CDM VALIDATION PROTOCOL FOR THE COMPANY:

GAMESA ENERGIA, S.A.

VALIDATION OF THE PROJECT ACTIVITY:

BII NEE STIPA WIND FARM PROJECT (MEXICO)

REFERENCE NUMBER: 2005/0001/CDM/01

REPORT NUMBER: 02

Validation Type Validation of a project activity	
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Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	YES	Table 2, Section E.4. The Project assists the Kingdom of Spain in achieving compliance with part of its emission reduction commitment.
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a	YES	Table 2, Section A.3 Letter of Approval by the Mexico´s DNA on 2005-04-20.
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	YES	Table 2, Section E.4
4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a	YES	Letter of voluntary participation by the Spanish DNA and letter of approval by the Mexico´s DNA.
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	YES	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM	Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM	YES	Table 2, Section B.2

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project activity	Modalities §43		
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	N/A	There is no public funding.
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29	YES	Government of Spain has designated OECC (Oficina Española de Cambio Climático) to act as DNA. Government of Mexico has designated "Comité Mexicano para proyectos de reducción de emisiones y de captura de gases de efecto invernadero" to act as DNA.
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	YES	Date of ratification: 07/09/00 Source: UNFCCC
10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	Marrakech Accords, CDM Modalities §37b	YES	Table 2, Section G
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	Marrakech Accords, CDM Modalities §37c	YES	Table 2, Section F

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	YES	Table 2, Section B.1.1 and D.1.1
13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Marrakech Accords, CDM Modalities §37f	YES	Table 2, Section D
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	YES	The project design document has been made publicly available on 2005-06-16 on UNFCCC web site.
15. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, CDM Modalities, §45c,d	YES	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, CDM Modalities, §47	YES	Table 2, Section B.2
17. The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	YES	

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/ /2/ /3/ /15/ /16/	DR I	The Project is located in La Ventosa windy region in the Isthmus of Tehuantepec, state of Oaxaca, Mexico. The site is located in the municipality of El Espinal. The coordinates for the last wind mast installed are, 94º 55' W and 16º 34' N. The wind farm extension will be approximately 2,000ha around this wind mast. There is a map which identifies the exact location of the Project, and another one pointing land owners.	OK	OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	/1/ /2/ /3/	DR	Detailed information of measuring tower used, electrical equipments and wind turbines to be erected, has been provided.	OK	OK
A.2. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.2.1. Does the project design engineering reflect current good practices?	/1/ /2/	DR	Precise measurements before the project construction have been carried out such as wind speed, humidity, atmospheric pressure, rose and temperature	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	/3/ /15/ /16/		measurements. These measures allow to determine precisely the wind energy that depends on swept area, air density and wind speed. WT-WT, WT-roads and WT-irrigation channels distances are accurately defined. The wind measurements were carried out during a sufficiently period of time and with measuring towers at a reasonable height and an anemometer calibrated. The measurements were compared with those taken by IIEE (Instituto de Investigaciones Eléctricas). The electrical equipment (transformers, earth systems, etc.) is well defined. The control system planned allows a preventive maintenance and a continuous supervision of critical parameters of the wind farm. The building works, foundations, platforms, cable channels, approach roads are well studied and planned. A security manual has been developed for every stage of the project. A precise maintenance programme for the wind farm operation phase has been developed. Relevant set of Mexican regulations has been considered.		
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	/1/ /2/ /3/ /15/ /16/	DR	The project uses the state of the art technology to generate electricity from wind source. After wind measurements and analysis, the optimal wind turbine (maximum energy output assuring its reliability throughout the lifecycle of the wind farm) has been selected to be either A61 from MADE manufacturer or G52 from Gamesa Eólica. Both MADE and Gamesa Eólica are companies from Gamesa Group.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			The wind turbine size is 1,320 kW for the A61 turbine and 850 kW for the G-52 turbine. Both are three-bladed rotor machine, asynchronous four pole generators at 65m approx. hub height. Rated voltage of generator is 690V in both turbines, with 690V/20kV transformers each. These two turbines provide proven technology (over 2,000 wind turbines installed worldwide of each model), assuring optimal performance, maximum output from existing wind resource, robustness and reliability. The average availability of these wind turbines is proven to be over 95%.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/ /2/ /3/	DR	The project technology will not be likely substituted by other technology. It could be possible a re-powering to increase the installed capacity during the wind farm lifetime since the wind energy resource in La Ventosa is excellent as confirms the equivalent annual operating hours, 3650. Nevertheless, this possible re-powering would be probably carried out with just high rated power WTs and increased hub height but it is unexpected to do so during the fixed crediting period.	OK	OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	/1/ /2/ /3/	DR I	The project requires initial training and maintenance efforts due to the wind technology described that is not used in Mexico at the time the PDD was written.	OK	OK
A.2.5. Does the project make provisions for meeting training and maintenance needs?	/1/ /2/ /3/	DR I	The wind turbines and the maintenance management, were both developed by Gamesa, (a worldwide leading wind energy company). Documents provided such as both the Manifiesto de Impacto Ambiental Bii Nee Stipa and the Manifiesto de Impacto Ambiental Bii Nee Stipa II and their annexes: Check Manual Instruction, 3-Month Inspection G-52, 6-Month Inspection G52 and	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			12/18/24 Month Inspection G52, describe a precise maintenance program. Moreover, the PDD specifies the operation and maintenance contracts. First contract is to be signed with Gamesa Eólica for the maintenance of wind turbines for a period of five years since the start-up of the wind farm, assuring an average availability of the 95%. A second contract will be signed with Gamesa Energía Servicios for the maintenance of the electric infrastructure.		
A.3. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	/1/ /21/ /22/ /23/ /24/ /27/ /28/ /29/ /30/	DR I	The validation team has identified the following legislation applicable to electricity generation: - LSPEE: Public Electric Services Act - Public Electric Services Ruling Act - Public Electric Services Ruling Act on Contributions. - Energy Regulation Commission Act. - Electrical Sector Forecast. - Electrical Sector Investment and facilities program. There are the following relevant requirements arising from these documents: - Article 3 point I LSPEE and article 72 point I.b of the Public Electric Services Ruling Act: Self-consumption is not considered a Public Service. - Article 36 point I LSPEE and article 101 and 102 of the Public Electric Services Ruling Act: It defines self-consumption generator requirements. - Article 77 and followings articles of the third section of the Public Electric Services Ruling Act: It establishes the need of a permit from *SENER* to generate electricity and the requirements to apply	~~CAR1~~	OK

