

INTER-AMERICAN DEVELOPMENT BANK



BRAZIL

***Energisa Debt Restructuring
(BR-L1090)***

***ENVIRONMENTAL AND SOCIAL MANAGEMENT REPORT
(ESMR)***

March 2007

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BR-L1090 - Energisa Debt Restructuring
Preliminary Summary of Principal Findings (PSPF)

TABLE OF CONTENTS

LIST OF ACRONYMS	II
I INTRODUCTION	1
II PROJECT DESCRIPTION	2
A. Existing Operations and Facilities	2
B. Future Projects	3
III ENVIRONMENTAL LICENSING COMPLIANCE	4
IV ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS	5
A. Existing Operations and Facilities	6
A.1 <i>Environmental Impacts and Risks</i>	6
A.2 <i>Social Impacts and Risks</i>	8
A.3 <i>Health and Safety Impacts and Risks</i>	12
B. Other Indirect Environmental and Social Impacts and Risks	12
C. Environmental and Social Impacts or Risks Associated with Future Projects	13
C.1 <i>Environmental Impacts and Risks</i>	13
C.2 <i>Social Impacts and Risks</i>	14
C.3 <i>Health and Safety Impacts and Risks</i>	15
V ENVIRONMENTAL, SOCIAL, AND HEALTH AND SAFETY MANAGEMENT	16
A. Environmental and Social Mitigation Measures	16
A.1 <i>Planning, Design and Construction Phases</i>	16
A.2 <i>Operation Phase</i>	18
B. Environmental and Social Monitoring Programs	19
B.1 <i>Construction Phase</i>	19
B.2 <i>Operation Phase</i>	20
C. Health and Safety Measures	20
D. Contingency Plans	21
E. Environmental and Social, and Health and Safety Management Systems	21
E.1 <i>Environmental and Social Management System</i>	22
E.2 <i>Health and Safety Management System</i>	22
E.3 <i>Environmental and Social Responsibility</i>	23
VI PUBLIC CONSULTATION	24
VII CONCLUSIONS	25
VIII RECOMMENDATIONS	27
ANNEX I: LOCATION OF THE AREAS OF CONCESSION OF ENERGISA AND SUBSIDIARIES ..	29

LIST OF ACRONYMS

ADEMA – *Sergipe* State Environmental Agency
ANVISA - National Sanitary Surveillance Agency
ANEEL – National Electric Energy Regulatory Agency
CELB – *Companhia Energética da Borborema*
CENF – *Companhia de Eletricidade de Nova Friburgo*
CFLCL – *Companhia Força e Luz Cataguazes-Leopoldina*
CIPA - Internal Commission for Accident Prevention
CLS – *Cataguazes-Leopoldina* System
CP - Contingency Plan
CSA – *Cataguazes Serviços Aéreos de Prospeção*
DEC - Equivalent Duration of Interruptions per Consumer
EA - Environmental Analysis
EAR – Environmental Analysis Report
EHSAP - Environmental, Health and Safety Action Plan
EIA – Environmental Impact Assessment
ENERGIPE – *Empresa Energética de Sergipe S.A.*
ESCR - Environmental and Social Compliance Report
ESDD – Environmental and Social Due Diligence
ESMS - Environmental and Social Management System
FEAM – *Minas Gerais* State Environmental Agency
FEC – Equivalent Frequency of Interruptions per Consumer
FEEMA – *Rio de Janeiro* State Environmental Agency
FUNAI - National Indian Foundation
HSMP – Health and Safety Management Plan
HSMS - Health and Safety Management System
IDB – Inter-American Development Bank
IBAMA – Brazilian Institute for Environment and Natural Renewable Resources
INCRA – National Institute for Colonization and Agrarian Reform
IPHAN – National Historic and Artistic Heritage Institute
ISO – International Standard Organization
ISO 14001 – International Standard for Environmental Management Systems
LI – Installation Environmental License
LO – Operating Environmental License
LP – Preliminary Environmental License
MME – Mines and Power Ministry
MST – Landless People Movement
NR-10 – Brazilian Regulatory Standard #10
OHSAS – Occupation Health and Safety Assessment Series
PCB – Polychlorinated Biphenyl
PPE - Personal Protective Equipment
PSPF – Preliminary Summary of Principal Findings
RCA – Simplified Environmental Impact Study
ROW – Right-of-Way
SAELPA – *Sociedade Anônima de Eletrificação da Paraíba*
SHPP – Small Hydroelectric Power Plant
SIGAM – Environmental Management System
SIN - National Interconnected System
SOMA – *Soluções em Meio Ambiente Ltda.*
SUDEMA – *Paraíba* State Environmental Agency
UTE-JF – Generation Company – *Juiz de Fora* Thermoelectric Power Plant

I INTRODUCTION

- 1.1 Energisa is a holding company currently undergoing an unbundling and restructuring process after which it will directly control: (i) five distribution companies as subsidiaries¹ (see **Annex I**): *Companhia Força e Luz Cataguazes-Leopoldina* (“CFLCL”), *Companhia Energética da Borborema* (“CELB”), *Companhia de Eletricidade de Nova Friburgo* (“CENF”), *Empresa Energética de Sergipe S.A.* (“ENERGIPE”) and *Sociedade Anônima de Eletrificação da Paraíba* (“SAELPA”)²; (ii) the generation company *Juiz de Fora* (“UTE-JF”), and (iii) the services companies: *Cat-Leo Cise*; *Cataguazes Serviços Aéreos*; and *Teleserv*.
- 1.2 CFLCL is the company from which the *Cataguazes-Leopoldina* System - CLS originated. In 1907, two years after its foundation, the company obtained registration number 3 on the Rio de Janeiro Stock Exchange in order to trade shares in the capital market. CLS’s main operation base is the electric sector, in the energy distribution and generation areas; it has five distribution companies in Brazil and serves a population of about 6.5 million, dispersed throughout approximately 91,180 km² in the states of *Paraíba* and *Sergipe*, and certain regions of the states of *Rio de Janeiro* and *Minas Gerais*. Currently, Energisa and subsidiaries service approximately 1.9 million consuming units and have over 4,000 direct and indirect employees.
- 1.3 The debt restructuring will allow Energisa to improve its debt profile and thus free up funds for investing in its subsidiaries for improvement in the quality of service and efficiency of its distribution system in order to reduce losses and to increase energy efficiency. Performance indicators include: a lower annual debt-service as a percentage of cash flow available for debt service; and improved quality of service by its subsidiaries, as measured by the DEC and FEC indexes.
- 1.4 The Project under consideration is a debt restructuring operation that does not involve construction or implementation of any infrastructure or civil works and is expected to have minimal environmental and social impacts. Therefore, as per IDB’s OP 703 Environment and Safeguards Compliance Policy, the Project has been classified as a Category C operation.
- 1.5 Nevertheless, there may exist some possible environmental liabilities in relation to environmental impacts and risks not adequately mitigated and associated with Energisa and subsidiaries existing facilities and operations. These potential impacts and risks were subject to assessment during the Environmental and Social Due Diligence (ESDD).

¹ Until the conclusion of the unbundling (expected to occur in April 2007), Energisa directly or indirectly controls three distribution companies: Energiipe, Saelpa and Celb.

² These subsidiaries are located in the Northeast (ENERGIPE in the state of *Sergipe* and SAELPA in *Paraíba*) and Southeast (CFCL and CENF in *Rio de Janeiro* and CFCL in *Minas Gerais*) regions of Brazil.

Table 1: General Data on Energisa and Subsidiaries

Market Share			
Northeast	9%	Brazil	2%

Distribution (2006)			
	Customer ('000s)	Demand for Energy (GWh)	Gross Revenue (millions of R\$)
CELB	142	614	149
Saelpa	906	2,663	869
Energipe	480	2,260	607
CFLCL	323	1,143	449
CENF	84	286	116
Total SCL	1,957	6,966	2,297

Obs.: Both demand for energy and gross revenue are annualized

Generation			
	Capacity (MW)	Production (GWh/year)	% Distribution Attempted
UTE - JF	87	680	12
CFLCL	47	202	4
CENF	8	50	1
Total	142	932	17

Source: CLG Financial Statements

II PROJECT DESCRIPTION

A. Existing Operations and Facilities

- 2.1 Energisa and subsidiaries main activities are concentrated in electric energy generation and distribution. The energy distributed by Energisa's subsidiaries comes from the National Interconnected System (SIN) and from its own generation facilities (12 Small Hydroelectric Power Plants – SHPP - and one Thermoelectric Power Plant in *Juiz de Fora*, state of Minas Gerais.

