

INTER-AMERICAN DEVELOPMENT BANK



TRANSCHILE TRANSMISSION LINES PROJECT

(CH – L1016)

ENVIRONMENTAL AND SOCIAL MANAGEMENT REPORT

(ESMR)

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A. Project Description.

1. The Project consists of the construction a 204-km long 2x220-kV transmission line, and the respective electric panels to connect into the two existing substations of Charrúa and Nueva Temuco. The transmission line will be located approximately 600 kilometers south of Santiago, in the VIII and IX Regions of Chile (see Figure 1)
2. Construction is planned to start during the end of the first quarter of 2007 lasting approximately 15 months. The expected average work force during this period involves no more than 60 workers each month, with peak workforce of 150 workers during the four months of greatest construction activity. No worker camps will be established, and both non-specialized as well as specialized work force will be housed in hotels and residences in near-by cities.
3. The concessionaire, Transchile, is a consortium composed of two Brazilian companies: Cia Tecnica de Engenharia Eletrica (Alusa) and Companhia Energetica de Minas Gerais (Cemig). Transchile is seeking financing of approximately US\$51 million for the construction of the Project. Total Project costs are estimated at US\$68 million. IDB would provide up to US\$17 million, or 25% of Project costs in the form of an A loan and US\$34 million in the form of a B loan.

B. Compliance.

4. The EIA for this Project was originally submitted to the *Comisión Nacional de Medio Ambiente* (CONAMA) on March 14, 2006. Due to informal discussions with the CONAMA and with the IDB, the sponsors decided to withdraw the EIA, and re-design the transmission line routing to avoid Mapuche indigenous communities territories as much as possible. The new design greatly reduces the impact on Mapuche lands, and now only three communities are affected instead of 29 impacted by the original routing. The revised version of the EIA was introduced to the CONAMA on September 29th, 2006. The EIA is currently “under qualification” (www.e-seia.cl).
5. During the preparation of the second version of the EIA, an extensive consultation process with stakeholders took place. This process included a total of 133 interviews with (a) regional, provincial, communal, and local actors, (b) all people within 200 meters from the axis of the plan routing, and (c) the affected indigenous communities.
6. According to Chilean regulations, to provide the official approval of an EIA and the corresponding environmental license for a given project, the CONAMA has an official EIA review and consultation period of 180 days (120 standard days

- plus 60 optional days when needed) after a project is introduced in the *Sistema de Evaluación de Impacto Ambiental*. During the first 60 days of this period, an additional public consultation process is conducted, where the Project and its EIA is presented to the affected communities and other stakeholders. Thus, the environmental license should be expected by the end of the first trimester of 2007.
7. The PCD with the Environmental and Social Strategy (ESS) was presented and approved by the CESI I on April 7th, 2006. The ESMR was presented and approved by the CESI II on Friday October 27th, 2006.
 8. In compliance with OP-102, the EIA has been available to the public in the Headquarters and the Santiago Public Information Centers (PICs) since May 2006. The first version was substituted by the updated EIA during the first week of October 2006.

C. Environmental and Social Conditions.

9. The project will be developed in highly intervened, mostly flat, rural areas of central Chile, with cultivated lands occupying over one third of the direct influence area (35.42%), prairies (30.34%), forest plantations (23.88%), natural vegetation (8.82%), and other uses (1.53%). Most common crops include mostly cereals and leguminous crops, and forest plantations involve mostly Pine and Eucalyptus. Other uses include some areas with industrial activity such as an energy distribution company in Charrúa and a small urban area in the *Comuna de Cabrero*.
10. In the direct influence area of the Project there were no endangered species identified. There were, however, one plant species (*Citronella mucronata*) and two toad species (*Eupsophus roseus* and *Batrachyla taeniata*) with special conservation status found in the area of influence, mostly concentrated in the remaining natural vegetation.
11. The Project is located in an area where Mapuche indigenous communities have an important presence, specially in Region IX. The most important communities in the Project direct impact area (i.e. within the right-of-way, ROW) are three: the Choin Lafkenche in Collipulli, and Juan Huenchimil and Juan Mancheque in Padre Las Casas. In these three communities there are a total of 74 families, involving approximately 283 people. In the project influence area there are a total of 9 sites of cultural importance for the Mapuche, but only two are located within the direct impact area: (a) SSC-005 Awkiño: a place to recollect medicinal plants, and (b) SSC-012 the burial site of Mr. Juan Mancheque, founder of the Juan Mancheque community. The latter site is located in the outside border of the ROW, and no towers will be build in or near any of these two sites.
12. In the Project direct influence area a total of 23 archeological sites were registered, and other additional 16 archeological sites have been detected on the

indirect influence area. None of these sites are considered major archeological site, and finding include essentially superficial ceramic and stone fragments.

