

# **Environmental and Social Review Summary**

## Tierra Mojada Power Plant

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed prior to the date on which MIGA's Board of Directors considers the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by MIGA's Board of Directors. Board dates are estimates only.

Any documentation that is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

Country: Mexico Sector: Energy

Project Enterprise: Cicle Combinado Tierra Mojada S. de R.L.

Environmental Category: B

Date ESRS Disclosed: April 12, 2017 Status: Due Diligence

## A. Project Description

Fisterra Energy (FE) is seeking a MIGA guarantee for its US\$ 916 million investment in the Tierra Mojada Power Plant ("Tierra Mojada", or "the Project"), against the risks of expropriation, transfer restriction, war and civil disturbance, and breach of contract, for a period of up to 15 years.

The Project is developed by Ciclo Combinado Tierra Mojada S. de R.L. de CV, a Mexican special purpose vehicle fully owned by FE, which in turn is part of the Blackstone group. Blackstone is a multinational investment firm, with headquarters in the U.S.A. FE is specialized in energy infrastructure with a focus on Latin America, Europe and the Middle East. Other investments in Mexico include the development of the Ventika Wind Farm in the northeast.

The Project comprises the development, construction, and operation & maintenance of a combined cycle gas turbine power plant with a nominal capacity of 874 MW. The project location is in Zapotlanejo Municipality in the State of Jalisco, approximately 30 km southeast of Guadalajara. The Project will also include the construction of two overhead transmission lines that will connect the Project's substations to two existing transmission lines owned and operated by the Federal Electricity Commission. The Project will be connected to the Villa de Reyes – Guadalajara - Aguascalientes natural gas pipeline which is owned by Fermaca (a Mexican energy company), and to the Salamanca-El Castillo pipeline, which crosses the south portion of the Project site and is owned and operated by CENAGAS (Centro Nacional de Control de Gas Nacional).

Tecnicas Reunidas, a global consulting and engineering firm based in Spain, has been selected as the EPC Contractor for the Project, and Leidos, a global technical consulting firm, has been contracted as Independent Engineer. Tecnicas Reunidas will undertake construction, commissioning and testing of the plant once completed, and NAES will provide operation and

maintenance services for the Project during the operations stage. NAES is an American engineering firm specialized in the operations of plants in the power, and oil & gas sectors.

The key components of the Project include two gas fired combined-cycle turbines with associated electric generators, two heat recovery steam generators, a single steam turbine, an air cooled condenser, emission control equipment, an electric switchyard and substation, a control system, a wastewater treatment plant, and auxiliary infrastructure such as control room building, offices and access roads.

The project will be located on two land plots with a total area of 25 ha, which FE has acquired through willing buyer – willing seller negotiations. The site is surrounded by private land lots mainly used for crop or livestock farming. Right-of-way agreements for the transmission line have also been negotiated with the relevant landowners. The construction stage is planned to commence in May 2017, and estimated to take approximately 34 months.

## B. Environmental and Social Categorization

This is a Category B project according to MIGA's Policy on Environmental and Social Sustainability because the environmental and social risks and impacts associated with this Project are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures. The main environmental and social issues associated with the Project during both construction and operation relate to air emissions (dust during construction and decommissioning, and NO<sub>2</sub> and greenhouse gases during operations), noise, occupational health and safety risks, community health and safety risks (e.g. explosions, traffic accidents), land acquisitions, solid and hazardous waste generation, access to water and wastewater generation.

### C. Applicable Standards

While all Performance Standards are applicable to this investment, our current information indicates that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labor and Working Conditions
- PS3: Resource Efficiency and Pollution Prevention
- PS4: Community Health, Safety and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resource.

PS7 and PS8 are not applicable to this investment as there are no Indigenous People (as defined in MIGA's Performance Standards) and no Cultural Heritage issues in the Project area identified from the documents reviewed and the site visit. However, a chance finds procedure will be developed for the construction phase of the project, consistent with PS8.

The World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines, and the EHS sector specific Guidelines for Electric Power Transmission and Distribution, and the guidelines for Thermal Power Plants also apply to this project.

