USAID OD AMERIČKOG NARODA | Asistencija regulativi i reformi energetskog sektora

Metering processes in a retail market

Joint DSO and Metering Task Force Meeting

Hans Pipke, Dr. Daniel Grote, Peter Fischer

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Workshop Agenda

To be adjusted

Day 1
- **Role of DSO in retail market**
- **Gap analysis of existing legislation and codes in BiH**
- **Draft processes of DSO as neutral retail market facilitator**

Day 2
- **Metering processes in retail markets (European requirements and best practice)**
- **Gap analysis of existing legislation for metering in BiH**
- **Draft methodologies, processes and roles**
- **Conclusions and recommendations**

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Day 2: Metering processes in a retail market

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KEMA DNV

Standards for metering in Europe

- There are a few legal requirements on metering coming from the EU.
- Although many organizations in Europe trying to standardize the electricity / metering market, comprehensive common accepted standards are missing.
- However we have some best practices especially in meter data exchange.

European legal requirements on metering

Legal requirements for metering issued from EC (I)

- Member States shall ensure that: … where a customer, while respecting contractual conditions, wishes to change supplier, the change is effected by the operator(s) concerned **within three weeks**; and customers are entitled to receive **all relevant consumption data** [EU 2009-72-EC, Article 3(5)].

➢ *Metered data (consumption) must be available to supplier within this timeframe.*

- Customers … receive a final closure account following any change of electricity supplier **no later than six weeks** after the change of supplier has taken place [EU 2009-72-EC, ANNEX1 (1) j].

➢ *Metered data (consumption) must be available to supplier for billing within this timeframe, because metered data is the basis for that*

Legal requirements for metering issued from EC (II)

- Customers … are properly informed of **actual electricity consumption** and costs frequently enough to enable them to regulate their own electricity consumption. That information shall be given by using **a sufficient time frame**, which takes account of the capability of customer's metering equipment and the electricity product in question. Due account shall be taken of the cost-efficiency of such measures. No additional costs shall be charged to the consumer for that service [EU 2009-72-EC, ANNEX1 (1) i].

➢ *It seems to be agreed in the EU, that a "sufficient time frame" is one month for billing. Metered data (consumption) must be available to customer within this timeframe.*

Legal requirements for metering issued from EC (III)

- Customers … have at their disposal their consumption data, and shall be able to, by explicit agreement and free of charge, give any registered supply undertaking access to its metering data. The party responsible for data management shall be obliged to give that data to the undertaking. **Member States shall define a format for the data and a procedure for suppliers and consumers to have access to the data**. No additional costs shall be charged to the consumer for that service [EU 2009-72-EC, ANNEX1 (1) h].

➢ *It is the obligation of the member states to define formatting processes to solve the request for metered data. It should be cost efficient because the consumer will not pay for it.*

Legal requirements for metering issued from EC (IV)

- Where a Member State imposes measurement of residential use, it shall allow such measurement to be performed by means of **any Class A meter**. For specified purposes the Member State is authorised to require any **Class B meter**.

  Where a Member State imposes measurement of commercial and/or light industrial use, it shall allow such measurement to be performed by any Class B meter. For specified purposes the Member State is authorised to require any Class C meter. [EU 2004- 22-EC, ANNEX MI-003, 7]

➢ *This requirement concerns watt-hour meters for residentials and small industry. As we can see, there is no requirement regarding accuracy for load profile meters.*

Legal requirements for metering issued from EC (V)

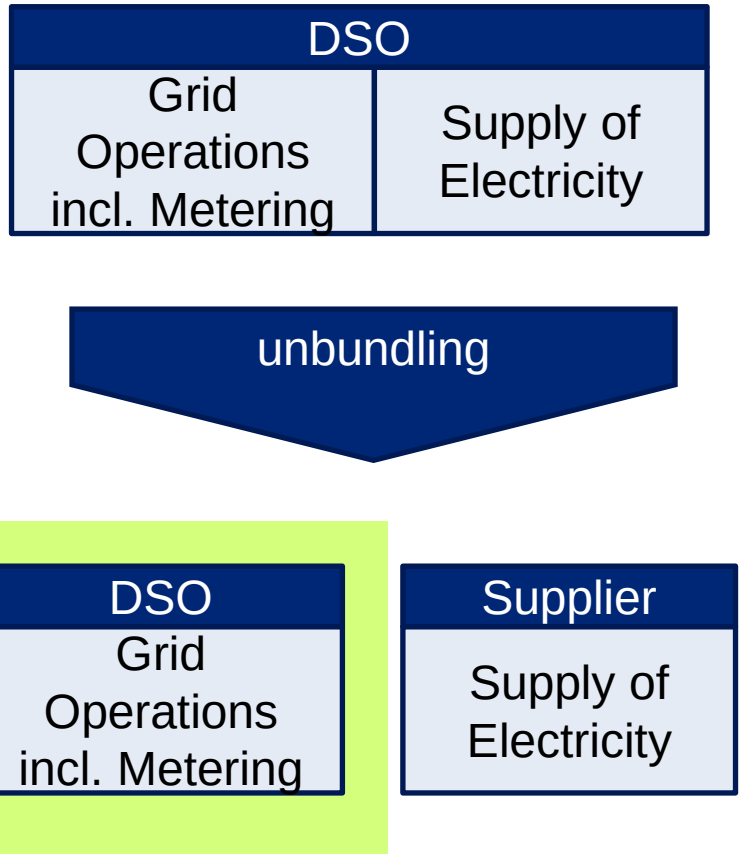
- Although good quality metering data is required to ensure the functioning of the electricity market there are only a few legal requirements from the EU regarding metering.
- The member states are obliged to ensure high quality metering in local laws and rules according to local situation and needs.

- In the following slides we will show some examples for metering best practices in Europe.

European best practice

European best practice

European best practices are developed for a unbundled DSO.



