cum-erection for all the materials and equipment to cover all risks and liabilities for supply of materials on F.O.R. site basis, storage of materials at site, erection, testing, commissioning, until handing over the plant and equipment to BEML. The insurance policy should be taken from any reputed General Insurance Company or any of its subsidiaries as decided by BEML and it should be assigned in favour of BEML.  ....Before the expiry of this first two years insurance policy, the bidder shall take another comprehensive insurance policy up to 10 years of operation of wind farm.	The contractor shall be responsible for and take an insurance policy for transit, storage, erection and commissioning, <b><i>and machine breakdown</i></b> for all the materials and equipment to cover all risks and liabilities for supply of materials on F.O.R. site basis, storage of materials at site, erection, testing, commissioning, until handing over the plant and equipment to BEML after successful stabilisation. The insurance policy should be taken from any reputed General Insurance Company or any of its subsidiaries and the same should be assigned in favour of BEML. <b><i>Insurances up to handing over of the project shall be to the bidder's account and BEML to insure beyond.</i></b>  ....Before the expiry of this first two years insurance policy, the bidder shall take another comprehensive <b><i>annual</i></b> insurance policy up to 10 years of operation of wind farm. <b><i>The risks towards machine breakdown other than force majeure / fire and allied perils will be borne by the bidder post handing over of the project</i></b>
41	3.72.2	65 of 178	The contractor shall also take insurance for third-party liability covering loss of human life (engineers and workmen not belonging to contractor) and also covering the risk of damage to other's material/equipment/properties during execution of the contract. However, the value of third-party liability for compensation for loss of human life and damage of equipment/property shall be subject the approval by BEML / its consultant.	<b><i>The contractor shall also take insurance for third-party liability covering loss of human life including engineers and workmen not belonging to contractor and also covering the risk of damage to other's material/equipment/properties during execution of the contract.</i></b>
42	3.72.8	67 of 178	The contractor shall ensure that insurance coverage is obtained to take care of future cost escalations and variation in taxes and duties during the tenure of the contract. The contract shall, if necessary, also enhance and extend the insurance coverage until the completion of supplies.	Clause 3.72.8 stands deleted.
43	3.72.9	67 of 178	The contractor shall lodge, whenever required, the necessary claim with the insurance company and shall settle the claims with insurance company thereafter. However, the contractor shall proceed with the repairs and /or replacement of the equipment/component without waiting for the settlement of the claims.	The contractor shall lodge, whenever required, the necessary claim with the insurance company and shall settle the claims with insurance company thereafter. However, the contractor shall proceed with the repairs and /or replacement of the equipment/component without waiting for the settlement of the claims.  <b><i>In case of any damages due to Fire &amp; Allied Perils and / or Force Majeure events taking place after the wind farm is taken over by BEML; the charges for replacement or renewal of equipment / components shall be charged extra including the services part with applicable taxes &amp; duties. The restoration works shall start only after the insurance company's surveyor carries out the visit and assessment.</i></b>

				<i>The charges for doing such repair works / providing the equipment or components etc., as applicable, and as may be agreed mutually between the parties and will be borne by BEML.</i>
44	3.72.10	67-68 of 178	The above insurance policy shall be kept valid during the tenure of the contract (during the EPC period as well as the O&M period) and the contractor shall pay the necessary premium as required under the terms of the policy.	The above insurance policy/policies shall be kept valid during the tenure of the contract (during the EPC period as well as the O&M period) and <b>shall be timely renewed before the expiry of previous one (In case of O&amp;M period insurance). The contractor shall pay the necessary premium as required under the terms of the policy/policies under his/her scope.</b>
45	3.77.2	70 of 178	All packing shall allow for easy removal and checking at site. Special precaution shall be taken to prevent rusting of steel and iron parts during transit. Gas seals or other methods proposed to be adopted for protection against moisture during transit shall be subject to prior approval of BEML. "...to be adopted for protection against moisture during transit shall be subject to prior approval of BEML."	<b>All packing shall allow for easy removal and checking at site. Special precaution shall be taken to prevent rusting of steel and iron parts during transit. Gas seals or other methods to be adopted for protection against moisture during transit.</b>
46	3.77.4	70 of 178	Each package delivered under the contract shall be marked by an at the expense of the contractor and such marking must be distinct and in English language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name of the contractor with a distinctive number of marks sufficient for purpose of identification. All markings shall be carried out with such material as to ensure quickness of drying, fastness and indelibility. Each equipment or part of equipment shall when shipped or otherwise dispatched be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the contractor, the number and date of contracts or order and the name of the office placing the contract and nomenclature of the stores and include a schedule of parts for each complete equipment giving the part numbers with reference to the assembly drawing and the quantity of each part, drawing numbers and tag numbers.	<b>"The contractor /sub-contractor/bidder shall use industry best practices for packaging, tagging and shipment of components of wind power project, WTG etc to avoid damages during transit"</b>
47	3.77.5	70 of 178	All packing cases, containers, packing and other similar materials shall be new and supplied free by the Contractor and will not be returned unless otherwise stated in the schedule hereto.	<b>The contractor/sub-contractor/bidder shall use industry best practices for packaging to avoid damages during transit.</b>
48	3.78.8	72 of 178	Brand names mentioned in the Contract documents are for the purpose of establishing the type and quality of product to be used. The contractor shall not change the brand name and qualities of the bought items without prior written approval of BEML. All such products and equipment shall be used or installed in strict accordance with the original manufacturer's recommendations, unless otherwise directed by BEML.	Brand names mentioned in the <b>offer</b> documents are for the purpose of establishing the type and quality of product to be used. <b>Contractor shall abide by the brands and qualities of items furnished by him along with the offer document. In case of deviation after submission of offer, contractor should promptly inform the same to BEML in written format and take approval.</b> All such products and equipment shall be used or installed in strict accordance with the original manufacturer's recommendations, unless otherwise directed by BEML.