## D. Key Documents and Scope of MIGA Review

As part of MIGA's environmental and social due diligence review of the Project, the following documents were reviewed:

- Manifestación de Impacto Ambiental, Modalidad Particular: Ciclo Combinado Tierra Mojada. August 2015.
- Estudio de Riesgo Ambiental Modalidad Particular: Ciclo Combinado Tierra Mojada. August 2015.
- Modificación de Manifestación de Impacto Ambiental, Modalidad particular: Ciclo Combinado Tierra Mojada. December 2016.
- Evaluación del Impacto Social Ciclo Combinado Tierra Mojada. September 2015.
- Environmental and Social Due Diligence of the "Tierra Mojada" Gas Combined Cycle Plant and associated Power Transmission Lines in Jalisco, Mexico. Environmental Resources Management, March 2017.
- Independent Engineer's Report: Tierra Mojada Project. Leidos, March 2017.
- Tecnicas Reunidas Quality, Health, Safety and Environmental Policy, March 2014.

In addition to the documents listed above, MIGA's due diligence included a visit to the project site in April 2017. The visit included a tour of the project site, and meetings with affected households, local communities and authorities, project staff and consultants, and the EPC contractor.

### E. Key Issues and Mitigation

# PS1: Assessment and Management of Environmental and Social Risks and Impacts

Environmental and Social Assessment: Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) studies has been carried out, and approval has been granted by the relevant national authorities. The EIA was prepared by Germen, a local consultant, and approved by Federal Environmental Agency (SEMARNAT) in February 2016, and the SIA was prepared by Fundación para el Desarrollo Sustentable A.C., a local non-profit organization, and approved by the Secretary of Energy (SENER) in April, 2016. In order to meet potential international lender's requirements the Project engaged ERM, a recognized international environmental consulting firm, to undertake an environmental and social due diligence of the Project. This due diligence identified a list of gaps in Project compliance to the Performance Standards, and measures to address these gaps were summarized in an Environmental and Social Action Plan (ESAP). ERM have been contracted by the Project to update and amend a set of management plans and programs as specified in the ESAP (Appendix 1), including inter alia policies for E&S and human resources, grievance redress mechanism, and stakeholder engagement.

Management Program and Monitoring: An Environmental and Social Management System (ESMS) for construction and operations phases has been prepared based on the EIA and SIA. The system consists of a number of plans and programs to manage impacts and risks, including air and

water emissions, waste management, soil conservation, stakeholder engagement, social investment program, health and safety plan, etc., as well as a monitoring program. In order to fully meet the PS1 requirements, the Project has committed to updating and strengthening the ESMS in terms of consistency, coordination, responsibilities for implementation, and supervision.

Tecnicas Reunidas is certified according to ISO 9001, 14001 and OHSAS 18001, and has a Quality, Health, Safety and Environmental Policy applicable to all undertaken projects.

Organizational Capacity and Training: FE will appoint a team of four on-site supervisors who will be responsible for keeping track of the Project's overall performance in terms of quality, environmental and social aspects, and health and safety. FE's team will be accompanied on site by a team of environmental and social supervisors provided by the Project's consultants Germen (environmental) and FDS (social). Germen and FDS supervisors will support Fisterra's team with the day-to-day monitoring of the EPC contractor's activities, and will be responsible for the implementation of the Project's environmental and social plans and programs.

Tecnicas Reunidas, the EPC contractor, will retain a team of Environmental, Health, and Safety specialists at site, working on the implementation of the ESMS and related sub-plans during construction. As main EPC contractor, Tecnicas Reunidas will also be in charge of monitoring and coordinating relevant requirements with sub-contractors. E&S management, and the Performance Standards requirements, will be part of Project induction training mandatory for all employees. During operations, NAES will retain an EHS Manager and an Environmental Specialist.

Emergency Preparedness and Response: The impact assessment studies and ESMS includes descriptions of potential emergency scenarios related to construction, the Project's use of natural gas and its potential impacts on the Project's surroundings. FE has committed to developing and implementing an Emergency Preparedness and Response Plan (ERP) that addresses all the potential emergency scenarios related to the Project's construction and operation stages, and specifies the measures to be followed by FE, the EPC contractor, and other subcontractor's personnel in the event of an emergency. The ERP will include natural disaster and project-induced emergency scenarios, a description of the roles and responsibilities of first emergency responders, a list of emergency contacts, and a description of the level of training that will be required from emergency responders to attend emergency scenarios.