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			for it. - Article 2 point II and article 3 point XII of the Energy Regulation Commission Act: It establishes competences of the CRE to issue permits for particular generators of electricity according to self-consumption requirements. Currently the CRE permit has not been granted yet and according to the CFE Regulatory Framework it is not possible to sign any contract related with the project interconnection and the energy sales. Therefore the PDD has to be changed accordingly. On the other hand, the PDD shows evidence to assess that the project is in line with Mexico's plans and policies about electricity generation in the future, by considering documents such as Prospectiva del sector eléctrico 2004-2013 prepared by SENER.		
A.3.2. Is the project in line with host-country specific CDM requirements?	/11/ /12/	DR I	The approval letter of the Mexico's DNA has been issued on 2005-04-20.	OK	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/ /11/ /12/	DR I	The project has been granted initially with a favourable preliminary opinion on the Project's draft formulation, this being compatible with the sustainable development of the country. Moreover, the approval letter of the Mexico's DNA sates clearly that the project is in line with sustainable development policies of Mexico.	OK	OK
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	/1/ /2/ /3/	DR I	According to visit to the El Espinal municipality and the interviews conducted with land owners representatives, the identified environmental and social benefits are as follows: - Use of autochthonous energy resources, the wind energy, which will improve local grid performance. - Less dependence of fossil-fuel sources. - Temporary jobs mainly related with the wind farm construction phase. - Extra incomes derived from the land leased.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			- Attract new foreign investment, which will increase local tax incomes.		
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	/1/ /9/	DR	The project applies approved baseline methodology *ACM0002 / Version 01*. Approved consolidated baseline methodology. "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".	OK	OK
B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	/1/ /9/ /21/ /22/ /24/	DR	Approved baseline methodology *ACM0002 / Version 01* is applicable to grid-connected renewable power generation project activities under several conditions. The *PDD* clearly demonstrates the applicability by fulfilling each and every applicability conditions in B.1.1.	OK	OK
B.2. Baseline Determination *The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.*					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	/1/ /7/ /9/	DR I	The baseline emission factor (EFy) has been calculated according to the three steps stated in *ACM0002 / Version 01*. The Operational Margin (OM) and the Build Margin (BM) have been calculated and	~~CAR2~~	OK

