	MODULE NAME
	PROCESS NAME: MDM RELATED PROCESSES
PROCEDURE	
NO.	PROCESS OWNER: RED NORD S.A.

#### I. INTRODUCTION

#### **INITIATE**

In the context of an electricity distribution company planning to implement a Meter Data Management (MDM) system, the intent of describing business processes is versatile and strategic. This intent centralizes the need to create a comprehensive and detailed framework that enables technological integration, operational optimization, and improved customer relationships. The process description aims to document and standardize all key activities and interactions, ensuring that the MDM system implementation and interoperability with other existing systems are carried out efficiently. This contributes to the transition from manual or partially automated practices to complete digital solutions, designed to increase data accuracy and reduce costs associated with electricity management and distribution.

#### 1. Clarification and Standardization of Processes

By explicitly describing each step, the company aims to eliminate ambiguities and create a uniform standard to be followed by all employees. This is essential to avoid errors and to ensure that all actions are in accordance with applicable regulations and internal policies. Standardizing processes also facilitates the training of new employees, accelerating their integration into the company.

#### 2. Facilitating Technological Integration

Documenting processes helps identify areas where the MDM system needs to connect with other systems, such as ERP systems for resource management, CRM for customer relationship management, Billing for service invoice management. This allows for the development of custom interfaces and automation of data transfer between systems, reducing the risk of human error and the time required to process data.

#### 3. Improving Efficiency

#### **SCOPE**

**Detail**: By automating the collection and analysis of consumption data, the company can optimize resource utilization, reduce operational costs, and improve response time to customer requests. Streamlined processes contribute to reducing unnecessary energy consumption and promoting sustainable consumption behavior among consumers.

#### 4. Compliance and Regulation

Clear and detailed description of processes ensures compliance with legal and regulatory norms. This is crucial in a highly regulated industry such as electricity distribution, where non-compliance can attract severe penalties and damage the company's reputation.

#### 5. Improving Consumer Services

Implementing MDM allows the company to provide customers with up-to-date and detailed information about their energy consumption, thus improving transparency and customer satisfaction. The description of business processes helps ensure efficient data collection and customer service tailored to specific needs.

#### 6. Data-Driven Decision Support

The MDM system, supported by well-defined and integrated processes, provides management with reliable and real-time data, essential for strategic planning and operational decisions. Detailed analyses help to anticipate market trends, optimize resource allocation and formulate proactive strategies for energy efficiency and sustainable development.

Therefore, the description of business processes not only substantiates the technical implementation of an MDM system, but also establishes the basis for a more strategic operation, aligned with the company's long-term objectives in the energy industry.

- 1. Applicant / Household/non-household consumer / Customer
- 2. Legal Department
- 3. Technical Staff
- 4. DSO's ERP system
- 5. DSO's MDM system
- 6. ES Billing System
- 7. NRCP

**ROLES** 

ABBREVIATIONS	MDM ERP CRM NRCP ES DSO TSO SPR SRLE CPN CN RL DA	Metering Data Management Enterprise Resource Planning Customer Relationship Management National Registry of Consumption Places Electricity Supplier Distribution System Operator Transport System Operator State Population Register State Register of Legal Entities Consumption Place Number Connection Notice Rejection Letter Delimitation Act
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### RESPONSIBILITY ALLOCATION MATRIX (RACI)

#### **II. PROCESSES**

DROCESSES	FINICIUNG THE PROCESS ELEMENTS
PROCESS	FINISHING THE PROCESS ELEMENTS
BP_1  NEW  consumer  enrollment	Initiation of the process:  The process of enrolling a new customer in the distributor's MDM system begins with reaching the stage of drawing up the report on commissioning the metering equipment as part of the network connection process. At this stage, the system operator completes the report, which contains detailed information such as:  • date of installation of the measuring equipment,  • type and number of measuring equipment (meter),  • the location of the equipment installation,  • the name or designation of the system user (the client),  • the name of the system operator,  • the initial indications of the measuring equipment,  • the number of seals applied,  • and other information relevant to the operation of the equipment.
in MDM	This data is initially entered into the distributor's ERP system, and upon completion of the ERP registration, it is automatically transmitted to the MDM system. When the data related to the report becomes available in the ERP, a new consumer profile is automatically created in the MDM system. The consumer profile in the MDM will contain all relevant details, including meter information, initial indications, consumer name, consumption location number (CPN), as well as other essential data for monitoring and managing consumption. This automated flow ensures a correct and efficient transition of information between

the ERP and MDM systems, thus facilitating the management of energy consumption.