Monitoring and Review: FE will be responsible for ensuring that the Project's E&S performance aligns with the EIA/SIA and requirements from national regulations. Germen and FDS, the Project's consultants, will assign a team of supervisors during the Project's construction stage to monitor the Environmental, Health and Safety performance of the Project, including the EPC contractor and subcontractors. The consultants will prepare and submit monthly reports to FE during construction, detailing field observations and providing evidences of the implementation of the Project's environmental and social plans and programs. The reports will also be submitted to MIGA.

The ESMS includes monitoring programs, defining indicators, reporting, responsibilities etc. for environmental (air, water, noise, waste, soil conservation) and social (health, safety, communication, grievances, implementation of social investment programs). The social aspects of the monitoring program is based on the ISO 26000 standard. The Project has committed to updating the monitoring plans in order to strengthen the integration of monitoring activities, and to include

a procedure for monitoring of subcontractors and their compliance to the requirements set out in the ESMS.

*Grievance Mechanism:* The Project has a written grievance mechanism for external stakeholders, describing procedures to be followed to receive, address and register grievances, and on how grievances will be used to provide feedback to the Project's ESMS. The grievance mechanism will be updated to include reception of grievances also from internal stakeholders, and detailing how to provide feedback to the person who issued the complaint about how the grievance was addressed.

## PS2: Labor and Working Conditions

The Project will employ approximately 1,000 people during peak construction, of which around 25 will be FE staff and the remainder employed by contractors. Local labor will be prioritized for non-specialized tasks. During operations, around 40 staff will be employed.

No worker's camps are planned at site since accommodation is available in Zapotlanejo and Guadalajara. Transportation by bus to site will be made available to staff, and the Project site will include a canteen.

Human Resources Policies and Procedures: FE has a corporate Human Resources (HR) Policy based on the ISO 26000 standard, and the Social Management Plan includes provisions for hiring procedures, employee's rights, and non-discrimination. Tecnicas Reunidas, the EPC contractor, has in place a Labor Policy, and a Code of Business Conduct and Ethics (Code of Ethics), which state Tecnicas Reunidas' commitment to ensure compliance with local and international labor standards for all of its projects. Tecnicas Reunidas' Code of Ethics includes commitments to respecting Human Rights; providing a safe workplace; fostering non-discrimination; respecting individual intimacy, and prohibiting bribes, among others. A project-specific HR manual will be developed, based on the policies in place and in line with PS2 requirements and Mexican labor law, which will be applicable to all Project and contractor staff, during both construction and operations phases. Project staff are free to join and/or form workers organizations or unions.

Grievance Mechanism: As described under PS1, the current grievance management procedure is designed for external stakeholders and not developed to receive grievances from Project staff. The Project has committed to develop, communicate and establish a formal worker grievance mechanism in line with PS2 provisions. The grievance process will be made accessible to the construction workforce (both company and contract workers), enable workers to raise anonymous complaints and will have provisions for protection of confidentiality and non-retribution. The company will maintain worker grievance records and shall monitor resolution of grievances.

Occupational Health and Safety: A Project Health and Safety Plan (HSAP) is in place, establishing adherence to the ISO 26000 standard in terms of worker's safety, as well as Mexican Health and Safety regulations. The HSAP will be updated to incorporate PS2 requirements, including specification of training and supervision, job hazard analysis, work permits for high risk activities, documentation, and emergency response. The HSAP requirements will be applicable to all project employees, including contractor staff. Monitoring of the occupational health and safety and the HSAP implementation will be part of FDS's scope of work.

On-site emergency capacity will include a medical station, an ambulance and fire-fighting equipment.