- 2.2 The Energisa and subsidiaries system is composed of five distribution companies, listed below:
- (a) CFLCL: *Companhia Força e Luz Cataguazes-Leopoldina* was founded in 1905. It operates in the energy generation and distribution area, serving 68 municipalities of the states of *Minas Gerais* and *Rio de Janeiro*. It supplies energy for a population of 1 million people, with 323,000 consumers covering an area of 16,331 km².
 - (b) CENF: *Companhia de Eletricidade de Nova Friburgo* was founded in 1924. CENF operates in the generation, transmission and distribution of electric energy. It supplies energy to the municipality of *Nova Friburgo* (RJ), an important industrial and services location in the hillside region of *Rio de Janeiro*. It serves 83,000 consuming units, covering a population of 200,000 people and an area of 1000 km².
 - (c) ENERGIPE: *Empresa Energética de Sergipe* was founded in 1959 by the *Sergipe* State Government as a public company and acquired in a privatization auction in December 1997. It serves 480,000 consuming units, distributed among 63 municipalities, representing 96 percent of the territory of the state of *Sergipe*, covering a population of 1.7 million people and an area of 17,465 km².
 - (d) CELB: *Companhia Energética da Borborema* was founded in 1966 as a public company and acquired in a privatization auction in December 1999. It serves 142,000 consuming units, mainly concentrated in the municipality of *Campina Grande (Paraíba)*, covering a population of 450,000 people and an area of 1789 km².
 - (e) SAELPA: *Sociedade Anônima de Eletrificação da Paraíba* was founded in 1964 by the *Paraíba* State Government as a public company and acquired in a privatization auction in December 2000. It serves 906,000 consuming units, distributed among 216 municipalities, concentrated in one of the areas with the largest growth rate in the Brazilian Northeastern Region, supplying energy to 3 million people and an area of 54,595 km².
- 2.3 The Energisa and subsidiaries system also includes 12 Small Hydroelectric Power Plants (SHPPs) and one Thermoelectric Power Plant (in *Juiz de Fora*). Besides, it also includes *Cat-Leo Construções, Indústria e Serviços de Energia S.A.* a company devoted to the operation and maintenance of hydroelectric power plants, construction and reactivation of generation units, project management, assembly and supply of electromechanical and hydro mechanical equipment, civil works and engineering services for third parties as well as for its own assets.
- 2.4 Further to the aforementioned generation and distribution system, Energisa subsidiaries' infrastructure includes several administrative headquarters, central warehouse, substations, maintenance shops; all spread around four states (*Minas Gerais, Rio de Janeiro, Sergipe and Paraíba*).

B. Future Projects

- 2.5 Although the transaction with Energisa that is being analyzed by IDB does not include the construction and implementation of any new infrastructure project, during its due diligence the Bank evaluated possible projects that are being considered by Energisa and subsidiaries to be implemented in the near future, to assess their capacity to manage related environmental, social, health and safety aspects.
- 2.6 Essentially the new projects anticipated by Energisa and subsidiaries are related to expansion of distribution networks, mainly in rural areas and in connection with the Brazilian federal government Light for All Program (*Programa Luz para Todos*). The Companies have been successfully developing in the past three or four years similar projects in connection with

previous versions or phases of the Program; so, they are very familiar with the type of projects involved.

- 2.7 Furthermore, it is worth noting that some of the Energisa's subsidiaries are planning to develop projects involving other sources of renewable energy, such as eolic and photovoltaic solar.

III ENVIRONMENTAL LICENSING COMPLIANCE

- 3.1 According to national and state environmental laws the main types of license and/or permit required by some of Energisa and subsidiaries' existing facilities are: operating license, vegetation-clearing permit and authorization for water use.
- 3.2 Energisa's subsidiaries are situated in four different states; so, there are four state environmental agencies involved in the licensing of their facilities. In some situations the federal agency (IBAMA) might also be involved in the licensing process. It is worth mentioning the good example of SAELPA and CELB, which have all of their required operating licenses in order, situation that is not common to encounter in companies of this sector. Other subsidiaries are in the process of obtaining or renewing their required operating licenses, and have begun formal and/or informal contacts with the respective state environmental agency. In general, Energisa's subsidiaries maintain a good relationship and a proactive attitude toward the competent authorities.
- 3.3 FEEMA (in *Rio de Janeiro*), FEAM (in *Minas Gerais*), ADEMA (in *Sergipe*) and SUDEMA (in *Paraíba*) are the agencies responsible for environmental licensing of all infrastructure projects within the concession areas of Energisa's subsidiaries.
- 3.4 Clearing of natural vegetation protected by federal legislation is in principle a Federal Environmental Agency (IBAMA) responsibility.
- 3.5 Further to regularization requirements, it is worth noting that periodic clearing of vegetation within distribution line ROW may require a vegetation-clearing permit, depending on the characteristics of the vegetation. In order to minimize the need for this authorization, Energisa's subsidiaries have in place procedures that are adopted in some cases, such as: (i) define the ROW of the distribution line away from forested areas; (ii) elevate the height of the distribution line in order to avoid the need to cut some of the trees; and (iii) establishing specific clearing procedure with IBAMA, such as not making use of electric chainsaw.
- 3.6 In consolidated urban areas, tree branch trimming is sometimes necessary for safety reasons and to avoid power interruption problems. In most of the concession areas, the respective municipal authority, under the training and supervision of Energisa subsidiaries' specialized personnel, carries out this service; therefore, no specific authorization is required from the companies.
- 3.7 It has been observed during the ESDD that some of the Energisa's subsidiaries have a very effective and structured system to keep track of licenses needed, documentation and studies required in each case and licensing process status, particularly in the case of generating units.

- 3.8 On the other hand, monitoring and enforcement of compliance with licensing and permitting conditions and requirements is a state environmental agency responsibility. During the ESDD, it was noted that there were no fines issued against Energisa and subsidiaries relative to environmental issues.
- 3.9 Finally, it should be pointed out that throughout the ESDD process it has been pointed out the good standing that Energisa's subsidiaries have with environmental and other state and municipal authorities.

IV ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

- 4.1 The Project under consideration is a debt restructuring operation that does not involve construction or implementation of any infrastructure or civil works. Therefore, the main environmental, social, health and safety negative impacts and risks associated with Energisa Debt Restructuring will be those related to Energisa and subsidiaries existing operations and facilities.
- 4.2 Nevertheless, although the transaction with Energisa that is being analyzed by IDB does not include any new infrastructure project, the Bank assessed Energisa and subsidiaries' capacity to manage environmental, social, health and safety aspects in relation to new projects to be implemented in the near future.
- 4.3 It should be pointed out that Energisa's subsidiaries adopt good practices that contribute significantly to reduce the impacts associated with their projects, such as: (i) to effectively take into consideration environmental criteria to guide the selection of alignments of distribution lines and substation and generation unit sites, and try to avoid, as much as possible, affecting sensitive areas, such as conservation and indigenous areas, as well as housing, commercial and industrial areas; and (ii) the companies try as much as possible to expand their network through established rights-of-way, or existing corridors, roads, and pathways, to avoid establishment of new rights-of-way and construction of new accesses (temporary or permanent).
- 4.4 Considering the nature of the works involved and the procedures adopted by the Companies to avoid or minimize environmental and social impacts and risks, it is possible to anticipate that the Project will not: (i) convert or degrade critical natural habitats or damage critical cultural sites; (ii) significantly convert or degrade natural habitats; (iii) raise any significantly negative indigenous issues; (iv) generate resettlement issues; or (v) have associated any transboundary issue. Also, there is no risk related to associated facilities.
- 4.5 The implementation of the investments, to be allowed by the Debt Restructuring (*i.e.* improvement in the quality of service and efficiency of their distribution systems in order to reduce losses and to increase energy efficiency) will not require resettlement of people and will not significantly and negatively affect sensitive areas, such as conservation or indigenous areas. In fact, one indigenous community that have requested to be linked to the energy distribution network by the municipality where they are located, is already receiving the benefits integrated in the Light for All Program, after approval by the National and State Management Committees for the Light for All Program and by FUNAI.
- 4.6 Similarly, none of the projects already constructed had any significant impact on archeological remains or other cultural heritage. Always, when minimum excavation or other

interference on natural terrain has been necessary, the process has been licensed by IPHAN - National Historic and Artistic Heritage Institute and the interferences were minimal.

A. Existing Operations and Facilities

A.1 Environmental Impacts and Risks

- 4.7 *Suppression of regenerated native vegetation along distribution line ROWs:* As mentioned, Energisa's subsidiaries make use, as much as possible, of non-forested areas for the installation of power lines and/or substations. However, along segments where clearance is necessary and where forested areas remain adjacent to the ROW, native vegetation can rapidly regenerate. Some regeneration occurs in segments surrounded by pasture as well, even though with less intensity. Periodic maintenance of distribution line ROWs is executed by Energisa's subsidiaries. This will frequently involve clearing of regenerated vegetation within the ROW and trimming of branches of large trees adjacent to the ROW. Where removal of tree-sized vegetation is required, an authorization for clearance of vegetation may be necessary. Replacement of conductors may also require removal of vegetation from ROWs. Furthermore, to minimize the need for trimming the vegetation, some of the subsidiaries use in cases compact network and/or insulated cables.
- 4.8 *Pruning and tree branch trimming in urban areas:* In urban areas, municipal authorities, with Energisa's subsidiaries supervision, routinely execute safety trimming of vegetation, performed to ensure reliability of power supply. More extensive pruning, performed to guide tree growth and maintain urban landscaping, is also a municipal responsibility. In addition, Energisa's subsidiaries provide training for the municipalities' trimming teams, whenever needed.
- 4.9 *Induced erosion processes:* The periodic removal of vegetation from ROWs, performed for maintenance purposes, may induce localized erosion processes, especially on sloped terrain and in areas where soils are particularly loose. To control this type of impact, Energisa's subsidiaries periodically inspect all rural distribution lines and any erosive process within the ROW is corrected as soon as possible. In these inspections, erosion in properties adjacent to the ROW is sometimes identified and when this is considered a risk, Company, owners or governmental agencies will take corrective action.
- 4.10 *Fauna disturbance:* During operation of distribution systems, there is the risk that wild animals may make accidental contacts with aerial conductors or high-voltage equipment, particularly at substations. This type of risk is more significant in rural areas or near environmentally sensitive regions with presence of significant native forest fragments and other wild animal habitats. In the past, at smaller equipment in some substations, where the distance between energized cables reaching the equipment is small enough to be bridged by the wingspan of some birds or by the body of large lizards or other animals, Energisa's subsidiaries have experienced some instances of power failures due to accidents with fauna. To prevent this type of accident to happen, Energisa subsidiaries installed insulating plastic tubes and/or jackets around conductors as they connect to the equipment. This simple measure has successfully eliminated the problem.
- 4.11 *Soil and groundwater contamination:* The following aspects shall be considered concerning potential liabilities associated with soil and groundwater contamination at existing facilities:

- (a) Occasional mineral oil spills: Occasional mineral oil spills may occur during operation of substations. Mineral oil may spill from transformers and other equipment, but the use of secondary containment pits under each transformer can effectively control this risk. Most of the Energisa's subsidiaries old existing substations do not have a secondary containment pit under each transformer to control this impact. It is possible that substation's septic tanks may overflow, but this impact has very low magnitude, since most of Energisa's subsidiaries substations are unmanned and remotely controlled.
- (b) Maintenance activities: Maintenance activities and maintenance shops offer potential soil contamination risks since they generate materials and effluents contaminated with diesel, mineral oil or lubricants. This risk can be controlled, on the field, with the use of portable contention units during maintenance activities. Maintenance shops shall be paved, with impermeable flooring and provided with proper drainage and effluent and solid waste collection. Oil/water separators shall be used to collect run-off from work areas. During site visits, minor signs of possible soil contamination were observed at maintenance shops in the subsidiaries of the Company and this will be the subject of some of the IDB's recommendations.
- (c) Equipment and materials storage: Warehouse and storage facilities operations also constitute a potential risk with regards to soil contamination. New equipment (mainly transformers) contains mineral oil and, although not very likely, spills may occur during storage. Other materials and consumables may pose some contamination risk and require specific storage conditions. Also the storage of old transformers, or equipment waiting for remodeling is not adequate in some of the sites. At some of the warehouse and storage sites that were visited during ESDD, evidence of spills was identified and at least a preventive baseline investigation is recommended.

