ENERGY AGENCY
OF THE REPUBLIC OF SERBIA

Monitoring Quality of Service in Serbia

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Serbian Power Sector

- Number of customers: 3.33 mil.
- 1 TSO
- 5 DSO/Supply of captive customers
- 5 generation companies
- 23 Trading/Supply companies
- Consumption: 26.9 TWh/year
- 21% Market opening (potentially 350 eligible customers)

Legislation - Documents

Documents regulating quality of service:

- **Energy Law**
- **Decree on Conditions for Power delivery**
- **Grid Code** (to be approved by the end of 2007)
- **Distribution Code** (under preparation)

Legislation - Bodies

Bodies responsible for quality of service:

- **Electric power inspector –** monitoring quality
- **TSO –** providing service
- **DSO –** providing service
- **Suppliers –** providing service

Legislation – Role of the Regulator

- Monitoring the implementation of regulations and energy system operation codes
- Collecting and processing data on energy entities with reference to performing energy activities
- Harmonizing activities of energy entities on providing regular supply of energy and services to customers
- Customer protection

BUT…

- No clear competences regarding quality of service regulation

Legislation - Power quality

- **Decree on Conditions for Power Delivery:**
  - **Voltage quality**

    110, 35, 20, 10 and 0.4 kV

    $\Rightarrow \pm 10\%$ voltage band
  - **Frequency quality**

    50 Hz ± 0.5 Hz
- **Grid and Distribution Code**

  (HV variations, harmonics, flickers, unbalances…)

Legislation - Commercial quality (I)

- **Energy Law**
  - **Request for connection to the network**

    ⇒ has to be decided within 30 days
  - **Connection to the network**

    ⇒ within 15 days following conclusion of supply contract and fulfillment of the customer's obligations

⇒ **Financial penalties**

10.000-100.000 dinars (approx. US$185-1850)

Legislation - Commercial quality (II)

- **Energy Law:**
  - **Technical or other disruption of power delivery not caused by customer's facility (except interruption)**
    ⇒ to be remedied by the network company within 24 h and maximum two days from the date of customer's notice
  - **Technical or other disruption of power delivery caused by customers facility or customer's failure to fulfill contractual obligation**
    ⇒ to be remedied by the customer within period not shorter then 3 days from the written warning
- **Decree on Conditions for Power Delivery:**
  - **Unjustifiable suspension of power delivery**
    ⇒ to be decided within 3 days from the customer's complaint
    ⇒ to restore supply customer within 24 h from the moment of determining that the suspension of delivery was unjustified

Legislation - Commercial quality (III)

- **Decree on Conditions for Power Delivery:**
  - **Meter check-up**

    ⇒ to take place within 10 days from the customer's request

    ⇒ if the meter proves not to be faulty, customer pays full costs of verification
  - **Meter problems**

    ⇒ to be handled within 2 days from receipt of customer's complaint

Legislation - Reliability

Basis for the reliability is set in the:

- **Energy Law**

but clear provisions to be set in the:

- **Grid Code** &
- **Distribution Code**

⇒ **Standards are not defined yet**

Monitoring Quality of service

Quality of service monitoring by:

- **Regulator**
  - Connection process monitored through deciding upon appeal on the connection to the network refusal or failure to pass a decision upon an application for connection
  - Other monitoring activities are planned for 2008
- **Network companies**
  - No legal obligation for monitoring, but
  - Carried out in order to provide quality of service

Monitoring - Power quality

- **Voltage quality**
  - No continuous voltage quality monitoring system
  - No standards for harmonics, flickers, unbalances…
  - No financial penalties or compensation payments

  BUT…
  - Although companies are not legally obliged, individual voltage quality monitoring following customer's complaints are carried out in order to verify voltage quality parameters at customer's connection point

- **Frequency quality**
  - Monitoring by the UCTE interconnection

Monitoring - Commercial quality

- Although some standards are introduced, monitoring system has not been developed yet
- Only connection process has been monitored through the Regulatory activities in the process of deciding upon customer's appeal

Monitoring - Continuity of Supply

Network companies:

- Register HV and MV interruptions
- Calculate continuity indicators (SAIFI, SAIDI)

BUT…

Monitoring - Continuity of Supply

Network companies use different rules for:

- recording interruption
- calculating continuity indicators
- assessment of the number of customers,

and different:

- Measurement systems and
- IT systems.

⇒ **Available data are not robust, consistent and comparable**

Regulator - plans for monitoring

- **Monitoring activities**
  - **Questionnaire for network companies**

    ⇒ in order to analyze actual situation regarding monitoring activities and quality of service levels
  - **Information Code concerning quality of service**

    ⇒ in order to establish unified rules for data recording and collecting and provide relevant data base
  - **Questionnaire for customers**

    ⇒ in order to get a sound grasp of customers' needs, expectations and affordability

Regulator - objectives

- Determination of actual levels of quality of service
- Imposing of standards
- Monitoring of future development
- Introduction of quality provisions into the new incentive-based price regulation model

Quality regulation - obstacles

Legislative constraints:

- Responsibilities and competences regarding quality regulation are not explicitly set in the Energy Law
- Regulator is not empowered to set quality of service standards and penalty/compensation payments if standards are not met
- Regulator could regulate quality of service indirectly through the process of giving approval to the grid and distribution code

⇒ **Energy Law has to be changed in order to implement system for quality regulation**

THANK YOU!

Q U E S T I O N S ?

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