49	3.79.3 & 3.79.4 & 3.79.5	73 of 178	3.79.3 The contractor well in advance of commencement of supplies shall.... 3.79.4 Where approval of drawings before manufacture.... 3.79.5 Six copies of the following literature and	<b>Clauses 3.79.3, 3.79.4 &amp; 3.79.5 stand corrected as: The drawings and designs as per the clause 7.1.30 shall be submitted for reference and record purpose only and need not require any approval from BEML. Minimum three sets of drawings, designs, documents shall be provided</b>

			documents.....	<i>to BEML.</i>
50	3.79.6 and 3.79.7	74 of 178	<p>3.79.6 "The contractor shall furnish as soon as possible, general arrangement drawing to enable BEML to examine the type and material of plant to be supplied and to propose any changes, which it may think necessary. The contractor shall not withhold any detailed drawings or information necessary to enable the above examination to take place. BEML shall make any comment or objection if may have within one month of the receipt of the various drawings."</p> <p>3.79.7 Any modification shall be subject to written approval of BEML.</p>	<p><b>3.79.6: The contractor shall ensure that the general arrangement drawings are in line with the requirement of statutory agencies. All the drawings, designs, documents, manuals etc shall be provided for the reference and record purpose only and shall not need any approval from BEML</b></p> <p><b>3.79.7 : Any modifications to the drawings and designs should be submitted to BEML</b></p>
51	3.81.1 - 3.81.8	75 of 178	<p>3.81 " Approval by BEML" sub clauses 3.81.1-3.81.8 as per the tender</p>	<p>3.81 " <b>References for BEML</b>"</p> <p>Sub clauses 3.81.1-3.81.8 are amended as: <b>The successful bidder shall provide required documents, designs, drawing, reports, manual, brochures as required by BEML for its references and are listed in clause 7.1.30. The list of vendors and subcontractors shall be provided with the bid. While contractor shall make supplies in terms of the contract, BEML reserves the right to check its quality, quantity, workmanship etc of any or all items of supplies where considered necessary by BEML.</b></p>
52	3.82.1	75 & 76 of 178	<p>Inspection and testing of wind farm and equipment shall be carried out by BEML at the works of successful bidder (contractor/subcontractor) during manufacturing and on the final product to ensure conformity of the same with the acceptable criteria of technical specifications, approved drawings, authenticated manufacturing drawings and reference national/international standards, as brought out in the technical specifications.</p> <p>In case of all scheduled visits, 15 days' advance notice shall be given by the supplier to BEML.</p> <p>..... as per relevant Indian Standards/ International Standards.</p>	<p><b>Final Inspection and testing of 10% of major critical items viz Nacelle, Blade, Tower and transformer etc shall be carried out by BEML/its representative at the works of successful bidder (or contractor /subcontractor) during manufacturing on the final product to ensure conformity of the same with the acceptable criteria of technical specifications, approved drawings, authenticated manufacturing drawings and reference national/international standards, as brought out in the technical specifications.</b></p> <p>In case of all scheduled visits, <b>7 days'</b> advance notice shall be given by the supplier/bidder to BEML.</p> <p>....as per relevant Indian Standards/ International Standards <b>before the dispatch of the components to site.</b></p>
53	3.84.4	77 of 178	<p>"Technical specifications, drawings, flow sheets, norms calculations,..... commissioning, operation, maintenance, modifications and/or expansion of the unit including the manufacture of spare parts."</p>	<p>Technical specifications, drawings, flow sheets, norms calculations,..... commissioning, operation, maintenance, modifications and/or expansion of the unit including the manufacture of spare parts. <b>Documents and drawings shall be submitted as per the list mentioned in the clause 7.1.30 to BEML for its references, records and verification only.</b></p>
54	3.88.1	79 of 178	<p>"..... The contractor will bear all costs of travel, fees, lodging, boarding, training and local conveyance of the engineers at the training places."</p>	<p>.....The contractor will bear all the cost of <b>training. The cost of travel, lodging, boarding and local travel of the engineers of BEML will be born by BEML</b></p>

55	3.88.2	79 of 178	<p>The contractor shall depute adequate number of experts to the BEML plant for training BEML's personnel in all branches connected with the process, maintenance and operation of the plant at such terms and conditions, as may be agreed to with BEML.</p>	<p><b>The contractor shall depute adequate number of experts for training BEML's personnel in all branches connected with the process, maintenance and operation of the wind power plant at such terms and conditions, as may be agreed in amended clause 3.88.1.</b></p>
56	4.3.1 & 4.3.2	85 of 178	<p>4.3.1 " The price agreed between the bidder and BEML for operation and maintenance of wind farm would include wear, tear, overhauling, machine brake-down, comprehensive insurance, replacement of defective capacitors, spares, consumables and other parts for a period of minimum eight years after completion of initial two years of free O&amp;M including insurance . The same shall be treated as O&amp;M contract price."</p> <p>4.3.2 "The O&amp;M contract price shall be deemed inter alia to include the entire scope of work and cover the cost of all consumables, spares, insurance and employment of personnel including security staff during the O&amp;M period for the first ten years of operation our of which first two years shall be offered as free O&amp;M."</p>	<p><b>4.3.1 " The price agreed between the bidder and BEML for operation and maintenance of wind farm would include wear, tear, overhauling, machine breakdown, replacement of defective capacitors, spares, consumables and other parts for a period of minimum eight years after completion of initial two years of free O&amp;M including insurance as per clause 3.72.1. The same shall be treated as O&amp;M contract price."</b></p> <p><b>4.3.2 "The O&amp;M contract price shall be deemed inter alia to include the entire scope of work and cover the cost of all consumables, spares, employment of personnel including security staff during the O&amp;M period for the first ten years of operation our of which first two years shall be offered as free O&amp;M."</b></p>