#### **Process Steps/Activities:**

# 1. Preparation of the commissioning report of the metering equipment Actor: Technical staff of the DSO

**Description:** After completing the installation of the metering equipment, the technical staff of the system operator (DSO) seals and energizes the equipment in the mandatory presence of the system user. A commissioning report is completed, drawn up in duplicate according to the model established in the official regulations. The report includes essential details, such as the date of installation, the type and number of the metering equipment, the installation location, the name of the system user, the name of the system operator, the initial meter readings, the number of seals and other relevant information. This document serves as the initial reference for tracking energy consumption.

# 2. Recording of information from the report in the DSO ERP system Actor: DSO ERP

**Description:** The detailed information from the commissioning report is recorded in the ERP system of the system operator (DSO). This step ensures the integration of basic data about the metering equipment and the user in the DSO system, so that the data is accessible for further monitoring and management. The recording includes the meter specifications, location, and initial indications. This ensures an accurate and consistent database in the ERP for efficient communication with other systems, such as MDM and Billing.

### 3. Sending a copy of the report to the final consumer Actor: DSO ERP

**Description:** The DSO ERP sends a copy of the commissioning report to the final consumer within one working day of its signing. This copy certifies the completion of the installation of the metering equipment and informs the consumer about the meter specifications, the date of installation and other relevant details. This stage ensures transparency and trust, providing the consumer with the necessary documentation to monitor their own consumption.

#### 4. Receipt of a copy of the commissioning report

**Actor: Consumer** 

**Description:** The consumer receives a copy of the commissioning report of the metering equipment, provided by the system operator. This document allows the consumer to have a clear record of the specifications of the installed meter, the date of commissioning and other essential details about the metering equipment. Thus, the consumer can confirm and verify important details related to the use of the equipment and the monitoring of consumption.

#### 5. Data Export to MDM

**Actor: ERP DSO** 

**Description:** The DSO ERP system exports all data related to the new metering equipment to the Metering Data Management (MDM) system. The export includes the equipment specifications, initial indications, location and other basic information. This step allows for the automated transfer of data between ERP and MDM, facilitating synchronization and quick access to essential information for configuring the customer profile in the metering system. The process ensures the continuity and accuracy of the data needed for consumption tracking.

#### 6. Create a consumer profile in MDM

**Actor: MDM** 

**Description:** The MDM system receives the data exported by the DSO ERP and uses this information to create the consumer profile in the metering system. The profile includes details such as meter type, initial readings, location and consumer data. This profile will be used for real-time monitoring and storage of energy consumption data, so as to enable correct billing and efficient meter management. Enrolling the customer in MDM marks a crucial step in establishing the database for consumption tracking.

#### 7. Update data in Billing ES

**Actor: Billing ES** 

**Description:** The electricity supplier's billing system (Billing ES) receives the initial consumption data and meter specifications from the MDM in order to initiate the billing process. The consumer profile, including initial indications and other relevant details, is updated in the billing system to ensure correct billing based on actual consumption. This step completes the enrollment process, allowing for the issuance of correct invoices and efficient traceability of energy consumption for the new customer.

#### **Actors and Responsibilities:**

# 1. DSO Technical Staff Responsibilities:

- Performs the installation of measuring equipment (meter).
- Seals the equipment and energizes it, in the presence of the system user.
- Prepares the report on the commissioning of the measuring equipment, in accordance with the regulations in Annex no. 3.
- Ensures that all essential data (installation date, equipment type, initial indications, number of seals, etc.) are correctly completed and forwarded.

#### 2. ERP DSO

#### Responsibilities:

 Records data from the commissioning report in the system operator's ERP system.

- Send a copy of the commissioning report to the end consumer for transparency and confirmation.
- Exports all data related to the newly installed meter to the MDM system, ensuring the complete and accurate transfer of information necessary to form the customer profile in MDM.

# 3. Consumer Responsibilities:

- Receives and keeps a copy of the report on the commissioning of the measuring equipment.
- Check the equipment details, such as the installation date, initial indications and installation location, to have a clear and accurate personal reference on its energy consumption.

# 4. MDM (Measurement Data Management) Responsibilities:

- Receives and processes data transmitted by ERP DSO regarding the new measurement equipment.
- It forms the consumer profile in the MDM database, which contains the meter specifications, initial indications, location and other information relevant to consumption tracking.
- Stores real-time measurement data to enable efficient consumption management.