European best practice - Roles

In the most European states the different roles* in metering are assigned to the DSO

- Meter Administrator
- Meter Operator
- Metered Data Collector
- Metered Data Responsible Party
- Metered Data Aggregator
- Metering Point Administrator

DSO

Alternative models:

Germany (customers choice)	
Meter Administrator	Third party
Meter Operator	Third party
Metered Data Collector	Third party

UK	
Meter Administrator	Supplier
Meter Operator	Supplier
Metered Data Collector	Supplier

*Roles describe external business interactions with other parties in relation to the goal of a given business transaction.
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European best practice – Data Exchange (I)

Processes for data exchange are defined and implemented in different ways

Nordic

- In the Nordic Power Market, the “Nordic Interchange Agreement” defines a framework for the exchange of data based on EDIEL (EDIFACT) Messages.
- In Sweden the detailed processes for data exchange are defined for the whole state in the “Elmarknadshandboken”
- In Norway, details of data exchange are covered in bilateral agreements between supplier and DSO

Germany

- Detailed processes and formats for data exchange (based on EDIFACT) are described in WiM (change of Meter Operator), GPKE (billing and switch of Supplier) MaBIS (balancing). Those rules are developed from the industry (EDI@Energy) adopted by the German regulator BNetzA.
- These rules are binding for all market players in Germany

European best practice – Data Exchange (II)

There are centralized and decentralized models

Netherlands

- As a centralized solution Energy Data Services Nederland (EDSN) supports the data traffic between parties in the energy market when changing a supplier, when moving in or out of homes and when amending customer data.
- To date, the supplier of a connection is registered by the relevant DSO. The introduction of the Central connection register (C-AR) is planned for 2013.
- For data exchange EDINE messages are obligatory. EDINE Messages are based on EDIFACT standards

➢ Having different models in place for data exchange in Europe, all these models utilize message formats derived from EDIFACT standard – as native EDIFACT or wrapped in XML-Files.

➢ These processes are supposed to run automatically. Therefore unique identifiers for meter point, meters and market partners are crucial.

European best practice – Data Transfer

The most common channel is per email

- The most common channel to transfer the messages between market participants is via SMTP-Protocol (Email). Others like HTTPS, FTP or X.400 (synchronous) are available.
- Emails are usually signed and encrypted.
- Besides centralized solutions, bilateral (non discriminatory) agreements concerning data transfer are possible.

Increasing smart metering will raise additional requirements on security and privacy of meter data.

European best practice – Meter Reading

Reading frequency varies in Europe

SLC and RAM Customers

- In all states in EU we distinguish between Standard Load Curve (SLC) (residential) and Recording Active Metering (RAM) (larger businesses and industries) customers.
- While the type of meters differ, there is usually no difference in the way meter data is exchanged between market partners.

Reading frequency

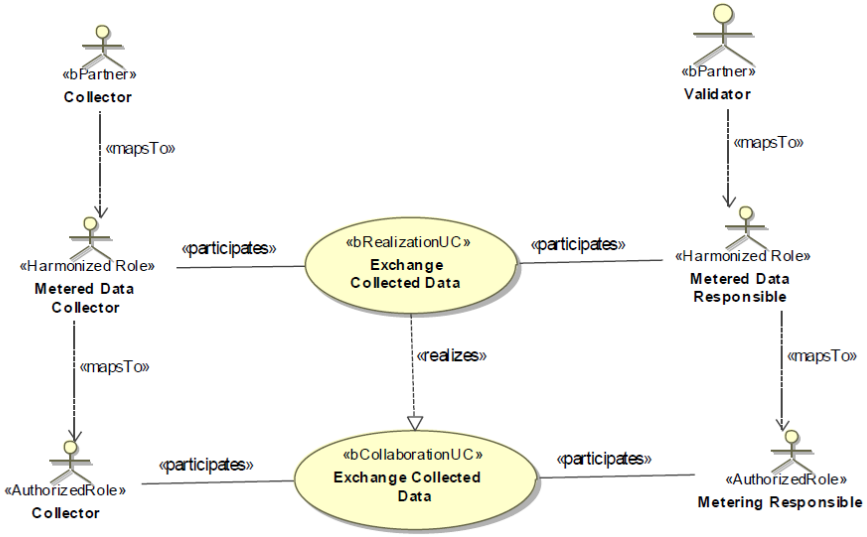
- Varies across member states of the EU from yearly to monthly or every second month for residential (SLC) customers
- Daily or real time reading for industrial customers equipped with RAM, read remote.

Smart metering is more and more an issue for SLC customers and can affect data exchange.

European best practice – Standardization of Processes

eBIX is the most influential standardization organization in the EU

- ebIX created a comprehensive but very generic set of processes for metering and metering related issues.
- As far as we know they are not yet directly adopted by any European member states. However, we observe a trend to use ebIX processes as basis for the processes implemented in the member states.



European best practice – Wrap Up

It takes time and money to develop a metering model from the scratch

- As shown in the previous slides, there is a lot of best practice covering all stages of metering from meter reading up to data exchange.
- All important roles (Meter Administrator, Meter Operator, Metered Data Collector, Metered Data Responsible, Metered Data Aggregator, Metering Point Administrator) are implemented according to different interpretations.
- It took much time and money to develop these practices but the different models are proven and work well – regardless of whether they are centralized or decentralized.

Newcomers are free to learn from experiences and to adopt the relevant parts to develop their own models and systems.

Gap Analysis

Gap Analysis

This gap analysis adapted from the documents available to us in English translation

- As stated before there are no uniform rules, processes and data formats for metering in the EU. Therefore we checked whether existing legal obligations or agreements are defined in BiH covering the following issues
  - Roles and Responsibilities
  - Metering Processes
  - Metering Assets
  - Frequency of Meter Reading
  - Standards for Information Exchange
  - Formats for Data Exchange
  - Measuring Accuracy

Gap Analysis – Roles and Responsibilities

DSO owns most roles and responsibilities in BiH

	FERC	RSERC	SERC	Brcko
Meter Administrator	DSO	DSO	Transco	DSO
Meter Operator	DSO	DSO	Transco	DSO
Metered Data Collector	DSO	DSO & End User	ISO	DSO
Metered Data Responsible	DSO	DSO & End User	ISO	DSO
Metered Data Aggregator	-	-	ISO	-
Metering Point Administrator	DSO	DSO	Transco	DSO

- DSO owns responsibility the majority of functions in metering (retail level)
- On transmission level the Transco is responsible for metering.
- The role metered data aggregator is only defined on the transmission level.

