

**Environmental and Social Review Summary**  
**Ribeirão Preto Transmissora de Energia (RPTE) Ltda.**  
**500 kV Transmission Line**

*This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed in advance of the MIGA Board consideration of 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 the MIGA Board of Directors. Board dates are estimates only.*

*Any documentation which 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:	Brazil
Sector:	Infrastructure
Project Enterprise:	Ribeirão Preto Transmissora de Energia Ltda.
Environmental Category:	B
Date ESRS Disclosed:	October 6, 2009
Status:	Due Diligence

**A. Project Description**

The project is designed to strengthen the national intertie system by increasing the supply of electricity in the southeast particularly in the states of São Paulo and Minas Gerais. The project consists of construction and operation of a 407 km 500-kV transmission line and the expansion and operation of three substations at São Simão, Marimbondo and Ribeirão Preto. The transmission line is divided into two segments: Marimbondo – São Simão (210 km) and Marimbondo – Ribeirão Preto (198 km). The lines go through the states of São Paulo and Minas Gerais, over eighteen districts with 5 from Minas Gerais and 13 from São Paulo. The line connects substations at São Simão, located in Santa Vitoria with the substation at Marimbondo at the border of Minas Gerais and with the substation Ribeirão Preto in the state of São Paulo. The regions crossed by the proposed transmission line are dominated by agricultural activities. Deforestation in these regions had already resulted in pasture lands, coffee, sugar cane and citrus cultivation. The construction has been completed and the project is currently operational. The Licença de Operação (LO) was issued by COPAM on April 16, 2009 and this license obliges the operator to comply with the conditions set out in the Licença Prévia (LP) and the Licença de Instalação (LI). The Licença Prévia (LP) is a permit to carry out the necessary detailed planning and environmental studies; the Licença de Instalação (LI) is needed to construct the TL; and the Licença de Operação (LO) is needed to operate.

## **B. Environmental and Social Categorization**

This project is a Category B under MIGA's environmental and social review procedures because the impacts are site-specific, limited in number, and mitigation measures are readily identifiable. The key impacts/issues are: construction-related impacts (such as erosion control, noise and dust emissions, drainage, etc.), occupational health and safety; and land acquisition and loss of agricultural production (in particular during the construction phase).

## **C. Applicable Standards**

Based on current information the following Performance Standards are expected to be applicable:

- PS1: Social and Environmental Assessment and Management System
- PS2: Labor and Working Conditions
- PS3: Pollution Prevention and Abatement
- PS4: Community Health, Safety and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Natural Resource Management
- PS8: Cultural Heritage.

PS7 (Indigenous Peoples) is not applicable because there are no indigenous peoples affected by the project. There are no Indigenous Lands in the states of Minas Gerais and São Paulo or in any of the 19 counties crossed by the transmission lines.

## **D. Key Documents and Scope of MIGA Review**

For this investment, the following documents were reviewed by MIGA:

- Estudo de Impacto Ambiental (EIA), prepared by Biodinamica Rio Engenharia Consultiva Ltda. (June 2007)
- Relatório de Impacto Ambiental (RIMA), prepared by Biodinamica Rio Engenharia Consultiva Ltda (June 2007)
- Land Acquisition Tables
- Licença Prévia (LP), issued by IBAMA (March 6, 2008)
- Licença de Instalação (LI), issued by IBAMA (June 16, 2008)
- Licença de Operação (LO), issued by IBAMA (April 16, 2009)

MIGA's due diligence also involved discussions and e-mail exchanges with the client through the insurance broker on Brazilian labor laws and the project enterprise's implementation of those laws and land acquisition and compensation.

## **E. Key Issues and Mitigation**

### PS1: Social and Environmental Assessment and Management Systems

According to Brazilian law, an EIA and a RIMA must be prepared for any transmission line with capacity greater than 230 kV. The EIA is a detailed environmental assessment that is submitted to public authorities for review and approval, whereas the RIMA is a summary version of the EIA that is written in simpler language and expressly intended for public information, review, and comment. The EIA and RIMA for this project have adequately identified likely impacts and risks in the project's area of influence. As currently proposed and designed, the project does not involve either associated facilities or third party obligations for significant project components or for environmental aspects of the project. The project has received all the necessary environmental licenses needed to construct and operate. All licenses specify environmental and social actions that must be implemented as conditions of the license. License conditions are drawn from recommendations identified in the EIA and RIMA, issues and concerns identified by public comment on the RIMA, and requirements identified by local, state, or national authorities.