57	4.3.4	85 of 178	<p>The O&amp;M contract price shall be inclusive of all taxes, duties, royalty works, tax etc. The O&amp;M charges are inclusive of insurance charges for the entire wind farm. In the case machinery breakdown, the contractor shall take immediate steps to repair such breakdown with no loss to BEML. If the insurance authorities does not agree to consider those failures as machinery breakdown and hold that they are failure due to wear and tear, failures will be considered covered under the O&amp;M work of the contract and no extra charges shall be payable by BEML to the contractor.</p>	<p>The O&amp;M contract price shall be inclusive of all taxes, duties, royalty works, tax etc. <b>The O&amp;M charges are inclusive of insurance charges for the entire wind farm as per the clause 3.72.1. In the case machinery breakdown, the contractor shall take immediate steps to repair such breakdown with no loss to BEML.</b> If the insurance authorities does not agree to consider those failures as machinery breakdown and hold that they are failure due to wear and tear, failures will be considered covered under the O&amp;M work of the contract and no extra charges shall be payable by BEML to the contractor.</p>
58	4.8	87 of 178	<p>The successful bidder will submit a comprehensive security deposit-cum-performance bank guarantee for 10% of total PO value within 15 days of PO placement. The bank guarantee shall be valid for 9 months initially from the date of the PO.</p> <p>a. 10 % of the total contract value to be given as an interest bearing (SBI PLR + 0.5%) mobilization advance, after signing of contract, against a bank guarantee of equivalent amount from any scheduled bank (co-operative banks not accepted). This mobilization shall be adjusted against running accounts (RA) bills by deducting 10% of the amount from each RA bill.</p> <p>b. 50% of the total contract value shall be released on pro-rata basis (based on the number of WEGs) after supply and successful erection of WEGs at site.</p> <p>c. 20% of the contract value shall be released on pro-rata basis (based on the number of WEGs) after commissioning of WTG.</p> <p>d. 10% of the contract value shall be released on transfer of land title as applicable and completion certificate issued by BEML Limited, which means completion of all activities/documentation related to the project and acceptance by BEML Limited.</p> <p>e. Final 10% payment shall be released, against submission</p>	<p><b>a. 10 % of the total contract value to be given as an interest bearing (SBI Cash Credit rate of interest plus 0.5%) mobilization advance, after signing of contract, against a bank guarantee of equivalent amount from any nationalised bank valid for a period of 12 months. This mobilization advance shall be adjusted against running accounts (RA) bills by deducting 10% of the amount from each RA bill along with the interest accrued.</b></p> <p><b>b.30% of the total contract value shall be released on pro-rata basis (based on the number of WTGs) after supply of WTGs at site.</b></p> <p><b>c.30% of the contract value shall be released on pro-rata basis (based on the number of WTGs) after successful erection of WTGs.</b></p> <p><b>d.10% of the contract value shall be released after successful commissioning of WTGs in full along with the principal component of mobilisation advance recovered from the RA bills.</b></p> <p><b>e.10% payment shall be released, against</b></p>

			of bank guarantee of equivalent amount for defect liability period and average energy generation guarantee duration and valid for 40 months after the successful stabilization and handing over of the wind farm to BEML Limited for operation.	<p><b>submission of bank guarantee for equivalent value for defect liability period and average energy generation guarantee duration and valid for 40 months after the successful stabilization and handing over of the wind farm to BEML Limited for operation.</b></p> <p><b>f.10% of the contract value shall be released on transfer of land title as applicable and completion certificate issued by BEML Limited, which means completion of all activities/documentation related to the project and acceptance by BEML Limited.</b></p> <p><i>Note: i) The total contract value for the purpose of payment and furnishing of BG shall be considered as the sum of values of POs placed for a), b) and c) of clause 2.2 of NIT only. ii) The BG for O&amp;M PO shall be against PO value of (d) of clause 2.2 of NIT.</i></p>
59	4.10.1	88 of 178	Time is the essence of the contract and shall be firm and binding. The bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing and commissioning of around 18 MW by 30 September 2010. In case of delay beyond 30 September 2010, the contractor shall be liable for penalty as per the terms given in the special condition of the contract.	Time is the essence of the contract and shall be firm and binding. The bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing and commissioning of around 18 MW by <b>31 December 2010</b> . In case of delay beyond <b>31 December 2010</b> , the contractor shall be liable for penalty as per the terms given in the special condition of the contract.