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	/21/ /22/ /24/		combined to obtain the Baseline Emission factor. The simple OM has been selected and the OM is calculated as the generation-weighted average emissions per electricity unit (tCO_2/MWh) of all generating sources serving the system, not including low-operating cost and must-run power plants. For the purpose of determining the Build Margin (BM) emission factor, the spatial extent is limited to the project electricity system. Recent or likely future additions to transmission capacity will not enable significant increases in imported electricity. Official data from SENER, Prospectiva del sector eléctrico 2004-2013, have been used and which are robust and reliable thus PDD uses fuel consumption, $F_{i,j,y}$, in TJ by fuel sources j in year y. $COEF_{i,j,y}$, CO_2 emission coefficient of fuel i, is then expressed in tCO_2/TJ, using IPCC Inventory Workbook 1996. Nevertheless there are some issues that shall be modified or clarified: 1. The dispatch data analysis has not been selected and the PDD does not provide the required justification. 2. The simple OM has been selected stating that the low-cost/must run resources in México are well below 50% of total grid generation in both the average of the five most recent years and in the long-term normal for hydroelectric production. 3. Table 3, Table 10, Table 6 and Prospectiva del sector eléctrico 2004-2013 seem to have some incoherencies and some fuel designation causing confusion. 4. Long term for hydroelectric production is forecasted to be 10% of total generation in 2013. PDD page 13. 5. How imports are included in the operating margin		

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			determination has to be clarified. 6. The operating margin calculation has to be revised. 7. The percentages of new power installed have to be consistent with Table 6 and Table 12. 8. For being conservative, it is necessary to take the best official efficiency data for CCGT plants, which will yield a smaller emission factor. Annex 3 has to be modified accordingly. 9. The baseline emission factor has to be modified accordingly as changes are necessary in both OM and BM.		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	/1/ /7/ /21/ /22/ /24/	DR I	8. For being conservative, it is necessary to take the best official efficiency data for CCGT plants, which will yield a smaller emission factor. Annex 3 has to be modified accordingly.	~~CAR2~~	OK
B.2.3. Has the baseline been established on a project-specific basis?	/1/ /9/	DR	The approved methodology AMC0002 is based on elements from different project-specific methodologies.	OK	OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/ /21/ /22/ /24/	DR I	The baseline for the Bii Nee Stipa Project is determined following the method and formulae given in the approved methodology ACM0002. The baseline scenario is the following: electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. The methodology calculates an emission factor for Mexico's national grid based on a operating and a build margin emission factor. By the application of these factors and based on the documents referred to in the PDD, energy policies and trends are included.	OK	OK

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B.2.5. Is the baseline determination compatible with the available data?	/1/ /7/ /9/ /21/ /22/ /24/	DR I	The dispatch data analysis has not been selected and the PDD does not provide the required justification.	~~CL1~~	OK
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	/1/ /22/ /24/	DR I	The baseline scenario would to be construct new fossil fuel based power plants mainly Combined Cycle plants according to CFE and SENER forecasts.	OK	OK
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)?	/1/ /9/ /10/ /21/ /22/ /24/ /25/ /26/ /27/ /28/ /29/ /30/	DR I	The PDD justifies that the project itself is not a likely baseline scenario through the demonstration of its additionality by applying the necessary steps of the Annex 1 Tool for the demonstration and assessment of additionality. Nevertheless, the following steps requires additional clarifications or some modifications: 1. Sub-step 1a: According to the PDD, based on official statistics, continuation of the current situation would be CCGT construction. 2. Sub-step 1b: It presents the legal framework for renewable energy promotion and the private investment alternatives, but it shall be clarified the applicable legislation and compliance. 3. Sub-step 2c: The calculation of the equity IRR has to provide more details. It is also necessary to calculate the suitable financial indicator for the other alternatives. It is necessary to present the investment analysis (project finance model) in a transparent manner and provide all relevant assumptions in the CDM-PDD, so that a reader can reproduce the analysis and obtain the same results. Clarify the tariff system.	~~CAR3~~	OK

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			4. Sub-step 2d: the sensitive analysis has to be calculated using variations in critical assumptions. 5. Sub-step 3a: Clarify the identified barriers that would prevent the implementation of the project and include evidences. It is also necessary to examine Gamesa investment criteria based on its international wind farm portfolio. 6. *Sub-step 4a:* To mentioned other wind farm experiences in Mexico.		
B.2.8. Have the major risks to the baseline been identified?	/1/	DR	There is no mention in the PDD about the risks associated to the baseline.	~~CAR4~~	OK
B.2.9. Is all literature and sources clearly referenced?	/1/	DR I	Baseline data and calculations are not clearly referenced in all cases.	~~CL2~~	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/ /6/ /15/ /16/	DR	The PDD clearly states the power plant operating dates as follows: Bii Nee Stipa I (50 MW, 2006-12-31) Bii Nee Stipa II (50 MW, 2007-12-31) Bii Nee Stipa III (100 MW, 2008-12-31) The project activity is expected to have a minimum lifetime of 20 years from starting date.	OK	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	/1/	DR	This crediting period is clearly defined in the PDD. Starting date 1/1/2007 with a length of 10 years. It is reasonable for wind energy projects.	OK	OK

