

# GEDİK & ERAKSOY

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## *Turkish Electricity Market: Creating a Competitive Market and Converging with Market Principles*

*The balancing and settlement of the electricity markets are regulated under the Balancing and Settlement Regulation. The purpose of the Balancing and Settlement Regulation is to address the needs of rapidly rising demand for electricity through a competitive market and to increase the efficiency in electricity markets through structural change.*

### **THE EXISTING FRAMEWORK**

By virtue of Article 7(2) of the Electricity Market Law numbered 6446 (the **EML**), a generation licence holder may carry out the following activities with a generation license:

- sale of electric energy or capacity to supply companies, Eligible Consumers (as detailed below) and entities, with which the generation company has a private direct line;
- electrical energy or capacity trade; and
- purchase of electric energy or capacity for the purposes of reaching the electricity level and/or capacity output level it undertook to supply, provided that such amount does not exceed a certain percentage (determined by the Turkish Electricity Market Regulatory Authority (**EMRA**)) of its annual energy output level indicated in its generation license.

In line with the above, generation license holders may sell the electricity generated at their facilities (i) through bilateral agreements, (ii) at the spot market regulated in accordance with the current Balancing and Settlement Regulation (**BSR**); and (iii) through trading of electricity on Turkish Futures and Options Exchange by sale and purchase of “Base/Peak Load Electricity Futures Transaction Agreement”.

### **Bilateral Agreements**

#### *General*

Electricity generation licensees may engage in the sale of the energy they have generated through bilateral agreements with Eligible Consumers (*see* below) and other market players in accordance with the principle of freedom of contract. Article 3 of the EML defines bilateral agreements as commercial agreements, which are executed between real or legal persons for the sale and purchase of electricity and/or capacity. Such agreements are subject to private law provisions and are not subject to the approval of EMRA.

#### *Eligible Consumers*

Pursuant to Article 3 of the EML, an “Eligible Consumer” is an individual or legal entity, with the right to choose its supplier, which satisfies one of the following conditions:

- (a) the level of energy consumed by it is above the threshold determined by EMRA. The threshold applicable for the year 2013 is 5000 kWh as per the EMRA decision dated 24 January 2013 and numbered 4250;
- (b) it is directly connected to the transmission system; or
- (c) it bears an organized industrial zone legal entity status.

## **Current Balancing and Settlement Mechanism**

### *The Parties and Markets*

The balancing and settlement of the electricity markets are regulated under the Balancing and Settlement Regulation<sup>1</sup> (BSR). The purpose of the BSR is to address the needs of the rapidly rising demand for electricity through a competitive market and to increase the efficiency in electricity markets through structural change. The BSR, provides for two different operators within the market:

- (a) the *System Operator*: the National Load Dispatch Centre (*Milli Yük Tevzi Merkezi, MYTM*) and Regional Load Dispatch Centres (*Bölgesel Yük Tevzi Merkezleri*), (the **System Operator**); and
- (b) the *Market Operator*: the Market Financial Settlement Centre (*Piyasa Mali Uzlaştırma Merkezi, PMUM*), (the **Market Operator**).

The Market Operator is responsible for the functioning of the day-ahead electricity market and System Operator is responsible for the balancing of the system on a real-time basis. Both the Market Operator and the System Operator are organised as divisions of Türkiye Elektrik İletim A.Ş. (the *Turkish Electricity Transmission Company, TEİAŞ*).

The BSR regulates two different electricity markets: (1) the day-ahead market (*gün öncesi piyasası*); and, (2) balancing power market (*dengeleme güç piyasası*) operating on real time. The BSR includes a settlement system to negate profits/losses incurred due to different balancing mechanisms.

Market Players<sup>2</sup> submit their bids through the Market Management System (Piyasa Yönetim Sistemi) (PYS) software. Likewise, as per the BSR, the System Operator and the Market Operator communicate with each other and the Market Players through PYS.

### *Settlement*

The Market Operator facilitates settlement mechanisms which are established to calculate the payables and receivables incurred due to imbalances in the day-ahead market, in the balancing power market or any other energy imbalances. The Market Operator is obliged not to make a profit or record a loss after the settlements are concluded.

The settlement period is based on the invoice period, which starts at 00:00 of the first day of a calendar month and ends at 24:00 of the last day of the calendar month, whereby each hour in an invoice period constitutes a settlement period.

First, the Market Operator determines the transmission losses using a formula prescribed by the BSR. Following the determination of the losses, Market Operator determines a coefficient called the Transmission

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<sup>1</sup> Published in the Official Gazette dated 14 April 2009 and numbered 27200, as amended from time to time.

<sup>2</sup> Under the existing BSR, these are defined as (i) generation license holders; (ii) auto-producer or auto-producer group license holders (under the new EML these do no longer qualify as Market Players); (iii) wholesale license holders (under the new EML, wholesale license holders and retail license holders are grouped together as "supply license holders"); (iv) retail license holders; (v) OSB generation license holders; and, (vi) distribution license holders.

System Loss Coefficient (*İletim Sistemi Kayıp Katsayısı*), which must be taken into consideration for calculation of the electricity input/output values. Utility meter values, collected and calculated in accordance with the provisions of the BSR, which are transmitted to PYS and electronically delivered to the Market Operator, are accepted as base value for the invoices. These values are announced through PYS. Market Players have a right to object to such values within 10 days following the end of an invoice period. If there are no objections, the values announced through PYS, or if such values are corrected by TEİAŞ or a distribution license holder, such revised values, will be valid.