4.12 *Solid waste generation and disposal*: The solid wastes that are generated during operation are mainly related to warehouses, maintenance shops, substations and offices, and may involve wastes characterized as domestic and/or office wastes, and others categorized as industrial. Replacement of damaged or obsolete electric equipment, components, and materials at Energisa's subsidiaries facilities generates wastes of several types, which must be disposed of accordingly. Scrap material made of copper, aluminum, steel, iron, glass, porcelain and wood are the most common ones. In addition, some wastes that can be considered hazardous are also generated, such as spent batteries containing acid, discharged lamps, used oil, etc. In general, the Companies do not have systematic procedures for sorting, storing and segregating material for final destination, and each subsidiary has its own process, in some cases well developed and in other cases not. The Companies do not have an inventory of the wastes generated at their facilities. Currently, most wastes are either sold to recyclers or disposed of at municipal landfill sites. Therefore, in general, Energisa subsidiaries should improve their solid waste management practices in order to avoid potential liabilities associated with inappropriate disposal and potential soil and ground and surface water contamination; this will also be a subject of IDB's recommendations.

4.13 *Polychlorinated Biphenyls (PCBs)*: Energisa's subsidiaries do not have PCB-containing equipment since 2006, when the last stored PCB and PCB-containing equipment (capacitors) were sent for provisional storage at certified facility, in State of *Bahia* (close to *Sergipe*, the last place where there was PCB-containing equipment), where all these materials were incinerated at an appropriate and authorized processor, and a certificate to this effect was issued on October 2006. Therefore, in the case of Energisa and subsidiaries there are no potential liabilities expected in relation to PCBs.

- 4.14 *Impacts on water quality and aquatic life:* The water quality and consequently the aquatic life in the reservoirs of the SHPPs owned and/or operated by some of the Energisa's subsidiaries may deteriorate due to eutrophication, which is caused by the increase in an ecosystem of chemical nutrients, typically compounds containing nitrogen or phosphorus. Eutrophication is frequently a result of nutrient pollution such as the release of sewage effluent into natural waters, although it may also occur naturally in situations where nutrients accumulate (e.g. depositional environments). Eutrophication generally promotes excessive plant growth and decay, favors certain weedy species over others, and is likely to cause reductions in water quality. In aquatic environments, enhanced growth of choking aquatic vegetation or phytoplankton (e.g., algal bloom), disrupts normal functioning of the ecosystem, causing a variety of problems. However, it should be pointed out that all of the areas of the Energisa and subsidiaries' reservoirs have been cleared of vegetation prior to formation; thus reducing substantially the potential for eutrophication. Furthermore, most of the reservoirs have a short hydraulic detention time and constant renewal of the water, factors that contribute to reduce the deterioration of the water quality. In addition, the Energisa's subsidiaries adopt specific monitoring procedures and have a state-of-the-art water quality laboratory to assist in these monitoring and control activities.
- 4.15 *Air emissions:* In almost all facilities of Energisa and subsidiaries, air emissions are not a significant environmental issue. Dust emissions may result from some maintenance activities, mainly periodic clearing of distribution line ROW. This situation is different for the *Juiz de Fora* Thermoelectric Power Plant, where there are emissions due to combustion and besides using air pollution control devices and/or operating procedures, the Company carry out a permanent air monitoring program at the sources in agreement with the request of FEAM (environmental agency of Minas Gerais).

A.2 *Social Impacts and Risks*

- 4.16 *Risk of illegal settlements within distribution line ROWs:* Illegal settlements within distribution line ROWs are not uncommon in large Brazilian cities, despite legislation and land use control mechanisms enforced sometimes by municipal governments. Energisa understands that this is a potential social problem that must be solved in agreement and with support of public authorities. There are some instances of illegal settlements within the ROW of some distribution lines in Energisa's subsidiaries. To cope with these situations, the Companies resort in some cases to relocation of the particular segment of the distribution line. Furthermore, periodic inspections of the distribution system's ROW are routinely conducted by the subsidiaries and any new occupant is warned of the risks involved in occupying areas below high-voltage lines, and asked in an amicable way to vacate the area prior to engagement of pertinent authorities.
- 4.17 *Consideration of indigenous areas and peoples:*

(a) Demarcation status of Indigenous Reserves

Federal Law No 6001/73 and Federal Decree No 1775/96 establish the procedure for demarcation of Indigenous Reserves. This requires that registered anthropologists execute ethnographic studies as well as a survey of all properties that may be affected by the proposed perimeter. Once these studies are reviewed and approved by the National Indian Foundation (FUNAI), a summary is publicly disclosed (through the Federal Register) and there is a 90-day period for reception of comments from affected states, municipalities

and/or property owners. Once this step is concluded, FUNAI forwards the studies and all comments received to the Ministry of Justice that will either approve the proposed perimeter or return the documentation to FUNAI for modification. In cases of approval, the demarcation is ratified by a federal decree.

As summarized in the following table, there are few Indigenous Reserves in the concession areas of Energisa's subsidiaries:

Table 2: Indigenous Reserves in Concession Areas of Energisa's Subsidiaries³

STATE	MUNICIPALITY	INDIGENOUS RESERVE NAME	Indigenous Peoples	Area (ha)	Population	Status
Sergipe	Porto da Folha	Caiçara/ Ilha de São Pedro	Xokó	4317	230	Demarcation ratified
Paraíba	Baía da Traição, Rio Tinto and Mamanguape	Potiguara	Potiguara	21,238	6920	Demarcation ratified
Paraíba	Rio Tinto	Jacaré de São Domingos	Potiguara	5032	212	Demarcation ratified
Paraíba	Rio Tinto	Potiguara de Monte-Mor	Potiguara	5300	1082	Demarcation in progress

FUNAI is also responsible for assuring the protection of Indigenous Reserves and peoples against any risk that may represent a threat to the preservation and life of these peoples, as well as to their rights. No major problems of Indigenous Reserve invasions are reported in the concession areas of Energisa's subsidiaries.

(b) Consideration of indigenous areas in project design and implementation

The investments to be allowed by the Debt Restructuring for improvement in the quality of service and efficiency of the distribution systems of Energisa's subsidiaries have no technical or economic reason to interfere negatively with indigenous areas.

Nevertheless, Indigenous Reserves may benefit by being serviced under the Light for All Program. However, this will only take place if requested by the indigenous peoples and/or communities, and approved by the National and State Management Committees of the Light for all Program and by FUNAI.

It is also worth noting in this regard, that the National and State Management Committees for the Light for All Program take decisions about which Light for All Program components will receive priority in each state. These Committees include representatives from the Ministry of Energy and Mines, ANEEL, State Government, local authorities, civil society, rural consumers and electric energy distribution companies.

³ There is no Indigenous Reserves in or near the concession areas of Energisa in Minas Gerais and Rio de Janeiro states.

- 4.18 *Induced population and/or economic growth around Indigenous Reserves or environmentally sensitive areas:* Induced economic development is one of the expected benefits of Energisa subsidiaries activities. However, such development could produce negative side effects if it contributes to intensification of economic activity and population growth in areas surrounding Indigenous Reserves or environmentally sensitive areas. In general, this can be a risk particularly in regions that are still undergoing a colonization process, where the arrival of electricity may act as an inductor for further occupation and industrialization. But this aspect won't be relevant in the cases of the Energisa's subsidiaries, because the Indigenous Areas are located far from urban occupation. The main conclusion is that induced population and/or economic growth in areas surrounding Reserves or environmentally vulnerable areas in the State of *Sergipe* or *Paraíba* should not be a relevant issue in the case of Energisa's subsidiaries, as explained below:
- (a) Rural electrification under the Light for All Program improved significantly the quality of life of the rural poor, making irrigation and industrialization of agricultural products feasible. As a result, the program contributed to reduction of the intensity of rural-urban migration patterns and hence, of urban growth. Energisa's subsidiaries were one of the few companies of electric sector in Brazil that reached the goal fixed by the Light for All Program.
 - (b) Whereas energy is a necessary pre-condition for industrialization and economic development, it is not the only factor and it certainly is not the triggering factor in less developed regions. Accessibility and transportation infrastructure is clearly more important. It is worth noting that since distribution line alignments generally follow existing road alignments, no new services roads of significant length are to be built and hence there will be no significant impact on current accessibility patterns.
 - (c) Finally, it is important to remember in this context, that as per the Concession Contract and Brazilian energy sector regulations, Energisa's subsidiaries are contractually obligated to meet the demand, targets, and schedule established by the Federal and State Governments for the Light for All Program, which is targeting the national and state goals of universalization of access to electricity.
- 4.19 *Consideration of quilombola communities:* There are almost 15 *quilombos* (communities of former African slave descendants, known individually as *quilombolas*, and the communities as *quilombos*) dispersed throughout the State of Sergipe and 22 in Paraíba that are registered in the *Palmares* Cultural Foundation of the Ministry of Culture. Similarly to the case with indigenous peoples, some of the *quilombola* communities will benefit by connection to Energisa subsidiaries' networks to be serviced by electric energy. They are not protected by legally established perimeters (i.e. like Reserves) and there is no specific legal restriction affecting implementation of distribution networks within a *quilombo*. The Company tries to implement these connections with minimum disturbance. Many of these communities were recently supply by the Light for All Program. In State of *Minas Gerais*, in the concession area of CFLCL, *Capuxás*, a *quilombo* close to the Small Hydroelectric Power Plant (SHPP) *Cachoeira Escura*, will receive some support from the Company, despite the fact that it is not directly affected by the project.
- 4.20 *Increase in noise levels:* This impact might be associated with the operation of some of the substations. However, Energisa's subsidiaries effectively adopt environmental site selection criteria and sites acquired for substation installation are usually relatively distant from

