Long Term Auctions

November 15th, 2017
Electricity System Structure

- **Generation**
  - Gen. I
  - Gen. II
  - Gen. III
  - Private firms

- **System and Market operator**

- **Retailing**
  - Qualified Supplier
  - Basic Service Supplier
  - Qualified Users
  - Basic Users

- **Short-term transactions (spot Market) and long-term contracts (auctions)**

- **Transmission**

- **Distribution**
Wholesale Electricity Market Structure

**Short-Term Energy Market**
Transactions of energy sale and purchase and Ancillary Services.
It will comprise:
- Day-Ahead Market
- Real Time Market
- Hour-Ahead Market (until Second Stage)

**Medium and Long-Term Auctions**

**Medium-Term Auctions**
- Sale and purchase of Energy and Capacity

**Long-Term Auctions**
- Sale and purchase of Energy, Capacity and CELs

**Capacity Balancing Market**
- Sale and purchase transactions of Capacity not covered or committed through the Electricity Coverage Contracts.
- This market will operate annually, for the immediately preceding year.

**Clean Energy Certificates (CEL) Market**
- The CEL Market allows the Load Serving Entities to satisfy the obligations established by CRE for acquiring such certificates.

**Financial Transmission Rights (FTRs) Auction**
- FTRs will grant to the titleholder the right to receive the benefit or the obligation to pay the difference of the Marginal Congestion Components.
Regulatory Framework

Electricity Industry Law
Article 53

Establishes the obligation of the Basic Service Supplier to enter into Electricity Coverage Contracts exclusively through auctions carried out by CENACE. The Market Rules will establish the Auctions terms and the Model used for the Contracts.

Electricity Market Bases
Basis 14

It describes that CENACE will carry competitive auctions (long and medium term) to allow the Basic Services Supplier to comply with the requirements established by CRE, and give the option to also participate to Load Serving Entities other than the Basic Services Supplier.

Long Term Auctions
Manual

It develops in greater detail what is described in the Electricity Market Bases about the Long Term Auctions, and establishes the procedures, rules, instructions, calculation principles and guidelines to follow to carry out the Auctions.

Clearing House Operation
Guide

Its purpose is to establish the necessary procedures for the Contracts that are assigned by CENACE through the Long Term Auctions, in which the Load Serving Entities other than the Basic Service Suppliers can participate.
Objectives and Participating Institutions

Objectives

1. Encourage the competitiveness and stability of the prices in the acquisition of Capacity, Clean Energy Certificates and Energy for the Basic Service Supplier.

2. Guarantee a stable payment inflow that contributes to the financing of efficient investments required to develop new Power Plants and maintain the existing ones.

3. Allow the participation of Load Serving Entities that are not Basic Service Suppliers (only when the Clearing House be established).

Institutions and activities

1) Responsible for operating and executing auctions at least once a year.
2) Prepare the preliminary version of the Bidding Bases.

1) Authorize the bidding rules (since the 4th Auction).
2) May establish maximum prices per product for purchasing offers.
3) In case of controversy, bidders can ask for CRE involvement.

1) Issues the general guidelines of the auction, contained in the Manual.
2) Authorize the bidding rules (during the first three Auctions).
3) May request that CENACE holds additional Long Term Auctions to comply with the national energy policy.
Design and main characteristics

All technologies compete with each other.

Energy Value by location and time.

The effectiveness of the Coverage Contracts will begin **three years** after the auction.

The parameters of the auctions are linked to the needs of the Basic Service Suppliers.
Participants and Clearing House

Buyers

- Basic Service Suppliers
- Load Serving Entities:
  - Qualified Service Providers
  - Last Resort Supplier
  - Qualified Market Participant User

In order to allow participation of Load Serving Entities (LSE) that are not Basic Service Suppliers (BSS), it is necessary the establishment of a Clearing House.

Sellers

Any individual as long as it complies with the requirements established in the regulation and is not impeded in the terms of the applicable legislation.

Bidders in the Auctions must have a strict legal separation with respect to the Buyers.