The Environmental and Social Action Plan (ESAP) as presented in the EIA and RIMA includes a number of programs described in detail below. All of these plans are required to be developed and implemented by the enabling legislation for the privatization and awarding of concessions. All are commensurate with risks associated with construction and operation of the project. The overall environmental management system consists of programs divided into the following three phases:

- Pre-construction phase ESAP- consists of three programs: ROW establishment program; program for compensation (for land/houses and livelihood impacts); social communications program;
- Construction phase ESAP consists of seven programs, including emergency plan, construction supervision; workers' health and safety; environmental compensation; monitoring. The LO includes a requirement to continue the monitoring of flora and fauna in the right-of-way for 2 years, and specifies the form of environmental compensation to be paid as required by law. These conditions and the two management programs for operations (Program of Environmental Management of Operations; Program of Worker Health & Occupational Safety in Operations) form the key environmental management activities during operations.
- Operational phase ESAP consists of the continuation of three of the above programs: Program of Environmental Compensation Program, Program of Monitoring Fauna; and Emergency Response Plan.

**Corporate Capacity and Commitment:** The investors have already built and operated similar high-tension transmission lines under concession in Brazil. MIGA has insured several of these investments. The investors have demonstrated the capacity and commitment to implement the projects in a manner consistent with the Environmental

and Social Action Plan prepared for each one.

### PS2: Labor and Working Conditions

The labor law of Brazil incorporates the core principles of ILO. The investor, Cobra Instalaciones y Servicios, in RPTE (the project enterprise) has constructed and is operating several transmission lines in Brazil and complies with the national labor law. The project enterprise is committed to applying the requirements of PS2 and the national law on working conditions, working relations, grievance mechanisms and health and safety procedures. The project enterprise also ensures that relevant requirements of PS2 were applied to all employees (contractor and subcontractor). It is estimated that around 600 employees were hired during the peak of construction works with about 60% specialized personnel coming from other regions and 40% local hires. Out of the 600 employees, approximately 450 were directly contracted out by the employer and 150 were subcontractual workers.

The Ministry of Labor), through the Secretariat of Labor Inspection and the departments of Labor Control and of Worker Health and Safety, is charged with guiding, controlling and supervising the activities connected with labor and occupational health and safety. The project is also controlled by the individual states and the regional labor authorities (“Delegacias”).

The investor also commits to the following principles:

- a) Safety programs and requirements - all employees are provided with personal protection equipment and attend monthly safety courses. These training courses also aim to train all employees in the use of all tools, machinery and pieces of equipment used for the construction of transmission lines and substations. Furthermore, compliance with the investor’s own safety regulations and Brazilian norms are supervised and enforced by the investor’s safety inspectors who permanently deployed on site. The number of inspectors for a given number of employees is regulated by Brazilian regulations.
- b) Health programs and medical facilities - the investor deploys qualified doctors to the site. Fully equipped ambulances, medical equipment and first aid kits are available. Doctors undertake annual check-ups of all employees, supervise sanitary conditions of camps and installations, and organize preventive health programs.

### PS3: Pollution Prevention and Abatement

The primary pollution issues associated with the project are: potential erosion from localized areas of exposed soils that result from installation of towers and substations, modification to drainage systems, and management of construction wastes. The removal of vegetation, earthworks may accelerate erosion processes and changes to watercourses. The Environmental and Social Action Plan includes a requirement to implement best

practice for erosion control and to monitor construction areas regularly until the soils have been revegetated and stabilized. Standard practices for this investor are: (i) The majority of wastes generated by the project are construction-related wastes, which are managed and disposed of in a manner consistent with recognized best practices; (ii) Recycling of materials are implemented to the extent practical; (iii) Herbicides will not be used in ROW clearing or maintenance. The investor has confirmed that these practices were followed as needed during the construction of this project. The investor's record for similar projects in Brazil has also demonstrated responsible management for pollution prevention and abatement.