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D. Monitoring Plan *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring methodology prior to submission and approval by CDM EB).*					
D.1. Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
D.1.1. Is the monitoring methodology previously approved by the CDM Methodology Panel?	/1/ /9/	DR	The project applies approved monitoring methodology *ACM0002 / Version 01*. Approved consolidated monitoring methodology ACM0002. "Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources".	OK	OK
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	/1/ /9/	DR	The appropriateness of the monitoring methodology is justified in part D.2 of the PDD.	OK	OK
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	/1/ /9/	DR	The Monitoring Plan establishes the responsibilities assignation, data collection and recording frequencies.	OK	OK
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	/1/ /9/	DR	The PDD describes data collection systematic, responsibilities and the data origin.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/ /9/	DR	N/A.	OK	OK
D.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/ /9/	DR	N/A.	OK	OK
D.4. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/ /9/	DR	Official data from CFE and SENER (Prospectiva del sector eléctrico) are robust and reliable thus PDD monitoring methodology uses fuel consumption, $F_{i,j,y}$, in TJ by fuel sources j in year y. $COEF_{i,j,y}$, CO_2 emission coefficient of fuel i, is then expressed in tCO_2/TJ, using IPCC Inventory Workbook. Nevertheless, the Monitoring Plan shall be modified and clarify: 1. Specify for how long the data kept is archived. (see ACM0002)	~~CAR5~~	OK

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			2. GEN_{imp}, electricity imports to the project electric system has to be calculated from latest local statistics. 3. The need of GEN_{exp} measurement has to be clarified. 4. In D.2.1.4. units should be stated and factor conversion according to Annex 3.		
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/ /9/	DR I	Yes, the choice of baseline are based on the approved methodology.	OK	OK
D.4.3. Will it be possible to monitor the specified baseline indicators?	/1/ /9/	DR I	Yes, it will be possible to monitor the selected baseline indicators.	OK	OK
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	/1/	DR I	The Monitoring plan does not provide the collection of data related to environmental, social and economic impacts, as reflected in A.3.4.	~~CAR6~~	OK
D.5.2. Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	/1/	DR I	Idem	~~CAR6~~	OK
D.5.3. Will it be possible to monitor the specified sustainable development indicators?	/1/	DR I	Idem	~~CAR6~~	OK
D.5.4. Are the sustainable development indicators in line with stated national priorities in the Host Country?	/1/ /11/ /12/	DR I	Idem	~~CAR6~~	OK

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D.6. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.6.1. Is the authority and responsibility of project management clearly described?	/1/	DR	The PDD describes clearly the authority and responsibility of project management.	OK	OK
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/	DR	The PDD describes clearly, who is in charge of the monitoring activities.	OK	OK
D.6.3. Are procedures identified for training of monitoring personnel?	/1/	DR	There is no evidence about training activities for monitoring personnel.	~~CL3~~	OK
D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	N/A	OK	OK
D.6.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR I	No relevant standards that meters have to comply with have been identified.	~~CAR7~~	OK
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/ /2/ /3/	DR I	A precise maintenance programme for the wind farm operation phase has been developed, but there are no procedures for maintenance of monitoring equipment identified.	~~CAR8~~	OK
D.6.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR I	Procedures identified for monitoring, measurement and reporting in part D of the PDD are established: “Relevant data necessary for determining baseline”.	OK	OK
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR I	Procedures identified for day-to-day records handling in part D of the PDD are established: “Relevant data necessary for determining baseline”.	OK	OK
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and	/1/	DR	The quality control procedure describes how to face uncertainties.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
uncertainties?		I			
D.6.10. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/	DR I	There are no procedures identified for internal audits.	~~CAR 9~~	OK
D.6.11. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	/1/	DR I	Idem D.6.10.	~~CAR 9~~	OK
D.6.12. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/1/	DR I	No procedures identified for handling corrective actions are established.	~~CAR 10~~	OK
E. Calculation of GHG Emissions by Source *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*					
E.1. Predicted Project GHG Emissions *The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.*					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	/1/	DR	N/A	OK	OK