### PS3: Resource Efficiency and Pollution Prevention

The potential environmental impacts from construction activities for the Project include: fugitive dust and noise emissions; vibrations; water consumption and wastewater generation; hazardous materials and waste handling, and surface water runoff. The EPC contractor and subcontractors are expected to control these to acceptable levels through application of standard construction environmental controls. The relevant recommendations and mitigation measures suggested in the ESMS will be incorporated into the construction contract documents. The EPC contractor will be contractually required to ensure use of efficient construction equipment and machines during the construction phase and meeting the emission standards applicable in Mexico, as well as the WBG EHS Guidelines. During the O&M phase, the company will set energy and material efficiency goals in alignment with ISO 14001 standards.

Resource Efficiency and greenhouse gases: The project will be fueled by natural gas, and will utilize high efficiency combined cycle technology. With respect to emissions of greenhouse gases (GHG), the project is expected to emit 2,698,000 ton CO<sub>2e</sub> per year. The Project aims to reduce consumption of primary resources and emissions of pollutants, and the ESMS includes application of adequate control measures for this purpose. The power plant will monitor GHG emission continuously and ensure annual reporting of the emissions.

Solid Waste Management: The majority of wastes will be produced during the construction phase. These wastes include, for example, spoil, packaging, and scrap metals. Waste generated during operations will include paper, packaging materials and food wastes. According to the Project's Waste Management Program, good housekeeping practices for reducing, segregating, recycling, and depositing wastes will be implemented during all Project phases. A temporary warehouse will be built to handle the solid waste that will be generated during the construction phase. Contractors will have the obligation to use waste disposal vendors and service providers authorized by SEMARNAT, in accordance with the established procedures in the applicable regulations.

The Project will update the Waste Management Plan for full compliance with PS3, specifically in terms of defining responsibilities for waste handling and detailing methodologies for waste reduction and recycling.

Water and wastewater management: The Project's water supply will consist of the use of four groundwater abstraction wells located within the Project's site. Water for the Project's construction stage will be supplied directly by the groundwater abstraction wells, while supply water for operations will be directed to a filtration system, including a reverse osmosis process, to reduce its content of minerals and solids so that supply water reaches the quality of required for the Project's operation.

A geohydrological assessment of groundwater resources have been conducted, and a water abstraction permit for 300,000 m<sup>3</sup>/year have been approved by the National Water Commission (CONAGUA), with an additional permit for the same amount pending. There are no other industrial

groundwater users in the area and pumping of groundwater for irrigation purposes is limited to a few farmers.

The Project's cooling system is a closed circuit system and water will be reused in the cooling cycle. This will help reduce the total water consumption compared to a once-through system. A Water Management and Conservation Program has been developed as part of the ESMS, describing mechanisms that will be used during the operation stage to collect, purify and reuse water.

Water discharge during the construction stage will mainly consist of sanitary wastewater, which will be stored in septic tanks and collected and disposed of by an authorized contractor company. Wastewater during the Project's operation stage will mainly consist of process water that was not reused or recycled into the process. The Project will have a Wastewater Treatment Plant with mechanical and biological treatment for its wastewater discharges, and it is expected that discharges will amount to approximately 440 m³ of treated wastewater on a daily basis. The Project has a Wastewater Discharge Permit authorizing the discharge of 242,272 m³ of wastewater per year.

Hazardous Materials Management: Hazardous material waste during construction will include contaminated containers, used paint, engine oils, hydraulic fluids and waste fuel, spent solvents from equipment cleaning activities and spent batteries or spent acid/alkali from the maintenance of machinery on site. The Project will require the EPC contractor to have proper system for hazardous materials storage and management at site to avoid any accidental spillages, documentation and record keeping of hazardous materials and wastes, which will be periodically reviewed by the company's EHS manager.

The primary hazardous waste during operations include contaminated containers (~3 tons/year), oils, grease and solvents, including oily rags (~400 kg/year), and spent batteries (90 kg/year). The hazardous wastes generated from the project will be collected and stored in designated roofed-areas and/or barrels with concrete flooring and secondary containment and disposed of/ sold through contractors or treated prior to discharge.

The update of the Waste Management Plan will include provisions for hazardous waste storage, transport and disposal.

Air Quality: During construction, air emissions will consists of combustion gases from vehicles used for construction activities, and dust/particles generated from vehicle movement. Control measures to minimize emissions will be applied, including water spraying on access roads and areas with bare soil, enforcement of speed limits, covering trucks transporting soil and other materials prone to dust dispersion, and preventive maintenance and monitoring of the construction vehicle fleet.