#### PS4: Community Health and Safety

The potential impacts identified for public health included: (i) risk of increased traffic and industrial accidents; (ii) electromagnetic fields; (iii) increase in demand for health infrastructure during construction; and (iv) increased risk of communicable diseases during construction.

Movements of heavy construction vehicles and trucks are/were closely supervised and controlled to mitigate traffic accidents. The risk of industrial accidents during both construction and operation of the TL were/are mitigated by programs on environmental training for contractor personnel and on worker safety and occupational health during construction and operation phases.

As regard to effects induced by electromagnetic fields, the studies made to date have not discovered any conclusive evidence linking such fields to health problems. The internationally accepted measures based on the "prudential avoidance" concept include observance of a safe distance from populated areas together with control of exposure levels. These are ensured by establishment of the right-of-way width of 70m.

For risks associated with the influx of workers including increased demand for local infrastructure facilities, especially for health and housing, the investor employs a standard approach to maintain health and safety standards. The investor takes full responsibility by providing accommodation to all employees. For those sections of the transmission line within a range of 50km from urban centers, the investor rents existing housing facilities and provide transport from and to the work site. For those sections of the transmission line located in remote areas, the investor sets up camp infrastructure in strict compliance with the Brazilian laws, particularly with regard to sanitation. This also includes investor's responsibility to provide catering and food supplies to all employees. Fifty percent of RPTE's Transmission Line route is within reasonable vicinity of urban centers, therefore only one camp was established along the more distant sections of the route. Regarding the risk of communicable diseases during the construction phase, preventative health programs were included in workers' health and safety programs.

The RPTE substation area is fenced off, well illuminated with restricted access and guarded. Security personnel at project facilities including substations do not use firearms.

## PS5: Land Acquisition and Resettlement

Most of the TL routes occur in rural areas, mainly through the vicinity of farms and small and medium sized properties, towns and rural districts. About 50% of the area is occupied by sugar cane plantations and 40% consists of pastures. The TLs cross fewer urban and industrial areas, however, there are larger populations of people in these areas. Information presented by the project sponsor as part of the EIA indicates that the project does not lead to physical resettlement, and no community would be directly crossed by this transmission line. Only in some municipalities the right-of-way is within a range of up to 1.5km from farms, towns, ranches, sites and urban neighborhoods. The investor confirmed that no resettlement is needed by the project; 261 properties were affected by the transmission line. Acquisition and compensation of 205 privately owned properties have been completed. The remaining 56 properties are at various stages of completion. MIGA will require an update on land acquisition and compensation before the contract of guarantee is signed.

Previous experience of MIGA with acquisition of right-of-way for utilities projects in Brazil, including other transmission lines built and operated by the investor, has found that the requirements and the procedures in Brazil are consistent with PS5. Community engagement with respect to designation of the right-of-way is discussed above in the context of PS1. Generally between 8% and 10% of all compensation cases are presented in court.

Brazilian law for acquisition, compensation, and expropriation (if necessary) of ROW for utilities identifies a clear process that is required. According to the law, once the project is given permission to conduct topographic surveys for the right-of-way, permission from each landholder must be obtained to enter the property to do the survey. Once on the property, the surveyor prepares a document for that property (and each claimant, if there is more than one on a property) regarding all the impact on crops, trees that need to be cut or trimmed, and improvements (houses, corrals, outbuildings, water tanks, etc.) that might need to be relocated. This also is the opportunity for surveyors, landowners, and occupants to discuss possible relocation of towers, to the extent practical, in a manner that minimizes adverse impacts. This survey is a critical step in the community engagement process. The Environmental and Social Action Plan includes a Social Communication Program that must be implemented during the pre-construction phase and throughout the construction period, and provides landowners and local residents the opportunity to report environmental concerns or safety issues that might arise throughout the construction period.