Gap Analysis – Processes

No process descriptions available for BiH

- Having no unique process for the EU member states we took the matched metering best practice processes with emphasis on meter values.
- We found no process descriptions in the documents available to us.

Business processes are a collection of related, structured activities or tasks that produce a specific metering service for a party in the market. Business processes are usually specified in a graphical and / or textual form.

Gap Analysis – Metering Assets

Metering Assets are owned by the DSO / Transco

- The company responsible for installing and reading the meter may not always be the company that owns it.
- But in BiH we suppose that the meter is always owned by the DSO, which is common in the most member states in the EU.

Gap Analysis – Frequency of Meter Reading

Meter reading frequency is monthly (retail level)

	FERC	RSERC	SERC	Brcko
Regular meter reading	Monthly	Monthly	continual	Monthly
Exceptional meter reading	Price change Switch of sup.	Tariff change Switch of sup.	n. a. (Gen. cond. of sup. not in English)	n. a. (Gen. cond. of sup. not in English)

- As in other EC member states regular meter reading for end customers is performed on a monthly basis and when supplier or tariff / price changes.
- We have no information about metering on the transmission level.

Gap Analysis – Standards for Information Exchange

No unique standards for Information Exchange in BiH

- In the documents available to us, we found no defined standards for the information exchange between the market participants.

Gap Analysis – Measuring Accuracy

Measuring accuracy in BiH meets European requirements (retail level)

	FERC	RSERC	SERC	Brcko
Accuracy Class (low Voltage)	Class 1* Class 2*	Class 1** Class 2**	ISO-GRID CODE (2005)	n. a.

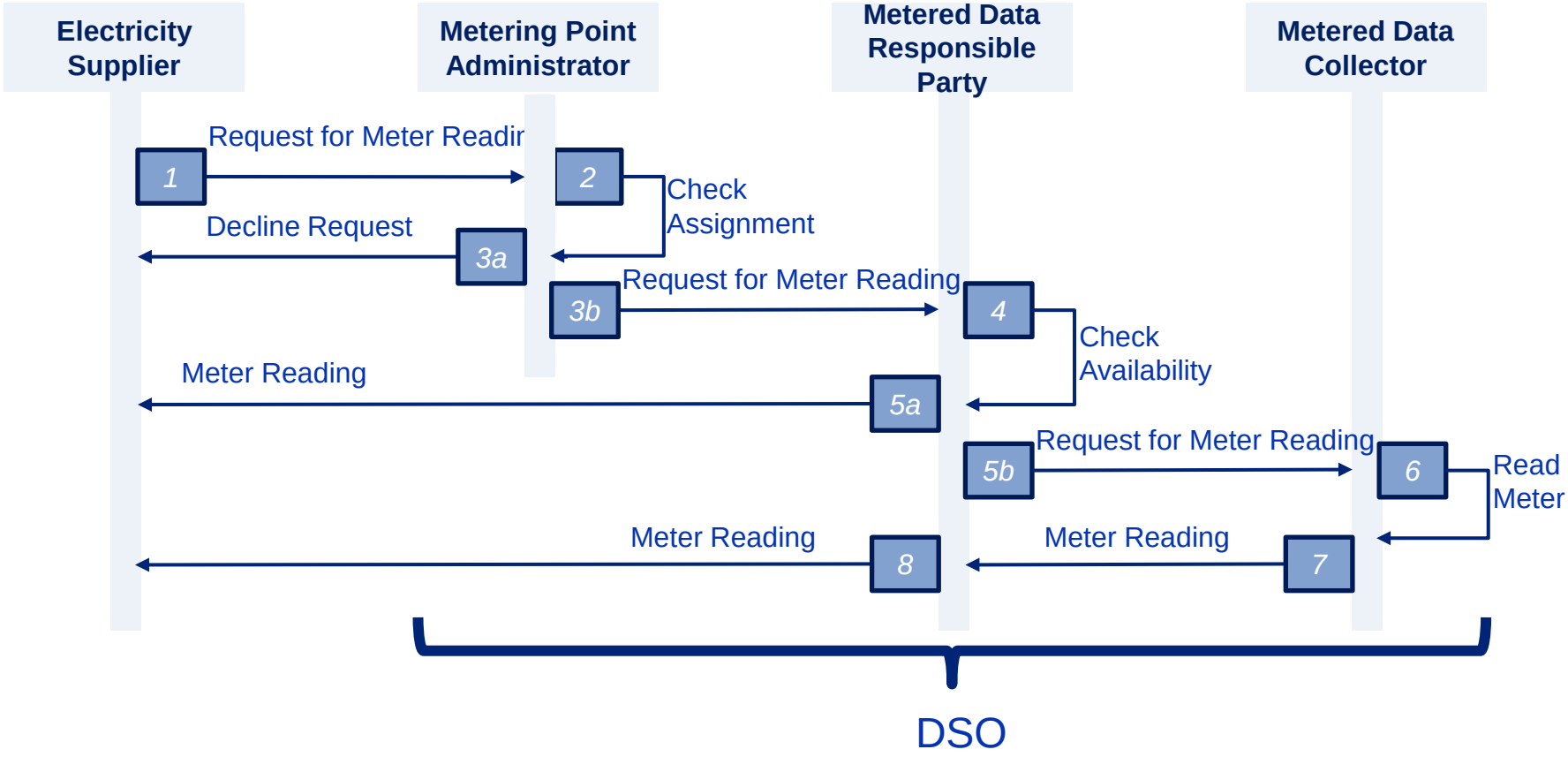
- Since Class 2 (IEC) is equivalent to Class A (MID) and Class 1 (IEC) is equivalent to Class B (MID) these requirements are compliant with the European standard for billing purposes.

Draft Methodologies, Processes and Roles to prescribe the Metering Processes

Draft Methodologies and Processes

- The following specifications for a unbundled DSO in a liberalized energy market whose responsibility is metering and the non-discriminatory supply of information such as metering data to any third party electricity supplier.
- In order to facilitate an open energy market and to activate competition between several energy providers it is necessary to implement well defined, non-discriminating and efficient processes.
- In line with this goes the need for a uniform exchange of information between the DSO and the energy supplier.
- The following metering processes are designed to cover all retail related metering activities.
- To clarify the process we utilize the roles as defined by ENTSO-E / ebIX in order to demonstrate the different functions and data being aware that the DSO covers all these roles in BiH.
- The processes are supposed to be processed mainly automatically at low costs.

