ENVIRONMENTAL AND SOCIAL STRATEGY (ESS)

Valentines Wind Project
UR-L1105
URUGUAY

I. SUMMARY

1.1 Project Summary

Country:	Uruguay
Sector:	Renewable Energy
Project name:	Valentines Wind Farm
Borrower:	Areaflin S.A.
Sponsor:	Administración Nacional de Usinas y Trasmisiones Eléctricas (UTE)
IDB A-loan:	Up to US$68 million
Resp. Department:	Structured and Corporate Finance (SCF/INF)
Env. Safeguards & Policies:	OP-102; OP-703 (B.1; B.2; B.3; B.4; B.5; B.6; B.7; B.9; B.10; B.11; B.15)
Environmental Category:	B

II. PROJECT DESCRIPTION

2.1 The Project encompasses the installation or construction of the following components: i) installation of 35 wind turbines (Gamesa, model G114) with a nominal capacity of 2.0 MW each totalizing 70 MW; ii) expansion of an existing substation (Valentines); iii) connection to an existing 150 kV transmission line, to connect the wind farm to the national grid; iv) several smaller underground medium tension transmission lines within the wind concession area; v) construction of support buildings; vi) construction of a temporary batching plant; and vii) construction of 22.4 km of maintenance and service roads (7 m wide) within the wind farm.

2.2 Each tower is composed of a rotor with 3 blades of 56 m length, gearbox, electric generator and air cooled transformer located at the upper end of a tubular conical 93 m high steel tower. Each rotor has 3 blades made of composite carbon and glass fiber, which sweep a total area of 10.207 m^2, with a nominal speed of –13,07 rpm. The rotor diameter is 114 m. The electrical connection between the wind turbines and the substation will be held through underground pipes adjacent to the roads. The wind farm will supply energy to the national grid through an existing transmission line adjacent to the project area, connecting to the existing 150 kV Valentines Substation. The properties on which the wind farm will be placed are private; owners will sign a leasing contract for 30 years with the Borrower.

2.3 Construction activities have an expected duration of 17 months. The required workforce needed to meet the construction schedule is estimated to be an average of 50 workers, with peaks of 100 workers. The wind farm will maintain two shifts during operations, a day shift and a night shift. The day shift will consist of four operators while the night shift will require two. An on-call maintenance crew will also be available to address maintenance and repair issues. The construction timeframe and required workforce will be verified during Due Diligence.

Fig. 1: Project Location

III. INSTITUTIONAL AND REGULATORY CONTEXT

3.1 National Law Nr. 16.466 of Environmental Impact Evaluation and Decree 349/2005 establishes the requirements for obtaining environmental permits for projects. The process starts with a location-specific environmental feasibility study (*Viabilidad Ambiental de Localización, VAL*) which is needed to determine if a selected location is suitable for a project from an environmental point of view. All projects must present to the National Environmental Authority (*Dirección Nacional de Medio Ambiente* – DINAMA) the project's environmental information prior to initiating any construction activity. DINAMA reviews the project information and classifies the project in one of three classes: A, B and C. Projects or activities classified as Class A do not need to present an EIA report, but an environmental management plan, whereas projects classified as Class B or C require the preparation of an EIA report, being C the classification for the project with most significant impacts, which

require public consultation. DINAMA's classification scheme of projects is the reverse of IDB's classification system, in which A is the category with most impacts.

3.2 Under these regulations, the Valentines project has been classified by the DINAMA as Category B and requires an Environmental Impact Assessment (EIA). DINAMA granted the Viabilidad Ambiental de Localización (VAL) for the Project in November 2013 following a review of the required environmental documentation. The environmental licenses for the project are pending. The EIA, prepared in February 2014, was submitted to DINAMA in March, 2014. In May, 2014, DINAMA required additional information, which was submitted in June, 2014. UTE is currently preparing complementary information requested by DINAMA in August, 2014. The EIA has been provided to the Bank for review. The compliance with national regulations and with IDB standards will be verified during due diligence.