D. Environmental, Social and Health and Safety Impacts and Risks

13. The impacts from transmission lines and associated infrastructure are more relevant during the construction phase and more intense within the area of immediate influence of the transmission lines' ROW and substations. The most significant impacts are:

- a. *ROW easement*: The total length of the ROW new routing increased from 191 km to 204 km, to be able to avoid a total of 26 indigenous communities. The width of the ROW is 40 meters for the whole length with the exception of the forested areas where the ROW width is increased to 60 meters. The ROW does not affect any sensitive or protected natural habitat as most of the route goes through already developed agricultural lands, characterized by cultivated fields and some forestry plantations. About 100 km of the line goes through cultivated lands, and 48 km of line passes through forestry plantations. Only about 18 km (<10%) of the line goes through areas with some native vegetation cover, mainly composed of either native forest patches or natural prairies.
- b. An estimated 850 meters (<1 km) of the line goes through Mapuche territory (instead of the 20-30 km in the previous routing), however it is important to note that even though the actual construction environmental and social impacts on Mapuche territory are expected to be minimal¹, the agreement on the final compensation has proven to be a complicated process and has required extensive consultation and negotiation. The Choin Lafkenche community has two of its members currently imprisoned for burning a bus while protesting on issues unrelated to TransChile. With this community the process has been fairly successful as the community wants to show that they can negotiate peacefully with private companies, and are keying on de-stigmatizing their image of violence. The compensation process with this community has been formalized and is already finished. The two communities in Padre Las Casas, have had a bad previous experience with the compensation process followed by another transmission line company, Transelect, when installing the Nueva Temuco Substation, where Transchile will have to connect, and have proven to be hard negotiations. These negotiations are still in progress.
- c. Other significant construction impacts include (i) potential social impacts associated with construction noise and dust; (ii) impacts associated with new access roads, (iii) landscape and visual impacts, (iv) electro magnetic

¹ The impact on the Choin Lafqueche community involves only ROW for the passing of the line, as the related towers will be locate in neighboring private lands. In the two communities of Padre Las Casas only three towers will installed.

filed, and (v) any impacts on archaeological sites encountered in the ROW².

14. Alusa is one of the largest companies in Brazil constructing transmission lines, with a very extensive and well accredited Environmental, Health and Safety training program for employees, sub-contractors, and collaborators, and monitors its operations following environmental plans based on international standards (ISO 14000). Similarly Cemig has an environmental policy that guides their operations and has corporate environmental and health and safety plans that have been widely applied in Brazil and have also been developed based on international standards. Through careful environmental and social planning of the route selection and incorporation of environmental standards into project engineering and construction management, the majority and most relevant impacts of these transmission lines noted above have been avoided or will be greatly reduced. Some of the standard good environmental management practices applied by Transchile include: (a) new routing to avoid indigenous communities, archeological sites, forest plantations, areas of tourist attraction or landscape value and/or areas sensible to erosion (e.g steep slopes), (b) no worker camps will be installed, (c) noise barriers will be placed in construction sites near populated areas, (d) new access roads have been minimized³ and all used road will be kept damped to avoid increased dust and particulate matter emissions.
15. All native forest will be trimmed only above 4 meters, thus the ROW will not be cleared to the ground where native forest cover is encountered. In the cases there is the absolute need to cut a cover formation with special conservation status (mostly because the need to install a tower), the company will compensate the affected area by replanting the same species in a 1:10 ratio. For the two amphibian species under special conservation status, the project is not expected to impact their habitats (a specific type of swampy area in the project area) as these areas will not be touched. In the unlikely case they are found in the ROW, the company will have to develop a specific management plan and present it to the CONAMA for approval.
16. The ROW compensation process is being done according to Chilean Law D.F.L. No 4 *Ley General de Servicios Eléctricos* (1982). It basically involves direct negotiations with land owners and/or communal authorities. Direct payment is provided based on commercial replacement value, even though the land under the lines can continue to be used for any agricultural purposes with the exception of any crop involving plants taller than 4 mts (i.e. no forest or fruit trees). In addition, during the constructions period and installment of the towers and the line, the company will pay land owners for any losses associated to crops removed previous to harvest or unproductive lands in expectation of construction. In case there is disagreement between negotiating parties, the law incorporates an arbitration procedure that allows the company to begin construction, and