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E.2. Leakage *It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.*					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	/1/	DR	N/A	OK	OK
E.3. Baseline Emissions *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.*					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	/1/ /7/ /9/ /21/ /22/ /24/	DR	See B.2.1	~~CAR 2~~	OK
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	/1/ /9/	DR	Baseline boundaries are established according to rules of the approved methodology AMC0002	OK	OK
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	/1/ /7/ /9/ /21/ /22/ /24/	DR	See B.2.1	~~CAR 2~~	OK

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E.3.4. Have conservative assumptions been used when calculating baseline emissions?	/1/ /7/ /21/ /22/ /24/	DR	See B.2.1	~~CAR 2~~	OK
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	/1/	DR I	The Quality control procedure (D3) describes data uncertainty level, concluding that it is low.	OK	OK
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	/1/ /9/	DR	N/A. There are no project emissions.	OK	OK
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	/1/ /9/	DR	For this type of projects, the baseline scenario represents the emissions reductions achieved with the project execution.	OK	OK
F. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/ /2/ /3/ /14/ /15/	DR I	The project refers to EIAs approved by the Mexico's authorities. There are two "Manifiestos de Impacto Ambiental" (EIA) approved by the SEMARNAT.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	/16/				
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/ /2/ /3/ /14/ /15/ /16/ /17/ /18/ /19/ /20/	DR I	An EIA and the corresponding approval are needed to develop electrical power plants according to articles 28 to 35 of the General Law of Ecological Balance and Environmental Protection. The required EIAs have been made, revised, and approved.	OK	OK
F.1.3. Will the project create any adverse environmental effects?	/1/ /2/ /3/ /14/ /15/ /16/	DR I	According to the EIAs approved the adverse environmental effects are minimal and needed mitigation measures are addressed. During the visit to the affected area, the validation team was able to check that the adverse environmental effects will be principally related with vegetation (bush and so on) removal during the construction phase.	OK	OK
F.1.4. Are transboundary environmental impacts considered in the analysis?	/1/ /2/ /3/ /14/ /15/ /16/	DR I	EIAs are limited to the area affected by the project as it does not affect other countries or regions.	OK	OK
F.1.5. Have identified environmental impacts been addressed in the project design?	/1/ /2/ /3/ /14/ /15/	DR I	The adverse environmental effects and the needed mitigation measures are pointed in the PDD, but there are no clarifications about the affection to the environment described in the Environmental Impact Matrix.	~~CL4~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	/16/				
F.1.6. Does the project comply with environmental legislation in the host country?	/1/ /2/ /3/ /6/ /14/ /15/ /16/ /17/ /18/ /19/ /20/	DR I	There has been identified some discrepancies: First, the WT models specified in the PDD, A61-1,320 kW and G52-850 kW, differ from the ones specified (G52-800 kW) in the environmental approvals granted by SEMARNAT, which allowed the erection of 25 and 225 WT respectively, model G52-800 kW, and obliged the project promoter to notify any project modification. On the other hand, the EIAs approved establish a deadline to implement the wind farm which has not been complied.	~~CAR11~~	OK
G. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
G.1.1. Have relevant stakeholders been consulted?	/1/ /2/ /3/ /4/ /5/ /14/ /15/ /16/	DR I	During the visit to the affected area and subsequent interviews with the municipality authorities the validation team was able to check which meetings and consultants have been made with relevant stakeholders: - Several meetings with the participation of landowners and municipal authorities to explain the project and the socio-economical benefits of it - Several meetings developed by the state authorities with landowner representatives, wind farm promoters, municipal authorities and social representatives to establish wind energy policy trends in the state of Oaxaca. - Meetings with landowner representatives to	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			explain EIAs and environmental effects of the project, and to regularize owners' property documentation.		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/ /2/ /3/ /14/ /15/ /16/	DR	During the above mentioned meetings local stakeholders where able to express their thoughts and feelings about the project, specially the land owners who are the ones more affected.	OK	OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/ /2/ /3/ /6/ /14/ /15/ /16/ /17/ /18/ /19/ /20/	DR	According to article 37 of the Regulation of the General Law of Ecological Balance and Environmental Protection related to Environmental Impact Analysis, the EIAs are at public disposal in SEMARNAT dependencies in Oaxaca. A stakeholder consultation process is not required, unless any interested person apply for this consultation process to the SEMANAT, according to article 40 of the mentioned regulation.	OK	OK
G.1.4. Is a summary of the stakeholder comments received provided?	/1/ /2/ /3/ /14/ /15/ /16/	DR	The summary of the comments received has to be improved and provide some details.	~~CL5~~	OK
G.1.5. Has due account been taken of any stakeholder comments received?	/1/ /2/	DR	Opinions and worries of land owners have to be described to prove that there are not opinions against the project activity.	~~CL6~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	/3/ /14/ /15/ /16/				

