

## **Environmental and Social Review Summary (ESRS)**

### **Transmission Lines Punta del Tigre/Cardal and Salto Grande/Salto B – URUGUAY**

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#### **1 General Information of the Project and Overview of Scope of IDB Invest's Review**

On December 2019, the Uruguayan National Utility of Electric Plants and Transmission Administration (Administración Nacional de Usinas y Trasmisiones Electricas, "UTE") awarded Tealov S. A. (the "Client" or "Tealov") the construction of: i) a 55 km long 500 kV transmission line between the thermal power station at Punta del Tigre, San José Department, Uruguay, and the Cardal substation, located in the Florida Department ("500 kV line and substation"); ii) a 20 km long 150 kV transmission line between a substation at Salto Grande Uruguay and a substation at Salto B, Salto Department ("150 kV line"); and iii) ancillary works for existing lines and substations allowing the interconnection of the new Cardal substation (the "Project").

Tealov S. A. is the Uruguayan special purpose vehicle ("SPV") owned by Invenergy Transmission International Holdings LLC (both indirectly owned by Invenergy Investment Company LLC). Tealov and UTE have executed an Operating Lease Contract ("OLC") with the following scope: 20 year for a 500 kV substation, and 30 year for the 500 kV and the 150 kV lines. After the construction of Project is completed, UTE will take over its operation and maintenance.

The 500 kV line will be made up of 152 galvanized steel self-supporting towers every 400 m covering a total length of 55 km. The conductors will be arranged horizontally conserving a 12 meters distance between phases. Two guard and earth cables will be located at the highest points of the towers to protect the line against surges caused by atmospheric discharges. The Cardal substation will be installed in an area of approximately 21 hectares at the end of the 500 kV line. This substation will have nine in line shunt reactors, three neutral grounding reactors, an input voltage of 500 kV, and will section the existing transmission line between substations Palmar and Montevideo A. The 150 kV line will contain 60 self-supporting towers of galvanized steel placed every 300 m to cover a total length of 19,645 m. Conductors will be arranged in a vertical array. Each tower will also have a guard and an earth cable. All tower foundations will be built using concrete.

The Environmental and Social Due Diligence ("ESDD"), carried out between December 2020 and March 2021, involved the evaluation of several Project documents such as: i) the Environmental and Social Impact Assessment ("ESIA") for the 500 kV line and substation; ii) the Project Communication Document for the 150 kV line; iii) the environmental management plans; iv) the health and safety procedures, and v) the documents and permits issued by the National Environmental Directorate (Dirección Nacional de Medio Ambiente "DINAMA") of the Ministry of Housing, Territorial Ordering and Environment (Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente "MVOTMA"). Virtual meetings were held with Client representatives and the engineering companies

in charge of Project construction (“EPC Consortium”). Consultants were engaged to support the ESDD process by performing site visits and preparing additional biodiversity assessments.

## **2 Environmental and Social Categorization and Rationale**

In accordance with IDB Invest's Environmental and Social Sustainability Policy, the Project has been classified in Category B, because its potential environmental or social impacts and risks are deemed to be limited to the Project site and can be mitigated via measures that are readily available and feasible to implement in the context of the proposed operation.

The main potential impacts linked to the Project include: i) loss of modified and natural habitats; ii) economic displacement associated with the rights-of-way (“RoWs”) easement; iii) noise disturbance to neighbors during construction; iv) landscape alterations; v) loss of property value due to use restrictions along RoWs; vi) soil and water pollution; vii) bird mortality due to collision with the lines; viii) accidents involving workers; ix) soil erosion at tower locations; x) generation of electromagnetic fields during operation; xi) local air quality alterations during construction; and xii) traffic disturbance during construction. Most of these impacts are deemed to be of medium-to-low intensity.

The Performance Standards (PS) triggered by the Project are: i) PS1: Assessment and Management of Environmental and Social Risks and Impacts; ii) PS2: Labor and Working Conditions; iii) PS3: Resource Efficiency and Pollution Prevention; iv) PS4: Community Health, Safety, and Security; v) PS5: Land Acquisition and Involuntary Resettlement, vi) PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; and vii) PS8: Cultural Heritage.

## **3 Environmental and Social Context**

### **3.1 General characteristics of the Project’s site**

The environmental and social context along the 500 kV line and substation consists mostly of rural and sparsely populated areas used for agriculture and cattle raising. Even though the line’s route was designed to avoid interference with irrigated agriculture, existing companies, public buildings, and local housing, it crosses the Humedales of Santa Lucia Protected Area<sup>1</sup> and the Important Bird and Biodiversity Area (“IBA”) Penino Beach and Santa Lucia Wetlands.

The environmental and social context along the proposed route for the 150 kV line consists mostly of rural and sparsely populated areas used for agriculture and cattle raising. Although the line’s route was selected to minimize conflict with other companies and existing buildings and was recently adjusted to avoid intersecting a recently installed quarry and a small airport, it intersects the IBA San Antonio for approximately 500 m.

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<sup>1</sup> The line crosses twice the Humedales del Río Santa Lucía: a first section of 22.1 km and a second one of 3 km.

### 3.2 Contextual risks

The routes of both lines and the location of the substation have been selected to minimize conflicts with existing productive and residential activities. Nonetheless, there is potential for conflict with environmental groups and NGOs due to impacts of the 500 kV line on the Humedales of Santa Lucia Protected Area. Severe storms may also have impacts on transmission line infrastructure and cause power outages.

## 4 Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

### 4.1 Assessment and Management of Environmental and Social Risks

UTE is responsible for the administration of the Project's environmental licensing process with DINAMA. Thereafter, two separate environmental licensing processes have been initiated: one for the 500 kV line and substation, and the other for the 150 kV line. The Client will have to comply with such environmental permits.