# 5. Billing ES Responsibilities:

- Receives initial meter and consumption data from the MDM system.
- Updates the customer profile in the billing system, including initial indications and equipment data.
- Initiates the billing process for the new customer, ensuring the accuracy of bill calculation based on actual recorded consumption.

#### Objectives of the New Customer Enrollment process in MDM:

### 1. Ensuring Correct Integration of the Consumer into the Metering Data Management (MDM) System

The main objective of the process is to enroll the new consumer into the distributor's MDM system, ensuring that all data related to the installed meter, such as the type, number and initial indications of the equipment, are correctly recorded. Thus, the MDM will have a complete picture of the consumption profile for each customer.

#### 2. Data Flow Optimization between ERP DSO and MDM

The process aims to facilitate data transfer between ERP DSO and MDM, ensuring that critical information, such as meter technical data and other essential characteristics, is automatically and error-free transmitted between systems. This is essential to prevent problems in billing and monitoring energy consumption.

#### 3. Create a Complete and Up-to-Date Consumer Profile

By accurately recording all information, a detailed consumer profile is created in MDM, which includes identification information, location, meter details and initial indications. This profile enables accurate billing and efficient monitoring of energy consumption, contributing to an improved customer experience.

#### 4. Reduce the Need for Physical Documents

The process allows for the automatic integration of relevant data directly into ERP and MDM systems, thereby reducing the need for physical documents and optimizing the efficiency of the enrollment process. This automated method minimizes the time and errors associated with manual processing.

#### 5. Ensuring Compliance with Applicable Regulations

By verifying and validating data in accordance with regulations, the process complies with legal requirements and operating standards of the energy sector, thus protecting both the distributor and the consumer.

#### BP<sub>2</sub>

Remote
Disconnection of
Smart Meters from
MDM

#### **Initiation of the process:**

The remote disconnection process of smart meters is initiated when the Distribution System Operator (DSO) ERP receives a request to disconnect a consumption point, regardless of the reason or initiator of the request. The disconnection request can come from various sources, such as non-payment of invoices, requests from the consumer, termination of the supply contract, technical malfunctions or other regulated reasons.

Before the request is registered in the DSO ERP, all stages of notification and approval of the customer are ensured, according to legal regulations, giving the customer the opportunity to remedy any situation or contest the disconnection. If after these stages the meter is confirmed as smart, the DSO ERP automatically sends a disconnection request to the MDM system to perform the operation remotely.

#### **Process Steps/Activities:**

#### 1. Disconnection Request Registration (Smart Meters)

**Actor: ERP DSO** 

**Description:** When the ERP DSO system receives a disconnection request, regardless of the initiator or reason, it checks whether the meter is a smart meter. If this is the case, ERP DSO automatically generates a disconnection request to the MDM system. Prior to registering the request in ERP DSO, the process includes all steps of notifying the consumer about the disconnection, to ensure transparency and compliance with regulations.

#### 2. Sending Disconnect Request to MDM

**Actor: ERP DSO** 

**Description**: ERP DSO sends the disconnect request to MDM, ensuring that all the necessary requirements for disconnection are included in the message sent. This step is automated, and MDM receives the details related to the meter identification and the reasons for disconnection. This efficient integration allows MDM to process the request quickly, reducing waiting times.

#### 3. Remote Disconnection

**Actor: MDM** 

**Description:** The MDM system, upon receiving the disconnection request, performs the remote disconnection process of the smart meter. This process is performed without physical intervention, reducing costs and ensuring a safe and fast disconnection. The MDM confirms the disconnection by recording the necessary changes in the meter profile and prepares the system for the next steps.

### 4. Changing Meter Status - Disconnected in Profile and Reading Indicators Actor: MDM

**Description:** After disconnection is complete, MDM updates the meter status to "Disconnected" in the user profile. At the same time, MDM performs a reading of the meter's consumption indicators at the time of disconnection to have a clear record of consumption up to that point. This information is essential for correct billing and monitoring of meter activity.

#### 5. Export of Meter Data and Indices

**Actor: MDM** 

**Description:** The MDM system exports the meter data and indices to both the supplier's Billing system and the distributor's ERP. This step ensures the synchronization of all systems involved, so that both parties, the distributor and the supplier, have access to updated information related to consumption and meter disconnection status.

