Strenghthening of CENTER-MIDDLE NORTH 500 kV Transmission System (Zapallal-Trujillo TL)

Opportunity

a) The Zapallal – Trujillo T.L. belongs to Guaranteed Transmission System under which the concessionaire's revenues are secured.

   The Guaranteed Transmission System is design to::

   - Ensuring the remuneration of the facilities of the System
   - Grant stability and predictability of the revenues of the transmission licensees
   - Establish payment obligations that correspond to all users of the system.

b) Legal stability contract.

c) Early recovery of tax revenues for the pre-operative stage

d) Access to the tariff division for the cancellation of customs duties on imported goods.

e) Peru – Korea Free Trade Agreement

Overview

Sector players

Lines of the SEIN's Principal Transmission System (2008)

Holder	N° of transmission lines	Rated voltage (kV)	Length (Km)
REP	14	138 y 220	1072.2
ETESELVA	1	220	145.3
ISA PERU	4	220	261.7
TRANSMANTARO	2	220	603
REDESUR	3	220	427.7

Concessions granted during 2008

Transmission Line	Concessionaire
Carhuamayo – Paragsha – Conococha – Huallanca – Cajamarca – Cerro Corona – Carhuaquero.	ABENGOA PERU S.A. (Spain)
Mantaro – Caravelí - Montalvo y Machu Picchu Cotaruse	ISONOR TRANSMISION S.A.C (Spain) ELECNOR S.A. (Spain) – GRUPO ISOLUX CORSAN S.A. (Spain)
Chilca – La Planicie – Zapallal	RED DE ENERGÍA DEL PERÚ – REP (Colombia)

Overview

Growing power demand:

- Demand for power in northern Peru is expected to increase as large mining projects come on line in the region (Bayóvar, La Granja, Yanacocha, Conga, Cerro Corona, Michiquillay, Pierina, etc.).
- As these projects mature, more than 460 MW are expected to be carried from Peru's central to northern regions.

Transmission capacity supply:

- The National Interconnected Electric System (SEIN) supplies electricity to most of Peru. It has expanded at a relatively fast pace, but geographic distribution is asymmetric, generating inefficiency in nationwide distribution.
- SEIN and regional load increases create the need not only for strengthening of the 220 kV trunk transmission system, but also for projecting the system in the long term, with the commissioning of 500 kV lines.
- The following links are under construction to meet the demand growth and generation expansion requirements:

Area	Project
Center – North	Vizcarra-Huallanca-Cajamarca-Carhuaquero link works
South Lima – North Lima	Chilca-Planicie-Zapallal Transmission Line
Center - South	Mantaro-Caravelí-Montalvo Transmission Line

- **The Zapallal – Trujillo Transmission Line is the first step towards a stronger 500 kV center-north axis.**

Zapallal – Trujillo Transmission Line: Project Profile

Summary and objectives:

- The process, responsibility of ProInversión, aims at awarding the project for Strengthening the Center-Middle North 500 kV transmission system (Zapallal-Trujillo TL), which involves the design, financing, building, operation and maintenance of the Zapallal-Trujillo Transmission Line (530 km).
- **Location:** North Lima to Trujillo.
- **Grantor:** Ministry of Energy and Mines

Project Specifications

1. Electric line features

- The project involves the construction of a 500 kV transmission line and complementary facilities, from the 500 kV busbar of Zapallal Nueva Sub-station (existing) to 500 kV busbars in Trujillo Nueva Sub-station.
- An intermediate switching and reactive compensation sub-station is included. It is referentially located in the surroundings of Chimbote.
- The project's scope also covers space and facility provisions for implementing premises in the future.
- **Transmission capacity**
  - Normal operation: 600 MW minimum capacity.
  - Contingency conditions: 700 MW power capacity.
- **Design power:** over 1000 MVA.

2. Transmission line

- Main features:
  - **Approximate length:** 530 km
  - **Number of triads:** one (1)
  - **Layout:** horizontal
  - **Line conductors**: minimum 3 sub-conductor bundle
  - **Conductor type:** to be defined by the Concessionaire Partnership.
  - **Guard cable:** one (1) OPGW (minimum). Number, gauge and type will be defined by the Concessionaire Partnership.

Project Specifications

3. Sub-stations (SE)

SE Zapallal Nueva (existing)

- The Sub-station is under construction by ISA-CTM. (Transmantaro)
- This Project's scope for the Sub-station expansion considers the implementation of a 500 kV breaker cell to complete the equivalent of 1/3 of the existing 2/3 bay.
- Foreseen equipment:

  - Expansion of thresholds and busbars in 500 kV, one-and-a-half breaker configuration.
  - One 500 kV line output cell.
  - Two cells for line reactor in 500 kV.
  - Two 100 MVAR line reactors, 500 kV each.