3.3 The Project triggers the following directives of IDB's OP-703 Environmental and Safeguards Policy: B.1, Bank Policies; B.2, Country Laws and Regulations; B.3, Screening and Classification; B.4 Other Risks; B.5, Environmental Assessment; B.6, Consultation; B.7, Supervision and Compliance; B.9 Natural Habitats; B.10, Hazardous Materials; B.11, Pollution Prevention. The OP-102, Disclosure of Information Policy also applies for this Project. Based on available documentation, it is not expected that OP-710 on Involuntary Resettlement will be triggered for the Project. However, the Due Diligence will examine if land acquisition is required, if some houses will need to be resettled and if economic displacement will be caused by the Project. Any land lease/land use agreements or negotiations with land owners will be reviewed to determine if the OP-710 should be applied. Based on available information, the Project had been classified by the Bank as a Category B operation.

IV. ENVIRONMENTAL AND SOCIAL SETTING

4.1 The *Parque Eolico Valentines* covers an area of approximately 2,000 ha, including maintenance roads and the expansion of an existing substation. Much of the wind concession area has already been impacted by human activities, mainly cattle and sheep grazing. The previously impacted landscape appears to be mostly composed of pasture lands. During due diligence the area that will be permanently affected by the erection of the wind turbines and other facilities will be evaluated.

4.2 According to the EIA, no critical natural habitats exist within or in the surroundings of the wind farm area. There is an Important Bird Area (IBA), *Paisaje Protegido Quebrada de los Cuervos*, with 365 has located approximately 50 km to the northeast of the Project area, which most important bird species are Cuervo de Cabeza Roja *(Cathartes aura ruficollis)*, Seriema *(Cariama cristata)* and Dragón *(Xanthopsar flavus)*. Due Diligence will investigate the potential impacts to these areas from the placement of the turbines.

4.3 Bird surveys conducted at the Project site and described in the EIA registered a total of 69 species, representing 16% of all bird species registered in Uruguay. 12% of the encountered species were migratory (8 species). Two of the encountered species are listed on the IUCN Red List as Vulnerable (*Xolmis dominicanus* and *Rhea americana*); 7 are considered to be priority species of economic or cultural value within Uruguay. Bat surveys were also conducted in the Project area; according to the EIA four species of bats were encountered in

the Project area, mostly inside buildings (*Myotis levis*, *Histiotus montanus*, *Molossus molossus* and *Desmodus rotundus*). None of the bat species encountered are protected or considered sensitive. UTE has recently contracted the implementation of a birds and bats baseline, which will be carried out through a one year survey and will be finished prior to start of operation of the wind park.

4.4 The project area lies about 1.5 km south of the town of *Valentines*, the closest city, with a population of about 178 inhabitants. *Cerro Chato*, with a population of approximately 3,227 people lies 18 km to the northeast and the largest nearby city, *José Batlle y Ordoñez* with a population of 3,233 lies approximately 16 km to the south. There are 6 existing households within the Project area. According to the EIA, the primary economic activity occurring within the wind farm area and its surroundings is ranching (cattle and sheep). A few other economic activities occur in the area on a much smaller scale such as forest plantations.

4.5 Preliminary studies indicate that 1 household may be impacted by the Blinking Effect during operation of the wind farm over what is generally considered acceptable in Uruguay (established by DINAMA): more than 30 minutes per day and more than 30 hours per year. According to the EIA, noise levels during construction and operation would never surpassed the upper limit established by DINAMA during operation -45 dB(A), or will not exceed more than 3 dB(A) the baseline noise if this exceeds 42 dB(A). These issues will require attention during the Due Diligence and mitigation measures will be developed to address these impacts.