60	4.10.2	88 of 178	The EPCC work of the project shall be considered as commissioned and completed on continuous generation of electricity for 3 months after the stabilisation of wind turbine operations with 98% average machine availability of all the WEGs as per the commissioning schedule and generation of electricity from the wind farm as per the power curve of the WEGs. The commissioning will be considered for the project as per the commissioning schedule as a whole and not for individual WEGs.	<b>The EPCC work of the project shall be considered as commissioned and completed on demonstration of continuous generation of electricity for 96 hours from all WEGs during the first three months stabilisation period of wind turbines operations with 95% average machine availability. The date of commissioning will be considered as the date of issuance of commissioning certificate from DISCOM / KPTCL."</b>
61	4.11	88 of 178	The penalty for delay in completion i.e. commissioning and handing over of wind farm shall be @ 0.5% per week or part thereof up to a maximum of 5% of the cost of un-commissioned turbine capacity. For this purpose, the cost of each WEG will be calculated as the total cost of the contract divided by the total number of WEGs.	The penalty for delay in completion i.e. commissioning and handing over of wind farm shall be @ 0.5% per week or part thereof up to a maximum of 5% of the cost of un-commissioned turbine capacity. For this purpose, the cost of each WEG will be calculated as the total cost of the contract divided by the total number of WEGs. <b>The cost of each WTG shall be determined without any consideration of O&amp;M cost for the calculation of penalty amount.</b>
62	4.12.2	89 of 178	The bidder shall guarantee for the wind farm machine availability factor of not less than 98% a month. Even when the factor falls below this level, it will be considered to have 98% for purpose of power curve performance analysis based on actual wind data. However, if the factor exceeds 98%, the actual value shall be considered for the purpose of the analysis.	The bidder shall guarantee for the wind farm average machine availability factor of not less than <b>95% on annual basis</b> . Even when the factor falls below this level, it will be considered to have <b>95%</b> for purpose of power curve performance analysis based on actual wind data. However, if the factor exceeds <b>95%</b> , the actual value shall be considered for the purpose of the analysis.
63	4.13	89 of 178	Performance power curve guarantee	<b>Average generation guarantee</b>

64	4.13 (b)	89 & 90 of 178	The bidder shall guarantee a machine availability factor of not less than 98 % per month for the wind farm. Even when the factor falls below this level, it will be considered to have 98% for purpose of power curve performance analysis based on actual wind data. However, if the factor exceeds 98%, the actual value shall be considered for the purpose of the analysis.	The bidder shall guarantee a average machine availability factor of not less than <b>95 % per annum</b> for the wind farm. Even when the factor falls below this level, it will be considered to have <b>95%</b> for purpose of power curve performance analysis based on actual wind data. However, if the factor exceeds <b>95%</b> , the actual value shall be considered for the purpose of the analysis."
65	4.13 (g)	90 of 178	It is the responsibility of the O&M contractor to maintain a high power factor to reduce VAR drawl in these systems. If KPTCL penalizes BEML for a lower power factor/VAR drawl from the grid, the actual amount paid as penalty shall be deducted from the O&M contract bills/ outstanding credit.	It is the responsibility of the O&M contractor to maintain a high power factor to reduce VAR drawl in these systems. If KPTCL penalizes BEML for a lower power factor/VAR drawl from the grid, the actual amount paid as penalty shall be deducted from the O&M contract bills/ outstanding credit.
66	5.6	95 of 178	5.6 Insurance  iii. Motor vehicle, general liability and other insurance and deductibles / excess thereon as may be required by applicable Indian laws or in order to enable the operator to comply with prudent utility practice.  iv. The operator shall provide comprehensive insurance, which shall cover among other things and fire, earthquake, and flood damage and deductibles thereon, machinery breakdown insurance and deductibles / excess thereon for WEGs, other auxiliaries and the complete wind farm including its capacitor bank.	5.6 Insurance  <b>iii. This clause is hereby deleted</b>  <b>iv. The BEML shall take insurance after handing over of wind farm for O &amp; M duration which shall cover the risks towards force majeure / fire and allied perils, earthquake, and flood damage and deductibles thereon. The machinery breakdown insurance and deductibles / excess thereon for WEGs, other accessories shall be to the contractors account as per the insurance clause 3.72.</b>
67	5.7.1	96 of 178	The operator shall maintain metering system (which shall include energy meter, current and potential transformers and tele-metering equipment) as per the metering code and the practices adopted in the state..... Such measurement will get recorded in the measurement book by the engineer-in-charge or his/her authorized representative and signed in token of acceptance by the operator or his authorized representative.	<b>The operator/contractor shall maintain suitable metering system (which shall include energy meter, current and potential transformers) as per the metering code and the practices adopted in the state and acceptable to KPTCL and DISCOM.</b>
68	5.8.2	97 of 178	"The payment of O&M charges shall be made on yearly basis after deduction of leviabale taxes and adjustment of dues payable to BEML. BEML will be billed by the operator promptly following the end of each year of the O&M period. For the purpose of payment, the first year shall be reckoned from the date of handover of the wind farm to the contractor for O&M purpose to 31March of that financial year. In subsequent years the payment shall be made for the period from 1April to 31March. In the last year, the payment shall be made for the period from 1April to the date of expiry of the O&M period."	"The payment of O&M charges shall be made on <b>half</b> yearly basis after deduction of applicable taxes and adjustment of dues payable to BEML. BEML will be billed by the operator promptly following the end of each <b>half</b> year of the O&M period. For the purpose of payment, the first year shall be reckoned from the date of handover of the wind farm to BEML for O&M purpose to 31March of that financial year. In subsequent years the payment shall be made for the period from <b>1April to 30 Sep and 1 October to 31March</b> . In the last year, the payment shall be made for the period from 1April to the date of expiry of the O&M period."