urbanized areas, and large enough to allow significant attenuation between noise generating equipment and site boundaries. Thus, the risk that noise generated at substations may disturb human receptors and sensitive areas can be considered to be minimal in this case.

- 4.21 *Risk of accidents involving persons (electric shock):* This type of risk is associated with accidents involving third parties and the energized network. There may be accidental contacts with the network in normal conditions (by negligence or misinformation about the risk), in exceptional conditions (fall of energized cables caused by vehicle-hit poles or by faulty network maintenance), and during fraud attempts (energy theft). Energisa's subsidiaries adopt specific technical specifications and procedures to minimize the occurrence and consequences of these accidents, and promote educational activities to inform the public of the hazards involved.
- 4.22 *Disturbance to consumers as a result of power interruption:* Interruption of power supply can cause some stress to residential consumers and may result in relevant economic costs for industrial and commercial consumers. Interruptions may be caused by natural phenomena (e.g., electric discharges during storms), deficient operation and/or maintenance procedures and by overloaded distribution networks. In order to solve this problem, Energisa's subsidiaries have modern systems to forecast and identify storms and electric discharges during storms, and the data is stored in a geographic information system, as observed during the due diligence. The energy sector regulatory agency (ANEEL) permanently verifies the reliability of energy distribution services provided by Energisa's subsidiaries. This is based on regulated indicators, such as the "Equivalent Duration of Interruptions per Consumer" (DEC) and the "Equivalent Frequency of Interruptions per Consumer" (FEC), among others. In 2006, the Energisa's subsidiaries presented DEC and FEC indexes better than the national average, showing a good performance at national level. Furthermore, some of the activities integrated in the investments to be allowed by the debt restructuring will contribute to improve and strengthen Energisa subsidiaries' systems and network and reduce the instances and duration of power interruptions.
- 4.23 *Damage to equipment and appliances due to interruptions and surges in power supply:* Interruptions and subsequent surges in power supply may be caused by natural phenomena (e.g., electric discharges during storms), deficient operation and/or maintenance procedures, and by accidents involving third parties (vehicular collision with poles, fires, animals, etc.), and are particularly critical in overloaded distribution networks. Energisa has specific procedures to deal with these situations, in view of minimizing occurrences and duration, and attenuating consequences. The energy sector regulatory agency (ANEEL) requires that all claims of equipment damage be investigated according to procedures set forth in ANEEL Resolution N° 61/2004. This requires that damaged equipment be inspected and that other possible causes not linked to the power supply (i.e. improper operation) be verified. A 60-day time limit is established for the investigation. Furthermore, as per ANEEL Resolution N° 138/2000, distribution concessionaires are required to institute an Electric Energy Consumer Council. This includes representatives from each main consumer class (residential, industrial, commercial and rural), a consumer defense entity, a public sector entity and Energisa subsidiary. Thus, transparency and correct handling of consumer complaints and losses is further guaranteed.
- 4.24 *Generation of Electromagnetic Fields:* The generation of electromagnetic fields along the lines and substations is another aspect related to the operation of Energisa subsidiaries' electric systems that has been analyzed during the ESDD. However, regarding the potential

effects of electromagnetic fields on public health, it should be pointed out that the scientific knowledge gathered to date indicates that the risks associated with distribution lines operating at voltages like the ones operated by Energisa, are not significant. On the other hand, for transmission lines operating at voltages above 500 kV (which is not the case of any of Energisa's lines), the assessment of the risks should be recommended. In terms of national and state regulations, there are no specific laws establishing threshold limit values, and the regulatory agency (ANEEL) does not verify radiation levels, nor is any measurement or other form of monitoring conducted.

A.3 Health and Safety Impacts and Risks

- 4.25 *Risk of falls involving workers:* Work performed at high places during operation, such as the maintenance and renovation of distribution lines and trimming of tree branches, exposes employees to the risk of falls. However, Energisa's subsidiaries adopt specific technical specifications and procedures to minimize the frequency and consequences of this type of accident. Furthermore, workers are required to use appropriate personal protective equipment (PPE) when working at high places.
- 4.26 *Risk of electric shock:* Similarly, the very same above-referenced services, together with activities related to maintenance and automation of substations can pose some risks to employees. Some maintenance activities in distribution lines and substations have to be executed in energized systems and pose greater risks. In addition, sharing of poles by electricity and telephone systems is very common in Brazil and is adopted in Energisa subsidiaries' systems. Thus, there are also electric shock risks linked to installation of telephone cables at electric poles. However, Energisa's subsidiaries adopt specific technical specifications and procedures to minimize the occurrence and consequences of this type of accident. Furthermore, workers are required to use appropriate personal protective equipment (PPE) to reduce this risk according to Regulatory Standard #10 (NR 10).

B. Other Indirect Environmental and Social Impacts and Risks

- 4.27 Electric energy is a relevant factor for economic and social development, and human well-being. Distribution companies, such as Energisa's subsidiaries, provide energy to residential areas, community services (e.g., hospitals, schools, sports facilities, community centers), as well as to commercial and industrial establishments, and benefit to several areas and communities throughout the States of *Sergipe, Paraíba, Minas Gerais* and *Rio de Janeiro*, by improving quality and reliability of electric supply and by reaching new consumers in urban areas, but particularly in rural areas through implementation of the Light for All Program. These improvements may induce significant beneficial impacts on social conditions of served communities.
- 4.28 *Improved quality and reliability of electric power supply:* The investments to be allowed by the debt restructuring will contribute to reduce frequency and duration of power outages (further improve DEC and FEC indicators). Improved system reliability will benefit residential consumers in general and favor competitiveness of commercial and industrial consumers.
- 4.29 *Inducement of rural development and industrialization:* The expansion of rural electrification that has been implemented by Energisa's subsidiaries in the past few years is expected to generate significant social, economic and environmental benefits in the rural hinterland of the

states served by them. Irrigation of pastures and other crops will become feasible, increasing productivity and reducing pressure to expand occupied land. Milk producers will be able to refrigerate their production prior to transport, as required by recent regulations issued by the National Sanitary Surveillance Agency (ANVISA). Many other types of primary processing of agricultural produce will become economically feasible. Furthermore, diesel generation at existing rural industries has been substituted by clean electric power coming from the network.

- 4.30 *Enhancement of economic development potential in urban centers:* Modernization of distribution systems by investments to be allowed by the debt restructuring will create conditions for improvements in agricultural, industrial, and commercial activities throughout the states served by Energisa's subsidiaries. Increased availability of energy supply in the cities may facilitate economic expansion and contribute to business location decisions.
- 4.31 *Direct and indirect creation of jobs:* Currently, several contractors are engaged in the Light for All Program in the states served by Energisa's subsidiaries. In general, Energisa's subsidiaries have a policy of favoring local contractors and local workforce; thus contributing for creation of local jobs, as the majority of the construction workforce is hired locally.
- 4.32 *Expansion of low-income population access to electric energy:* This is perhaps one of the most noteworthy positive impacts associated with the activity of Energisa's subsidiaries. A significant percentage of the Companies' residential customers are in the low-income bracket. Furthermore, most of the new urban and rural consumers that are being serviced by the expansion of the distribution systems (including the Light for All Program) are also in this bracket.
- 4.33 *Growth of municipal revenue:* The incremented productivity of agricultural, industrial, and commercial establishments, as well as the increase in the number of consumers may indirectly cause an increase in the collection of taxes levied on production and consumption, creating multiplying beneficial effects.
- 4.34 *Improvement in the quality of life of population:* The provision of clean and reasonably priced lighting allows the extension of educational activities, and provides conditions for improved medical assistance. Furthermore, the access to electricity allows access to other goods and services that make modern life easier and more comfortable, such as telecommunications, home appliances, electro-electronic equipment, etc.

C. Environmental and Social Impacts or Risks Associated with Future Projects

- 4.35 Regarding new future projects, the impacts and risks associated with their operation will be essentially similar to the ones described for the existing operations and facilities. Therefore, this section indicates the construction-related main impacts and risks that are usually associated with expansion of energy distribution networks.