Fig. 2: Typical landscape in the project area *(Source: EIA)*

4.6 The EIA identified two sensitive or protected species of birds in the project area as well as several species of locally protected birds and an IBA (Quebrada de los Cuervos) approximately 50 km to the northeast of the project area. This IBA qualifies as Critical Natural Habitat under the Bank's policies as it is considered to be a protected area. The EIA provided baseline data on reptiles, bats and birds, but it is unclear if bird surveys were conducted during the migratory season. Due Diligence will verify if the Project will have a

significant impact on the bird species of importance for the IBA or any IUCN red list species which may inhabit or frequent these areas. UTE has contracted a birds and bats baseline survey that will be implemented during a one year period and will be finished prior to start of operation.

4.7 The EIA also included an archeological study, which identified several stone structures potentially built by indigenous people as well as a couple of historical buildings in the area. During due diligence will be assessed if the project will have an impact on these sites.

V. KEY POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

5.1 Potential environmental impacts and risks associated with wind farms during the construction phase are mainly linked with the erection of the wind turbines, the substation and access roads. Main construction impacts are: (i) habitat disturbance; (ii) soil erosion; (iii) dust generation; (iv) increased heavy traffic; (v) noise; (vi) loss of vegetation and; (vii) occupational health and safety hazards for the workforce. Potential impacts of specific importance for the Valentines project include: the risk of impacting important habitat for two identified vulnerable species, the risk of impacting known archeological sites or encountering undiscovered archeological artifacts during construction, the risk of temporarily affecting the livelihoods of communities.

5.2 During operation, main impacts and risk associated with wind farms are: (i) bird collision; (ii) bat collision and barotrauma incidents; (iii) loss of vegetation; (iv) accidental discharges of hazardous materials; (v) community health and safety hazards; (vi) noise impacts caused by the wind turbines; (vii) the blinking effect caused by sunlight passing through the rotating blades, and (viii) the impact on the visual landscape.

5.3 A potential social conflict risk identified in the EIA is the link established by the local community between the project and the Aratirí open pit mining project, in the sense that the project would provide energy to the Aratiri project, which is rejected by an important part of the community and is being highly discussed at the national level. To mitigate this risk, UTE organized a public presentation of the Project in the Valentines town, during which the issue was clarified to relevant community representatives.

5.4 The due diligence will determine with more certainty the extent of anticipated impacts of the Project. Based on available documentation, the significance of impacts should be minor to moderate. It is expected that the Borrower will apply mitigation measures that corresponds to best industry practices for the wind power sector.

VI. ENVIRONMENTAL AND SOCIAL DUE DILIGENCE STRATEGY

6.1 Based on the requirements outlined in IDB's OP-703 Environmental and Safeguards Compliance Policy, the Team proposes that the Valentines Wind Farm Project be classified as a Category B.

6.2 The Bank will perform an Environmental and Social Due Diligence ("ESDD") in order to confirm that all of the Project's relevant impacts and risks have been, or will be, properly and adequately evaluated, and mitigated.

6.3 The ESDD will specifically address the following aspects:

a. Review of the final layout of the wind farm and land acquisition needs to determine potential impacts on households present in the area;

b. Determine if additional baseline studies are required;

c. Determine the significance of impacts of the project on birds, bats and terrestrial fauna and their respective habitats, with a specific attention to already identified vulnerable species and other potentially species with a conservation status of interest per the IUCN Red List. The plan for birds and bats baseline implementation will be reviewed;

d. Evaluate any potential adverse impacts on terrestrial ecosystems as a result of construction activities i.e. wind turbines and maintenance and service roads;

e. Investigate the potential impacts to the IBA *Quebrada de los Cuervos* from the placement and operation of the turbines;

f. Assess potential adverse socio-economic impacts of construction activities such as temporary loss of access or use of lands for cattle herders and farmers and impacts of the right of way for the transmission line;

g. Evaluate the impact of noise and blinking effect on the surrounding population and potential mitigation measures;

h. Examine if land acquisition is required, if some houses will need to be resettled and if economic displacement will be caused by the Project;