Draft methodologies and processes: Process Request for Meter Reading

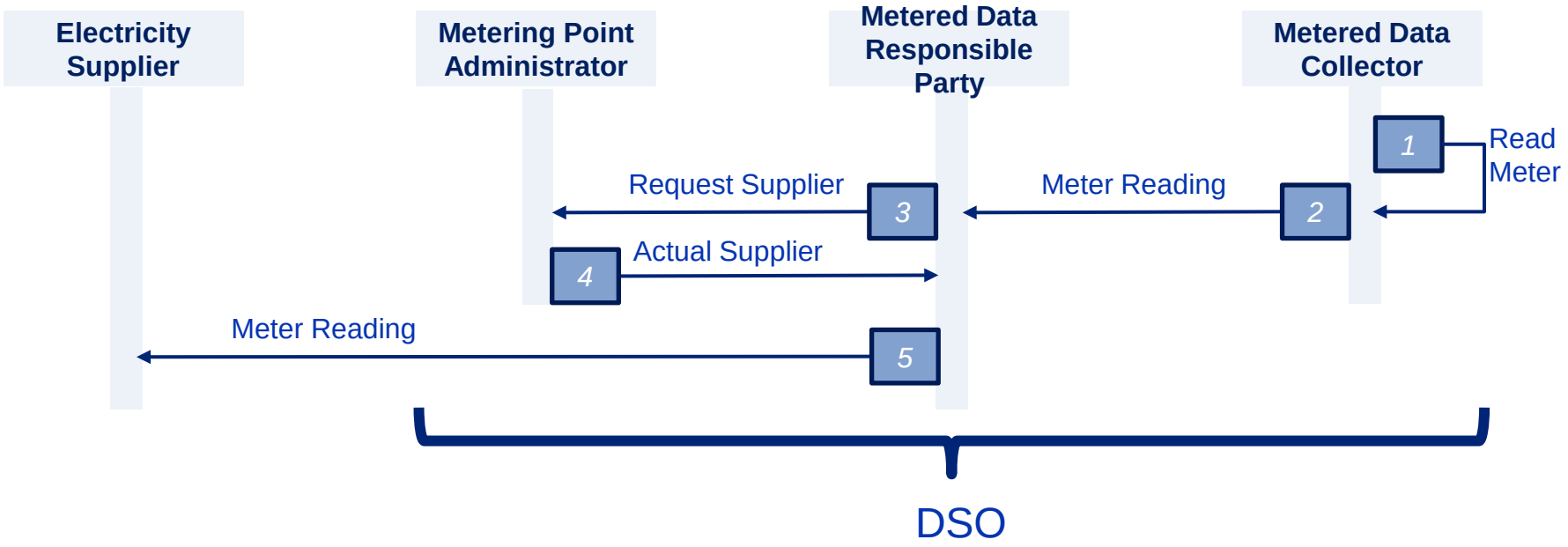


- Although this process is mainly defined to be used for reading SLC-Customers it can be utilized for RAM-Customers as well.

Draft Methodologies and Processes: Process Request for Meter Reading

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
1	Electricity Supplier	MP Admin	The supplier sends a request for metered data to the Meter Point Administrator		Supplier ID, MP-ID, reason, reading period	Supplier is identified by supplier ID. There may be a reason for the reading request (e. G. end of contract) and a period or an exact date for reading.
2			The MP Administrator checks whether the supplier has an actual contract of supply for the MP or not.	immediately	MP-Register	If a supplier has a valid contract with an end customer at the MP for the requested period it must be registered in the MP Register
3a	MP-Admin	Supplier	In case the supplier has no valid contract for that MP the request will be declined by the MP-Administrator.	immediately	MP-ID, reason for decline	The message contents only a status “No Valid Contract”.
3b	MP-Admin	Metered Data Resp. Party	The MP-Administrator forwards the request for metered data to the Metered Data Responsible.	immediately	MP-ID, Reason, Period	
4			The Metered Data Responsible Party will check, whether the requested data is available for the reading period or not.	immediately	MP-ID, Meter Data register	Metered Data Responsible will store all meter readings for the MP as long as stated in the law.
5a	Metered Data Resp. Party	Electricity Supplier	If metered data already available, it can be sent directly to the requesting supplier.	Immediately	MP-ID, Meter-ID, Register, Reading, Reading-ID	This will be the case when the request refers to passed periods.
5b	Metered Data Resp. Party	Metered Data Coll.	The Metered Data Responsible Party forwards the request for metered data to the Metered Data collector.	immediately	MP-ID, Reason, Period	
6			The Metered Data collector will read the meter at the meter point.	3 Work days		The deadline for meter reading on request has to be established by law. There may be different deadlines depending on the reason for meter reading.
7	Metered Data coll.	Metered Data Resp. Party	The Metered Data collector sends the reading to the Metered Data Responsible. He will mark the metered values with a Reading ID. If reading was not possible he will mark this in the Reading-ID	immediately after reading	MP-ID, Meter-ID, Register, Reading, Reading-ID	Reading my be impossible because the Metered data Collector had no access to the meter.
8	Metered Data Resp. Party	Electricity Supplier	The Metered Data Responsible Party has the check the plausibility of the meter reading. If there is no reading he has to build a replacement value. He will mark the metered values with a Reading ID and send it to the Electricity Supplier.	immediately	MP-ID, Meter-ID, Register, Reading, Reading-ID	The ways how to check the plausibility of a reading and to build a replacement value should to be agreed in a law, a rule or an association agreement between market partners