Project Specifications

3. Sub-stations (SE)

SE Trujillo Nueva (500 kV)

- This sub-station will be completely new and connected through 220 kV lines with the 220 kV switch yard of the existing SE Trujillo Norte.
- Forseen equipment:

500 kV side	220 kV side:
▪ A busbar system in 500 kV, one-and-a-half breaker configuration. ▪ One complete bay. ▪ One line output cell to Chimbote. ▪ One 600 MVA (3x200 MVA) monophase transformer bank, 500/220 kV with connection equipment plus one 500/220 kV, 200 MVA monophase transformer. ▪ One line reactor cell. ▪ One 100 MVAR, 500 kV line reactor.	▪ Busbar system in 220 kV, double busbar configuration. ▪ One transformation cell. ▪ One output cell for the line to the existing SE Trujillo Norte. ▪ One busbar coupling cell.

Project Specifications

3. Sub-stations (SE)

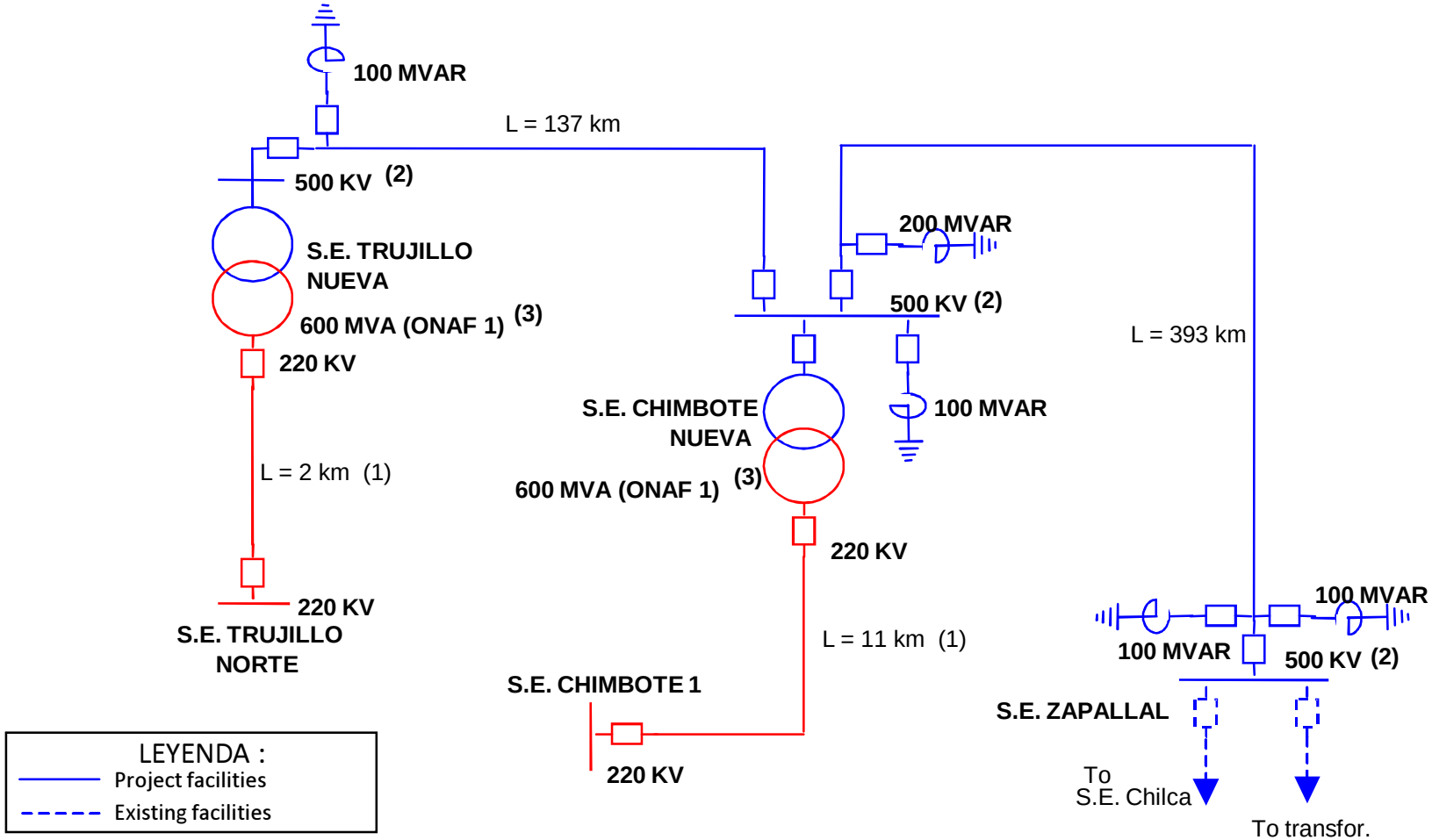
SE Chimbote Nueva (500 kV)

- A completely new, intermediate sub-station will be built for installing switching and reactive compensation equipment.
- Foreseen equipment:

500 kV side	220 kV side:
▪ One busbar system in 500 kV, one-and-a-half breaker configuration. ▪ One bay, with two (2) line outputs. ▪ One bay for feeding the transformer and the busbar reactor. ▪ One 600 MVA (3x200 MVA ONAF I), 500/220 kV monophase transformer bank with connection equipment, plus one 500/220 kV, 200 MVA monophase transformer. ▪ One 100 MVAR, 500 kV busbar reactor, with connection equipment. ▪ One line reactor connection cell. ▪ One 200 MVAR, 500 kV line reactor.	▪ Busbar system in 220 kV, double busbar configuration. ▪ One transformation cell. ▪ One output cell for the line to the existing SE Chimbote 1. ▪ One busbar coupling cell.