i. Evaluate the risk of potential social conflicts, especially those related to the link established by the community between the project and the Aratiri project, as well as the preparation of a communication plan to address this issue;

j. Assess on the adequacy and timely consultation and information dissemination process with affected parties of the current project;

k. Evaluate potential impact of construction activities on archeological sites in the area as well as the implementation of a chance-find procedure;

l. Evaluate the construction timeframe and required workforce, including the availability of local workforce, as well as its impact on the local communities;

m. Review of the Environmental and Social Management Plan (ESMP), to avoid, minimize, and mitigate any potential impacts especially on terrestrial areas that could be considered a natural habitat for endangered species;

n. Determine if the Project has been designed and carried out in compliance with environmental law and regulations of Uruguay. Written evidence of the acceptance of the EIA and issuance of the environmental license will be sought;

o. Review of the EIA to verify its compliance with IDB standards and requirements and identify eventual gaps;

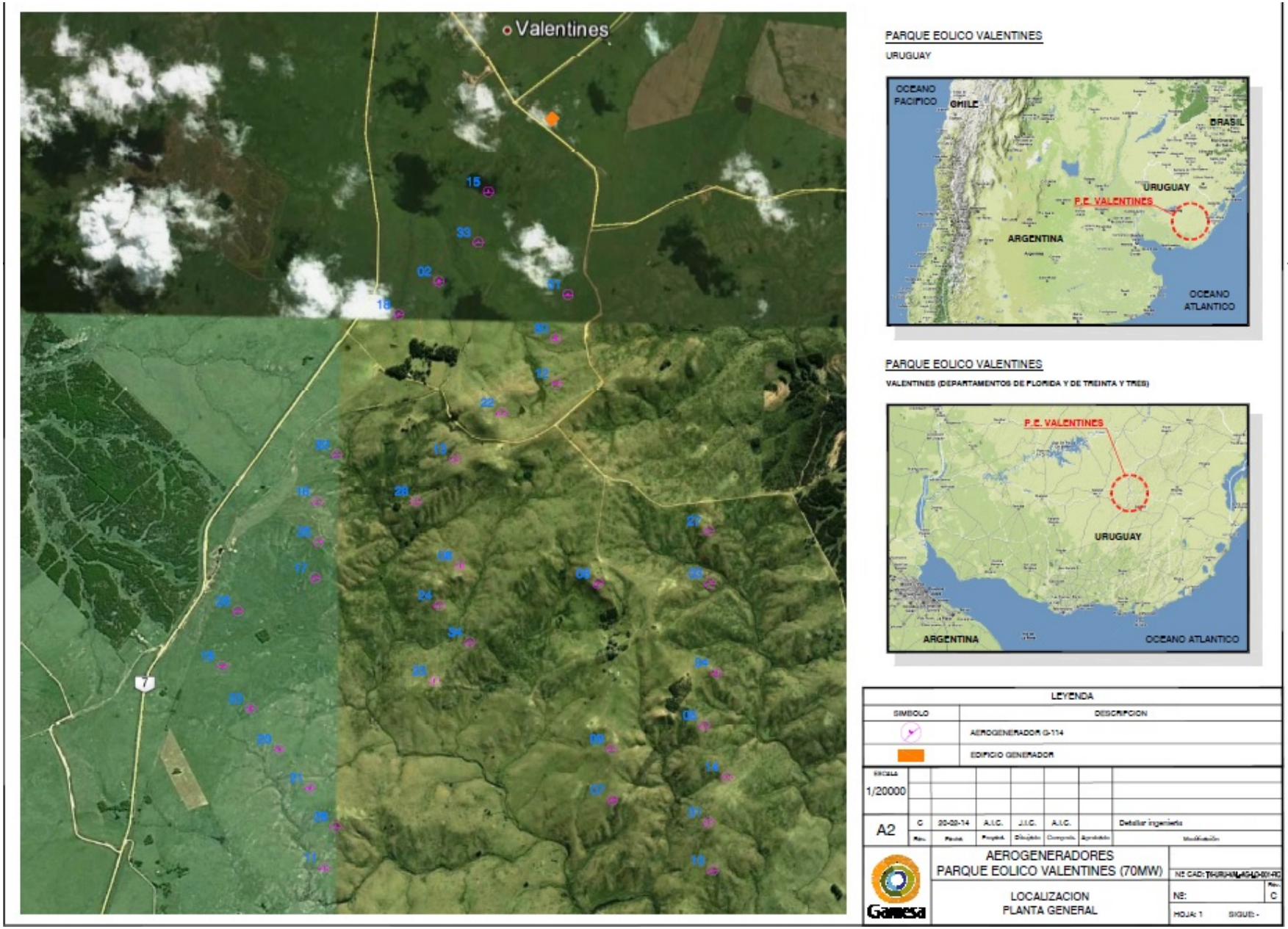
p. An evaluation, and further development as necessary, of Project execution monitoring and supervision procedures to ensure proper implementation of environmental, social, health, safety and labor actions and requirements;