Draft methodologies and processes: Regular Meter Reading

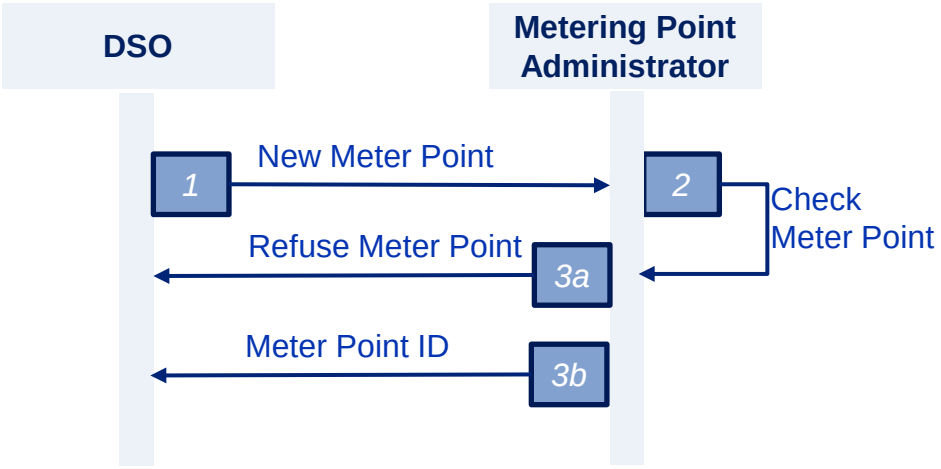


- This process has no real start event. For SLC-Customers it starts once a month as specified in the particular law. The transmission of data for the daily measured meter values for RAM-Customers should be processed on a daily basis (using AMR-Systems). However there may be different agreements.

Draft Methodologies and Processes: Regular Meter Reading

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
1			The Metered Data Collector will execute meter reading once a month. All meters in the area covered by the Metered Data Collector have to be read in an agreed cycle.	Once a month	List of meters due for reading	DSO usually execute meter reading on the base of predefined reading regions / lists.
2	Metered Data coll.	Metered Data Resp. Party	The Metered Data collector sends the reading to the Metered Data Responsible. He will mark the metered values with a Reading ID. If reading was not possible he will mark this in the Reading-ID	immediatel y after reading	MP-ID, Meter-ID, Register, Reading, Reading-ID	Reading may be impossible because the Metered data Collector had no access to the meter.
3	Metered Data Resp. Party	MP-Admin	The Metered Data collector requests the actual supplier from the MP-Administrator.	immediatel y	MP-ID	
4	MP-Admin	Metered Data Resp.	The MP-Administrator sends the actual supplier to the Metered Data Responsible.	immediatel y	MP-ID, Supplier-ID, Supplier-Adress	
5	Metered Data Resp. Party	Electricity Supplier	The Metered Data Responsible has the check the plausibility of the meter reading. If there is no reading he has to build a replacement value. He will mark the metered values with a Reading ID and send it to the Electricity Supplier.	immediatel y	MP-ID, Meter-ID, Register, Reading, Reading-ID	Meter readings shall be sent only to the actual entitled supplier. Where required, the meter reading has to be split between two suppliers.

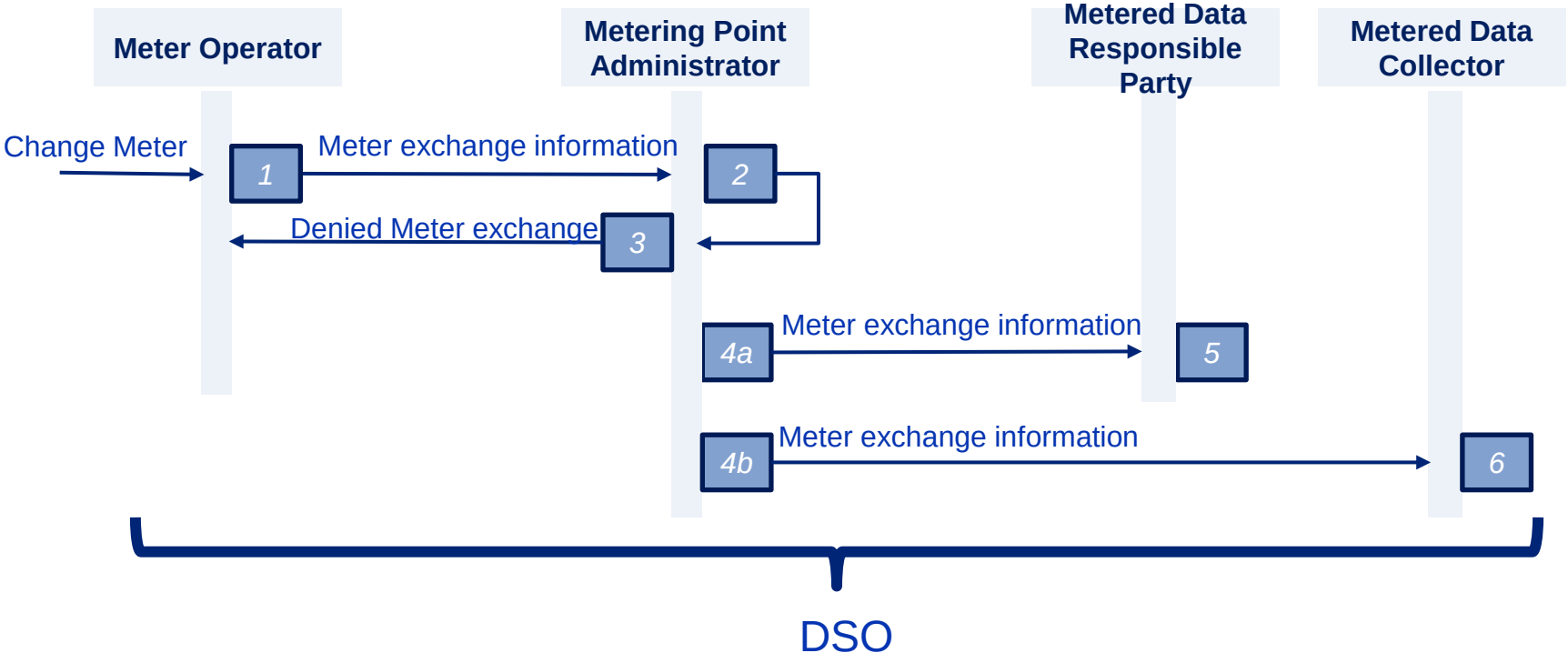
Draft Methodologies and Processes: Build a new Meter Point



- This process is to be used after the DSO has installed a new meter point (e.g., a new building).