The operation of the plant with natural gas as fuel in combined cycle will generate flue gas emissions containing primarily CO<sub>2</sub>, CO, and NO<sub>2</sub>. Emissions of SO<sub>2</sub> and particulate matter are expected to be negligible, as natural gas typically has a very low sulphur level. The gas turbine will have dry low NOx combustors and the gas turbine and the steam turbine will be housed within a turbine building.

Impacts due to the operation of the plant were assessed by emissions modelling, and a stack height assessment. On the basis of the modelling results, maximum ground level the study area will be well within the applicable standards for air quality with usage of natural gas and impact on air quality has been predicted to be negligible.

An Air Emission Monitoring Program has been developed as part of the ESMS, specifying measures to be implemented in order to evaluate air quality impacts, monitoring air emissions, and establish mitigation measure/corrective actions to reduce and minimize the Project's air emissions. To ensure compliance with the air emission criteria for flue gas stacks, a Continuous Emission Monitoring System for the measurement of  $NO_X$ , CO, and  $O_2$  emission levels in the exhaust stack will be installed, and three ambient air quality monitoring stations will be in place.

*Noise*: Noise will be generated during the Project's construction stage, by vehicles, and machinery used for installing the Project's components, and building of internal and external roads. Construction activities are expected to be limited to daylight hours, although nighttime activities may take place in exceptional cases. Noise emissions during the Project's operation stage will be generated mostly by the turbines operation, and mitigated minimized through the use of turbine enclosures and airflow silencers. The closes sensitive receptor is a household located approximately 500 m from the Project's eastern limit.

The Project has developed a Noise Monitoring Program (NMP) that establishes the guidelines for conducting noise monitoring during the Project's operation stage, and the mitigation measures to implement in order to ensure that noise levels are kept under the applicable Official Mexican Standard. The NMP will be updated to make reference to the applicable limits of the WGB EHS Guidelines, and define monitoring requirements for the construction stage.

### PS4: Community Health, Safety and Security

The Project is located in within the Zapotlanejo Municipality in the State of Jalisco, approximately 30 km from Guadalajara. The project is located in a rural area, surrounded by private plots used for crops and livestock farming. The closest town to the Project site is Sante Fe (~3,000 inhabitants), located approximately 3 km south of the Project site, and in addition there are 5 small communities with up to 200 inhabitants within a 3 km radius. The closest residences are located 500 m from the site.

Potentially negative community health impacts during construction stem from dust and noise due to the movement of heavy equipment, materials and project personnel, as well as influx of workers. During operations, negative impacts are expected to be related to noise, air emissions, traffic and potential emergency scenarios.

Mitigation measures for noise and air emissions are described under PS3. A Community Health and Safety plan will be implemented including provisions for traffic safety management, emergency response procedures, and security. Traffic safety measures will include speed limitations, traffic control signs, and driver training, and the plan will be applicable also to drivers of buses for staff transportation to and from the site. In terms of emergency response, the plan will include identification of potential emergency scenarios, how to address them, steps for setting up lines of communication for external liaison and reporting, and coordination between the Project's internal, and external emergency services.

A social investment plan for the communities in the Project area has been developed and will be implemented during Project construction. The investment plan will be implemented in cooperation with the Municipality of Zapotlanejo, which will be responsible for managing donations made through the plan for the benefit of communities located within the Project's area of influence. Based on initial consultations, a list of proposed support measures and programs have been identified, including river banks stabilization works, donation of vehicles for material transportation, donation of equipment for drilling wells, training in production of milk/cheese, training in agricultural methods, etc. The social investment plan will be further detailed in corporation with the communities and local authorities.

Security Arrangements: Security measures will include perimeter protection and security guards provided by a third party. Security Management Plan will be implemented, describing the guidelines for security personnel involved in the Project in terms of training on human rights, use of force, performance of background checks, and the implementation of a rotation plan.