Under Uruguayan Legislation the 500 kV line and substation were classified as a Category C<sup>2</sup> Project. Therefore, an Environmental and Social Impact Assessment ("ESIA") was demanded to comply with Uruguayan regulations. This was prepared by consultants hired by UTE and delivered to DINAMA for evaluation.

The 150 kV line was classified by DINAMA as a Category A<sup>3</sup> Project and, therefore, did not require the preparation of an ESIA. Nonetheless, UTE prepared a Project Communication Document ("PCD") which contains an assessment of the line's environmental and social risks and impacts. The PCD has been delivered to DINAMA for its evaluation prior to the issuance of corresponding the environmental permit expected to be issued in May 2021.

The environmental permit for the 500 kV line and substation is still under analysis by DINAMA and is expected to be issued in May 2021. The environmental permit<sup>4</sup> for the 150 kV line was issued in June 2018 and was valid for two years. UTE has requested DINAMA to extend the validity of this permit, and a route adjustment for this line.

#### 4.1.a E&S Assessment and Management System

As the Project will be carried out in two separate geographical areas in Uruguay and is also under two separate environmental licensing processes, the Project's Environmental and Social Management Systems ("ESMS") has also been divided in two parts: i) one ESMS for the 500 kV line and substation which includes the ESIA, the environmental permit and associated compliance

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<sup>2</sup> Category C: projects with significant negative environmental impacts, even if prevention or mitigation measures are implemented. These projects will require a complete EIA.

<sup>3</sup> Category A: projects with non-significant negative environmental impacts. Projects in this Category do not require the preparation of an Environmental Impact Assessment under Uruguayan legislation.

<sup>4</sup> Previous Environmental Authorization (AAP in the Spanish acronym)

conditions, and the Construction Environmental Management Plan (“CEMP”)<sup>5</sup>; and a second ESMS for the 150 kV line that includes the PCD, the environmental permit and associated compliance conditions, the CEMP approved by DINAMA, and the renewed environmental permit to be issued shortly<sup>6</sup>.

#### 4.1.b Policy

The Client has not yet adopted a formal Environmental and Social Policy.

#### 4.1.c Identification of Risks and Impacts

In the ESIA of the 500 kV line and substation the most important risks and impacts identified include: i) loss of habitats and species; ii) landscape alteration; iii) generation of electromagnetic fields; iv) potential bird mortality; and v) potential loss of property value and affectation of productive activities.

The PCD for the 150 kV line identifies the following potential risks and impacts: i) restrictions to property owners; ii) potential reduction of air quality; iii) loss of habitat and species; iv) landscape modifications; v) drainage alterations; v) soil erosion due to land exposure; vi) water pollution; vii) archaeological impacts; viii) noise disturbances; ix) increase in traffic accidents; x) soil pollution; xi) community disturbance during works; xii) electromagnetic fields exposure; xiii) habitat fragmentation; xiv) bird mortality; xv) loss of production due to RoWs easement; and xvi) restrictions on tourism.

##### 4.1.c.i Direct and indirect impacts and risks

Direct potential impacts include: i) habitat loss and fragmentation; ii) economic displacement along the RoWs; iii) landscape alterations; iv) bird mortality due to collisions; v) fauna mortality during vegetation clearance; vi) generation of electromagnetic fields; vii) water and soil pollution; viii) erosion around tower locations; ix) archaeological impacts; x) noise disturbance; and (xi) accidents with workers during infrastructure construction and operation.

Indirect likely impacts include: i) loss of property value due to the RoWs easement; ii) alteration of species distribution patterns due to habitat loss and fragmentation; iii) increase in traffic accidents during construction; and iv) electrification of fence wires near the transmission lines.

##### 4.1.c.ii Analysis of alternatives

Both transmission line routes were aligned to reduce impacts on existing properties and businesses. The ESIA for the 500 kV line and substation does not present an alternative assessment. However, UTE performs assessments of alternative routes during the design of the project to minimize interferences with inhabited properties, businesses, industrial activities, quarries, and certain types

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<sup>5</sup> Regarding the 500 kV line and substation, the environmental permit is still to be issued by DINAMA and the CEMP was presented by the client in draft, pending approval by DINAMA.

<sup>6</sup> Regarding the 150 kV line, environmental permit renewal will consider a route adjustment and is still to be issued by DINAMA.

of agriculture. In addition, the need to minimize interference on the Humedales de Santa Lucia Protected Area was also considered by choosing tower emplacement in less preserved habitats, when possible. Due to this process, the route for the 500 kV line minimizes impacts on existing properties and the Project's footprint at conserved habitats. The nearest inhabited residence to the 500 kV line and substation is at 100 m from the line's axis.

The PCD prepared for the 150 kV line assessed two possible corridors. The first one was chosen to coincide with an existing transmission line, using the idea of replacing the existing poles with towers to carry out the installation of both lines (the existing and the projected). This option was quickly discarded as it presents urbanized areas with a strong presence of properties with productive enterprises. The second corridor included two proposed routes (alternatives two and three). Both were similar but alternative three was chosen as it causes less interference with water courses and complies with the minimum distances from productive and inhabited areas. The nearest inhabited residence to the 150 kV line is 150 m apart from the line's alignment. On this line, a final route adjustment to avoid intersection with a quarry and a small airport is pending DINAMA's approval.

#### 4.1.c.iii Cumulative impact analysis

No cumulative impact assessment was carried out for the Project.

#### 4.1.c.iv Gender risks

Under Uruguayan legislation, gender equality and non-discrimination must be promoted by and observed in all companies.