C.1 Environmental Impacts and Risks

- 4.36 *Clearing of native vegetation and soil erosion:* Activities such as vegetation clearing and earthmoving activities may result in topsoil exposure to rainfall action. This may potentially carry solids to nearby water bodies. The areas most susceptible to erosion are the steepest slopes, and the river margins. However, it should be pointed out that Energisa's subsidiaries

make use, as much as possible, of non-forested areas for the installation of power lines or substations, as well as adopt specific engineering solutions to minimize the need for vegetation clearing. Thus, the extent of vegetation clearing likely to occur during the implementation of the distribution network expansion is very limited and always IBAMA is asked regarding any authorization needed, including in the case of the Light for All Program distribution lines. It is important to note also that the Companies use procedures and techniques to minimize clearing of native vegetation and soil erosion, as observed during the ESDD.

- 4.37 *Habitat fragmentation:* This risk is very limited since all new distribution lines and substations are planned, as much as possible, in order not to intercept forested fragments. Where interception of forest fragments is inevitable, the Companies adopt special procedures in order to reduce disturbance to a minimum. This may include the use of higher poles as well as clearing limited to the essential, which is generally a strip narrower than the established ROW.
- 4.38 *Fauna disturbance:* Construction activities in rural and forested areas may cause disturbance to fauna due to noise generation, vehicle movement, clearing of native vegetation and presence of workers. These disturbances are temporary in nature and can generally be assumed to be reversible. Nonetheless, it is important that workers be instructed not to hunt or collect animals or eggs.
- 4.39 *Soil and groundwater contamination:* The risk of soil and groundwater contamination during construction activities will be relatively low as no large-scale engineering work is involved and the works will not be concentrated in space and time.
- 4.40 *Re-suspension of dust and air emissions:* Earthmoving activities and traffic of construction vehicles may cause the re-suspension of dust in construction sites and non-paved roadways used on a localized and temporary manner. Furthermore, traffic of construction vehicles as well operation of construction machinery and equipment will generate combustion gases and particulate material. However, these impacts will be restricted in time and will be localized and of low magnitude since the intensity of construction activity will be relatively low and dispersion conditions are usually good, especially in rural areas. Furthermore, if needed, dust emissions can be controlled with simple measures such as aspersion of water in soil exposed areas.

C.2 *Social Impacts and Risks*

- 4.41 *Disturbances on third party property:* In the case of Energisa's subsidiaries, the process for establishing distribution line rights-of-way or easements, as well as the purchase of land for the new substations usually involves amicable negotiations with owners and includes compensation for loss of arable areas, if applicable. Legal expropriation proceedings are rarely used and only when unavoidable.
- 4.42 *Risk of disturbance of archaeological and historic heritage elements:* The likelihood of interference with archeological remains is minimal since the expansion of distribution networks involves minor construction activities and exaction is only needed for pole installation.

- 4.43 *Increase in noise and vibration levels:* Similarly, the minor construction works involved will not cause an increase in noise and vibration levels at construction sites and, therefore, this issue will not constitute a significant impact in neighboring areas. However, these effects may be more significant in urban areas but will be of a limited and temporary character. In rural areas, these impacts will not be too significant due to a higher dispersion of occupied areas and lower number of receptors likely to be affected.
- 4.44 *Impacts associated with construction traffic:* The implementation of the expansion of the distribution network will generate some traffic of vehicles and equipment at construction sites. Roads most directly affected will be those providing access to construction fronts. Urban roads with more intense traffic are likely to be more adversely affected, due to circulation of trucks and other heavy vehicles. However, due to the low magnitude and nature of the works involved, no traffic slowness or congestion is expected in any case. In all cases, disturbance due to construction traffic will be of low magnitude, spatially restricted and temporary.
- 4.45 *Risk of disturbance on other infrastructure networks:* Underground lines are not being proposed as part of the future projects. Thus, excavations for implementation of new aerial networks will have very limited risk of interference with other infrastructure, such as water, sewerage and other underground utility networks.
- 4.46 *Disturbance of pedestrian and vehicle circulation patterns, and commercial activities:* In urban areas, planned improvements in distribution networks (replacement of poles, conductors, transformers, and other electric components) in public places may cause brief interruptions (usually partial) of the flow of pedestrians on affected sidewalks as well as may temporarily restrict the access of vehicles to homes and commercial establishments. Indirectly, the works may bring discomfort to existing commercial activities, by hampering the access of customers and vendors. However, this will be a temporary impact, limited to the period of replacement of line materials and components.
- 4.47 *Risks of accidents involving persons:* The risk of accidents involving the population in general in association with the expansion of the distribution networks will be very low and related to electric shocks due to accidental contact with conductors and energized equipment (especially due to vehicular collision with poles during the works), or pedestrian accidents involving construction work-related vehicles. However, these are temporary risks and easily prevented by the adoption of safety measures at construction sites.

C.3 *Health and Safety Impacts and Risks*

- 4.48 *Risk of falls involving workers:* Work in high places will be a common activity for the great part of employees involved in the expansion of the distribution networks. Clearance of vegetation in future rights-of-way, installation of concrete poles and crossbars, installation and/or substitution of conductors and other electric components in poles, are the activities that have associated higher risk of accidents involving workers. There is also risk of falls associated with trenches and holes at construction sites. However, these risks are manageable with the techniques and procedures that are usually adopted by Energisa's subsidiaries. For instance, workers wear safety harness when performing maintenance services in high places.
- 4.49 *Risk of electric shock involving workers:* The expansion of the distribution networks will involve some activities that need to be executed in energized equipment and networks. The

risk of electric shocks is a constant consideration during performance of these tasks by Energisa subsidiaries' employees, as well as by their contractors. Therefore, workers involved in this type of work are generally trained and specialized, and adopt safety procedures regarding personal protection equipment and safe work practices.

- 4.50 *Risk of exposure to health-hazardous environmental conditions (noise, dust, and combustion gases):* The activities associated with the expansion of the distribution networks will comprise minor risks related to exposure to health-hazardous conditions that are usually associated with civil works, such as exposure to high levels of noise and concentration of dust and other air pollutants. Furthermore, such exposure will be much more limited in intensity and duration than in other types of civil works (e.g., roads, buildings, large industrial facilities, etc.).
- 4.51 *Risk of explosions and fire:* The risk of occurring explosions or fires will be very limited on the projects included in the expansion of the distribution networks. There will be no underground distribution lines, enclosed excavations or other circumstances that can favor concentration of gases and lead to explosion. There will only be limited use of fuels, oils and other inflammable liquids and no significant volumes of these will need to be stored at the construction sites.
- 4.52 *Accidents with poisonous animals:* During construction activities in rural areas, workers may be exposed to the contact with poisonous animals (e.g., snakes, spiders, scorpions, etc.). Energisa subsidiaries' employees and contractors are usually instructed not to disturb wild fauna. They also receive personal protective equipment (PPE) that reduces this risk.

V ENVIRONMENTAL, SOCIAL, AND HEALTH AND SAFETY MANAGEMENT

A. Environmental and Social Mitigation Measures

- 5.1 Measures described below include both formal and informal procedures adopted by Energisa's subsidiaries to avoid or mitigate environmental and social impacts. The Companies currently adopt these measures during planning, design, construction and operation of their facilities, and they are also applicable to projects included in the expansion of the distribution networks.
- A.1 *Planning, Design and Construction Phases*
- 5.2 *Analysis of alignment alternatives:* Definition of distribution and transmission line alignments is a responsibility of each subsidiary, normally in the Engineering and/or Project Department. One subsidiary has an Environmental Department that supports this activity, while others have some technician inside the Engineering Department to provide assistance regarding environmental aspects, particularly to get the required licenses or authorizations, when the selected option may interfere with Conservation Units or Indigenous Reserves. Preliminary alignment planning will result in establishment of a basic alignment, which will generally follow existing highways, roads or other established corridors. Using this rule as an important alignment selection criterion contributes to reduce substantially the negative environmental impacts associated with service road construction, which could be far more significant than those associated with the distribution lines themselves. During the visits performed in the ESDD it was possible to observe examples where the alignment of the distribution line avoided areas with relevant environmental aspects.

- 5.3 *Procedures for substations:* Since substations are generally located at or near the outskirts of urban centers, but relatively distant from urbanized areas, it is generally possible to find sites with no significant environmental restriction. Environmental issues are considered by the Engineering Department in the site selection process.
- 5.4 *Preparation of environmental impact studies:* State legislation requires in some instances the presentation of environmental studies (usually a Simplified Environmental Impact Studies – RCA, but in some cases a Environmental Impact Assessment - EIA) mainly for 138 kV and 69 kV distribution line licensing processes, substations or power plant (hydroelectric or thermoelectric). All of the subsidiaries have some procedures to address the necessary licensing requirements, albeit in some cases the procedures could be improved. On the other hand, there are subsidiaries, such as CFLCL, that have very effective and structured system to address their licensing requirements, including to keep track of licenses needed, documentation and studies required in each case and licensing process status, particularly in the case of generating units. It is important to note that some of the subsidiaries do not use or intend to construct any generating unit (hydroelectric or thermoelectric) or distribution lines above 69 kV, therefore they have less demanding licensing needs. There are not cases of constructions in Environmental Conservation Units, Indigenous Reserves or other sensitive regions. Normally, Energisa's subsidiaries have a proactive attitude and carries preliminary discussions with environmental authorities or local population to define the criteria and specifications to be adopted in developing the necessary studies. The Companies hire, when needed, specialized consulting firms for the preparation of environmental studies necessary for permitting and licensing purposes. Furthermore, whenever necessary, the Companies also hires consultants and specialists to perform specific studies in relation to environmental and social issues (*e.g.*, anthropologist to properly address indigenous community concerns, archeologists, biologists, etc.).
- 5.5 *Environmental, social and health and safety instructions for contractors:* Energisa's subsidiaries have a policy of implementing their construction, operation and maintenance activities preferably with the use of in-house personnel. Nevertheless, the Companies outsource most of the construction jobs related to the Light for All Program. Standard contracts for such services include adequate provisions regarding health and safety regulations, as well as the prohibition of the use of child labor, and, in some cases, a few environmental and social related requirements.
- 5.6 *Special technical solutions used in distribution line projects:* In the case of the Northeastern subsidiaries, due to the characteristics of the distribution lines involved (usually 69 kV or lower) and the limited impacts associated, impact mitigation measures, other than minor alignment adjustments, are usually not necessary. Nevertheless, the following measures are normally applied in general by Energisa's subsidiaries and deserve to be mentioned, particularly in the case of Southeastern subsidiaries: (i) reduction of the right-of-way strip that needs to be cleared, to diminish amount of vegetation to be removed; (ii) use of higher poles or towers, which require suppression and trimming only of the highest vegetation individuals and/or branches; and (iii) use as much as possible of existing ROW, corridors, roads and rural pathways to install the distribution lines, to avoid construction of new accesses (temporary or permanent) and new ROWs. Also, it is important to note that the subsidiaries in the Northeast do not use wood poles or crossbars, but concrete ones.

