

MEMORANDUM

TO: Jane Wilson
FROM: Ognjen Markovic
DATE: June 11, 2010
RE: Report on the Metering in BiH regarding electricity market opening

Adequate meters and metering system as precondition for successful market functioning:

The goal of the limited survey that I worked out was to identify the current status of the metering system in all three EPs in Bosnia and Herzegovina and their plans to install new meters and metering systems.

REAP and the Market Working Group have identified an adequate metering system as a precondition for successful market functioning. The adequate metering system must have the following basic characteristics:

- (i) measure quantity;
- (ii) measure quantity flowing at intervals, e.g., every 15 minutes, every hour, or a continuum of real time and peak load; and
- (iii) information flows from the meter to the utility.

A customer who wants to become eligible must have a meter that has at least the first two characteristics. This is necessary for a utility to have accurate measurement to permit pricing differentiations, such as peak, off-peak, and real-time (hour by hour).

REAP and the Market Working Group concluded that assuming that the metering system is adequate at the transmission and distribution network interfaces and with industrial customers on the transmission system, then adequate meters should be installed in a phased manner as follows:

- for 35 kV and 10 kV industrial customers; and
- for all commercial customers but the smallest.

For now, household and small commercial customers' loads can be profiled, so long as the proper meters are installed in the correct locations to enable load research to get the profiles constructed based on rational measurement data.

More detailed characteristics of an adequate metering system:

An adequate metering system and meters for successful market functioning has the following characteristics:

1. Electronic meter:
 - a. measures quantities;
 - b. can apply different tariff options
 - c. provides interval metering with different sampling times
 - d. has communication interface;
2. Modem that enables a metering center to communicate with a meter;
3. Communication line between a distribution substation/meter and the metering center

4. Software to communicate with meters, collect data and process it in a metering center.

EPs' metering systems:

The current metering system in all three EPs is based on old traditional analog meters that do not meet electricity market requirements.

Important information is that all three EP commenced the installation of new metering systems with the base characteristics that meet above mentioned requirements. The EIB and EBRD are financing the purchase of equipment for these new systems.

The main goals of these projects in all three EPs are to:

1. Equip all customers connected to 110 kV with meters and a communication system that meet above mentioned characteristics;
2. Equip all industrial customers connected to 35 kV and 10 kV with meters and a communication system that meets the above-mentioned characteristics;
3. Equip all but small commercial customers connected to 0,4 kV with meters and a communication system that meet above mentioned characteristics;
4. Equip some small and household customers with meters and communication system that meet above-mentioned characteristics;
5. To equip metering centers with software that can process collected data from the network.

These projects are advancing well, so all industrial customers and commercial customers other than small customers will be equipped with adequate meters and communication capability by the end of 2011. Metering centers will be equipped with appropriate software too, so all customers but small commercial customers and household customers will be ready for the electricity market from the metering system point of view, by January 1, 2012.

It is worth mentioning that all three EPs, besides their installation of new meters at industrial and big commercial customers, have commenced the installation of new meters at the small commercial and household customers too. This installation is time consuming and very costly investment-wise; therefore, it will take at least 10 years to accomplish it.

The fact is that there is no serious plan either by regulators or EPs to perform load research for households and small commercial customers.

Conclusion:

1. It is very important that all three EPs determine to invest in new metering systems whose characteristics meet the electricity market requirements;
2. Regulators should give an incentive to projects through an adequate tariff that covers justified meter investment costs;
3. Regulators should supervise the implementation of these projects; and
4. Regulators should request EPs to perform load research to determine household and small commercial customers' load profiles that could be used as input for cost allocation to these customers in the tariff process.

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