² All archeological site are legally protected in Chile under Law No17.288.

³ The company expects to open only 1.53 kilometers of new access roads/trails, as most of the ROW runs parallel or near existing roads.

compensations are determined by a “good men panel”. If still no agreement is reached, final compensation amounts are determined by a civil court. There will be no resettlement associated to this project, and there are no houses or dwellings permitted within the ROW.

17. For the three Mapuche communities affected by the Project, in addition to the compensation required by Law, TransChile is in the process of evaluating the support for specific community projects presented by the different communities, including the construction of a 70-mt aqueduct for potable and irrigation water, the construction of a communal meeting hall, the improvement of porcine production and processing, and the purchase of additional land.
18. During operations, the principal impacts are related to limited and selective clearing of vegetation for ROW maintenance, disturbance due to people and equipment access for maintenance purposes, and small quantities of wastes generated in substations. Noise and electromagnetic fields are not expected to be an issue in this Project, which operates on 220kV (most scientific evidence indicates that electromagnetic fields are significant only over 500 kV). The worse case projected electromagnetic fields are 42 μ T at the axis and 15 μ T at the external border of the ROW, which is well below the 100 μ T limit for human exposure recommended by the ICNIRP⁴. As stated above Chilean Law prohibits the construction of houses or dwellings within the ROW.

D. Environmental and social requirements

19. The Bank will require as part of the financing documentation that TransChile and all portions of the Project shall, at all times during the life of the agreement, comply with all applicable environmental, social, health and safety, and labor Chilean regulatory requirements, and with applicable IDB Operational Policies and Environmental Requirements.
20. In short summary the main requirements are:
 - a. Prior to first disbursement the EIA must be approved by the CONAMA and the Environmental License must be issued. Additionally, prior to the first disbursement, the IDB will also require, in form and content satisfactory to the IDB, the (i) environmental and social operational plan for the construction phase, which must include a special procedure for working in Mapuche territories, (ii) health and safety plan for the construction phase, (iii) contingency plan and spill prevention and counter-control plans for the construction phase, (iv) final land compensation program for the ROW easement process, and (v) community engagement and stake holders relations programs for the construction, including specific community projects⁵ with the affected Mapuche communities. Additionally, prior to the first disbursement the IDB will also require an Environmental, Social, Health and

⁴ International Commission on Non-Ionizing Radiation Protection.

⁵ Beyond ROW compensation (17.b.iv).

Safety Action Plan to resolve all environmental and social issues that may still be pending, if any.

- b. Prior to each disbursement, the IDB will require an Environmental and Social Compliance Certificate (ESCC) issued by an independent environmental and social consultant, certifying compliance with all environmental social, and health and safety requirements in the financing documentation, placing special emphasis on compliance with all agreements reached between Transchile and the affected communities (both directly related to the Project and/or any additional community project supported).
 - c. Prior to technical completion, the company shall be required to submit, in form and substance satisfactory to the IDB, the (a) environmental and social operational plan for the operation, (b) health and safety plan for the operation, (c) contingency plan and spill prevention and counter-control plan for the operation, and (d) community relations program for the operations phase.
21. The Bank will monitor the project's environmental, social, health and safety aspects via internal Bank supervision actions (e.g., site visits, review of documentation, etc.) and will contract an external independent environmental consultant to perform more detailed supervision/monitoring actions during project construction and initial operation. In addition, the Bank will have the right, as part of the financing documentation, to contract for an independent environmental, health, and safety audit, if needed.

Figure 1. Project Location