- 5.7 *Spill containment devices in substations:* Most of the old substations of the Energisa's subsidiaries lack appropriate devices that could help contain transformer oil spills. During the ESDD mission, in response to comments and suggestions of the audit team, some of the subsidiaries indicated their willingness to consider this type of control measure in future substation projects as a formal procedure. This type of solution will also be subject of IDB's recommendations for improvement.
- 5.8 *Procedures for expropriation and third-party compensation:* Energisa's subsidiaries have internal procedures to estimate property value for indemnification purpose, where property acquisition becomes necessary. In the case of ROW of distribution lines, there is compensation for loss of arable land and/or land use potential. In most cases in the past, Energisa's subsidiaries have reached amicable agreements with affected property owners. Only on a very exceptional basis the Companies have resorted to expropriation procedures based on eminent domain, which are a legal option where negotiation is not feasible. Involuntary resettlement has been necessary in the past only in a very few cases and involving a very small number of people, such as few families in *Sergipe* in relation to a high-voltage distribution, or in *Minas Gerais* in association with a reservoir formation; in both cases the issue has been dealt with adequately. One of the Energisa's subsidiary (CFLCL) has even a formal plan for expropriation called Land Negotiation Plan (*Plano de Negociação de Terras*), including procedures to be adopted in all cases. IDB will recommend that Energisa makes improvements in this plan, in order to comply with IDB Policy OP-710 on Involuntary Resettlement, when applicable, and integrates it in the subsidiaries Environmental and Social Management System.
- 5.9 *Protection from risk of electric shock:* Energisa's subsidiaries adopt and require their contractors to adopt all technical standards applicable to safety in electric installation design, construction and operation, in compliance with what is required by the Brazilian Regulatory Standard #10 (NR10). Furthermore, the Companies provide compulsory course on electric safety issues to all workers involved in electrical services.

A.2 *Operation Phase*

- 5.10 *Fauna protection:* Energisa's subsidiaries have invested in the prevention of accidents with fauna at substations. For instance, where the distance between energized cables reaching some equipment is small enough to be bridged by the wingspan of some birds or by the body of large lizards or other animals, Energisa subsidiaries installed insulating plastic tubes and/or jackets around conductors as they connect to the equipment, as has been observed in the several substation installations that were visited during the ESDD. This simple measure has successfully eliminated this kind of accident. Issues of accidents with birds or other species in distribution lines are reported to be very rare and no specific measures are required in this regard.
- 5.11 *Solid waste management:* Although Energisa as a corporation does not have a formal solid waste management plan, nor an inventory of the wastes generated at their subsidiaries' facilities, almost all of the subsidiary companies adopt some measures to deal with the most relevant wastes generated at their facilities. The items below, present some comments on the waste management measures currently adopted by Energisa's subsidiaries:

- (a) Polychlorinated Biphenyls (PCBs): CFLCL never used PCBs in their equipment. In Northeastern subsidiaries, all equipment containing PCB has been replaced many years

- ago by equipment that uses mineral dielectric fluid. All the PCB-containing equipment was sent for incineration at an authorized processor in a process that ended in 2006.
- (b) Mineral oil: outsourced specialized companies regenerate transformer and capacitor mineral oil. Any unrecoverable oil is delivered to an authorized processor for treatment and possible reuse for other purposes.
 - (c) Used oil and lubricants: In some cases, used oil and lubricants from the maintenance shop are also sent to authorized recycler, but in some subsidiaries, this process need to be improved to prevent possible soil contamination, particularly in maintenance shops.
 - (d) Batteries: Energisa's subsidiaries use both sealed and unsealed batteries at their substations. It is recommendable to substitute the unsealed batteries by sealed ones.
 - (e) Lamps: In some concession areas, maintenance of public street lighting is a municipal authority responsibility and thus discharged street lamps are not included in Energisa's wastes. In general Energisa's subsidiaries have adequate procedures to dispose of discharged lamps generated at their facilities.
 - (f) Organic and domestic waste and similar type of wastes are sent to public landfills.
 - (g) Recyclable materials such as paper, plastic, cardboard, wood, copper and other scrap metals: each subsidiary has a specific procedure. In *Sergipe*, there is a separation process of this type of waste inside the Company's facilities, with different garbage disposal containers in almost every office. In *Paraíba*, these wastes are separated only at the end of the process in order to sell to local recyclers. In *Minas Gerais* and *Rio de Janeiro* there is not a standard procedure to address the matter of waste segregation for recycling.
 - (h) Wastes generated at vehicle maintenance: all vehicle maintenance is performed by outsourced workshops, except in *Sergipe*, where there are adequate location to perform these services.

- 5.12 *Soil and groundwater contamination prevention*: The risk of soil and groundwater contamination associated to Energisa subsidiaries' operations is greater at maintenance shops and to a lesser extent at powerhouses and some old substations. Adequate spill containment dikes, drainage collection devices and oil/water separation sumps could be observed in the new powerhouses, but these devices are not fully in place at maintenance shops. Design of some recent substations did not include concrete containment devices under the transformer's mineral oil tanks, as well as under other equipment with tanks, in order to control oil spills and prevent soil and groundwater contamination. It is recommendable that all new substation projects must include concrete containment. Furthermore, it is also recommended that monitoring programs be implemented for some of the old facilities.

B. Environmental and Social Monitoring Programs

- 5.13 In general, the procedures that the Companies have to address monitoring of occupational health and safety issues are more systematized than those to deal with environmental and social matters.

B.1 Construction Phase

- 5.14 *Monitoring of construction*: The Environmental Department of CFLCL (one of the subsidiaries) inspects the construction works on a selective basis. However, there is no formal rule establishing frequency of inspections and type of works to be inspected. Environmental inspections are conducted informally and usually no structured inspection reports are produced as a result. In others subsidiaries, this service is carry out by personnel of the engineering area.

B.2 Operation Phase

- 5.15 *Monitoring of operation and maintenance:* No formal environmental monitoring procedures are in place to monitor operation and maintenance activities. However, each substation has a manual of procedures applicable to their maintenance activities. Copies of these manuals could be observed in the several substation facilities that were visited during the ESDD.
- 5.16 *Monitoring of ROWs:* All distribution line ROWs are routinely monitored, by land and/or by air with the assistance of a helicopter. CSA - *Cataguazes Serviços Aéreos de Prospecção*, founded in 2000, carries out the service executed by helicopter. It operates in the aerial thermographic monitoring and cargo lifting services. This monitoring includes verification of erosion problems, irregular waste disposal, illegal occupation and construction, vegetation regeneration and other aspects.
- 5.17 *Monitoring of reservoir water quality and other limnological parameters:* It is worth noting that the *Cataguazes-Leopoldina* System adopts specific monitoring procedures and have a state-of-the-art water quality laboratory to assist in these monitoring and control activities. It includes equipment and resources to monitor limnological parameters as well.

C. Health and Safety Measures

- 5.18 In general, the planning and design of Energisa subsidiaries' facilities has taken into account applicable health and safety legal requirements established in federal and state regulations.
- 5.19 Regarding other occupational health and safety aspects, it is worth noting that Energisa has adequate provisions in all their standard contracts with contractors and other service providers. These provisions include all applicable legal standards and procedures, including use of personal protection equipment (PPE), Internal Commission for Accident Prevention (CIPA), and others required by law.
- 5.20 The Human Resources Department regularly conducts health and safety inspections of all contractors, mainly the ones involved in the Light for All Program, because in others services, most of employees are from Energisa subsidiaries' own staff. Inspections are carried out according to internal procedures, with a periodicity fixed in contract. Formal inspection reports are produced in all cases and in cases of serious non-compliance, the suspension of activities may be requested.
- 5.21 Energisa's subsidiaries produce a complete and detailed set of safe work instructions for all activities relative to construction, operation and maintenance of distribution systems, including compulsory training.
- 5.22 All Energisa subsidiaries' employees undergo pre-employment health and safety training as well as periodic on the job training, according to established in Regulatory Standard # 10 (NR10). All new contractors and their employees are also trained on health and safety aspects prior to the beginning of their activities.
- 5.23 Accident investigation procedures are conducted according to legally applicable standards and are centralized by the Health and Safety Department. In *Energipe* (one of the subsidiaries), a formal meeting is held for all transportation accidents involving vehicles, in order to discuss

causes of each accident, with participation of representatives of the high administration of the Company.