69	5.10	98 of 178	After the expiry of contract duration and extension of duration as the case may be, the operator shall hand over the plant to BEML in excellent condition. The operator shall demonstrate performance test of all the major and critical equipment to ensure generation from the wind farm as per the power curve. While handing over, the plant operator shall hand over all technical documents, literature, instruction manuals, lists of spare part and tools and tackles. The operator will also hand over all the relevant record/documents, spares and consumables required for two year's O&M.	After the expiry of contract duration and extension of duration as the case may be, the operator shall hand over the plant to BEML in excellent condition. The operator shall demonstrate performance test of all the major and critical equipment to ensure generation from the wind farm as per the power curve. While handing over, the plant operator shall hand over all technical documents, <b>literature, instruction and O&amp;M manuals etc. The operator will also hand over all the relevant record/documents, list of spares and</b>

				<b>consumables required for two year's O&amp;M.</b>
70	6.6	100 of 178	..... • 33 kV or above structures with A.B. switches, D.O. fuses insulator, lightning arrestors, and other line materials as required....	..... • 33 kV or above structures with A.B. switches, <b>VCB</b> , lightning arrestors, and other line materials as required....
71	6.7	101 of 178	Availability of vehicles for O&M staff and for everyday inspection as per requirement may be ensured, failing which BEML shall have the full right to make alternative arrangements at the risk and cost of contractor." "The bidders shall design suitable power evacuation system to inject power from the wind farm at any nearest 33 kV/66 kV/132 kV/220kV/400kV GSS through a dedicated line, bay extension and protection equipment. If any work at KPTCL/DISCOM grid substation if required, the expenses shall be borne by the contractor.	Availability of vehicles for O&M staff and for everyday inspection as per requirement may be ensured by the contractor." "The bidders shall design suitable power evacuation system to inject power from the wind farm at any nearest 33 kV/66 kV/132 kV/220kV/400kV GSS through a <b>common</b> line, bay extension and protection equipment. If any work at KPTCL/DISCOM grid substation if required, the expenses shall be borne by the contractor.
72	6.8	101 of 178	.....Suitable Communication System	.....Suitable Communication System ( <b>Cellphone</b> )
73	6.14	102 of 178	Submission of six copies of each of the following documents, drawings, data, design, and engineering information to BEML or its authorized representative for review and approval.....	<b>Submission of three copies of documents, drawings, data, design, and engineering information as per the list under clause 7.1.30 to BEML or its authorized representative for information, review, verification and records.....</b>
74	6.16 (i)	102 of 178	i. An schedule for various activities in the form of a PERT chart within a week from the date of detailed work order	i. A <b>schedule for various activities in the form of a PERT/ MS Project bar Chart/Activity chart</b> within a week from the date of detailed work order as per tender
75	6.17	103 of 178	Supply and erection of one independent wind monitoring station duly calibrated by the independent agency approved by BEML and the bidder at the site along with necessary equipment and software for recording wind data at two level and transferring the data to PCs...	<b>Supply and erection of one independent wind monitoring station at the site duly calibrated along with necessary equipment and software for recording wind data at two level and transfer and storage of the data in soft format.</b>
76	6.30	104 of 178	The availability of land shall be ensured by the bidder and the land shall be free from any dispute and legal liability. For the selected site bidder shall provide the certified wind data in the form of frequency distribution of the selected site from MNRE or C-WET.	The availability of land shall be ensured by the bidder and the land shall be free from any dispute and legal liability. <b>Bidder shall provide wind data as requested in clause 2.5.8</b>

77	6.31.3	105 of 178	Operation and maintenance of the wind farm including supply of spares, consumables, wear and tear, overhauling, replacement of damaged capacitors and insurance covering all risk (Fire and allied perils, earth quake, terrorist attacks, and burglary) required for a period of 10 (ten) years, renewable up to 20 years from the date of commissioning of the project shall be carried out at a fixed cost. The period of operation and maintenance will be deemed to commence from the date of handing over the complete wind farm to the O&M contractor for the same. For the purpose of O&M payment, the first year shall be reckoned from the date of handover of the wind farm to the contractor for O&M purpose until 31 March of that financial year. In subsequent years, the payment shall be made for the period from 1April to 31March. In the last year, the payment shall be made for the period from 1April to the date of expiry of the O&M period. The contractor shall maintain the machine availability at 98% of the time on monthly basis. The reactive power consumption and transmission losses shall not exceed 5% each of gross annual generation for overall wind power project of around 18 MW capacity.	<b>Operation and maintenance of the wind farm including supply of spares, consumables, wear and tear, overhauling, replacement of damaged capacitors and insurance covering all risks as per the insurance clause 3.72. required for a period of 10 (ten) years, renewable up to 20 years from the date of commissioning of the project shall be carried out at a fixed cost. The period of operation and maintenance will be deemed to commence from the date of handing over the complete wind farm to the O&amp;M contractor for the same. For the purpose of O&amp;M payment, the first year shall be reckoned from the date of handover of the wind farm to the contractor for O&amp;M purpose until 31 March of that financial year. In subsequent years, the payment shall be made for the period from 1April to 30 Sep and 1 October to 31March. In the last year, the payment shall be made for the period from 1April to the date of expiry of the O&amp;M period. The contractor shall maintain the average machine availability at 95% of the time on annual basis. The transmission losses shall not exceed 5% of gross annual generation for overall wind power project of around 18 MW capacity.</b>
78	6.33	106 of 178	The contractor shall draw the preventive maintenance schedules and attend to the breakdowns keeping in mind that machine availability must always be more than 98% on monthly basis.....	The contractor shall draw the preventive maintenance schedules and attend to the breakdowns keeping in mind that machine availability must always be more than <b>95% on annual basis</b> .....