The Project works will be carried out by two engineering firms who will act jointly as an EPC Consortium working for the Client. The Project's operation and maintenance ("O&M") will be carried out by UTE. The recruitment process for the works will be started once the environmental licenses are issued, so no specific information on the Project's personnel is currently available. It is anticipated that most construction personnel will consist of men as, traditionally, the construction industry in Uruguay employs female workers in administrative and auxiliary roles, while men are employed in various capacities as construction workers. Typically, female employment in this sector in Uruguay represents only 5% of the total number of employees on construction projects<sup>7</sup>.

Lodging will be restricted to more qualified personnel who will be accommodated in rented houses near the work sites. The less qualified workers will be hired directly from towns along line routes, so that they will be able to go to work and return to their houses daily. Therefore, no worker accommodations will be built.

At the workshops, sanitary installations will be segregated by gender. The EPC Consortium will assess health and safety ("H&S") risks and provide their workers personal protection equipment ("PPE") ensuring that such equipment is appropriate for men and women.

if required, the EPCs human resource department will provide temporary work posts to pregnant women and lactation rooms whenever needed.

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<sup>7</sup> Estudio de Genero en la Industria de la Construcción en Uruguay. BID. 2018.

The contingency plans of the Project do not detail escape routes nor assess their use by disabled people and pregnant women.

The O&M of both lines and the Cardal substation will be carried out by UTE and will typically involve crews of three to six people who will visit the facilities with variable frequency. At present no information on the gender composition of these crews is available.

#### 4.1.c.v Climate change exposure

There is a moderate to high exposure to riverine flooding along the Project. There is also moderate exposure to chronic natural hazards such as sea level rise (moderate to high) in the southern Project's Area (Punta del Tigre) as well as moderate drought hazard. Therefore, the Project's physical risk exposure to climate change has been classified as medium. The flooding risk has been anticipated and tower design has been adjusted whereby elevated towers will be placed in flood prone areas to withstand potential flooding.

#### 4.1.d Management Programs

To manage the Project's risk and impacts, a series of plan and programs have been developed for the Project.

The CEMP for the 500 kV line and substation contains the following environmental management plans: i) Supplies Management Plan; ii) Action Plan for Native Vegetation Removal; iii) Waste Management Plan; iv) Effluent Management Plan; v) Emissions Management Plan; vi) Contingency Management Plan; vii) Archaeology Action Plan; viii) Biological Plan; and ix) Action Plan on the Humedal del Rio de Santa Lucia.

The CEMP for the 150 kV line contains the following plans: i) Supply Management Plan; ii) Action Plan for Native Vegetation Removal; iii) Waste Management Plan; iv) Effluent Management Plan; v) Contingency Management Plan; and vi) Archaeology Action Plan.

#### 4.1.e Organizational Capacity and Competency

Under the terms of the corresponding contract the Client will demand and monitor compliance with all environmental and social management measures, that will be implemented mostly by the EPC Consortium and some by additional contractors<sup>8</sup>. The latter will have a dedicated Environmental Department<sup>9</sup> for each transmission line to ensure compliance with the requirements of the Environmental Permits and CEMPs. These departments will report directly to the EPC Project Director. The Client and UTE will also have representatives to oversee the activities of both Environmental Departments to ensure full compliance with the approved environmental and social mitigation measures.

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<sup>8</sup> Stakeholder Engagement Plans, Biodiversity and Archaeological Monitoring, among other actions, will not necessarily be implemented by the EPC Consortium, but by the Client through local contractors.

<sup>9</sup> The composition of this department has not been defined yet.

#### 4.1.f Emergency Preparedness and Response

CEMP's for the 500 kV line and substation and the 150 kV line present the same contingency management plan, based upon a procedure from the EPC Consortium. Even though the plans consider scenarios such as spills of hazardous substances, fires, and explosions, they will be updated and enhanced to meet the required standards.

#### 4.1.g Monitoring and Review

The CEMP for the 500 kV line and substation includes: (i) monitoring of pH and sedimentation to control the quality of concrete preparation effluents, and (ii) bird monitoring to install flight deterrents, to be carried out during one year in four seasonal campaigns. The CEMP for the 150 kV line includes the monitoring of pH and sedimentation to control the quality of concrete preparation effluents.

In addition to the CEMPs technical monitoring programs, the EPC Consortium's environmental managers will inspect the works regularly to check CEMP implementation and prepare records. The EPC Consortium shall submit Environmental Performance Reports ("EPRs") to UTE and the Client on a quarterly basis, and semiannual reports will be presented to DINAMA, who will assess the contents of the reports and will perform periodic site inspections to ensure compliance with the terms of the environmental permits and the CEMPS. The Lenders will also perform regular supervision missions to verify the Project's compliance with the environmental and social requirements.

#### 4.1.h Stakeholder Engagement

During the preparation of the ESIA for the 500 kV line and substation, stakeholder mapping and consultation were carried out. The main stakeholders involved in the consultation process included municipal authorities and leaders of institutions with interests in the area crossed by the project, including the Tierra de Humedales Project<sup>10</sup>, the National Directory for Territorial Ordination, and the Center for Regional Archaeological and Territorial Investigation, among other institutions. The municipalities covered by the consultation included Ciudad del Plata, Rodriguez, Libertad, Aguas Corrientes and Santa Lucia.

From all the assistants to the meetings, thirteen people were interviewed including eight men and five women. The most frequent issues pointed out during the interviews included requests for detailed information on the Project and concerns over the potential pollution and degradation of protected natural areas, particularly the Humedales de Santa Lucia Protected Area, San José River and Arroyo de la Virgen.

Under Uruguayan legislation Category A projects are not required to perform public consultations. Therefore, no consultation was carried out during the preparation of the PCD for the 150 Kv line.

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<sup>10</sup> Tierra de Humedales is a joint work initiative between public and private organizations for the development of the Santa Lucia Wetlands Protected Area.