# PS5: Land Acquisition and Involuntary Resettlement

The Project site will be located on two plots that the Project gained access to through willing seller – willing buyer negotiations in September 2014 and March 2015, and the Right-of-Way of the transmission lines will affect 6 land owners. There will be no other physical or economic resettlement necessary for the Project. The negotiations and agreements were conducted in line with the PS5 definition of willing buyer – willing seller conditions, including an existing market for land sales, the informed consent of the seller, and fair compensation based on market values.

### PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resource

The project site consist of modified habitat, previously used for crop farming and no significant biodiversity impacts are expected. The Project has committed to complementing the studies conducting as part of the ESIA with a Bat Species Characterization Study, which will also suggest potential mitigation measures for the associated impacts in a management plan.

#### F. Environmental Permitting Process and Community Engagement

As indicated under PS 1, the Project has submitted an EIA to SEMARNAT and an SIA to SENER, which were both approved in 2016. The Project has also secured an Archeological Permit from the National Institute of Archeology.

Appropriate stakeholder engagement was undertaken with affected communities relevant stakeholders during the SIA process, and a Stakeholder Engagement Plan (SEP) has been developed for the Project. The SEP outlines the Project's objectives in terms of stakeholder engagement, and describes the activities to be conducted with the stakeholders during each stage of the Project's development. The activities set out for the pre-construction phase have satisfactorily been carried out, including stakeholder identification, consultations with relevant authorities, community leaders and other stakeholders (civil organization, entrepreneurs, etc), establishment of stakeholder focus groups, and public hearings.

MIGA supports its clients (as defined in MIGA Policy on Environmental and Social Sustainability) in addressing environmental and social issues arising from their business activities by requiring them to set up and administer appropriate grievance mechanisms and/or procedures to address complaints from Affected Communities.

In addition, Affected Communities have unrestricted access to the Compliance Advisor/Ombudsman (CAO), the independent accountability mechanism for MIGA. The CAO is mandated to address complaints from people affected by MIGA-guaranteed business activities in a manner that is fair, objective, and constructive, with the goal of improving environmental and social project outcomes and fostering greater public accountability of MIGA.

Independent of MIGA management and reporting directly to the World Bank Group President, the CAO works to resolve complaints using a flexible, problem-solving approach through its dispute resolution arm and oversees project-level audits of MIGA's environmental and social performance through its compliance arm.

Complaints may relate to any aspect of MIGA-guaranteed business activities that is within the mandate of the CAO. They can be made by any individual, group, community, entity, or other party affected or likely to be affected by the environmental or social impacts of a MIGA-guaranteed business activity. Complaints can be submitted to the CAO in writing to the address below:

Compliance Advisor/Ombudsman International Finance Corporation 2121 Pennsylvania Avenue NW Room F11K-232 Washington, DC 20433 USA

Tel: 1 202 458 1973 Fax: 1 202 522 7400

E-mail: cao-compliance@ifc.org

## G. Availability of Documentation

- Estudio de Riesgo Ambiental Ciclo Combinado Tierra Mojada.
- Evaluación del Impacto Social Ciclo Combinado Tierra Mojada.

The above listed documentation is available electronically as PDF attachments to this ESRS at www.miga.org. It has also been publically disclosed by SEMARNAT and SENER.



ANNEX 1: Environmental and Social Action Plan (ESAP)				
No.	Item	Deliverable	Deadline	
	Performance Standard 1: Environmental and Social Assessment and Management System			
1	Environmental and Social Policy	FE shall prepare a project specific Environmental and Social Policy including specific statements towards the Project's commitment to: 1) Comply with Mexican regulations and the requirements from international best practices; 2) Protect human rights of both direct and indirect workers as well as community members.	Before start of construction works	
2	Environmental and Social Management System Manual	FE shall prepare a Environmental and Social Management System (ESMS) Manual for the Project, including 1) Introduction; 2) Brief description of the Project; 3) Description of roles, responsibilities and organizational chart; 4) Overview and references of all supporting documents; 5) Description of the management of change for updating the ESMS Manual, procedures, programs, etc; 6) Executive description of the environmental, social, and health and safety impacts of the Project; 7) Management matrix for the site preparation and construction stages.	Before start of construction works	
3	Contractor Supervision Procedure	FE shall develop a Contractor Supervision Procedure that 1) Describes how and when the contractors' E&S performance will be reviewed; 2) Outlines the mechanisms that will be used 3) Indicates general measures to implement corrective actions.	Before start of construction works	
4	Stakeholder Engagement Plan (SEP)	FE shall update the existing Project's SEP with the following: 1) Stakeholders' position, expectations and level of influence towards the Project; 2) Specific stakeholder engagement strategies based on the stakeholders' prioritization; 3) The engagement activities, in detail, that would be developed with the Project's stakeholders, and the periodicity with which these will be conducted; 4) Dates for implementation, responsible persons, and associated key	Before start of construction works	