79	6.33	107 of 178	The contractor will attend to any breakdowns immediately for repair/replacement/adjustments and complete the track at the earliest, working round the clock. During breakdowns (not attributable to normal wear and tear) and O&M period, the contractor shall immediately report accidents, if any, to the engineer-in-charge showing the circumstances under which occurred and the extent of damage and or injury caused.	The contractor will attend to any breakdowns immediately for repair/replacement/adjustments and complete the <b>task</b> at the earliest, working round the clock. During breakdowns (not attributable to normal wear and tear) and O&M period, the contractor shall immediately report accidents, if any, to the engineer-in-charge showing the circumstances under which occurred and the extent of damage and or injury caused. <b>This shall be subject to the insurance provisions as per the clause 3.72 and Force majeure conditions as per the tender.</b>
80	7.1.2, 7.1.7 & 7.1.11	109, 115 & 116 of 178	.....Frequency: 50 Hz (+0.2 Hz, -0.5 Hz) Voltage : WEG generation voltage $\pm$ 10%.....	.....Frequency 50 Hz (+0.2 Hz, -0.5 Hz) Voltage : WEG generation voltage $\pm$ 10%..... <b>In addition to provisions of existing clauses 7.1.2, 7.1.7 &amp; 7.1.11: Please refer to amended clause 2.5.10(vii)</b>
81	7.1.4	110 of 178	The bidder shall include a microprocessor-based local control system panel, one each for every WTG offered in the tender....	The bidder shall include a microprocessor / <b>PLC-based / suitable</b> local control system panel, one each for every WTG offered in the tender....
82	7.1.4.14	113 of 178	Auxiliary power requirement for contactor/relays/control electronics etc. shall be met through a UPS. Its capacity and backup shall be mentioned.	Auxiliary power requirement for contactor/relays/control electronics etc. shall be met <b>through appropriate back up supply</b> . Its capacity and backup shall be mentioned.

83	7.1.8	115 of 178	The WEG shall be provided with capacitors for attaining a minimum power factor of 0.95 at full load and as close to unity as possible during the entire range available. The capacitors shall be cut in after the start-up procedure is terminated. Self-excitation of WEG due to capacitors is to be avoided. All penalties/charges payable to EB due to the power factor and reactive energy consumption shall be borne only by the bidder.	The WEG shall be provided with <b>suitable capacitors and power factor correction and compensation system</b> for attaining a minimum power factor of 0.95 at full load and as close to unity as possible during the entire range available. The capacitors shall be cut in after the start-up procedure is terminated. Self-excitation of WEG due to capacitors is to be avoided. <b>All penalties/charges payable to EB due to the power factor and reactive energy consumption shall be borne only by the bidder.</b>
84	7.1.10	116 of 178	The tower shall be of lattice/tubular type. The tower shall be galvanized. The tower should have convenient climbing devices and suitable landing platforms. Safety rope and belts should be supplied. The necessary foundation bolts should also be supplied. The exposed portion of the foundation bolts should be galvanized.	The tower shall be of lattice/tubular/ <b>concrete</b> type. The tower shall be galvanized/ <b>painted / suitably coated to avoid corrosion</b> . The tower should have convenient climbing devices and suitable landing platforms. Safety rope and belts should be supplied. The necessary foundation bolts should also be supplied. The exposed portion of the foundation bolts should be galvanized/ <b>painted / suitably coated to avoid corrosion</b> .
85	7.1.11	116 of 178	.....Degree of protection: IP 54...	<b>.....Degree of protection: IP 21 / 23 / 54...or as applicable</b>
86	7.1.12	116 of 178	.....The combined earth resistance at each WTG shall be less than one ohm. The earth electrode must be designed to withstand the maximum possible short circuit current and the length of the electrode shall be such that the combined earth resistance is less than 1 Ohm. (Copper earth current conductor). The bidder shall provide suitable independent earthing system to protect the blades, nacelle, tower and step up transformer against lightning. Effective earth resistance on individual electrodes shall be less than 3 Ohm and the combined earth resistance shall be less than 1 ohm. The ....	.....The combined earth resistance at each WTG shall be less than <b>two</b> ohm. The earth electrode must be designed to withstand the maximum possible short circuit current and the length of the electrode shall be such that the combined earth resistance is less than <b>2</b> Ohm. (Copper earth current conductor). The bidder shall provide suitable independent earthing system to protect the blades, nacelle, tower and step up transformer against lightning. Effective earth resistance on individual electrodes shall be less than <b>5</b> Ohm and the combined earth resistance shall be less than <b>2</b> ohm. <b>The relevant IS / IEEE code and EB/CIEG requirements shall be complied with in this regards</b>
87	7.1.13	117 of 178	The towers shall be galvanized to relevant standards applicable to galvanization of fabricated steel structures. The minimum thickness of galvanising should be 129 µm, irrespective of whether it is hot-dip galvanized or spray-galvanized. The bidder shall describe the process of galvanizing adopted for the towers. The tower will be inspected at site and if any damage to galvanization is noticed or the thickness of any damaged sections is inadequate, thickness of galvanization will have to be made up to the satisfaction of BEML or its representative agency. Site galvanization or site repairs will not be permitted.  All materials, components and equipment shall function properly during their lifetime without deterioration due to the aggressive climate conditions. The bidder shall submit descriptions of protection methods adopted for all components. All exposed iron components such as the tower; nacelle and hub should be galvanized. Only hot-dipped galvanized bolts and nuts should be used. Galvanization should conform to the latest Indian Standard. Switchboard shall have two coats of epoxy painting to a thickness of 120 µm, over two coats of primer.	The towers shall be galvanized / <b>painted / epoxy coated as per relevant standards applicable</b> . <b>The tower will be inspected at site and if any damage to galvanization is noticed or the thickness of any damaged sections is inadequate, thickness of galvanization will have to be made up to the satisfaction of BEML or its representative agency. Site galvanization or site repairs will not be permitted. In the event of any major site repairs/damages during installation, the same shall be informed to BEML before the commencement of repairs/rectification.</b>  All materials, components and equipment shall function properly during their lifetime without deterioration due to the aggressive climate conditions. The bidder shall submit descriptions of protection methods adopted for all components. All exposed iron components such as the tower; nacelle and hub should be galvanized. Only hot-dipped galvanized bolts and nuts should be used. Galvanization should conform to the latest Indian Standard. Switchboard shall have two coats of epoxy painting to a thickness of <b>110</b> µm, over two coats of primer.