As a mandatory communication procedure under Uruguayan legislation, the easements of the RoWs are performed by UTE by means of a communications protocol, through which the owners or occupants of the affected properties are informed of the provisions of Decree 65/016.<sup>11</sup> Main concerns of landowners and occupiers along the 500 kV line include: i) loss of existing crops; ii) land devaluation; iii) interference with existing service roads; iv) indirect electrification of existing property wire fences; and v) interference with property gates.

#### 4.1.i External Communication and Grievance Mechanisms

The Project includes mechanisms to inform stakeholders and affected communities during its construction and operation. During the construction, the EPC Consortium will maintain a supervisor on site, who will coordinate with the different landowners the schedule of activities to be carried out and the points of entry into the properties, explaining in each case the infrastructure to be built on the RoW and agreeing on those property modifications which are of interest to maintain after the works are completed. This ensures continual engagement of affected communities during the construction period. Therefore, during this phase, the EPC Consortium will be able to receive, treat and respond to complaints. Moreover, as per contractual obligations, the EPC Consortium has to periodically deliver a report to the Client and UTE recording the “approval” of the works by affected landowners<sup>12</sup>.

In addition to the daily contact of the EPC Consortium with affected communities, UTE will carry out a Community Communication and Diffusion Program that seeks to manage the social impacts derived from Project construction. The objective of this program is to capture and respond to all the concerns and expectations of the community, ensuring that a favorable and active link is maintained between UTE, stakeholders, and affected communities.

## 4.2 Labor and Working Conditions

### 4.2.a Working Conditions and Management of Worker Relationships

Construction personnel will be hired by the EPC Consortium. The selection process will start once the environmental licenses for the 500 kV line and substation and the 150 kV line are obtained, and the EPC Consortium has received from the Client the order to proceed.

A maximum of 500 workers will be involved in the construction of the 500 kV line/substation and a maximum of 80 workers will be involved in the construction of the 150 kV line. The most qualified construction personnel are part of the internal team of the EPC Consortium, and the less qualified personnel will be hired at towns near the lines. Local labor will be prioritized. O&M will be

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<sup>11</sup> Provisions contained in Decree 65/2016 include, among other, the following: i) the definition of the dimensions of easements for the Punta del Tigre to Cardal 500 kV and Salto Grande to Salto B 150 kV lines; ii) the prohibition of siting of explosive material depots, excavations, and explosions at less than 200 m from the line's axis; and iii) attributes to UTE the responsibility for notification of landowners about the easements.

<sup>12</sup> There may be cases where property owners have pending demands and refuse to sign the approval. If this occurs, these issues will be taken forward to the Client and UTE to establish further dialog with the affected parties and attempt to resolve them.



performed by UTE personnel and will involve three to six people who will visit the infrastructure with variable frequency.

#### 4.2.a.i Human Resources Policies and Procedures

The EPC Consortium complies with all Uruguayan labor laws. Under its Code of Ethics (“CoE”) human resources policies and principles to manage the work force are covered. UTE also has its own CoE that encompasses policies and principles involving the management of human resources.

#### 4.2.a.ii Working Conditions and Terms of Employment

Both the EPC Consortium and UTE follow all applicable employment legislation of Uruguay. The works will be performed mostly during daylight. Terms of employment will be defined in contracts with all workers. Salaries will be defined according to the national laws and the civil construction industry of Uruguay. Working conditions and salaries will be monitored according to national regulations by local worker unions at their own discretion.

#### 4.2.a.iii Workers’ Organizations

Both companies that conform the EPC Consortium have about 70% of the workforce associated to the local construction syndicate to which most workers contribute monthly. The works and working conditions will be closely monitored by representatives of the syndicate. UTE personnel joined a union to care for the interests of workers linked to the electricity sector in Uruguay.

#### 4.2.a.iv Non-discrimination and Equal Opportunity

Uruguay has advanced legislation regarding gender equality and non-discrimination. The EPC Consortium is bound by this legislation and has internal procedures (CoE) to prevent discrimination in connection with gender, race or ethnicity, sexual, political, age and religious orientation, violence, harassment, and other forms of discrimination. UTE has a similar CoE that also forbids discrimination in all its forms.

#### 4.2.a.v Retrenchment

Upon the end of the works, part of EPC Consortium personnel will remain employed. However, there will be dismissals of workers, particularly less qualified people. According to Uruguayan regulations workers contribute a percentage of 5% of their wages to a severance and retirement fund, which they recover when they are dismissed. In addition, workers are also entitled to a government-issued unemployment benefit for several months after dismissal. In addition, the EPC Consortium may, at their own discretion, retain those employees whose performance was better to use them in other projects.

#### 4.2.a.vi Grievance Mechanism

During construction, the EPC Consortium will be responsible for the reception and management of internal and external grievances from the community. Both EPC Companies have specific channels for reception of complaints or comments open to all public, including employees and contractors: Ingener has a dedicated e-mail in its website and Saceem has a toll-free line to receive complaints, suggestions, and comments. According to UTE's CoE, the company has internal channels for the reception, treatment, and response to complaints from workers.

#### 4.2.b Protecting the Workforce

Under Uruguayan legislation, the EPC Consortium CoE expressly forbids child and forced labor.

#### 4.2.c Occupational Health and Safety

The EPC consortium complies with national regulation on occupational health and safety. Detailed Occupational Health and Safety Plans on the 500 kV line and substation and the 150 kV line will be presented to the Uruguayan authorities before works commencement.

#### 4.2.d Provisions for people with disabilities

The EPC Consortium will comply with the local regulations for hiring People with Disabilities established by Law in the recruitment of personnel for the project.