D. Contingency Plans

- 5.24 In Brazil, in general, the risk of natural disasters is relatively low. Major emergency situations associated with natural events and involving Energisa subsidiaries' electric facilities are related to the effects of rainstorms on distribution networks, such as the fall of trees and branches, and electric discharges that may also cause short circuits and interruptions in power supply.
- 5.25 In every one of the Energisa subsidiaries area of concession, any person may report to an accident involving the system by calling the Company's toll free Call Center line (*Central de Soluções*). Each subsidiary responds to emergencies occurring on their electric system through their Regional Service Centers, which are responsible for solving daily and occasional energy problems occurring in their specific service areas.
- 5.26 It has been possible to observe during the ESDD that all of the Energisa subsidiaries' facilities that were visited feature well positioned and distributed fire extinguishers and proper signaling to identify equipment that may offer risk of electric shock and fire. Each subsidiary has designated an internal staff member as responsible for maintenance and refill control of all the Company's fire extinguishers; however, there is not a formal procedure to perform this service.
- 5.27 Some of Energisa's subsidiaries have a contingency plan to address fire situations and the Company is in the process of developing a plan at corporate level. Nevertheless, in general, Energisa's subsidiaries do not have formal contingency plans dealing specifically with environmental emergencies.
- 5.28 In some subsidiaries it was possible to observe that employees need to be better trained on the procedures to be adopted in case of fire. However, there are some evidences indicating that some of the subsidiaries have plans to improve the procedures and training in 2007.

E. Environmental and Social, and Health and Safety Management Systems

- 5.29 In terms of environmental, social, health and safety management tools, in general, the Companies have: (i) an Environmental Policy; (ii) a Maximum Safety Program to deal with health and safety issues; and (iii) an Ethical Code. The environmental issues are dealt differently in each subsidiary, and only one of them has a formal Environmental Department. Others do not have a formal environmental unit and it is the planning and engineering departments that deal with these issues. Despite of the fact that there is no formal Health and Safety Management System in place, there are many formal procedures and guidelines regarding this aspect, including at the corporate level. However, Energisa and subsidiaries' procedures, standards, and guidelines as well as other resources available to address these issues and aspects are not organized and structured into formal Environmental and Social, and Health and Safety Management Systems.
- 5.30 Procedures are lacking to properly address some of the challenges that the Companies face in their day-to-day operations, as well as in more strategic terms. Management of the environmental and social aspects related to the activities at the subsidiaries, environmental

monitoring and control of contractors and other outsourced service providers, control of compliance with legal requirements at all facilities, in particular regarding environmental licensing and permitting, and waste management practices, are among the aspects in need of improvement through design and implementation of formal procedures, standards and guidelines integrated in structured and organized management systems.

E.1 Environmental and Social Management System

- 5.31 In one of the subsidiaries (CFCL) there is in place an Environmental Management System designated as SIGAM, which integrates a few procedures and aspects of a structure and adequate environmental and social management system, but needs to be improved and complemented with additional procedures, guidelines and standards. The Environmental Department of CFLCL is composed of specialized and high-quality professionals. This Department carries out tasks relative mainly to environmental monitoring and supervision of construction, operation and maintenance activities and regularization of licensing status on a systematic basis. In others subsidiaries, the environmental aspects are dealt by one or two members in the engineering department or similar, which also have others functions. These members are responsible for the coordination of all environmental activities and issues related with the specific Company activities, as well as contacts with authorities, contractors and other institutions relating to environmental and social aspects. In these subsidiaries, there are only few procedures regarding social and environmental aspects, most not formal.
- 5.32 The Environmental Department of CFLCL effectively participates in the integration of environmental and social criteria and concerns into project planning and design, particularly at the analysis of alternative alignments for high and medium-voltage distribution lines and locations for power plants (small hydroelectric and thermoelectric) and has successfully contributed to obtain more environmentally favorable solutions. The licensing process of Energisa subsidiaries' new substations, small hydroelectric power plant and other relevant facilities will benefit by having a greater and earlier participation of environmental specialists. It is important to note also that implementing environmental management at corporate level will contribute considerably to a more effective and substantial integration of the environmental departments/staff at each subsidiary.
- 5.33 Nevertheless, CFLCL Environmental Department, as well as staff responsible for this issue in subsidiaries that do not have a specific environmental unit, have built a good relationship with state and federal authorities responsible for the environmental protection and licensing, indigenous peoples and cultural heritage. This is the result of constant consultation and a proactive attitude that has sought to discuss openly and with transparency with each agency on the criteria, specifications and requirements for the development of activities; and to obtain a prior agreement on the studies, procedures and measures necessary to comply with them.

E.2 Health and Safety Management System

- 5.34 Energisa and its subsidiaries are developing corporative procedures to address their health and safety issues through Health and Safety Committees. Each subsidiary has its own committee and there are regular meetings involving all of them.
- 5.35 Energisa and its subsidiaries have several procedures and standards to specifically address health and safety issues relating to Company's as well as contractors activities, developed by the Health and Safety Central Committee, unique to all companies. One of these corporate

documents about safety is the “*Programa de Segurança Máxima*” (Maximum Safety Program), applicable to all of Energisa’s subsidiaries.

- 5.36 The Health and Safety Policy establishes basic principles, rights and duties in relation to the Company, the employees, unions, contractors and other outsourced service providers, and the community. The internal standards define the general conditions for prevention of occupational accidents and diseases. They include detailed safe work procedures for most construction, operation and maintenance activities and are fully compliant with all Brazilian Health and Safety Regulations (*Normas Regulamentadoras*).
- 5.37 Energisa and its subsidiaries are aware of the occupational risks relating to their activities, which are mainly related to work on high places, fall of structures and materials and electric shocks. These risks are properly identified in the *PPRA* (Environmental Risk Prevention Program) and are monitored by the health and safety staff.
- 5.38 Energisa’s subsidiaries properly monitor health and safety aspects of their contractors and outsourced service providers. This takes place through periodic inspections, which result in detailed compliance lists and a scoring system for assessment of performance, according to a program called Maximum Safety (*Segurança Máxima*). Accident investigation procedures are also adequate, as is health and safety training. Energisa subsidiaries’ employees undergo pre-employment and periodic on-the-job training.
- 5.39 Is important to note that most health and safety measures and procedures are organized and systematized. Although many operational procedures are written and in place, including supervision of health and safety aspects of outsourced construction and maintenance work and training process, there is not yet a structured and formal Health and Safety Management System in place.

E.3 Environmental and Social Responsibility

- 5.40 Most social responsibility actions related to Energisa and subsidiaries are jointly undertaken with *Fundação Ormeo Junqueira Botelho*, a social foundation that develops several social and educational programs throughout the states where Energisa’s subsidiaries are active, particularly in *Minas Gerais* State, where the foundation was originated. Energisa’s subsidiaries also foster voluntary social action by their employees and have structured programs relating to this.
- 5.41 All of the Energisa’s subsidiaries have developed several activities regarding social responsibility, normally integrated into a Communication Department. These units are responsible for a variety of social responsibility projects, including educational programs (such as to inform of the hazards involved and discourage flying kites near distribution lines, or to discourage unauthorized entry into substations, like the *Zé da Luz* program, or for safe use of energy, and defensive driving), cultural projects (creation and maintenance of museums, restoration of historic buildings, promotion of theater, dance and folkloric groups), and others. Another successful program that has been implemented and that was visited during the ESDD is called Efficient Irrigation Project, carried out in partnership with local associations and state institutions, seeking to improve the quality of life of rural population in the interior of the Northeastern region, where there is a critical problem regarding availability of water. This has significant impact on community understanding of the importance of measures of water conservation and watershed protection.

VI PUBLIC CONSULTATION

- 6.1 Federal environmental laws and regulations include requirements that public consultations, and in some cases hearings, be performed in the realm of the environmental licensing process. Energy sector regulations (ANEEL Resolution N° 259/03) establish also the need to hold a public meeting in the processes involving the establishment of rights-of-way and reservoirs, when amicable negotiations fail and decrees of eminent domain leading to expropriation are required.
- 6.2 In the concession areas of Energisa's subsidiaries, environmental laws closely follow federal regulations relative to public consultation requirements and require public consultation in the case of projects that need to submit a thorough Environmental Impact Assessment (EIA), like in *Minas Gerais* where these cases are more applicable. Projects undergoing simplified procedures such as the Simplified Environmental Impact Study (RCA), which is required for some of Energisa subsidiaries' high-voltage distribution lines, are not required to undergo public hearings or any other similar consultation procedure. Nonetheless, legislation requires that each stage of the licensing cycle (LP, LI, LO) be published in the media, with indication of the project being licensed, the type of study submitted and the license obtained or requested.
- 6.3 In general, Energisa's subsidiaries carry some sort of public communication process. It should be noted, however, that in one of the subsidiaries (CFLCL) the involvement of the public and consultations activities are dealt with in a systematic way and starting at very early stages of project planning and design, contributing to successful outcomes of very complex projects. This process has been praised by governmental and non governmental organizations and should be taken as a good reference for other subsidiaries, as well as for other concessionaires of the same sector.
- 6.4 All of the distribution lines in Energisa subsidiaries' system, which were implemented after ANEEL Resolution N° 259/03, had their ROW established exclusively on an amicable basis and public meetings with affected property owners have not been required.
- 6.5 There are two main channels through which Energisa's subsidiaries receive complaints and comments regarding the specific Company, their staff, and the services provided. One is the Call Center, or a toll-free consumer service for reception of requests and complaints regarding the services provided. The other is the energy sector regulatory agency (ANEEL) that receives complaints directly through its website and retransmits them to the companies, requiring subsequent demonstration of compliance with regulations relative to grievance response and management. Complaints can also be received through Energisa subsidiaries' website, as well as through standard mail.
- 6.6 Most of the complaints registered at Energisa subsidiaries' Call Centers (called in some cases as *Central de Soluções* – Solutions Center) relate to billing procedures or other commercial issues and are, as much as possible, handled directly by Call Center operators. Other types of complaints involving more complex issues are directed to Energisa subsidiaries' Ombudsperson (*Ouvidoria*), which is prepared to receive and process all requests and complaints relative to the specific Company and their employees, or outsourced contractors. As per ANEEL regulations, all complaints need to be responded within 10 days. In some

cases, this response may describe the status of an ongoing investigation and need not indicate the Company's final position.