q. Assessment of the Project's compliance with all relevant safeguards directives of the IDB's Environment and Safeguards Compliance Policy, and development of an Action Plan for the timely resolution of non-compliances;

r. Review of the Bird and Bat Monitoring Protocols during operation of the wind farm.

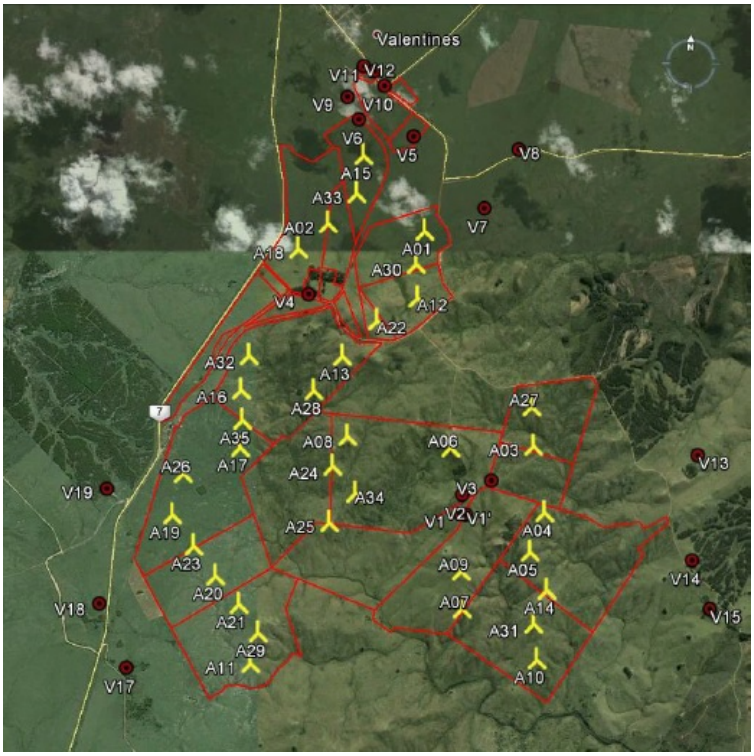
6.4 An Environmental and Social Management Report (ESMR) will be prepared by the IDB Project Team as part of the environmental and social due diligence to analyze the management of the environmental and social aspects of the project.