88	7.1.14 (b)	117 of 178	A digitized counter map at counter interval of 2 m for the proposed site for a complex terrain and 5 m for a uniform terrain and 10 m/20 m for surrounding areas including roughness considered in the form of MAP file as input to WAsP. The digitized map should cover at least 2 km area in all directions beyond the boundary of the offered site and the reference wind mast location.	A digitized <b>contour</b> map at counter interval of 2 <b>or 5 m</b> for the proposed site for a complex terrain and 5 m for a uniform terrain and 10 m/20 m for surrounding areas including roughness considered in the form of MAP file as input to WAsP. The digitized map should cover at least 2 km area in all directions beyond the boundary of the offered site and the reference wind mast location.
89	7.1.16	119 of 178	Availability factor  The bidder shall guarantee that during the warranty period, the availability factor of each WEG shall not be less than 98%."	<b>"Machine</b> Availability factor  The bidder shall guarantee that during the warranty period, the <b>annual average machine availability factor of wind farm shall not be less than 95%."</b>
90	7.1.18	120 of 178	1. Individual WEG 2 (b). Machine availability : 98 % or actual	<b>1. Individual WEG is hereby deleted</b> <b>2 (b). Machine availability : 95 % on wind farm basis or actual</b>
91	7.1.22	121 of 178	.....The transformer area in each WEG shall be provided with fencing of 2.5m high. The fencing should also comply security requirements issued by the government from time to time.	<b>.....The transformer area in each WEG shall be provided with fencing of 1.8 m high or it should comply to the CEIG norms.</b>
92	7.1.26	123 & 124 of 178	.....The bidder shall extend the necessary cooperation to the third party inspection agencies besides BEML Limited inspection team for effectively carrying out the Inspection/testing. However, stage inspection by BEML Limited does not absolve from the bidder the responsibility of providing the performance guarantee/warranty. The bidder shall strictly comply with the quality requirements suggested by the inspecting authorities from time to time.	.....The bidder shall extend the necessary cooperation to the third party inspection agencies besides BEML Limited inspection team for effectively carrying out the Inspection/testing <b>No stage wise inspection to be carried out. BEML shall exercise final inspection on 10% of the total number of major /critical WTG components. Contractor/s shall provide necessary Test certificates and reports for inspection, verification and records.</b>
93	7.1.26.1	124 of 178	Factory tests include...	<b>Factory test reports as per QAP submitted along with the offer should be provided.</b>
94	7.1.27	125 of 178	The bidder may note that BEML Limited will issue a completion certificate only after completing the short-term test run for 90 (ninety) days, and submission of a warranty certificate..... Commissioning shall be done as per IE rules 1956. History card shall be provided for each WEG	<b>The bidder may note that BEML Limited will issue a completion certificate only after completing the short-term test run for 90 (ninety) days, and submission of a warranty certificate..... Commissioning shall be done as per IE rules, 1956 and practices followed to this effect.</b>
95	7.1.29	125 of 178	The bidder shall furnish the design, data and drawings for the foundation for the WEGs. They should also indicate the quantum of steel to be used for each WEG. The bidder should also furnish the plan and construction details of the control room, if required, for housing the power panel and the local control panel.	<b>The bidder shall furnish the cross-sectional drawing of the WTG foundation which contains the quantum of steel to be used in each foundation.</b> The bidder should also furnish the plan and construction details of the control room, if required, for housing the power panel and the local control panel.