Power Plants must be identifiable, so in the case of new Power Plants, these shall be in their planning, development or construction stages.
• Refers to supplier commitment to maintain installed capacity and provide energy using that capacity in the short-term energy market.
  - Contracts will have a duration of **15 years**.
  - Buyers and sellers shall identify the Power Zone or the interconnected system.

• Refers to electricity delivered in the Real Time Market over a one-year period, measured in MWh, at the interconnection points of each Power Plant.
  - Contracts will have a duration of **15 years**.
  - Sellers shall identify the Generation Zone.

• Shall be generated from Power Plants with a right to receive Clean Energy Certificates.

• Certificates issued by the CRE authorizing the production of a specific volume of energy from Clean Energy Resources.
  - Equivalence: 1 CEL=1 MWh of energy.
  - CEL shall not specify the delivery zone. The CEL are uniform products.

**Parameters**

- If CRE do not establish a maximum price, the maximum price for each product will be set by the Basic Service Supplier (BSS).

- The product quantities demanded by the Load Serving Entities (LSE), must be proportional to the quantities of the BSS.

**Generators** could offer each product separately or by package. For the third auction, the following combination were allowed:

- Three products (Capacity, Cumulative Energy and CEL).
- Two products in any combination.
- Only one product: Capacity or CEL.
Auction Procedures: Summary

Auction invitation stage
- 1. Bidding call
- 2. Publishing of the bid guidelines
- 3. Clarification meetings.

Determination of Products
- 1. Registration of Buyers.
- 2. Submission of Purchase Offers from Basic Service Supplier and subsequently from other Load Serving Entities.
- 3. Determination of the Products and quantities thereof to be Auctioned.

Sale Offer pre-qualification stage
- 1. Sale offer pre-qualification application.
- 2. Delivery of guarantees of seriousness
- 3. Issue of sales offer Pre-qualification certificates.

Sale Economic Evaluation
- 1. Reception of the economic offer of the Sales Offer.
- 2. Evaluation of the economic offer of the sales offer.

Ruling and contract awarding
- 1. Auction Ruling.
Two Stage procedure

Pre-qualifying Stage:

- CENACE verifies:
  - Technical capability
  - Legal capability
  - Financial capability
  - Execution capability

If all the requirements are satisfied, CENACE issues a Pre-qualification Certificate, which is necessary to submit an Economic Offer.

Second Stage: Economic Offer

Objective function

Price Offered*

Mixed integer Programming

Solution

Preliminary Winners (possibility of iteration)

*The price is adjusted considering, among other things, expected differences and adjustments for dollar indexation.
## Results: First and Second Long-Term Auction

### First Auction

**Participants**
- 79 firms obtained pre-qualification certificates.

**Winners**
- 11 firms awarded from 7 countries
- 18 awarded: 12 from solar PV and 6 from wind.

**Investment**
- Approximately 2.6 billion USD of investment

**Size of Projects**
- From 18 to 500 MW

**Prices**
- $47.76 USD average price of CEL and Energy combined

**Awarded Quantities**
- **Energy**: 5,402,880 MWh per year
- **CEL**: 5,380,911 CELs per year

**Start up operations**
- 2018

### Second Auction

**Participants**
- 69 firms obtained pre-qualification certificates

**Winners**
- 22 firms awarded from 11 countries.
- 56 offers awarded: 32 from solar PV power plants, 10 wind, 7 combined cycle, 6 hidropower and 1 geothermal.

**Investment**
- Approximately 4 billion USD of investment

**Size of Projects**
- From 27 to 388 MW

**Prices**
- $33.47 average price of CEL and Energy combined

**Awarded Quantities**
- **Energy**: 8,909,819 MWh per year
- **CEL**: 9,275,534 per year
- **Capacity**: 1,187 MW-year

**Start up operations**
The third long-term auction is under development and the Auction Ruling it is scheduled on November 22. The start of operations of the projects will be in 2020.

50 firms obtained Pre-qualification Certificate, in order to submit an economic offer to be evaluated under CENACE’s optimization program.

It is the first long-term auction in which the Clearing House is included, which allowed the participation of Load Services Entities that are not Basic Service Suppliers (BSS). Three buyers participate in the third Long-Term Auction (including the BSS).

From the fourth auction onwards, CRE will take the role that SENER had until now.
Long-Term Auction

November 2017