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		performance indicators to measure the efficiency of its	
		implementation.	
5	Grievance Mechanism Procedure	FE will update the Project's Grievance Mechanism Procedure to incorporate 1) The reception of grievances from internal stakeholders including direct and indirect workers (contractors and subcontractors); 2) Feedback mechanism to notify the person who issued the complaint; 3) the reception / recording of positive feedback from internal and external stakeholders.	Before start of construction works
6	Emergency Response Plan (ERP)	FE shall develop the Project's ERP to include: 1) Potential Project related emergency scenarios A detailed description of the steps to be taken in case of possible emergency scenarios; 2) Roles and Responsibilities of the emergency responders; 3) Address book of go-to persons (internal and external).	Before start of construction works
	Performance Standard 2: Labo		
7	Human Resources Policy	FE shall develop a Project-specific Human Resources Policy that delineates the minimum requirements for the Project's EPC contractor and subcontractors in terms of local labor hiring objectives, non-discrimination clauses, working conditions, terms of employment, and the health and safety standards to be followed and implemented during the Project's construction stage.	Before commencement of construction works
8	Health and Safety Plan (HASP)	FE shall update update the Project's HASP to incorporate the following items: 1) Specifications on the training to be provided to the Project's workforce; 2) Requirement for preparing job hazard analysis prior to perform work activities; 3) Requirements for the use of work permits; 4) Guidelines for Health and Safety supervision requirements 5) Having onsite emergency response brigades (i.e. first aid and firefighting).	Before commencement of construction works

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	Performance Standard 3: Resource Efficiency and Pollution Prevention		
9	Update of Waste	FE shall update the Project's WMP, for solid and hazardous waste,	Before
	Management Program	to incorporate the following items: 1) Define a responsible for	commencement of construction works
	(WMP)	waste handling during each of the Project's stages; 2) Define methodologies for waste reduction or recycling; 3) Indicators to	construction works
		monitor the Project's alignment to its goals in terms of waste	
		reduction; 4) Hazardous waste management procedures	
10	Update of Noise	FE shall update the Project's NMP to incorporate the following	Before
10	Monitoring Program	items: 1) The requirement to conduct Environmental Noise	commencement of
	(NMP)	Monitoring during the Project's	construction works
		construction stage; 2) The commitment to adhere to the	
		requirements from the World Bank Group General EHS	
		Guidelines; 3) Identification of sampling locations.	
11	Air Emissions	FE shall conduct a review of the air emissions dispersion modelling	Before start of
	Assessment	conducted in the ESIA and assess the resulting air environment	operation
		quality in the project area of influence and compare these with the WHO Air Quality Guidelines and WBG EHS Guidelines, and	
		consequently amend the Project's Air Emissions Monitoring	
		Program as necessary.	
		110gram as necessary.	
	Performance Standard 4: Community Health, Safety and Security		
12	Traffic Safety	FE shall develop a Traffic Safety Management Plan that will	Before
	Management Plan	consider all the measures to be followed by the Project and its	commencement of
		subcontractor's for minimizing the risk of vehicle accidents caused	construction works
		by the Project's activities.	
		d acquisition and Involuntary Resettlement	
13	Bat Species	FE shall conduct a characterization of bat species in the Project's	Before
	Characterization Study	area, including an assessment of the potential impact that the	commencement of
		Project's Power Transmission Lines may have on birds and bats	construction works

April 12, 2017

species in the area, and subsequently, promote Management Plan as necessary based or	- I
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