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR1 The validation team has identified the following legislation applicable to electricity generation: - LSPEE: Public Electric Services Act - Public Electric Services Ruling Act - Public Electric Services Ruling Act on Contributions. - Energy Regulation Commission Act. - Electrical Sector Prospective. - Electrical Sector Investment and facilities program. There are the following relevant requirements arising from these documents: - Article 3 point I LSPEE and article 72 point I.b of the Public Electric Services Ruling Act: Self-consumption is not considered a Public Service. - Article 36 point I LSPEE and article 101 and 102 of the Public Electric Services Ruling Act: It defines self-consumption generator requirements. - Article 77 and followings articles of the third section of the Public Electric Services Ruling Act: It establishes the need of a permit from *SENER* to generate electricity and the requirements to apply for it. - Article 2 point II and article 3 point XII of the Energy Regulation Commission Act: It establishes competences of the CRE to issue permits for particular generators of electricity according to self-consumption requirements. Currently the CRE permit has not been granted yet and according to the CFE Regulatory Framework it is not possible to sign any contract related with the project	A.3.1.	Gamesa has explained that the next main step will be the self supply permit from the Comisión Reguladora de Electricidad (CRE). This way of generation is included in the Public Electric Service Act and the Public Electric Service Ruling as a possibility of generation in Mexico. The Application Form to get this permit is published in the “Diario Oficial de la Federación” on july 29, 1993 and is available in the office of the “Comisión Reguladora de Energía” (CRE). Once obtained the Generation Permit an Interconnection Agreement with “Comisión Federal de Electricidad” must be signed. The model of this contract and annexes, according to the Resolution RES/140/2001, is in the web of CRE.	The PDD has been modified accordingly. The CAR1 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
interconnection and the energy sales. Therefore the PDD has to be changed accordingly. On the other hand, the PDD shows evidence to assess that the project is in line with Mexico's plans and policies about electricity generation in the future, by considering documents such as Prospectiva del sector eléctrico 2004-2013 prepared by SENER.			
CAR2 The baseline emission factor (EFy) has been calculated according to the three steps stated in *ACM0002 / Version 01*. The Operational Margin (OM) and the Build Margin (BM) have been calculated and combined to obtain the Baseline Emission factor. The simple OM has been selected and the OM is calculated as the generation-weighted average emissions per electricity unit (tCO_2/MWh) of all generating sources serving the system, not including low-operating cost and must-run power plants. For the purpose of determining the Build Margin (BM) emission factor, the spatial extent is limited to the project electricity system. Recent or likely future additions to transmission capacity will not enable significant increases in imported electricity. Official data from SENER, Prospectiva del sector eléctrico 2004-2013, have been used and which are robust and reliable thus PDD uses fuel consumption, $F_{i,j,y}$, in TJ by fuel sources j in year y. $COEF_{i,j,y}$, CO_2 emission coefficient of fuel i, is then expressed in tCO_2/TJ, using IPCC Inventory Workbook 1996. Nevertheless there are some issues that shall be modified or clarified: 1. The dispatch data analysis has not been selected and the PDD does not provide the required justification. 2. The simple OM has been selected stating that the	B.2.1 B.2.2 E.3.1 E.3.3 E.3.4	All the different issues have been clarified and modified when needed: 1. Dispatch data analysis method was the first choice considered, but this method will not be used for this project activity because of the lack of available public data for its calculation. For using Dispatch data analysis method, the hourly generation-weighted average emissions per electricity unit (tCO2/MWh) of a set of plants in the top 10% of the grid system dispatch order is needed. For confidentiality reasons, hourly-based dispatch order generation is not publicly available, so this method cannot be used for calculating the Operating Margin emission factor. 2. The simple OM method can be used and it is correctly justified. 3. Tables have been modified and do no present incoherencies. 4. Long term for hydroelectric production has been modified. 5. Imports are now included adequately. 6. The OM has been recalculated. 7. Percentages are now consistent. 8. Best official efficiency data for CCGT plants have been selected. The BM	The PDD has been modified accordingly. The CAR2 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