ANNEX I: Wind farm layout



ANNEX 1I: Location of the IBA *Quebrada de los Cuervos*

ANNEX III: Location of nearby houses



ANNEX IV: THE SAFEGUARDS POLICY FILTER (SPF) AND THE SAFEGUARDS SCREENING FORM FOR CLASSIFICATION OF PROJECTS (SSF)

SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	[Not Set]
Type of Operation	Investment Loan
Additional Operation Details	
Country	
Project Status	
Investment Checklist	Power Wind
Team Leader	[Not Set]
Project Title	Toolkit: Valentines Wind Farm
Project Number	[Temporary Project]
Safeguard Screening Assessor(s)	Camé Saldivar, Oscar Luis (OSCARLUISC@iadb.org)
Assessment Date	2014-05-06

PROJECT CLASSIFICATION SUMMARY		
Project Category: B	**Override Rating:**	**Override Justification:**
		Comments:
Conditions/ Recommendations	• Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements). • The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. • These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	**Potential Solutions**
Minor or moderate conversion or degradation impacts to natural habitats (such as	**Ensure Proper Management and Monitoring of the Impacts of Natural Habitat Loss:** A Biodiversity Management Plan (BMP) should be prepared that defines how impacts will be mitigated (roles and responsibilities, monitoring, budget, etc.) and could be incorporated in the ESMP.

seabed's, forests or traditional farms).	Depending on the financial product, the BMP should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.). Confirmation should be obtained from competent experts that they are confident that the plan can mitigate impacts and also that the relevant authorities have approved the BMP.
The negative impacts from production, procurement and disposal of hazardous materials (such as fuels and solvents) are minor and will comply with relevant national legislation, IDB requirements on hazardous material and international standards and guidelines such as the IFC Wind Power Guidelines (if applicable).	**Monitor hazardous materials use:** The borrower should document risks relating to use of hazardous materials and prepare a hazardous material management plan that indicates how hazardous materials will be managed (and community risks mitigated). This plan could be part of the ESMP.

DISASTER RISK SUMMARY

Disaster Risk Category: Moderate

Disaster/ Recommendations	• The reports of the Safeguard Screening Form (i.e., of the Safeguards Policy Filter and the Safeguard Classification) constitute the Disaster Risk Profile to be included in the Environmental and Social Strategy (ESS). The Project Team must send the PP (or equivalent) containing the ESS to the ESR. • The Borrower prepares a Disaster Risk Management Summary, based on pertinent information, focusing on the specific moderate disaster and climate risks associated with the project and the proposed risk management measures. Operations classified to involve moderate disaster risk do not require a full Disaster Risk Assessment (see Directive A-2 of the DRM Policy OP-704). • The Project Team examines and adopts the DRM summary. The team remits the project risk reduction proposals from the DRMP to the engineering review by the sector expert or the independent engineer during project analysis or due diligence, and the financial protection proposals to the insurance review (if this is performed). The potential exacerbation of risks for the environment and population and the proposed risk preparedness or mitigation measures are included in the Environmental and Social Management Report (ESMR), and are reviewed by the ESG expert or environmental consultant. The results of these analyses are reflected in the general risk analysis for the project. Regarding the project implementation, monitoring and evaluation phases, the project team identifies and supervises the DRM approaches being applied by the project executing agency. • Climate change adaptation specialists in INE/CCS may be consulted for information regarding the influence of climate change on existing and new natural hazard risks. If the project requires

	modification or adjustments to increase its resilience to climate change, consider (i) the possibility of classification as an adaptation project and (ii) additional financing options. Please consult the INE/CCS adaptation group for guidance.

SUMMARY OF DISASTER IMPACTS/RISKS AND POTENTIAL SOLUTIONS

Identified Impacts/Risks	**Potential Solutions**
High winds tornados or blizzards are prevalent in the project area and the likely severity of impacts is moderate.	The Disaster Risk Management Plan should secure a design for the project at an acceptable level of storm risks for the project and address potential exacerbated risks for people and the environment during construction and operation which must take into consideration changes in the frequency and intensity of storms that could occur with climate change. Appropriate measures to reduce risks (predominantly engineering), prepare for impact (predominantly environmental and social safeguards) and to include financial protection will need to be included.

ASSESSOR DETAILS

Name of person who completed screening:	Camé Saldivar, Oscar Luis (OSCARLUISC@iadb.org)
Title:	
Date:	2014-05-06