#### 4.2.e Workers Engaged by Third Parties

The EPC Consortium has specific procedures to hire subcontractors. All contractors are obliged to comply strictly with Uruguayan regulations and laws, as well as compliance with hygiene, health and safety regulations and the environmental regulations and procedures of the Project. The contracts have clauses that enable the EPC Consortium to withhold payments in cases of defaults. Supply chains are also managed to assess compliance of national providers with employment regulations, social security, and payment of employee salaries to ensure regularity and prevent against use of child and forced labor. However, this verification is not carried out for suppliers from abroad.

### 4.3 Resource Efficiency and Pollution Prevention

#### 4.3.a Resource Efficiency

##### 4.3.a.i Greenhouse Gases

The main sources of Greenhouse Gas ("GHG") emissions for the project include the construction process and land use changes along the lines. Given the land use characteristics of most parts of line

routes<sup>13</sup>, no relevant changes in land cover are expected in the RoWs. The amount of GHG generated during construction will be mostly linked to the construction of tower infrastructure and the operation of machinery. During operation, GHG emissions will be linked to O&M of lines, RoWs, and the substation. The production of GHG in the context of the present project will not be significant.

#### 4.3.a.ii Water Consumption

The Project's total estimated water consumption is of about 19,000 m<sup>3</sup>, where approximately 15,000 m<sup>3</sup> will be used by the 500 kV line and substation and roughly 4,000 m<sup>3</sup> by the 150 kV line. Water will be extracted from wells and provided for the preparation of concrete for tower foundations. Bottled drinking water will be supplied to the staff. Water for the sanitary installations and the productive processes (e.g., concrete manufacturing) will be obtained from wells to be excavated in the workshops area. These wells will be built by a company that has the corresponding license from competent authorities. If well construction is not feasible at a given site, water will be obtained from local superficial sources ensuring that the remaining flow is enough to guarantee the water uses downstream and the ecological needs. During O&M, the use of water will not be significant.

#### 4.3.b Pollution Prevention

##### 4.3.b.i Wastes

##### 4.3.b.ii Hazardous Materials Management

During construction, waste management will be carried out by the EPC Consortium under the terms of the CEMPs for both lines. All waste will be classified and stored at adequate containers at the workshops and work fronts. The waste generated at the work fronts located in sensitive environments, such as in the Humedales de Santa Lucia Protected Area, will be stored and transported daily to the workshops for classification, segregation, and adequate disposal. In work fronts situated outside of environmentally sensitive areas waste will be transported to workshops regularly, at more spaced time intervals. After separation and temporary storage at workshops, the waste will be managed to promote reuse and recycling wherever possible. Domestic waste will be destined to municipal landfills and hazardous waste will be destined to licensed providers for collection and adequate disposal. Records of waste management will be created and stored.

Regarding effluents, two types will be generated during construction: i) sanitary effluent from the work force; and ii) effluent from concrete manufacturing. Sanitary effluents will be directed to septic tanks at the workshops and disposed of by means of licensed sump sucker trucks regularly. Work fronts will be supplied with chemical toilets by licensed providers. Concrete effluents will be managed by means of impermeable washing basins located at workshops, where sedimentation and pH control will take place before infiltration into the ground or discharge into water courses.

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<sup>13</sup> Most of the land cover along the TL routes consists of areas used by agriculture and pastures used for cattle raising. Even in the stretch of the 500 kV line that crosses over the Humedales de Santa Lucia and other riparian areas, the infrastructure footprint on the ground will be modest and spaced, so that no major changes in vegetation cover are expected in connection with the Project.

During operation, RoW and line maintenance will consist of vegetation pruning, solid waste removal, and access roads and tower maintenance. These operations will be carried out by UTE that has its own waste management procedures. The operation of the substation at Cardal may generate hazardous waste (transformer oil and other hazardous substances) which will be collected, transported, and disposed of according to UTE's waste management procedures through licensed providers. Records of waste management will be created and stored.

#### 4.3.b.iii Pesticide Use and Management

During construction, the EPC Consortium will apply Tordon to prevent regrowth of tree stumps. Contaminated packing will be treated as hazardous waste and sent to licensed providers for final disposal. During operation, herbicides will be used by UTE to control vegetation in the RoWs. The products include 2,4 D, Perclor and Glyphosate. These will be applied manually at tree stumps and bushes to control their growth.

Tordon (Picloram) is classified by WHO as a pesticide whose active ingredient is unlikely to present acute hazards in normal use, while Glyphosate, Perclor and 2,4 D were classified as moderately hazardous pesticides (Class II) by WHO. None of these pesticides are listed in Annex III of the Rotterdam Convention<sup>14</sup> nor in Annexes A, B and C of the Stockholm Convention<sup>15</sup>. However, the use of these herbicides requires specific procedures to minimize their risks to human health and the environment. UTE has specific procedures for herbicides including: i) list of authorized herbicides and use conditions, ii) safety procedure for use of chemicals, iii) herbicide use procedures and iv) pesticide use record sheet.

### 4.4 Community Health, Safety and Security

#### 4.4.a Community Health and Safety

The Project's potentially affected community includes people residing along the RoWs of the two lines and at the substation. According to the ESIA, the nearest inhabited residence to the 500 kV line and substation is sited at 100 m from the line axis, while for the 150 kV line, is about 150 m from the alignment.

Potential impacts that may affect communities during construction include: i) traffic disturbance; ii) noise; iii) air quality alterations; iv) interference with existing productive activities; and vi) pollution of soil and water sources. During operation of both lines, the range of potential impacts on property residents includes: i) exposure to electromagnetic fields ("EMF"); ii) electrification of property fence wires near the lines and (iii) loss of property value.

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<sup>14</sup> The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) is a multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labeling, include directions on safe handling, and inform purchasers of any known restrictions or bans.