low-cost/must run resources in México are well below 50% of total grid generation in both the average of the five most recent years and in the long-term normal for hydroelectric production. 3. Table 3, Table 10, Table 6 and Prospectiva del sector eléctrico 2004-2013 seem to have some incoherencies and some fuel designation causing confusion. 4. Long term for hydroelectric production is forecasted to be 10% of total generation in 2013. PDD page 13. 5. How imports are included in the operating margin determination has to be clarified. 6. The operating margin calculation has to be revised. 7. The percentages of new power installed have to be consistent with Table 6 and Table 12. 8. For being conservative, it is necessary to take the best official efficiency data for CCGT plants, which will yield a smaller emission factor. Annex 3 has to be modified accordingly 9. The baseline emission factor has to be modified accordingly as changes are necessary in both OM and BM.		has been recalculated. 9. Baseline emission factor has been modified accordingly.	
CL1 The dispatch data analysis has not been selected and the PDD does not provide the required justification.	B.2.5.	The PDD provides now the required justification.	The PDD has been modified accordingly. The CL!1 is solved.
CAR3 The PDD justifies that the project itself is not a likely baseline scenario through the demonstration of its additionality by applying the necessary steps of the Annex 1 Tool for the demonstration and assessment of additionality. Nevertheless, the following steps requires additional	B.2.7.	The different issues have been clarified and modified when needed: 1. Sub-step 1a has been modified stating that based on official statistics provided by Sener, continuation of current situation would be CCGT construction. 2. Sub-step 1b has been modified and the	The PDD has been modified accordingly. The CAR3 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
clarifications or some modifications: 1. Sub-step 1a: According to the PDD, based on official statistics, continuation of the current situation would be CCGT construction. 2. Sub-step 1b: It presents the legal framework for renewable energy promotion and the private investment alternatives, but it shall be clarified the applicable legislation and compliance. 3. Sub-step 2c: The calculation of the equity IRR has to provide more details. It is also necessary to calculate the suitable financial indicator for the other alternatives. It is necessary to present the investment analysis (project finance model) in a transparent manner and provide all relevant assumptions in the CDM-PDD, so that a reader can reproduce the analysis and obtain the same results. Clarify the tariff system. 4. Sub-step 2d: the sensitive analysis has to be calculated using variations in critical assumptions. 5. Sub-step 3a: Clarify the identified barriers that would prevent the implementation of the project and include evidences. It is also necessary to examine Gamesa investment criteria based on its international wind farm portfolio. 6. *Sub-step 4a:* To mentioned other wind farm experiences in Mexico.		applicable legislation for the different options and its compliance have been explained. 3. An explanation has been provided by Gamesa concerning equity IRR, tariff system and project finance model. No further action is required since this step 2 is just reinforcing the additionality of the project demonstrated and justified according to step 3 “Barrier analysis”. 4. An explanation has been provided by Gamesa concerning the sensitive analysis. No further action is required since this step 2 is just reinforcing the additionality of the project demonstrated and justified according to step 3 “Barrier analysis”. 5. An explanation has been provided by Gamesa concerning its investment criteria for international wind farm projects. Moreover clear evidences are described in the PDD showing barriers due to prevailing practice. No project activity of this type is currently operational in Mexico. In order to demonstrate this fact, relevant legislation and official data have been used in the PDD such as “Programa de obras e inversiones del Sector Eléctrico 2004-2013” published by CFE. This official document shows that the project activity is the “first of its kind” in Mexico. 6. Clarified.	
CAR4 There is no mention in the PDD about the risks associated to the baseline	B.2.8.	Risks associated to the baseline have been identified such as changes in price of natural gas.	The PDD has been modified accordingly. The CAR4 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
CL 2 Baseline data and calculations are not clearly referenced in all cases	B.2.9.	Baseline data and calculations are now clearly referenced.	The PDD has been modified accordingly. The CL2 is solved.
CAR 5 Official data from CFE and SENER (Prospectiva del sector eléctrico) are robust and reliable thus PDD monitoring methodology uses fuel consumption, $F_{i,j,y}$, in TJ by fuel sources j in year y. $COEF_{i,j,y}$, CO_2 emission coefficient of fuel i, is then expressed in tCO_2/TJ, using IPCC Inventory Workbook. Nevertheless, the Monitoring Plan shall be modified and clarify: 1. Specify for how long the data kept is archived. (see ACM0002) 2. GEN_{imp}, electricity imports to the project electric system has to be calculated from latest local statistics. 3. The need of GEN_{exp} measurement has to be clarified. 4. In D.2.1.4. units should be stated and factor conversion according to Annex 3.	D.4.1.	The different issues have been clarified and modified when needed: 1. For how long the data kept is archived is now specified according to ACM0002. 2. GEN_{imp}, electricity imports to the project electric system are calculated from latest local statistics. 3. According to Monitoring Methodology ACM0002 GEN_{exp} measurements are not needed, therefore this data variable has been remove from the PDD. 4. In D.2.1.4. units and factor conversion are now stated according to Annex 3.	The PDD has been modified accordingly. The CAR5 is solved.
