TRANSMISSION AUCTION N° 01/2020
Expansion Planning Point of View

WHERE DO THE NEW TRANSMISSION FACILITIES COME FROM?

The transmission auction contains a set of new grid facilities of vital importance for the expansion and future operation of the National Interconnected System (SIN). The transmission facilities that are going to be auctioned are originated in the transmission planning studies with the participation of other stakeholders, such as Transmission and Distribution Companies.

RECOMMENDED FACITILIES BASED ON

TECHNICAL ANALYSIS

In order to determine the transmission facilities to be auctioned, detailed technical analysis are made in order to ensure an adequate electric system performance.

ECONOMIC ANALYSIS

Different transmission expansion alternatives are analyzed and classified based on their investment costs. It is a way to ensure moderate tariffs.

SOCIO ENVIRONMENTAL ANALYSIS AND LAND-USE COST EVALUATION

Socio environmental analysis as well as land-use costs evaluations are done in the planning studies. It is an important way to look for the minimization of the expected impacts.

INTERESTING FACTS

Auction date: 12/17/2020

INVESTIMENT ESTIMATES

The next transmission auction is expected to result in R$7.4 billion in investments for the new substations and transmission lines.

ESTIMATE OF NEW JOBS

Infrastructure investment needs are generally expressive and generate new jobs. We estimate that these projects will create nearly 15,400 direct and indirect jobs.

DEADLINES

Depending on the lot, different construction schedules were established. In a general way, all new transmission facilities must be operational by March 2026.

FOR YOUR INFORMATION

POST-COVID CONTEXT: The coronavirus pandemic drastically affected the nearly all sectors of the economy, including electricity markets. By the beginning of the year, two transmission auctions were scheduled, however, they were indefinitely postponed when the pandemic started. Since then, the Ministry of Mines and Energy, the System Operator, and EPE jointly assessed the feasibility of rescheduling some of the proposed transmission investments. As a result of this assessment, investments of about R$ 7.6 billion were postponed to 2021 and 2022. Therefore, the expected transmission investments for the next transmission auction been reduced from R$ 15.0 billion to R$ 7.4 billion.

WHY KEEP THE AUCTION? Even though we are now facing a strong load reduction, it is extremely important to consider the mid and long-term system needs, as well as the required construction times associated to the new transmission facilities. The current construction schedules can easily reach 5 years from the date of the concession contract signature until the start of the commercial operation.

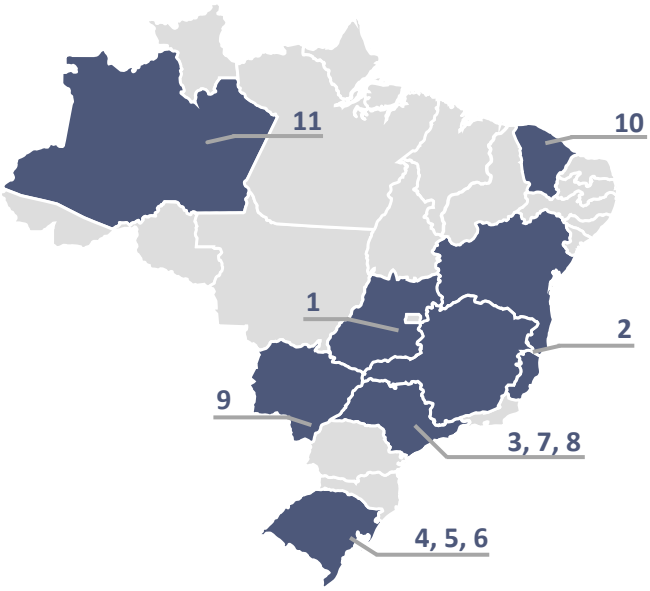
It is important to mention that the transmission facilities that are going to by auctioned by the end of the year are extremely important to ensure a stable and safe system operation, especially when the economy recovery begins. Besides, when installed, the new transmission facilities will also allow the connection of future competitive generation projects that will help reduce the system operational costs.

TRANSMISSION AUCTION WORKSHOP

EPE will soon publish information on the next joint EPE/ANEEL Transmission Auction Workshop. During this event, set to happen in October, all agents will have the opportunity to directly interact with the staff that is responsible for the transmission planning studies. It is a great chance to reduce the information asymmetry levels among all stakeholders allowing them to receive important data on the transmission projects.

WHAT ARE AND WHERE THE TRANSMISSION FACILITIES ARE LOCATED ?

11 LOTS . . . **1,958 KM OF NEW TRANSMISION LINES** . . . **6,420 MVA OF NEW TRANSFORMERS** . . . **IN 9 DIFFERENT STATES**



1 LOT 1 (GO)

- TL 500 kV Silvânia - Trindade, C1;
- SS 500 kV Silvânia;
- TL 500 kV sectioning between SS Silvânia and TL Samambaia - Emborcação, C1;
- TL 500 kV sectioning between SS Silvânia and TL Samambaia - Itumbiara, C1.

Benefits: solves overload problems in the Central area of Goiás State during normal operation and single 500kV, 345kV or 230kV transmission line contingencies.

2 LOT 2 (BA/ES/MG)

- TL 500 kV Morro do Chapéu II - Poções III C1;
- TL 500 kV Poções III - Medeiros Neto II C1;
- TL 500 kV Medeiros Neto II - João Neiva 2 C1;
- TL 230 kV Medeiros Neto II - Teixeira de Freitas II, Double Circuit, C1 and C2;
- SS 500/230 kV Medeiros Neto II and synchronous condenser (-180/300) Mvar.

Benefits: allows the integration of new generation projects in the Northeast area. Solves undervoltage problems in the Southern part of Bahia state caused by single contingencies in the local system.