<sup>15</sup> Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

Projected potential impacts on affected community will be addressed by a series of mitigation measures contained within the CEMPs for both lines.

#### 4.4.a.i Infrastructure and Equipment Design and Safety

The Project follows applicable national technical standards that consider the necessary resistance and stability of the infrastructure against the incidence of winds and inclement weather. In areas prone to flooding, towers will be built over elevated concrete platforms above the maximum flood levels recorded. Guard cables will be used over energy transmission cables to protect them against electrical discharges. All towers will be grounded.

The accessories and fastening parts of the towers will be suitable for installation outdoors, ferrous parts will be galvanized according to the corresponding ASTM<sup>16</sup> standard. The towers will have the following accessories: danger signs with the inscription "Attention", "Risk of Electric Shock", "High Voltage" and a drawing representing a lightning (UTE standard design), numbering signs for aerial inspection, numbering signs for ground inspection, stairs, and bird protection.

#### 4.4.a.ii Hazardous Materials Management and Safety

During construction, hazardous waste and materials will be managed through the EPC Consortium's waste management plans for both lines and the substation. During operation and maintenance of the lines and the substation, UTE will apply a waste management plan to ensure that all hazardous waste is duly collected, segregated, and sent to licensed providers to ensure appropriate disposal. All waste will be transported from the work fronts to the workshops, where there will be areas for segregation and temporary storage of such waste. This procedure will minimize community exposure to hazardous materials.

#### 4.4.a.iii Ecosystem Services

The area where the Project lies does not harbor vulnerable communities that may be dependent on ecosystem services.

#### 4.4.a.iv Community Exposure to Disease

Even though during the Project's engagement activities undertaken for the easement of the RoWs, there were some community concerns over the health effects linked to EMF, electro-magnetic emissions of both lines are within the accepted values for human exposure, as established by the International Commission on Non-Ionizing Radiation Protection ("ICNIRP") standards. These standards are also accepted by the IFC Environmental, Health and Safety Guidelines.

Another potential source of community exposure to diseases is the presence of the work force along the work fronts, as alien workers could introduce new diseases. To minimize this risk, the EPC Consortium will maximize the use of local workers, hired in towns close to the work fronts to

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<sup>16</sup> American Society for Testing and Materials

minimize the influx of people from more distant locations. In addition, the works are likely to begin during the COVID-19 pandemic. Therefore, specific prevention protocols will be required to ensure that the work force will not serve as a new contamination vector along the Project's area of influence.

#### 4.4.a.v Emergency Preparedness and Response

The CEMPs for both Project components have Contingency Management Plans ("CMPs") to address spillage of hazardous substances, fires, and explosions. The plans contain general information on objectives, list of professional positions involved, communication protocol, partial procedures for response in case of spills, fires and explosions, review mechanisms and records. However, the CMPs do not make provisions to inform the community in case of emergencies, nor they identify the public services to be informed and involved in case of emergencies.

#### 4.4.b Security Personnel

The EPC Consortium will hire a patrimonial security firm to preserve assets, facilities, and workplaces, especially at night. This service will not rely on armed personnel.

### 4.5 Land Acquisition and Involuntary Resettlement

#### 4.5.a General

In general terms, the Project will not generate involuntary resettlement. However, it may promote economic displacement at properties affected along both transmission lines.

The easement of RoWs is under the responsibility of UTE, who has the mandate to deal with landowners and deliver the areas to the Client for project construction. Such easement causes two types of effects on properties: the occupation of part of properties with the line's infrastructure, basically towers, fences, gates, and access roads; and the imposition of restrictions to certain economic activities on the RoWs to prevent damages to infrastructure.

#### 4.5.a.i Project Design

When planning for this type of project, UTE has internal procedures that assess alternative routes considering land use, so that the interference with existing properties is minimized. Certain areas, such as irrigated agriculture, quarries, public buildings, airports, and others are directly avoided during project design.

#### 4.5.a.ii Compensation and Benefits for Displaced Persons

Under Uruguayan law, the easement of RoWs for power lines are free of charge, although compensation is payable for damages and losses caused to the properties that are declared to be

affected. However, such compensation must be claimed by those affected, either administratively or judicially, and be made once the construction work is finished.

UTE uses a procedure that allows to quantify the loss of value of the real estate affected by RoWs through the application of objective criteria. This procedure considers the incidence of use limitations due to the easement on the current exploitation of the land and foreseeable future developments under current conditions. The applicable parametric formula includes several factors that are related to the characteristics of the property and of the affectation under consideration, including: i) the total area of the property; ii) the proportion of the affected property area versus the total area; iii) the average unit price of land; iv) the current property use; v) the possibilities of future exploitation; vi) the type of affectation and its location within the property; and vii) special factors<sup>17</sup> that increase the incidence of servitude.

There are sixty-nine properties along the path of the 500 kV line. Voluntary agreement to the RoW easement was achieved at fifty-seven properties, five properties are owned by UTE (so no agreement is needed in these), six properties are under judicial requirement and one property is pending.

There are forty-five properties along the path of the 150 kV line. Voluntary agreement to the RoW easement was reached at thirty properties, while eight properties are under judicial requirement and seven properties are pending.

UTE's procedure covers compensation for landowners, but it does not mention compensation for tenants.

#### 4.5.a.iii Community Engagement

The initiation of RoWs easement process is announced in local newspapers, identifying the properties to be affected. Following from this, UTE uses an established communications protocol to approach each of the affected landowners, whereby they are informed of the RoW, the policies for damage compensation and the contact channels.

If landowners agree on the terms proposed, an authorization to enter the property and start construction is signed between the landowner and UTE. In cases where no agreement is reached a legal process is started by UTE to secure property access.

