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## Regulatory and Energy Assistance

### Automatic Metering System for collection, metering and processing of measurement data in BiH AMS (Automatic Metering System)

#### **AMS should have:**

- a Metering sets (Transco or EPs equipment at substation/generator level)
  - I. Meter and register or a meter with remote reading feature
- b Registration equipment at Transco Operational Area/EPs (four sub-Transco/three EP) to collect accounting measurements data from meters (Transco or EPs equipment).
- c Registration equipment at ISO to collect and process accounting measurement data from Operational Area/EPs
- d Integrated software for (ISO):
  - I. Remote metering of metering sets
  - II. Data archiving
  - III. Data processing

*Equipment mentioned in the items a and b belongs to Transco and EPs. Equipment and software in the items c and d should be with ISO only. Transco launched the tender to purchase that equipment also.*

#### **AMS functions:**

- Daily automatic accounting measurement data collection
- Archiving and processing of all measurement data collection
- Possibility of calculation of all billing factors (energy, power, usage time, duration of interruption in electricity supply, electricity quality...)
- Must enable ISO to define security level

#### **AMS enables ISO the following:**

- Calculation of hourly imbalance between scheduled supply program and realization that each generator/consumer made
- Calculation of usage of transmission network (coincident peak load, energy flows, transmission system loads...)
- Metering of energy spent by customers connected to transmission network
- Calculation of transmission losses
- Good basis for planning
- Good basis for calculation of new tariffs (regulated and free)

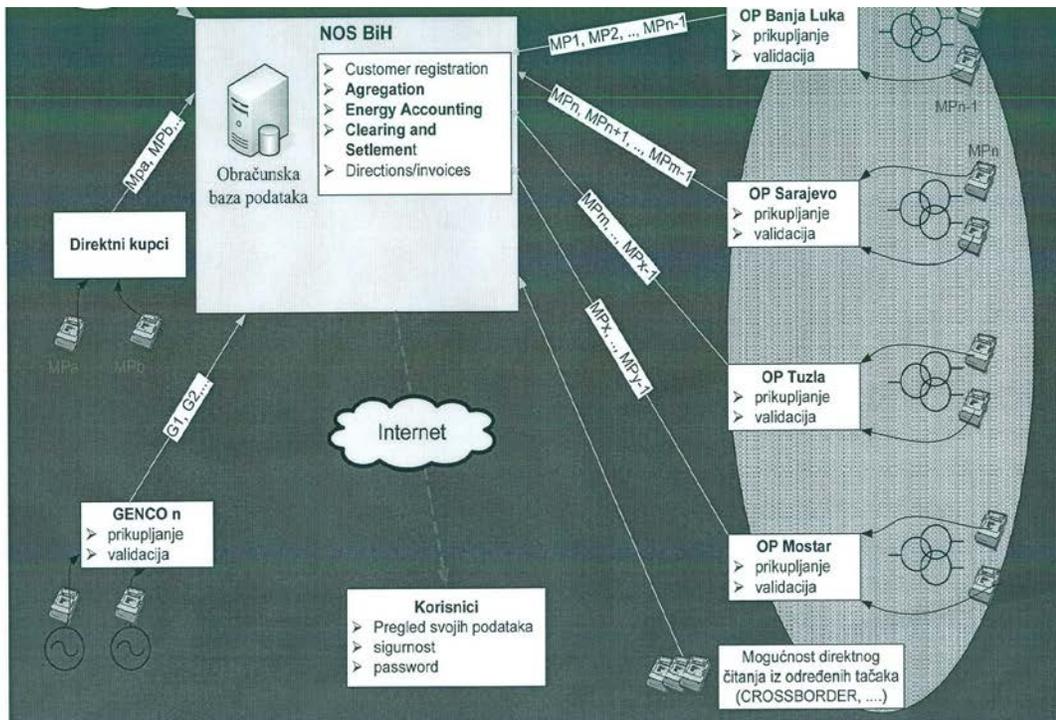
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All above” bullets” make or spend money so there is only one place where these accounting measurements are to be processed. If somebody abuses the system some of participants could lose or earn money.

**AMS functions:**

- Daily automatic data collection
- Archiving and processing of all data
- Possibility of calculation of all billing factors (energy, power, usage time, duration of interruption in electricity supply (electricity quality...))
- Module for report designing
- Possibility of calculation of new system requirements and drafting of new reports with no need for new software requirements
- Must enable defining of security level

ISO proposed the compromise solution where four Transco Operational Area and three EPs read “their” meters and ISO BiH collects from them. The solution is presented in the following figure:



**Legend:**

- NOS: Independent System Operator
- Genco n: Generator n of EP n
- Direktni kupci: eligible customers
- OP Banja Luka: Transco Operational Area Banja Luka

**Metering Code reads:**

- Elektroprenos BiH is the owner of meters

- ISO will be responsible for the collection of metered data for provision of Ancillary Services as well as for the settlement and related payments” (GC 9.1.3.)
- “TRANSCO must prepare a registration process and metering register” (GC 9.2.1.)
- “Historical data will be stored in the database of readings in ISO” (GC 9.2.1.)
- The Database of Readings and its updating, maintenance and administration will fall under an exclusive responsibility of ISO, which will be responsible for safety, confidentiality and storage of data” (GC 9.11.1.)

**Market rules reads:**

- “The ISO shall register under each Balancing Responsible Party all the relevant Meters the reading of which will provide data for the settlement of all energy transactions and imbalances of the corresponding BRP” (MR 20)
- The data collection and validation by the ISO will be completed within 5 days of the Dispatch Day

ISO BiH has the role of the central place for settlement and calculation of electricity (balancing market)

Establishing AMS is the precondition for any market activities and fair relations between market players is the appropriate metering system (hourly data)