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# **LOAD RESEARCH**

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# Load research - Introduction

- **Project objectives**
- **Methodology**
- **Kick-off meeting - Agenda**

# Load research - Objectives

- 1. Launching development of Load Research**
- 2. Development of Guidelines for the development of Load Research**
- 3. Exchange of knowledge and experience through the process of development Load Research**
- 4. Development of recommendation based on knowledge and experiences**

# Objectives – Launching development of LR

- **MWG document on the creation of preconditions for the successful functioning of market in BiH - Policy Paper:**
  - Key technical condition for market functioning is adequate metering
  - If adequate metering does not exist we may apply a phased approach
  - Adequate metering devices should be installed in phases in a following manner:
    - for 35 kV and 10 kV industrial customers; and
    - For all commercial customers, except the smallest.
  - Consumption of households and small customers can be determined through load research.

# Objectives - Launching development of LR (cont'd)

## RSERC Rulebook on tariff methodology and tariff proceeding:

### **“Article 107: (Preconditions for the implementation of Rulebook)**

(1) Activities as elementary precondition for the full implementation of this Rulebook are:

b) Comprehensive LR on a systematic basis,

### **Article 110: (Activity plan for regulated companies)**

At a minimum, an Activity Plan contains:

b) Activities on preparation and implementation of comprehensive LR as the basis for fair allocation of costs and its realization,”

# Objectives - Launching development of LR (cont'd)

## RSERC Rulebook on reporting:

### **“Article 6 (Reports on activities in transitional period)**

(2) ..... Licensees for distribution of electricity shall submit a report on implemented activities on:

a) load research on a systematic basis,”

# Objectives - Launching development of LR (cont'd)

## “RULING

*On undertaking measures following regular monitoring activities*

### **Bullet 6.21. Implementaion of tariff methodology**

Measures and recommendations: Regularly submit data on load research and consumption by categories and groups of customers (development of load profiles) in characteristic periods and submit to Regulatory Commission a report in accordance to the Rulebook on Tariff Methodology and Tariff Proceedings and Rulebook on Reporting.”

# Objectives - Launching development of LR (cont'd)

## FERC Rulebook on Tariff Methodology and Tariff Proceedings:

### **Article 66 (Activity Plan)**

For regulated power companies to be able to adjust to the conditions and requirements of FERC and fully apply the principles of these Rules, they are obliged to develop an activity plan explained in Article 67 and to submit it to FERC by March 31st, 2006.

### **Article 67(Contents of Activity Plan)**

The activity plan of power utilities should have the following:

b) Activities regarding installation of proper meters in order to conduct load research.

# Objectives - Launching development of LR (cont'd)

## FERC Rulebook on Tariff Methodology and Tariff Proceeding :

### **Article 68 (Costs and Allocation in Transitional Period)**

(2) In the next tariff proceedings, during the transition period, FERC may consider the applications of regulated companies for approval of tariffs also based on accounting, informational and business conduct practice that is not in accordance with the conditions of these Rules, only if the applicant submits the plan of activities in accordance with Article 67 of these Rules.

# Objectives - Launching development of LR (cont'd)

## FERC Rulebook on Tariff Methodology and Tariff Proceeding :

### **“Article 77 (Implementation of Tariff Methodology)**

Full implementation of the Tariff Methodology as determined by these Rules is possible after the transition period, provided the following conditions are fulfilled:

c) the possibility of full load research for the purpose of allocation of the costs on categories and groups of consumption;”

# Objectives - Launching development of LR (cont'd)

## FERC Rulebook on reporting:

### **“Article 6. (Reports on activities in the transition period)**

(2) Licensees for distribution, in accordance to the Rulebook on tariff methodology and Tariff proceedings, shall submit reports on activities pertaining to implementation of the plan, such as:

a) Installation of adequate metering devices for the purpose of load research.

# Objectives- Development of Guidelines for development of analysis

- Load research should be performed to ensure applicability of results
- Applicability of results is possible if the rules defined in advance are properly applied with regard to:
  - Selection of the metering equipment characteristics
  - Selection of samples
  - Transfer/gathering information
  - Data processing
  - Analysis of processed data
- Implementation of these rules enables obtaining quality/applicable data

# Objectives- Development of Guidelines for development of analysis (cont'd)

- The goal is to develop Guidelines for Load Research
- Assistance to EPs and regulators to obtain authentic and applicable results.
- The base for development of Guidelines is:

*Load Research Manual- Second Edition*

*Association of Edison Illuminating Companies*

*Founded by Thomas Edison and his associates,*

*AEIC is one of the oldest associations in the electric energy industry.*

# **Objectives- Development of Guidelines for development of analysis (cont'd)**

- **Guidelines will be adjusted to BiH**
- **Modules that will have priority are:**
  - **Required resources for realization**
  - **Sample design and selection**
  - **Implementation of selected samples**
  - **Data processing**
  - **Data analysis**

# Objectives – Exchange knowledge and experience

- **Local experts and consultants' joint effort will help in achieving desired results**
- **Work of each EP on research will enrich our knowledge through exchange of experience and knowledge**
- **EPRS has already commenced the activities**
- **EPRS' knowledge and experiences may assist in further work**
- **Work on Guidelines will assist EPRS to check its approach and correct and redirect if necessary**

# Objectives – Development of recommendations

- **At the end of project and after we have received results from load research it is recommended to develop practical recommendations as an addendum to Guidelines or the replacement thereof**

# Work methodology- Development of Guidelines

- **Consultants prepare proposed modules for Guidelines**
- **Group members receive proposal and give comments**
- **Consultants implement proposals and comments**
- **Final proposal is presented in the group meeting**