#### 4.5.a.iv Grievance Mechanism

During the works, the EPC Consortium will maintain close contact with landowners, informing about the works and receiving comments or complaints. Under its contract with the Client, all issues raised

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<sup>17</sup> Special factors affecting property damage valuation include: (i) affectation to aesthetics, (ii) cumulative restrictions placed by other easements already established in the property, (iv) location of project infrastructure in an outstanding value zone within the property, (v) existence of these elements in a high number with respect to the total length of the RoW, etc. Such special situations are considered by means of an index adjustment applied to the estimated value of depreciation.

by landowners need to be addressed, so that a final report with the approval<sup>18</sup> of the works by all of them can be presented to the Client and UTE. Nonetheless, the relationship with the landowners will be closely monitored by UTE by means of a Community Communication and Diffusion Program, operating as a Grievance Reception Mechanism. During the construction phase, this will act as a double check on the relationships maintained by the EPC Contractor with landowners.

According to UTE's procedure, compensation can only be requested by landowners after all the works are completed. Eventual grievances during this face can only be resolved judicially.

#### 4.5.b Displacement

##### 4.5.b.i Physical Displacement

No physical relocation of affected communities is anticipated.

##### 4.5.b.ii Economic Displacement

Along the affected properties the percentage occupation of productive units with line's infrastructure is less than 1%. On the other hand, the easement of the RoWs affects a wider area within each property, as it may limit the development of certain economic activities and in some cases interferes with the location of gates, fences, buildings, and other existing infrastructure. According to UTE, RoW easement for the 500 kV line affects under 15% of the total area of most properties. There is only one case where the imposition of the RoW, reaches 56% of the total surface. In the 150 kV line the total interference is less than 20% of the total area in most properties, with a maximum affection of 45% in one property. UTE considers that a property must be acquired entirely when more than 70% of its surface will be affected by an easement. However, this threshold has not been reached.

UTE has a procedure based upon Uruguayan legislation to manage the easements of RoWs and pay for damages to the properties. For the Project, this procedure will generate certain changes and disturbances to the existing properties, which will be addressed by compensation. The main productive activities developed at affected properties along both lines are agriculture and cattle raising and are not considered to interfere with transmission line operations. Therefore, these uses will be maintained at the affected properties, even within the boundaries of the RoWs. Nonetheless, UTEs procedure does not mention the potential impacts of easements on tenants, who may also suffer economic displacement.

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<sup>18</sup> There may be cases where property owners have pending demands and refuse to sign the approval. If this occurs, these issues will be taken forward to the Client and UTE to establish further dialog with the affected parties and attempt to resolve them.



## 4.6 Biodiversity Conservation and Natural Habitats

### 4.6.a General

The predominant area coverage of the Project affects lands previously altered by economic activities, including various types of agriculture and cattle raising. Therefore, it covers mostly modified habitats. However, part of the route of the 500 kV line crosses natural habitats, including the Humedales de Santa Lucia Protected Area and the IBA Penino Beach and Santa Lucia Wetlands. The 150 kV line has a small overlap with San Antonio IBA.

### 4.6.b Protection and Conservation of Biodiversity

#### 4.6.b.i Modified habitat

Most of the Project's influence area affects modified habitat due to long-term agricultural and cattle raising practices. These habitats have limited biodiversity value.

#### 4.6.b.ii Natural Habitat

The 500 kV line crosses natural environments at Rio San José, Rio Santa Lucia, and Arroyo de la Virgen. Some towers will be placed at riparian woodlands and humid grasslands along these rivers and associated floodplains. These are natural habitats of significant biodiversity value, known to harbor a high diversity of birds (including migratory species), mammals, reptiles, amphibians, and aquatic life. According to IUCN<sup>19</sup>, Near Threatened ("NT")<sup>20</sup> species recorded in the area include the Bearded Tachuri (*Polystictus pectoralis*), Four-eyed Frog (*Pleurodema bibroni*), Geoffroy's Cat (*Leopardus geoffroyi*), Rufus-rumped Seedeater (*Sporophila hypochroma*), Dark-throated Seedeater (*Sporophila ruficollis*), and Cook's Hociudo (*Oxymycterus josei*). Vulnerable ("VU")<sup>21</sup> species include the Chestnut Seedeater (*Sporophila cinnamomea*), and Black-and-white Monjita (*Xolmis dominicanus*).

#### 4.6.b.iii Critical Habitat

Part of the natural habitats affected by the 500 kV line is located at Humedales de Santa Lucia Protected Area and the IBA Penino Beach and Santa Lucia Wetlands<sup>22</sup>. This habitat is known to harbor critically endangered, endangered, and vulnerable fauna (see above) and flora according to IUCN criteria and national lists of protected species. The effect of the Project in critical habitats may

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<sup>19</sup> International Union for Conservation of Nature.

<sup>20</sup> According to IUCN, the category near threatened is intended for species that only just fail to qualify as threatened. It is defined as a taxon that "has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future."

<sup>21</sup> The IUCN separates species into three classes according to the level of threat of extinction: critically endangered, endangered, and vulnerable. Vulnerable species are those whose data indicate significant population decline and habitat loss but have not reached thresholds to qualify as endangered or critically endangered.

<sup>22</sup> Both areas are almost superimposed. Only small parts of the IBA Penino Beach and Santa Lucia Wetlands are not included within the limits of the Humedales de Santa Lucia Protected Area.

be associated with habitat suppression at tower emplacements, the construction of access roads, and the potential mortality of birds due to collision with aerial line infrastructure.

The Project was designed to minimize interference on critical habitats. In this sense its alignment has been selected to avoid or minimize interference with conserved habitats, especially within the Humedales de Santa Lucia Protected Area and IBA Penino Beach and Santa Lucia Wetlands, whereby the location of most towers falls onto areas modified by human activity such as crops, grazing fields, and forestry areas<sup>23</sup>.