Project Specifications

Configuration of the Strengthening of Central-Middle North 500 kV Transmission System



(1) The Concessionaire Partnership will define this link's configuration, taking into account the provisions for the medium and long term.
(2) Sub-stations' busbar configuration in 500 kV will be with one and a half breaker.
(3) Transformer banks must be prepared to implement ONAF 2 to obtain a total power of 750 MVA

Participation of the Concessionaire Partnership and the Franchisor

CONCESSIONAIRE PARTNERSHIP

- Designing, financing, building, operating and maintaining the Project to Strengthen the 500 kV Center- Middle North Transmission System (Zapallal – Trujillo TL).
- The Concessionaire Partnership will accept all inherent business risks.
- To build and operate the system, the Concessionaire Partnership will meet the minimum quality, efficiency, operation and service continuity standards set forth in existing applicable regulations.

FRANCHISOR

The Franchisor will assist the award winner in all formalities to obtain:

- The Definitive Electric Transmission Concession to operate the transmission facilities under the concession, including the Environmental Impact Assessments needed for obtaining the Definitive Concession.
- The Power Line's easements once the path has been determined by the Concessionaire Partnership and the corresponding formalities have been fulfilled before the Ministry of Energy and Mines.
- Clear title to the properties needed for building and/or expanding the sub-stations.

Process main features

Pre-qualification requirements

Technical	The Bidder, Operator or its Related Companies must certify that they directly operate with power transmission systems under the following conditions: ▪ **Length:** Not lower than 1,000 km in voltage higher or equal to 220 kV; and, ▪ **Transformation capacity:** Not lower than 500 MVA in sub-stations with voltage higher or equal to 220 kV.
Financial	The Bidder, Operator or Consortium to which it belongs, or the Related Companies which figures or experience are submitted to qualify, must have, individually or as a whole, in the most recently concluded year: ▪ **Net equity** of at least US$ 50 million, and, ▪ **Total assets** of at least US$ 150 million.
Legal	The Bidder will produce documented certification or an affidavit declaring its personnel have not been engaged professionally with PROINVERSION during the Competitive Bidding, that it is not legally impeded to enter contracts with the Government of Peru, that it shall not have recourse to diplomatic means for solving claims, that the companies it represents are properly incorporated and existing, and that it fulfils any other requirements established by Peruvian law.

Process main features

Concession contract:

Purpose	Designing, financing, building, operating and maintaining the Project to Strengthen the Center- Middle North 500 kV Transmission System (Zapallal – Trujillo TL).
Modality	Self-sustainable concession to be granted under the Comprehensive Project Tender modality, that is, the Winner will be responsible for designing, financing, building, operating and maintaining the project. At the end of the concession, it will be transferred to the Peruvian State.
Concession Term	30 years in addition to the building period (30 months).
Financial-Economic Balance	Reestablishment of financial-economic balance is considered in case the State passes applicable regulations or laws that affect the concessionaire's profit or costs.

Guarantees:

Validity, Effectiveness and Seriousness Bond	US$ 4 million	▪ The guarantee's term of effect will be 120 calendar days as from the date of the award.

Project main features

Proposal, evaluation and competition factor:

Proposal	The bidder's proposal will be comprised of : ▪ Cost of Investment (US$)* ▪ Annual Operation and Maintenance Cost (O&M) (US$) ** Global amount*
Proposal evaluation	Only the proposals offering Total Service Costs equal or lower than the maximum value (previously fixed by the Committee through Circular Letter) will be acceptable. Total Service Cost equals the sum of O&M Cost (COYM) plus the Cost of Investment annuity (aCI) calculated with a 12% rate and a 30-year term. ▪ **Total Service Cost = aCI + COYM**
Competition factor	The bid will be awarded to the Bidder that offers the lowest Total Service Cost.

Project main features

Financial Outline

Revenues	Components: ▪ Compensation of investment calculated as the annuity for a recovery period of 30 years, with a discount rate of 12%. ▪ Cost of operation and maintenance The values of these components will result in the granting process.
Adjustment	▪ Adjustments to payments will be through index update.

Timeline and main steps

Activities / Events	Date
Call for proposals	21.05.2009
Enquiries to the bidding documents	Up to 06.07.2009
Publication of consolidated bidding documents	12.08.2009
Submission of contract's first draft	05.06.2009
Submission of contract's final version	20.08.2009
Submission of pre-qualification application	Up to 25.08.2009
Announcement of qualified bidders	01.09.2009
Submission of Envelope N° 1 and 2, and Award	15.09.2009
Closing date	15.10.2009

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Notice

This Executive Summary has been prepared by PROINVERSIÓN for information purposes only, to be used by prospective investors, to help them define their interest in participating in the comprehensive project tender for the award of the "Strengthening of the Center- Middle North 500 kV Transmission System " (Zapallal – Trujillo TL)" Project to the private sector.

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