## PS6: Biodiversity Conservation and Natural Resource Management

Agricultural activities dominate the regions crossed by the LTs. Deforestation in these regions has resulted in pasture lands and coffee, sugar cane and citrus cultivation. Most of the primary vegetation has been disturbed with the exception of a few areas of forests, savanna, swamps and buritizais. There are approximately 126 ha of patches of forest

within the project area. The region is habitat to several species of mammals, i.e. giant anteater, armadillos, tapiti (frog), deer, capybaras, coatis and monkeys and birds. While Permanent Preservation Areas (APPs) are protected by specific environmental legislation, the riparian forests of the region have been disturbed by the advancement of agricultural activities and urbanization.

Riparian forest habitat is generally identified by the Forestry Code as areas for permanent preservation, and will be treated as such by the project even though almost all the riparian forest habitat in the right-of-way is already degraded. The route of the right-of-way was selected, among many factors, to avoid crossing forest fragments greater than 500m in width, which is the distance between adjacent towers. Where required, tower heights were adjusted to minimize the need for trimming of natural vegetation along the right-of-way. The investors have successfully implemented in other projects a construction and cable installation technique that requires only removal of a 5-m wide band of natural vegetation in those areas where the right-of-way may cross remnant patches of trees or shrubs. Care was taken to trim a little above ground level, to allow rapid regeneration of growth from roots and stumps.

In terms of conservation units and other protected areas, changes were made to the project design to preserve the remaining forests in good standing, especially in the following Units of Conservation: Estação Ecológica Estadual de Ribeirão Preto (Mata de Santa Tereza), APA Estadual Morro do São Bento, Park Municipal Morro de São Bento (Bosque Municipal Fábio Barreto) and Morro do Cipó. Brazilian law stipulates that at least 0.5% of the cost of an infrastructure project must be set aside for establishment of conservation units (e.g., parks and protected areas).

#### PS8: Cultural Heritage

The project crosses areas that are known to have resources of paleontological, archaeological, or historical interest. The project's Environmental and Social Action Plan includes a Program for Inspection, Protection and Preservation of Archaeological, Historical, and Cultural Heritage – consistent with the national law. Standard practice for the project is to have a recognized expert to conduct a site survey of each proposed tower location prior to initiation of construction to determine whether cultural resources are potentially present. Construction crews are trained as part of the Environmental and Social Action Plan to recognize the presence of cultural resources, stop work, and request expert assistance, as per requirements of PS8 when there is a risk of chance finds. The investor commits that in case of chance finds mitigation measures are designed and implemented consistent with relevant national laws and PS8

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

According to Brazilian law, an EIA and RIMA must be prepared for any transmission line with capacity 230 kV or greater. The Licença Prévia (LP) is a permit to carry out the necessary detailed planning and environmental studies; the Licença de Instalação (LI) is

needed to construct the TL; and the Licença de Operação (LO) is needed to operate. Notices of intent to issue all three licenses are published in advance in local and regional newspapers, and in official publications. Public hearings on the issuance of an LP can be requested by interested parties within 45 days of notice of intent to issue an LP. For new power lines and substations, the LP must be requested at the initial stage of planning, before the final path of the ROW (or location of the substation) is decided. The law also requires notice of issuance of the LI to be published for a 30-day period, before it takes effect. For this project IBAMA issued the Preliminary License (LP) on 6 March 2008, the Construction License (LI) on 16 June 2008, and the License to Operate (LO) on 16 April 2009.

Environmental studies are approved by national and local institutions in Brazil. Each of the following institutions use the information provided:

- FUNAI (National Indian Foundation)
- IPHAN (National Institute for the Historic and Arctic Protection)
- Fundacao Cultural Palmares (Cultural Foundation Palmares)
- ICMBIO (Institute for the Preservation of Biodiversity “Chico Mendes”)
- SVC (Secretary for the Sanitary Surveillance) if the project touches the “Amazonas”
- Townhalls of each of the municipalities crossed by the transmission lines.

#### **G. Availability of Documentation**

The RIMA for this project has been disclosed locally in accordance with Brazilian requirements. MIGA has also disclosed the EIA and RIMA on its website along with this Environmental and Social Review Summary.