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
1	DSO	MP Admin	The DSO sends a new meter point with its characteristics (Address, electrical specification) to the Point Administrator.	immediately after completion	DSO-ID, MP-Characteristics	MP-Characteristics has to be defined in a in a law, a rule or an association agreement between market partners
2			The MP Administrator checks the MP whether the specification is complete	immediately	MP-Characteristics	
3a	MP-Admin	DSO	In case that the specifications are incomplete, the MP-Administrator will refuse the registration.	immediately		
3b	MP-Admin	DSO	The MP Administrator creates a new meter point ID and stores it at the MP-Register and sends the MP-Id to the DSO	immediately	MP-ID, MP-Characteristics	

Draft Methodologies and Processes: Change Meter at Meter Point

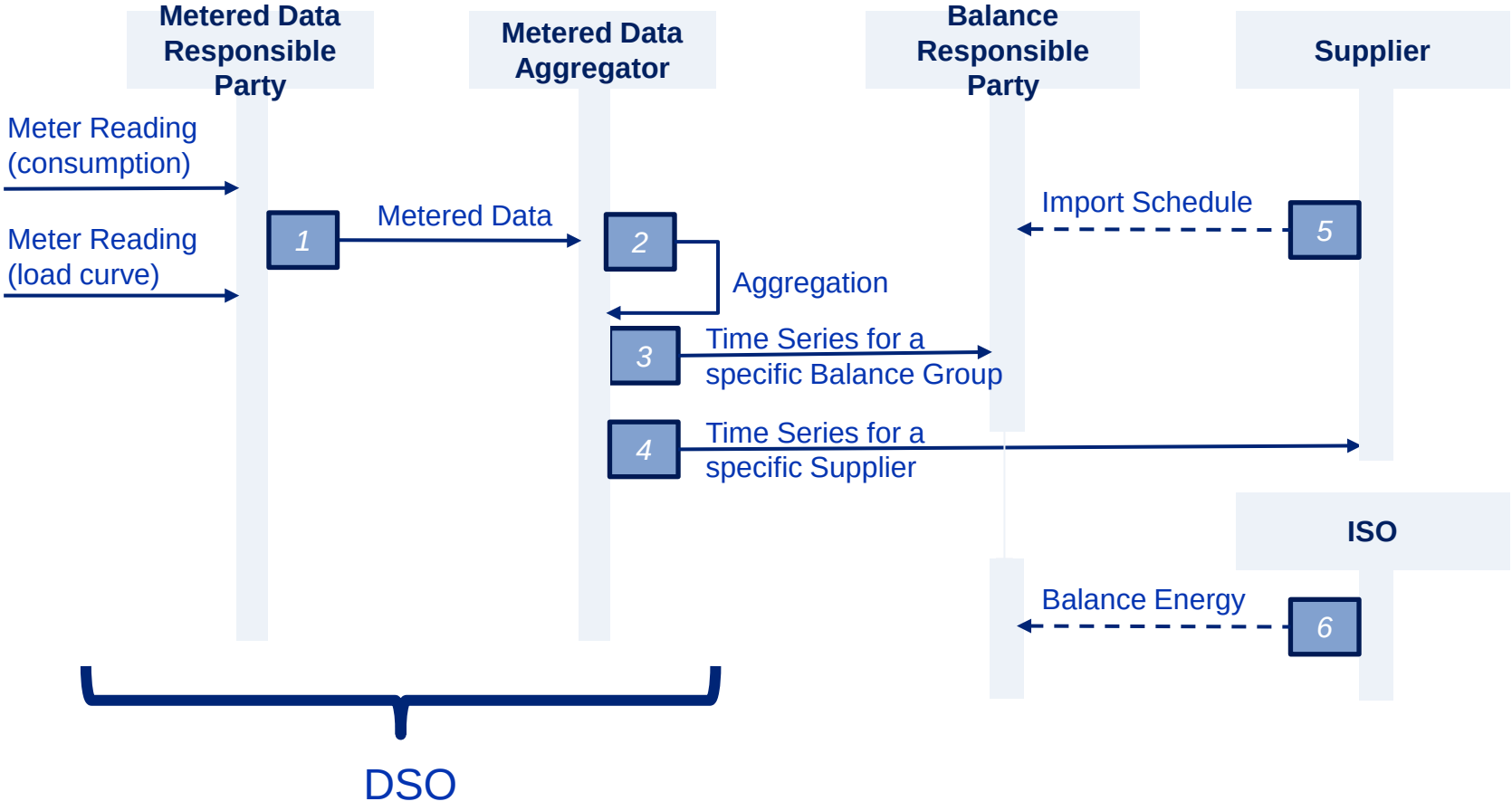


- This process is to be used when the Meter Operator has to change a meter installed at a meter point.
- It may be necessary to inform the supplier about the change (step 4c)

Draft Methodologies and Processes: Change Meter at Meter Point

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
1		Meter Operator	The Meter Operator receives an order to change a meter at the Meter Point. The Meter Operator exchanges the old meter with the new meter. He reads both meters and sends the Id of old and new meter including meter reading to the MP-Administrator	Acc. legal req.	Meter Point, old Meter ID, new Meter ID, Meter Reading	Trigger for exchange may also be an timed event (e. g. certification of meter elapsed)
2			The MP Administrator checks whether the new meter fits to the MP characteristics. If not, he sends a message of denial	immediately	Meter Point, old Meter ID, new Meter ID, Meter Reading	
3	MP Administrator	Meter Operator	The MP Administrator he sends a message of denial to the Meter Operator	immediately	MP-ID, MP-Characteristics, new Meter ID	Any a reworks on the exchange starts the process from beginning
4a	MP Administrator	Metered Data Responsible Party	The MP Administrator sends an information about the meter exchange to the Metered Data Responsible Party	immediately	Meter Point, old Meter ID, new Meter ID, Meter Reading	
5			Metered Data Responsible Party stores new meter and meter readings in his Meter database and changes the status of the old meter	immediately	old Meter ID, new Meter ID, Meter Reading	
4b	MP Administrator	Metered Data Collector	The MP Administrator he sends an information about the meter exchange to the Metered Data Collector	immediately	Meter Point, old Meter ID, new Meter ID, Meter Reading	
6			Metered Data Collector stores new meter and meter readings in his Meter database and changes the status of the old meter	immediately	old Meter ID, new Meter ID, Meter Reading	