- 6.7 One of Energisa's subsidiary (CFLCL) has also a very well developed Social Communications Program coordinated by the Environmental Department, while the same function is not carried out in a standard manner in others subsidiaries, as they do not own or operate facilities with significantly social and environmental impact. Nevertheless, in general, all subsidiaries seek to inform the population and consumers about relevant aspects involving the electricity service, including the use of the electricity bill as an information vehicle, as well as some informative booklets directed not only to consumers but also to contractors of urban buildings and others. Some of these booklets deal with the risks associated to energy use and to execution of specific activities next to energized distribution lines and electric equipment, as well as with preventive measures that should be adopted.

VII CONCLUSIONS

- 7.1 The main conclusions reached during the Environmental and Social Due Diligence (ESDD) performed by IDB with the support of the Environmental and Social Consultant (SOMA - *Soluções em Meio Ambiente, Ltda.*), with regard to the environmental, social, health and safety aspects pertinent to the Debt Restructuring, as well as to Energisa and subsidiaries' existing facilities and operations, are described below.
- 7.2 Based on the work performed in the ESDD, the Project Team confirmed that Energisa and subsidiaries have in place procedures and control measures (formal or informal) to manage the environmental, social, health and safety impacts and risks associated with the Debt Restructuring, their existing operations and facilities, and the future projects foreseen in their planned investments for the next few years. Therefore, the Team considers the Project to be feasible and have not identified any risk factor that can represent a risk to the environmental sustainability of the operation with IDB.
- 7.3 Nevertheless, this Environmental and Social Management Report (ESMR) points a few areas regarding Energisa and subsidiaries' environmental management capacity that could be improved, which the Team does not consider to be a risk to the environmental sustainability of the operation with IDB. Furthermore, these few areas of improvement can be resolved with the assistance of the Bank. To help improve the environmental management capabilities of Energisa and subsidiaries, the Bank is asking the Companies to address these deficiencies. In addition, in the preparation of the operation the Team is developing efforts to introduce added value in terms of environmental sustainability by incorporating additional requirements that addresses matters beyond Project level. These additional requirements will be reflected in the environmental, health and safety action plan (**see Paragraph 8.2**).
- 7.4 In general, all the companies of the Energisa system are well organized and professionally managed. Also, the health and safety issues are being addressed in an acceptable manner by Energisa and subsidiaries, including at corporate level, and should require only minor steps for improvement. On the other hand, it has been observed that environmental and social matters are dealt with somewhat differently from one subsidiary to the other, and in a limited way at corporate level. During the ESDD it has been possible to observe several examples of good practice in different subsidiaries. The companies individually and Energisa at corporate level would benefit considerably by sharing these good examples with one another and

developing a system and procedures at corporate level, this way creating adequate standards and procedures for the entire holding company. Furthermore, the knowledge and experience accumulated by professionals of each company could be better shared in order to improve, standardize and harmonize all relevant environmental and social issues in Energisa and subsidiaries. In addition, the experience acquired in the harmonization of procedures to address health and safety issues throughout the companies and at corporate level, could be used to the benefit of developing adequate systems to manage environmental and social aspects throughout the companies as well as at corporate level.

- 7.5 Energisa and subsidiaries shall continue to clarify and show evidence of compliance with all relevant environmental licensing legislation applicable to the existing facilities and operations.
- 7.6 Energisa and subsidiaries shall further develop their internal standards, guidelines and procedures related to environmental, social and health and safety issues, using the knowledge and good practices of all companies, in order to constitute a structured Environmental and Social Management System (ESMS), and a Health and Safety Management System (HSMS) applicable to their overall activities, the companies individually and the holding company as a whole.
- 7.7 The Companies shall perform adequate risk analysis activities and studies to identify and assess environmental and social liabilities (*e.g.*, soil and water contamination, noise, etc.) associated with existing facilities like relevant substations, warehouses, storage facilities, maintenance centers and mechanical shops, and, if necessary, develop and implement the applicable corrective action plans to appropriately address these liabilities.
- 7.8 Energisa's subsidiaries shall consider the systematic adoption of oil spill control and containment devices in the design of all new relevant substation, and/or in the modernization of old ones.
- 7.9 Energisa and subsidiaries shall develop and implement respective solid waste management programs covering all wastes generated at their facilities, particularly those that can be considered hazardous. These programs should include an inventory of the wastes generated as well as the specific procedures to handle and ensure adequate treatment and final disposal.
- 7.10 Similarly the Companies shall continue to improve their procedures to properly and systematically address cases of illegal occupation of the distribution lines right-of-way (ROW), through development and implementation of a specific program.
- 7.11 The environmental and social issues related to Energisa and subsidiaries are in general handled in a very diligent way by qualified staff that produces good quality work. However, an environmental department exists only at CFLCL; in the other companies specific units shall be created and/or strengthened to better address the multiple tasks and responsibilities involved in association with the companies activities, as well as for systematic monitoring and supervision of environmental and social matters pertaining to Regional Service Centers and contractor's activities.
- 7.12 Energisa's Debt Restructuring shall also integrate adequate resources for development and implementation of: (i) Companies' adequate Environmental and Social Management Systems (ESMS) and Health and Safety Management Systems (HSMS), including applicable

environmental plans and programs; and (ii) environmental monitoring programs, environmental risk analysis study and associated corrective action plans to properly address environmental, social, health and safety non-compliances and liabilities associated with existing facilities.

- 7.13 Although the transaction with Energisa that is being analyzed by IDB does not include the implementation of any new infrastructure project, during its due diligence the Bank evaluated possible projects that are being considered by Energisa and subsidiaries to be implemented in the near future, and it has been possible to confirm the capacity of the Companies to manage the related environmental, social, health and safety aspects.

VIII RECOMMENDATIONS

- 8.1 The Bank (IDB) will require as part of the Guarantee Agreement that Energisa and subsidiaries (or “Companies”), and all portions of the Debt Restructuring shall, at all times during the life of the Guarantee Agreement, comply with each of the following:
1. All applicable environmental, health and safety Brazilian regulatory requirements and all applicable IDB’s environmental and social policy and requirements.
 2. All requirements associated with any environmental, health and safety related permits, authorizations, or licenses that apply to the Debt Restructuring or the Companies.
 3. All environmental, health and safety requirements of the Debt Restructuring contracts, and any subsequent modifications.
 4. All aspects and components of all of the Debt Restructuring environmental, health and safety documents.
 5. Applicable aspects of the World Bank General Environmental Guidelines (Pollution Prevention and Abatement Handbook, 1998).
 6. Applicable aspects of the World Bank Monitoring Guidelines (Pollution Prevention and Abatement Handbook, 1998).
 7. Applicable aspects of the International Finance Corporation Electric Power Transmission and Distribution Guidelines (1998).
 8. Applicable aspects of the International Finance Corporation Health and Safety Guidelines (1998).
 9. Consult with IDB before approving or implementing any and all substantive changes to the Debt Restructuring or its timetable that could potentially have negative environmental, social, or health and safety effects.
 10. Send written notice to IDB of any and all non-compliances with any environmental, social or health and safety requirement of the Guarantee Agreement and any significant environmental, social, or health and safety accident, impact, event, claim or material complaint.
 11. Ensure that all companies contracted for construction and operation activities comply with the applicable environmental, social and health and safety requirements of the Guarantee Agreement.
 12. Implement ongoing information disclosure and consultation activities related to environmental, social, and health and safety aspects of the new facilities in all subsidiaries, including, if applicable, information from environmental and social, health and safety monitoring reports prepared by external consultants, in compliance to Bank’s OP-102 Disclosure of Information Policy.

13. Implement Environmental and Social, and Health and Safety Management Systems that are consistent with the principles of ISO 14001 and OHSAS 18001.
- 8.2 Prior to Financial Closure the Company shall submit an Environmental, Health and Safety Action Plan (EHSAP), in form and substance satisfactory to IDB, properly addressing the recommendations indicated in **Paragraphs 7.5 to 7.12** of this ESMR, as well as any other environmental, social, health and safety non-compliance and liability associated with the existing facilities and operations. This Action Plan shall clearly address the following aspects:
1. The proposed actions, programs and plans to be adopted to correct the non-compliances and liabilities, including the development and implementation of applicable Environmental and Social Management Systems (ESMS), and a Health and Safety Management Systems (HSMS) as well as any pertinent contingency plan (CP).
 2. The proposed procedures, programs and plans to be developed and implemented to prevent, mitigate and/or compensate for environmental, social, health and safety impacts and risks associated with construction and operation of projects to be implemented by Energisa and subsidiaries.
 3. A time schedule for implementing such proposed actions, programs and plans, including due dates and key milestones.
- 8.3 During the life of the Guarantee Agreement, the Company shall present, in form and substance satisfactory to IDB, the applicable documents, reports and plans indicated in the EHSAP, and according to the specific due dates, including documents pertaining to: (i) plan to describe the environmental and social management system; (ii) health and safety management plan (HSMP); and (iii) contingency plan.
- 8.4 During the life of the Guarantee Agreement, the Company shall certify compliance with all environmental social, and health and safety requirements in the Guarantee Agreement, and prepare and submit Environmental and Social Compliance Reports (ESCR), in form, substance and frequency satisfactory to IDB.
- 8.5 The Bank will monitor the environmental, social, health and safety aspects related to the Debt Restructuring operation via internal Bank supervision actions (e.g., site visits, review of documentation, etc.) and will contract an external independent Environmental and Social Consultant to perform more detailed supervision/monitoring actions during the life of the Guarantee Agreement. In addition, the Bank will have the right, as part of the Guarantee Agreement, to contract for the performance of an independent environmental, health, and safety audits, if needed.

ANNEX I: Location of the Areas of Concession of Energisa and Subsidiaries