Since Project's physical footprint consists mostly of tower bases (with an area of approximately 900 m<sup>2</sup> each 400 m on average) and access roads, its impacts on natural and critical habitat impacts are deemed to be quite limited. The CEMP for the 500 kV has a specific action plan to mitigate impacts on the Humedales de Santa Lucia Protected Area, that includes the reduction of land use for towers' foundations and for access roads to the minimum.

Regarding the impact of bird collision, most collisions occur when birds see the conductors and deviate, colliding with guard and ground cables near the conductors. The area harbors a series of bird species of conservation interest including Cinereus Harrier (*Circus cinereus*), Black-Chested-Buzzard -Eagle (*Geranoaetus melanoleucus*), Cinnamon Teal (*Anas cyanoptera*), Black-Necked Swan (*Cygnus melancoryphus*), Limpkin (*Aramus guarauna*), Sanderling (*Calidris alba*), American Golden Plover (*Pluvialis dominica*) and many other species. This impact can be mitigated through adequate monitoring and use of a series of technical devices including bird and roost deterrents at critical sites along the line.

An additional impact that could affect birds is electrocution. This may happen when a bird touches two charged components at the same time or when a charged component and a grounded structure are simultaneously contacted. However, given the distancing between charged components at the 500 kV line that surpass body dimensions of most birds known to occur in the area, the likelihood of this impact is considered remote.

#### 4.6.b.iv Legally Protected Areas and Internationally Recognized Areas

The 500 kV line affects the Humedales de Santa Lucia Protected Area. This conservation unit harbors native vegetation formations, riparian forest, and parkland, as well as sandy beaches, rocky outcrops, and river islands. This diversity of environments provides the habitat for numerous animal species, including a wide variety of migratory birds. The line crosses the Humedales del Río Santa Lucía Protected Area at two sections: (i) a first section of 22.1 km, and (ii) a second one of 3 km. This line also affects the IBA Penino Beach and Santa Lucia Wetlands, which overlap almost entirely the Humedales de Santa Lucia Protected Area. The 150 kV line has a small intersection of 500 m with the IBA San Antonio.

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<sup>23</sup> Out of a total of sixty-six towers placed within the Humedales de Santa Lucia Protected Area and IBA Penino Beach and Santa Lucia Wetlands fifty (76%) fall on low sensitivity habitats such as fields, crops or forestry stands, twelve (18%) fall on medium sensitivity habitats such as grasslands and shrublands or fields adjacent to riparian areas and just four (6%) fall on high sensitivity habitats such as riparian forests.

To mitigate impacts on legally protected areas, the Project selected tower locations that will present no interference with natural habitats in the Humedales de Santa Lucia Protected Area and IBA Penino Beach and Santa Lucia Wetlands. Nonetheless, 16 towers could not be moved and are likely to affect natural habitats including riparian forests, grasslands, and wetlands. Therefore, CEMP for the 500 kV line includes a Biological Plan and an Action Plan for Construction in the Humedales del Rio Santa Lucia that have a series of mitigation and monitoring measures to minimize negative impacts on these areas.

#### 4.6.b.v Invasive Alien Species

The most relevant invasive alien species present in the Project's area of influence is the Elmleaf Blackberry (*Rubus ulmifolius*) associated with riparian forests. This species competes with native vegetation mostly along the San José River. During construction of the 500 kV line there is risk to spread the geographical range of this alien species, if soil containing seeds is transported and disposed of in uninvaded areas. Adequate management of soil remains during earthworks in areas where this alien species is present is essential to prevent its spread.

#### 4.6.c Management of Ecosystem Services

Most of the area of influence of both project components (i.e., the 500 kV line and substation and the 150 kV line) consists of modified habitats. The loss of ecosystem services in these will not be significant. Even within the stretch of the 500 kV line within the Humedales de Santa Lucia Protected Area and IBA Penino Beach and Santa Lucia Wetlands, most of the tower emplacements are agricultural fields, artificial grasslands, and forestry areas. For this reason, the loss of ecosystem services associated with riparian vegetation and wetlands will be minimal. The CEMP for the 500 kV line has an Action Plan for the Humedales de Santa Lucia that mitigates the loss of ecosystem services at tower emplacements sited on natural wetlands and riparian vegetation.

### 4.7 Indigenous Peoples

#### 4.7.a General

No indigenous nor vulnerable communities will be affected by the Project.

### 4.8 Cultural Heritage

#### 4.8.a Protection of Cultural Heritage in Project Design and Execution

During the preparation of the ESIA for the 500 kV line, an archaeological assessment was undertaken. The southern part of the line is placed in an area known for its prehistoric archaeological sites, that portrait mostly remnants of indigenous culture. On the other hand, the northern part of the line is known for its potential to show prehistoric rock paintings on rocky outcrops. Nonetheless, the archaeological survey did not reveal any potential sites of archaeological

relevance within the Project's direct area of influence. In addition, the Project's area of influence does not affect any existing protected monument or building.

No archaeological assessment was carried out for the 150 kV line. UTE evaluated that the potential for archaeological finds in the region was very low given the results of archaeological assessments carried out for other projects.

#### 4.8.a.i Chance Find Procedures

Recognizing that undiscovered sites may be encountered during works, the CEMPs for both lines included Archaeological Action Plans. For the 500 kV line and substation additional archaeological monitoring is proposed for the southern part of the line, encompassing a set of locations for the construction of towers. In addition, an additional monitoring will be carried out at Cardal substation before the earthworks commence.

A chance find procedure will be in place to be used in case of unexpected archaeological or paleontological finds.

## **5 Local Access of Project Documentation**

Project information can be accessed at the following link:

<https://invenenergy.com/public-filings>