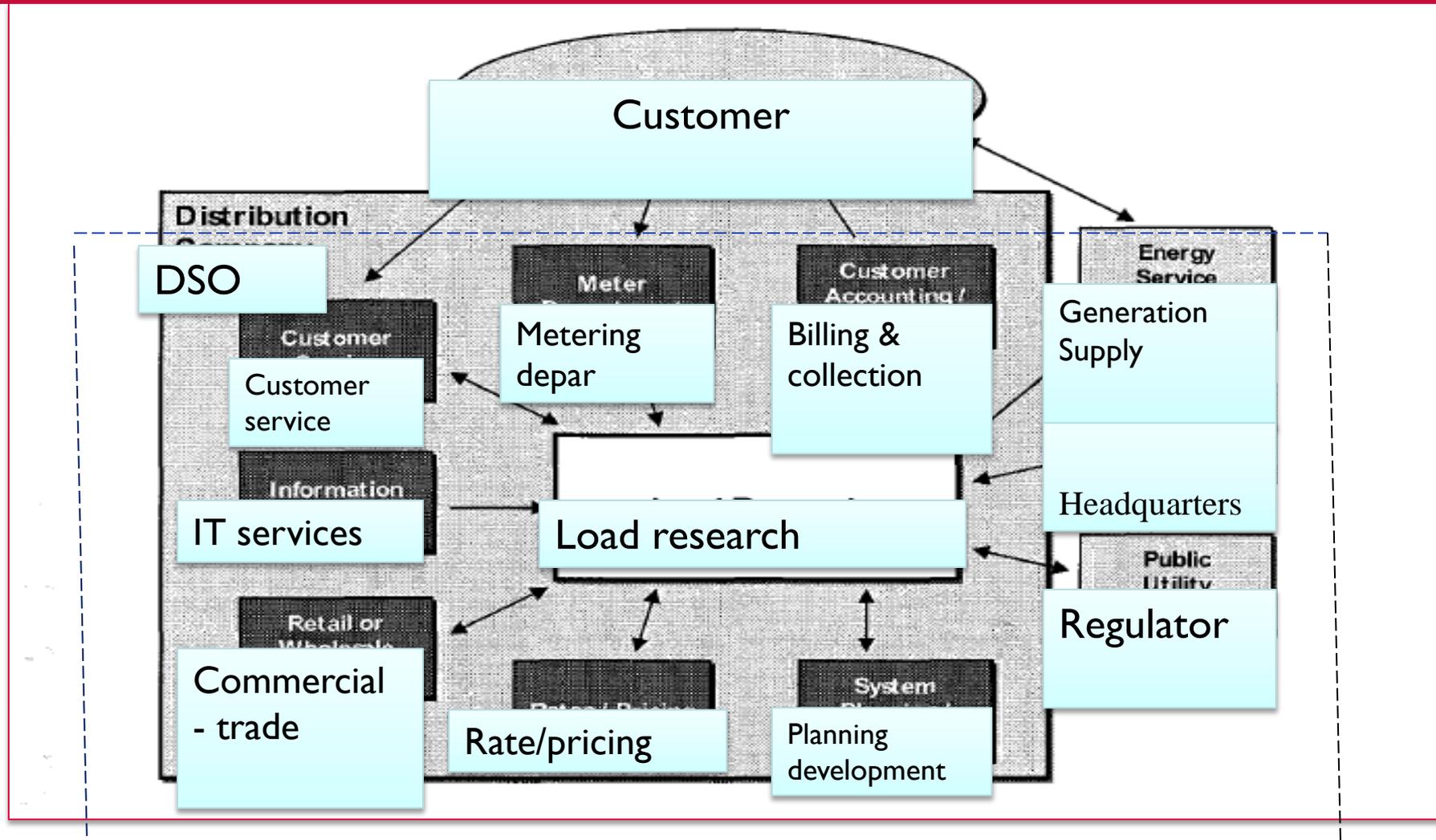
# Work methodology- EPs establish project

- **Each EP commences implementation of the Load Research activities**
- **First step- Development of Load Research program**
- **Support and decision from the Company needed**
- **This is adequate time to launch activities – development of EP's plans**

# Work methodology - Consultants

- **Professor Tatjana Konjić**
- **INESC Porto: Professors Vladimiro Miranda and Nuno Fidalgo**
- **Regular consultations and consultations if needed/requested**
- **Consultations at the level of group and with consultants**

# Organization of LR teams



# Organization of LR teams (cont'd)

- **The position of Load Research team depends on:**
  - **Organization chart of the company**
  - **Primary user of results**
- **Potential problems:**
  - **Location of research is not identical with implementers of specific research elements**
    - **Metering**
    - **Gathering and processing of data**
    - **Data analysis**
  - **Jurisdiction of human and material resources divided**

# Organization of LR teams (cont'd)

- **It is important that load research be of interest for the company**
- **The load research function may be divided in two functional areas:**
  - **Data gathering**
  - **Data analysis**

# Organization of LR teams (cont'd)

- **Data gathering**
  - **Metering and data transfer**
  - **Verification and upgrade of data**
  - **Data administration**
- **Data analysis**
  - **Sample creation**
  - **Data processing**
  - **Data analysis**
  - **Reporting**

# Organization of LR teams (cont'd)

## Research team:

- **Expert(s) for metering with team for meters**
- **Expert(s) for functioning of metering devices, transfer and gathering of data, examination and transfer of data**
- **IT specialist for use of hardware and software**
- **Load research analyst**

**Thank you!**