Draft Methodologies and Processes: Metering for Balancing



Draft Methodologies and Processes: Metering for Balancing

- This process is dedicated to demonstrate the flow of metered data and aggregated time series from the Meter Data Aggregator to the Balance Responsible Party for balancing purposes.
- Content of data and data exchange will vary according to different legal requirements and balancing models.
- The Metered Data Responsible receives all meter readings. This comprises consumption data for residential (SLC) customers and load curves as time series from AMR customers as well as generation in the low voltage grid.
- The Data exchange comprises the assignment of meter points to suppliers.
- It is supposed that the information
  - which supplier actually supplies for a specific meter point and
  - to which balancing group he belongs

  is available at the meter point (respectively in the MP-Register).

Draft Methodologies and Processes : Metering for Balancing

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
1	Metered Data Responsible Party	Metered Data Aggregator	Metered Data Responsible Party sends validated metered data to Metered Data Aggregator	Acc. legal req.	MP-ID, Meter ID, Supplier, Metered Data	Consumption as well as load curves for consumption and (small) generation (e. g. Photovoltaics) in the distribution grid.
2			The Metered Data Aggregator will apply measured consumption on the profile class and aggregate the resulting load curve together with measured load curves. He will at least produce the following types of time series for specific Balance Groups: Import • Generation feed-in into the distribution grid (based on applied SLC) • Metered load curve generation feed-in into the distribution grid • Other import into the distribution grid (metered load curve) Export • Consumption in the distribution grid (customers with metered load curves) • Consumption in the distribution grid (customers with applied SLC) • All other metered consumption if applicable • Grid losses He will at least produce the following types of time series for entitled suppliers • Consumption in the distribution grid (customers with metered load curves) • Consumption in the distribution grid (customers with applied SLC)	Acc. Legal req. Usually on a monthly base	Time Series, Supplier-ID, Balance Group, BRP,	Aggregation includes consumption (export) as well as generation (import). There must be different Standard Load Curves for different customer groups (e. g. household, heating, small enterprise). The Meter Data Aggregator has to ensure, that all amounts of energy are properly attached to one BPR or supplier. For identification of the produced timelines a virtual MP-ID is commonly used.

Draft Methodologies and Processes : Metering for Balancing

Nr.	Sender	Receiver	Description	Deadline	Data	Remark
3	Metered Data Aggregator	Balance Responsible Party	Metered Data Aggregator sends the aggregated time series for on the balance area to the Balance Responsible Party	Acc. Legal req.	Time Series, BPR-ID, Balance Group	
4	Metered Data Aggregator	Supplier	Metered Data Aggregator sends the aggregated time series to the entitled supplier	Acc. Legal req.	Time Series, Supplier-ID, Balance Group	The supplier will only receive the data for which he has a valid contract of supply.
5	Supplier	Balance Responsible Party	The supplier sends his Import schedule to the Balance Responsible Party	Acc. Legal req.	Time Series, Supplier-ID, Balance Group, BPR-ID	Import schedule stands here synonym for the forecast of energy a supplier has to feed into the grid to cover the consumption of his customers.
6	ISO	Balance Responsible Party	The ISO sends a time series that covers the balancing power used in the Market Area for a given period.	Acc. Legal req.	Time Series, Market Area	Given period is usually a month

Draft Methodologies and Processes: Guidelines

- Additionally to the implementation of metering processes there is a need for extending guidelines.
- We recommend at least the following aspects should be covered with agreed guidelines according to best industrial practice:
  - Guidelines for Measured Values
  - Guidelines on Data
    - Supplier-ID
    - DSO-ID
    - Meter Point ID
    - Meter Point Register
    - Meter data
  - Data Exchange
    - Basics for electronic data exchange (EDI)
    - Basic Principles of Organization
    - Message Data
    - Channels in Data Exchange

Measured Values

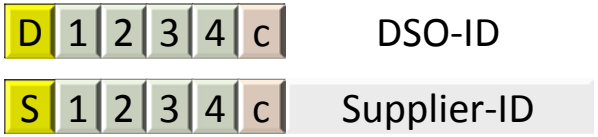
- Measured values should have the following status information according to the timelines for meter reading and data exchange:
  - True Value
  - Replacement Value
  - Preliminary Value (can be substituted by a true value after successful reading)
  - Faulted Value (should be substituted by replacement value for billing)
  - Missing Value (should be substituted by replacement value for billing)
- The following functionality should be covered in guidelines
  - *Validation of energy meter readings*
  - *Validation of load profile (interval) meter readings*
  - *Replacement values for energy meters readings*
  - *Replacement values of load profile (interval) meter readings*

Supplier-ID

- We recommend all suppliers in BiH should have a unique Supplier-ID to identify the supplier in all processes of data exchange.
- The supplier register should be kept at the regulator. The supplier will not perform any action on the market until he is registered. We recommend this be defined in the licensing rules.
- The Supplier-ID could be a licensed number according to EIC with
  - EIC-Object Type = X (Party) or a
  - Global Location Number (GLN) or a
  - certain BiH number for usage inside BiH
- For a BiH Supplier-ID a four digit number will be sufficient for all suppliers.