3 LOT 3 (SP)

- TL 345 kV Norte - Miguel Reale, C3 and C4.

Benefits: provides a meshed 345kV system in São Paulo. Eliminate radial configurations that could lead to massive load losses during transmission line contingencies.

4 LOT 4 (RS)

- TL 230 kV Guaíba 3 - Polo Petroquímico, C1;
- SS 525/230 kV Guaíba 3 - Compensador Estático.
- TL 230 kV Porto Alegre 1 - Porto Alegre 9 C1;
- TL 230 kV Capivari do Sul - Osório 3, C1;
- TL 230 kV Guaíba 3 - Charqueadas 3, C1;
- SS 230/69 kV Charqueadas 3;
- TL 230 kV sectioning between SS Charqueadas 3 and TL Cidade Industrial - Charqueadas.
- TL 230 kV sectioning between SS Charqueadas 3 and TL Santa Cruz - Charqueadas C1;

Benefits: solves undervoltage problems in Polo Petroquímico region caused by single transmission lines contingencies in Porto Alegre metropolitan area. Increase the system reliability levels in Porto Alegre metropolitan area.

5 LOT 5 (RS)

- SS 230/13,8 kV Porto Alegre 4;
- Upgrade 230 kV busbar to Double Busbar Arrangement (GIS) and replacement of existing 230/13,8 kV transformers for new ones

Benefits: increases system reliability in Porto Alegre metropolitan area and ensure a feasible long-term expansion for the SS. Complete revitalization of the SS due to the end of life cycle of the installation. Necessary to keep the supply at acceptable reliability standards.

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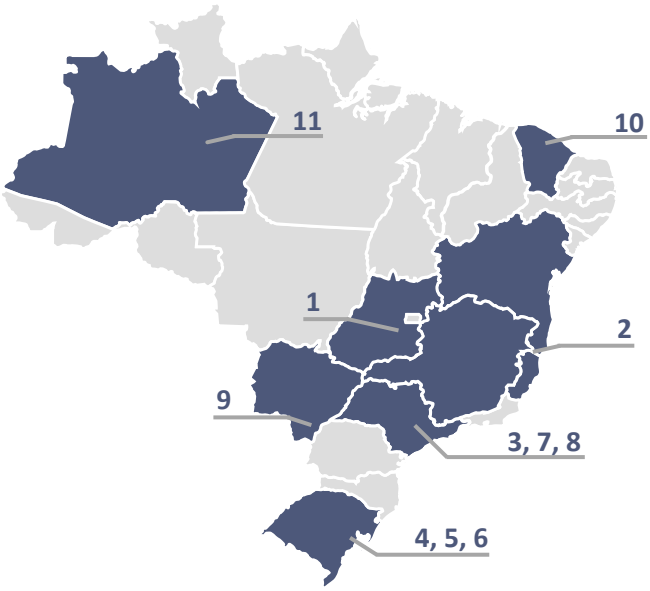

6 LOT 6 (RS)

- SS 230/138 kV Cachoeirinha 3;
- TL 230 kV sectioning between SS Cachoeirinha 3 and TL Gravataí 2 - Canoas 2 - C1;
- TL 230 kV sectioning between SS Cachoeirinha 3 and TL Gravataí 2 - Cidade Industrial - C2.

Benefits: increases system reliability levels in Porto Alegre metropolitan area.

7 LOT 7 (SP)

- TL 345 kV Miguel Reale - São Caetano do Sul, C1 and C2;
- TL 345 kV Sul - São Caetano do Sul, C1 and C2;
- SS 345/88 kV São Caetano do Sul;
- TL 345 kV sectioning between SS Sul and TL 345 kV Ibiúna - Tijuco Preto C2.

Benefits: provides a meshed 345kV system in São Paulo. Eliminate radial configurations that could lead to massive load losses during transmission line contingencies.

8 LOT 8 (SP)

- TL 345 kV São Miguel - Ramon, C1 and C2;
- TL 345 kV Norte - São Miguel, C1 and C2;
- SS 345/88 kV São Miguel.

Benefits: provides a meshed 345kV system in São Paulo. Eliminate radial configurations that could lead to massive load losses during transmission line contingencies.

9 LOT 9 (MS)

- SS 230/138 kV Iguatemi 2;
- TL 230 kV sectioning between SS Iguatemi 2 and TL Guaíra - Dourados C1.

Benefits: solves undervoltage problems in the system under normal operation conditions in Mato Grosso do Sul state.

10 LOT 10 (CE)

- SS 230/69 kV Dias Macedo II;
- TL 230 kV Fortaleza II – Dias Macedo II.

Benefits: increases the reliability levels of the system in Fortaleza metropolitan area. Allow an adequate load supply at least for the 2024-2033 period.

11 LOT 11 (AM)

- Existing Transmission Facilities associated to Amazonas GT according to MME Ordinance nº 706, December 15th, 2016;
- Complete revitalization of 230kV SS Manaus, Cristiano Rocha, and Lechuga (only the existing Amazonas GT sectors);
- SS Balbina 230kV revitalization and replacement of the existing breaker-and-a-half busbar arrangement to double busbar arrangement;
- Revitalization of the existing 69kV sector of SS Manaus and replacement of the existing meshed busbar arrangement to double busbar arrangement; and

New Transmission Facilities:

- TL 230 kV Lechuga - Tarumã, CD, C1 and C2;
- SS 230/138 kV Tarumã;
- SS 230/69 kV Presidente Figueiredo;
- TL 230 kV sectioning between SS Presidente Figueiredo and TL Balbina - Cristiano Rocha, C1.

Benefits: reduces the need for local thermal generation and ensures that the growth of the Manaus energy demand is met.

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