There are three different kinds of settlement amounts, which are all determined using a formula prescribed under the BSR:

- Settlement Amount Arising from Energy Imbalances
- Settlement Amount Arising from Day-Ahead Market Activities
- Settlement Amount Arising from Balancing Power Market Activities

The settlement amounts above are determined using the marginal prices or NPTF for that particular settlement period. On the basis of the settlement amounts above, a Residual Balance Adjustment Fee (*Sıfır Bakiye Düzeltme Tutarı*) is determined proportional to the load input/output and Market Players need to pay if the outcome is a payable or have a right to claim receivable if the outcome is a receivable for that settlement period.

### **Trading on the Turkish Futures and Options Exchange**

#### *General*

Market Players are entitled to trade instruments, the underlying asset of which is electricity, over the Turkish Futures and Options Exchange (**TukDex**). The risk such entities assume when dealing with sale of electricity with the bilateral agreements and sales in balancing and settlement system can be covered by applying to this mechanism. TukDex provides a generation company the opportunity to cover any loss it incurred through sale of electricity to its own customers through bilateral agreements or otherwise, by giving the generation company the chance to sell/purchase “Base/Peak Load Electricity Agreements” at a higher/lower rate based on its prediction of the future spot price of electricity. Thus, TukDex may assist protecting a generation company from the impact of future price fluctuations on their bi-lateral agreements concluded with their customers.

#### *Requirements to conclude transactions on TukDex*

To carry out transactions on TukDex a Market Player must be a member of TukDex. It must also have a general and private insurance for the purposes of securing the possible liabilities against clients and third parties.

### **THE NEW DRAFT BALANCING AND SETTLEMENT REGULATION**

#### **Operators and Market Players**

EMRA recently issued a draft balancing and settlement regulation (**Draft BSR**) and published the Draft BSR on its website for the review and comments of the public. Under the Draft BSR, a new company, Elektrik Piyasaları İşletme A.Ş. (*Electricity Market Operation Company, EPIAŞ*), will be formed for the operation of the electricity market and EPIAŞ will act as the Market Operator replacing PMUM. The System Operator will be TEİAŞ. MYTM will be replaced by TEİAŞ as System Operator.

The Draft BSR includes a new definition of the Market Players, which are defined in the new EML, as follows:

- Generation license holders,
- OSB (organized industrial zone) generation license holders,
- Supply license holders,
- Distribution license holders,
- Transmission license holders

### **New Market - The Intra-Day Market (*gün içi piyasası*)**

The Draft BSR introduces a new market in addition to the day-ahead market and balancing power market, operating in real time, the new intra-day market (*gün içi piyasası*) will be under the management of a new Market Operator, EPİAŞ. The aims of introducing the intra-day market are:

- (a) to give Market Players the opportunity to balance their contractual undertakings and production or consumption plans;
- (b) to decrease the imbalance amounts in the system and provide System Operator a more balanced system; and
- (c) to provide another electricity purchase/sale option for Market Players in addition to bilateral agreements and the day-ahead market.

### **Requirements for participation in the Intra-Day Market**

Market Players must be registered with EPİAŞ and must sign the intra-day market participation agreement with EPİAŞ. As with the existing day-ahead market, Market Players are required to provide collateral.

### **Bidding**

#### *Technical Aspects of Bidding and Matching in the New Intra-Day Market.*

As with the existing day-ahead market, the intra-day market opens at 00.00 of each day and closes at 00.00 of the following day. Contracts are based on the energy lots of 0.1 MW, for a defined period of time per contract. The highest bids to contracts for the relevant day by the Market Players are displayed on the bid record (the **Bid Record**) in the PYS system.

In the intra-day market, bids are either submitted as hourly bids or block bids, and it is not possible to offer flexible bids. The validity period of a bid in the intra-day market may be determined by the Market Player through PYS. A Market Player is entitled to state an expiration period for its bid or select the option of “match all or delete” (where the system matches all bids made to the contract as of the submission of the bid or delete if no match exists) or select the option of “match the existing or delete” (where the system matches the fitting bids made to the contract as of the submission of the bid or delete). The bids may be withdrawn, suspended or amended prior to the expiration of the relevant contract, provided that the bid has not been matched and agreed.

In the existing day-ahead market, bids (purchase and sale orders) are paired if there is an exact match. In the intra-day market hourly bids made to a contract may be divisible, allowing the Market Players to access more advantageous bids, where they can partially or entirely match through their divisible bids with better pricing. The bids are submitted to the Market Operator, each day beginning from 18:00 following the

closure of day-ahead market and balancing power market and until the expiration of the relevant Contract. The bids are recorded with the PYS and are displayed in the system.

### **New Settlement Mechanism - Clearing**

The Draft BSR introduces the term “clearing” (*takas*) to describe the settlement mechanism for the existing day-ahead market and the intra-day market. Clearing is carried out by the Market Operator. It envisages a fast, reliable and transparent system for (i) the calculation of receivable and debt amounts arising from the transactions made in the day-ahead market and the intra-day market; and (ii) the preparation of debt notifications.

Clearing is based on the following general principles:

- (a) For the sale and purchase in the day-ahead market, settlement period fees will be taken into account as basis for clearing, whereas, transaction base fees will be taken into account as basis for clearing in the sale-purchase within the intra-day market.
- (b) The clearing calculations must be made separately for the day-ahead market and the intra-day markets.
- (c) Invoicing for the electricity sales-purchases realised within the day-ahead market and the intra-day market is made by the Market Operator.

Once the Draft BSR is enacted, the clearing system is expected to be governed by further secondary legislation which will provide guidance on these principles.

The basics for the settlement remained unchanged and settlement mechanics in the Draft BSR are in line with the current BRS as described in Section 1.2(a) above.

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