CAR 6 The Monitoring plan does not provide the collection of data related to environmental, social and economic impacts, as reflected in A.3.4.	D.5.1. D.5.2. D.5.3. D.5.4.	The monitoring plan provides data related to environmental, social and economic impacts such as number of blackouts, employment and tax figures. Moreover the clean energy production has to be calculated on a yearly basis.	The PDD has been modified accordingly. The CAR6 is solved.
CL 3 There is no evidence about training activities for monitoring personnel.	D.6.3.	Specific training for the monitoring team will be provided prior to wind farm operation.	The PDD has been modified accordingly. The CL3 is solved.
CAR 7 No relevant standards that meters have to comply with have been identified.	D.6.5.	Meters will be calibrated by CFE	The PDD has been modified accordingly. The CAR7 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR 8 A precise maintenance programme for the wind farm operation phase has been developed, but there are no procedures for maintenance of monitoring equipment identified.	D.6.6.	Procedures for data collection and monitoring management will be included in a manual for the project manager to follow. This manual will include these procedures.	The PDD has been modified accordingly. The CAR8 is solved.
CAR 9 There are no procedures identified for internal audits.	D.6.10. D.6.11.	Procedures for internal auditing will be implemented in order to assure that the monitoring methodology is being performed in the correct manner, describing the non-conformities and proposing correctives measures when needed.	The PDD has been modified accordingly. The CAR9 is solved.
CAR 10 No procedures identified for handling corrective actions are established.	D.6.12.	Procedures for internal auditing will be implemented in order to assure that the monitoring methodology is being performed in the correct manner, describing the non-conformities and proposing correctives measures when needed.	The PDD has been modified accordingly. The CAR10 is solved.
CL 4 The adverse environmental effects and the needed mitigation measures are pointed in the PDD, but there are no clarifications about the affection to the environment described in the Environmental Impact Matrix.	F.1.5.	The Environmental Impact Matrix has been deleted in the PDD since it forms part of an approved EIA for the wind farm. The wind farm developers have addressed the environmental effects and obtain corresponding approvals. During the on-site visit, the validation team concerning environmental impacts interviewed SEMARNAT and local representatives.	The PDD has been modified accordingly. The CL4 is solved.
CAR 11 There has been identified some discrepancies: First, the WT models specified in the PDD, A61-1,320 kW and G52-850 kW, differ from the ones specified (G52-800 kW) in the environmental approvals granted by SEMARNAT, which allowed the erection of 25 and 225 WT respectively, model G52-800 kW, and obliged the project promoter to notify any project modification. On the other hand, the EIAs approved establish a	F.1.6.	Gamesa has been informing Mexican authorities about all relevant changes in the project. Wind turbine final selection, implementing dates for the wind farm and all relevant changes and decisions in the future will be communicated to Mexican authorities to obtain the corresponding permit.	The CAR11 is solved.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
deadline to implement the wind farm which has not been complied.			
CL5 The summary of the comments received has to be improved and provide some details.	G.1.4.	Some of the comments received include the concerns from local farmers regarding the use of land: in the past, high wind speeds in the area has spoiled agriculture development. This high speed wind is also making difficult reforestation activities. The implementation of the project activity would help farmers to overcome these difficulties and thus diversify their activities apart from extensive cattle, which is the only activity they can nowadays develop in the area.	The PDD has been modified accordingly. The CL5 is solved.
CL6 Opinions and worries of landowners have to be described to prove that there are no opinions against the project activity.	G.1.5.	Some of the comments received include the concerns from local farmers regarding the use of land: in the past, high wind speeds in the area has spoiled agriculture development. This high speed wind is also making difficult reforestation activities. The implementation of the project activity would help farmers to overcome these difficulties and thus diversify their activities apart from extensive cattle, which is the only activity they can nowadays develop in the area.	The PDD has been modified accordingly. The CL6 is solved.

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