96	7.1.30	125 of 178	<p>The successful bidder shall be required to provide three copies of the following items of information, drawings and documents within three weeks of the placement of order</p> <ol style="list-style-type: none"> <li>i. Complete technical specifications of the WEG including rotor, nacelle, tower and microprocessor-based control panel</li> <li>ii. The specification for anti-corrosion treatment</li> <li>iii. The description of erection mode</li> <li>iv. Necessary engineering drawings such as layout of machinery and equipment including electrical equipment</li> <li>v. Detailed control loop diagrams, interlock schemes etc.</li> <li>vi. Detailed drawings showing control circuit interconnection drawings and other service requirements</li> <li>vii. Detailed erection drawings and manuals</li> <li>viii. Operation/maintenance/trouble-shooting manual including detailed drawing for the local control system</li> <li>ix. Detailed planning network diagram</li> <li>x. A bar chart and a PERT diagram showing the broad schedule of supply, erection and commissioning</li> <li>xi. Design calculations</li> <li>xii. Micro siting plan of WEGs</li> <li>xiii. Wind farm layout drawings indicating WEGs, roads, OH lines, sub-stations, buildings etc.</li> <li>xiv. Schematic diagram of the entire electrical system for grid interfacing &amp; interconnection</li> <li>xv. Equipment drawings and instruction manuals of original equipment manufacturers</li> <li>xvi. Construction drawings for civil engineering works such as tower foundations, roads, buildings etc.</li> <li>xvii. Construction drawings of electrical installations such as unit substations, 33 kV internal OH line, common group control &amp; metering station, common EHV sub-station, and external OH line up to the grid substation of EB</li> <li>xviii. Test reports (type and routine both) of all equipment, material and component</li> <li>xix. Checklist/protocols for manufacture, assembly, erection, testing and commissioning</li> <li>xx. Soil test report indicating safe bearing capacity</li> <li>xxi. Test certificate of reinforced steel and steel used for towers</li> </ol>	<p><b>The following items of information, designs, drawings and documents, manual, brochures etc need to be provided in three stages:</b></p> <p><b>Three copies of the following documents at the time of bid, applicable to all bidders:</b></p> <ul style="list-style-type: none"> <li>• Complete technical specifications of the WEG including rotor, nacelle, tower, transformer, blades and control panel.</li> <li>• A bar chart or a PERT diagram showing the broad schedule of supply, erection and commissioning.</li> <li>• Micro-siting plan and report of WTGs</li> <li>• Raw wind data for at least one year duration for proposed site along with wind mast details. Wind data to be validated by CWET. If CWET validation is already availed, please attach the same.</li> <li>• Schematic diagram of the entire electrical system for grid interfacing &amp; interconnection. This shall include a single line diagram (SLD) of the power evacuation system up to the pooling substation.</li> <li>• Documents mentioning simplified QAP.</li> <li>• List of sub-contractors/ vendors, services, components and equipment of which the bidder plans to utilize for this project.</li> </ul> <p><b>Three copies of the following drawings and designs within one month of the placement of Purchase Order on the successful bidder:</b></p> <ul style="list-style-type: none"> <li>• Necessary engineering designs and drawings such as layout of machinery and equipment including electrical equipment. General Arrangement (GA) diagram of the wind farm to be furnished.</li> <li>• Construction drawings for civil engineering works such as tower foundations, roads, buildings etc.</li> <li>• Construction drawings of electrical installations such as unit substations, 33 kV internal OH line, common group control &amp; metering station</li> </ul> <p><b>Three copies of the following documents by the successful bidder within one week after the date of commissioning of the wind farm:</b></p> <ul style="list-style-type: none"> <li>• The specification for anti-corrosion treatment, if applicable</li> <li>• Operation/maintenance/trouble-shooting manual including detailed drawing for the local control system.</li> <li>• As built wind farm layout drawings indicating WEGs, roads, OH lines, sub-stations, buildings etc.</li> <li>• Test reports (type and routine both) and QAP of all equipment, material and component</li> <li>• Soil test reports indicating safe bearing capacity for turbine foundations</li> <li>• Test certificate of reinforced steel and steel used for towers</li> </ul>
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97	7.1.35	127 of 178	Wind mast The bid should include a wind monitoring mast at the wind power project site along with all required data loggers, sensors at two levels, etc. The height of the wind mast shall be equal to hub height of the WEGs to be installed. The wind monitoring mast shall be installed and shall become operational before the power plant starts electricity generation. Wind measuring system should be of 8 quadrant type or better, and the approved make are NRG.	Wind mast The bid should include a wind monitoring mast at the wind power project site along with all required data loggers, sensors at two levels, etc. The height of the wind mast shall be equal to hub height / <b>suitably acceptable</b> height of the WEGs to be installed. The wind monitoring mast shall be installed and shall become operational before the power plant starts electricity generation. Wind measuring system should be of 8 quadrant type or better, and the approved make are NRG.
98	Notes	131 of 178	<p>1. Total machine hours = No. of machines × hours in the month</p> <p>2. Capacity factor (CF) %</p> $= \frac{\text{Actual energy generation}}{\text{Installed capacity} \times \text{No. of hours in the month}} \times 100$ <p>3. Machine availability factor AF (%)</p> $= \frac{\text{Hr m/c available for generation}}{\text{Total machines hrs in the month}} \times 100$ $= \frac{\text{Total m/c hrs in the month} - \text{machine down time hrs}}{\text{Total machine hrs in the month}} \times 100$	<p>1. Total machine hours = No. of machines × hours in the <b>year</b></p> <p>2. Capacity factor (CF) %</p> $= \frac{\text{Actual energy generation}}{\text{Installed capacity} \times \text{No. of hours in the year}} \times 100$ <p>3. Machine availability factor AF (%)</p> $= \frac{\text{Hr m/c available for generation}}{\text{Total m/c hrs in the year}} \times 100$ $= \frac{\text{Total m/c hrs in the year} - \text{m/c down time hrs}}{\text{Total machine hrs in the year}} \times 100$
99	Annex E	144 of 178	PRICE SCHEDULE SUMMARY	Amended Annexure E enclosed separately
100	Annex F	146 of 178	BREAKDOWN FOR SUPPLY OF EQUIPMENT, MATERIAL, LAND, ETC	Amended as Annexure F(a) and Annexure F(b) and enclosed separately
101	Annex G	147	BREAK DOWN FOR CONSTRUCTION, CIVIL WORKS, ERECTION AND COMMISSIONING.	Amended Annexure G enclosed separately
102	Annex H	148	BREAKDOWN OF O&M PRICE.	Amended Annexure H enclosed separately
103	Annex I	149 of 178	PROFORMA FOR LIST OF EQUIPMENT AND SUPPLIERS/2 YEARS SPARES AND CONSUMABLES/SPECIAL TOOLS AND TACKLES.	<b>Annexure I hereby deleted</b>
104	Annex R	166 of 178	CONTRACT AGREEMENT	Amended Annexure R enclosed separately