DSO-ID

- We recommend all DSOs in BiH should have a unique DSO-ID to identify the DSO in all processes of data exchange.
- This DSO register should be kept at the regulator.
- The DSO-ID could be a licensed number with
  - EIC-Object Type = X (Party) or a
  - Global Location Number (GLN) or a
  - certain BiH number for usage inside BiH (a four digit number will be sufficient for all DSOs)
- If a BiH numbering system is planned, there should be a unique system for supplier and DSO, differing in the role of the party including a check digit according the following example:

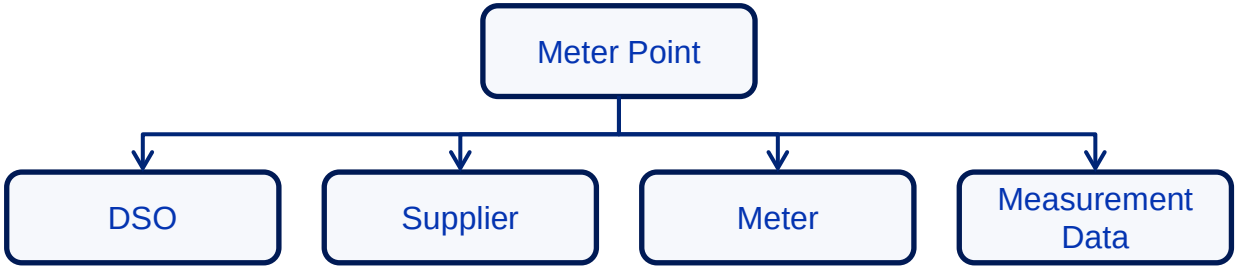


Meter Point ID

- A meter point identifies a physical or logical point that is used to identify an object where the measurement of energy takes place.
- For a data exchange in an open energy market the meter point must have a unique identification. The Meter Point ID could be a licensed number according to EIC with
  - EIC-Object Type = Z (Measurement Point) or a
  - Global Location Number (GLN) or a
  - certain BiH number for usage inside BiH (a four digit number will be sufficient for all DSO)
- EIC numbers are in Europe already in use for the identification of connection points in the electricity grid.
- A BiH internal number should include the DSO-ID and a 10-digit number including a check digit according the following example:

Meter Point Register

- The Meter Point Register is the central hub for all data exchange related to metering data.
- The meter Point Register has a data structure as shown in the following figure



Draft Methodologies and Processes: Guidelines

Meter data

- Regarding meter readings we must distinguish between the following occurrences of meter readings
  - A single value, usually a consumption in kWh value drawn monthly from a conventional meter and
  - A load curve that means a time series containing power values measured in a quarterly period in kW.
- both are meter readings in the sense since we used it in the previous sections.
- The table shows an example for a data set.

Data	Value
MP-ID	Unique id of meter point
Meter-ID	Unique ID of meter
Time of meter reading	The time the meter is read e. g. 03012012
Begin period of meter reading	Period for meter reading e.g. 01012012
End period of meter reading	Period for meter reading eg. 0228201
Reason	COM (change of meter) IOM (installation of meter) ROM (removal of meter) COS (Change of supplier) COB (change of balancing area) PMR (periodic meter reading)
Status	SMV (start measure value) e.g. begin of supply EMV (end measure value) e.g. change of meter MRV (meter reading value) e. g. periodical reading
Product Identification	OBIS-Value (include the unit)
Quantity Qualifier	True Value (relevant for billing) Estimated Value (relevant for billing) Preliminary Value (not relevant for billing)
Quantity	“123460” (with fixed decimal places)

Conclusions and Recommendations

Conclusions and Recommendations

- Metering is essential in order to facilitate the emergence of well-functioning and transparent energy markets in a deregulated environment.
- Competitive markets include easy access to meter data for all obliged parties at low metering costs as well.
- To ensure this, metering and metering related laws, rules agreements and processes should be identical and clearly defined in the whole state of BiH for all market participants, and requirements from the EU should be fulfilled.

- The following Conclusions and recommendations are based on the documents available to us and best European practice and will cover all levels of the metering issue.
- The recommendations apply to an unbundled DSO in a liberalized energy market whose responsibility is metering and the non-discriminatory supply of information such as metering data to any third party electricity supplier.

Technical aspects in metering

- Also the rules for testing and certification of meters should be harmonised in all of BiH.
- Unique technical specifications, methods for testing meters and certification of meters should be harmonised in all of BiH.

Frequency of Meter Reading

- We recommend that the reasons for exceptional meter reading should be adopted by all DSOs.
- An indication of the costs for such meter readings should be given. We recommend that this be executed with no additional costs for a single customer or supplier.
- For RAM Customers it should also be clarified that metering should be executed at least once a day.
- Facing the EU requirement that the change of supplier is effected by the operator concerned within three weeks and customers are entitled to receive all relevant consumption data, a suitable timeline for meter reading should be defined.

Measured Values

- We recommend that groups of SLC's have to be defined reflecting the actual course of consumption for the different customer groups. An SLC usually covers the period of one year based on ¼ hour values.
- It also has to describe which method (analytical or Standard Load Profile) a DSO applies to calculate the load curve for a supplier.

Assets, Roles and Responsibilities

- Therefore, the DSO has responsibility for the majority of functions in the metering process on the retail and transmission level, which is according to European best practice.
- Although not stated explicitly we suppose that the meter is always owned by the DSO, which is also common in most member states in the EU.
- The roles and responsibilities should be outlined in the business processes.
- The role of the Metered Data Aggregator should be assigned to the DSO.

Data and Data Formats

- There should be a unique definition of data formats and information exchange all of BiH. We recommend defining these guidelines in a binding agreement for all market participants in BiH covering:
  - Working processes and main technical, organizational and contractual issues between the parties involved with respect to their market role.
  - Unique identification of all market participants with respect to their market role
  - Unique data formats (type and structure) to be used in the process of data exchange
  - Unique channels for the transport of messages between market partners
  - Unique requirements on data security and data privacy
- We strongly recommend to utilize existing formats like the EDIFACT standards UTILMD and MSCONS and to adopt them to BiH requirements.

Business Processes

- Business processes should be defined in an agreement between the market participants. The definition consists of a diagram of the process and a description of the single tasks, actors, data formats and data.
- The definition should not only describe the “normal” process but should cover all exceptions as well.
- We strongly recommend utilizing common European practice business process models and adopting them for BiH. These models are proven in practice and utilizing them will save development costs.

Conclusions and Recommendations

Centralized vs. Decentralized Data Exchange

- It seems as a trend towards information exchange through data hubs can already be observed within the EU.
- However, a final recommendation for a centralized or decentralized model should be seen in connection with the role of the DSO and cannot be finalized until after discussing this item with the regulators and the industry.

Contact

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