#### 6. Update Data in ERP DSO

**Actor: ERP DSO** 

**Description:** ERP DSO receives the updated data from MDM and records the new meter status, as well as the indications related to the moment of disconnection. This update is important to reflect the current status of the meter in the system and maintain a clear and complete record of its history.

### 7. Update Data in Supplier Billing

**Actor: Supplier Billing** 

**Description:** The supplier's Billing system receives the data transmitted by MDM and updates the consumer's billing profile, including consumption indicators from the moment of disconnection. This step is essential to ensure billing accuracy and to close the disconnection process with a final invoice, if necessary.

#### **Actors and Responsibilities:**

# 1. ERP DSO (Distribution Operator ERP System) Responsibilities:

- Disconnection request registration: ERP DSO initiates the disconnection process by registering a request for the smart meter, ensuring that all steps of consumer notification and approval have been completed according to procedures.
- Transmission of disconnection request to MDM: ERP DSO transmits the disconnection request to the MDM system to initiate the remote disconnection process.
- Receiving final data and indices: ERP DSO receives final data, including meter consumption indices, from MDM for update in the consumer profile.
- Meter Status Update: ERP DSO updates the meter status in the system as "Disconnected" to reflect the current status of the device in its distribution network.

#### 2. MDM (Meter Data Management)

Responsibilities:

- Receiving disconnection request: MDM receives the disconnection request from the ERP DSO and validates the data to prepare for remote meter disconnection.
- Remote meter disconnection: MDM executes the remote disconnection operation, cutting off the power to the smart meter according to the transmitted request.
- Update status in meter profile: MDM updates the meter profile in its database to indicate that it is "Disconnected".
- Reading and recording final readings: MDM performs a final reading of the meter readings at the time of disconnection to record the customer's final consumption.
- Export data to ERP DSO and ERP Billing of the Supplier: MDM exports final data, including meter readings, to both ERP DSO for distribution records and ERP Billing for final billing.

#### 3. Supplier Billing

#### Responsibilities:

- Receiving final meter data and readings: Billing receives final meter data and consumption readings transmitted by MDM for processing.
- Consumer profile update: Billing updates the consumer's account with final consumption data, recording the time of disconnection and total consumption.
- Issuance of the last invoice: Billing uses the final indices to issue the last invoice to the consumer, reflecting the consumption up to the moment of disconnection.

#### **Objectives of the disconnection process:**

The objectives of the remote disconnection process of smart meters through the MDM system are as follows:

- Achieving fast and accurate disconnection: The process ensures fast and
  efficient disconnection of smart meters remotely, without physical
  intervention, through the MDM platform, thus reducing the costs and
  time associated with a classic disconnection.
- 2. Ensuring the accuracy and transparency of consumption data: By reading the final indices at the time of disconnection and recording them in the consumer profile, the process guarantees that all consumption data is accurate and transparent, allowing for correct billing.
- 3. Automatic update of consumer status: The involved MDM, ERP and Billing ES systems allow real-time update of the meter status and consumer profile, providing an updated record for MDM DSO and Billing ES.
- **4. Facilitating final billing:** The process contributes to issuing the final bill for the consumer, based on accurate energy consumption data up to the time of disconnection.
- **5. Optimization of operational resources:** Implementing remote disconnection reduces the need for physical travel and technical

resources, increasing the operational efficiency of the operator and supplier, allowing resources to be focused on other critical distribution and consumer support activities.

These objectives contribute to the efficiency, transparency, and fairness of disconnection operations, improving the overall customer experience and resource management.

#### **Initiation of the process:**

The remote reconnection process for smart meters is initiated when a reconnection request is registered in the Distribution System Operator (DSO) ERP system. This request can either come from the end customer or can be generated automatically as a result of resolving a cause that led to the disconnection, such as paying debts. When registering the request in ERP DSO, the system checks the meter type to determine whether it is a smart meter (which allows remote reconnection) or a classic meter (which requires field intervention). If the request refers to a smart meter, ERP DSO sends this request to the MDM system, which manages the remote reconnection operation.

#### **Process Steps/Activities:**

### BP\_3 Remote Reconnection of Smart

**Meters from** 

**MDM** 

### 1. Register reconnection request

**Actor: ERP DSO** 

**Description:** When a reconnection request is registered in the DSO ERP system, the type of meter associated with it is identified. If the request is for a smart meter, the reconnection will be performed remotely through the MDM system. In the case of classic meters, the reconnection will be performed on site by the system operator's technical staff. All previous steps, such as notifying the customer about the reconnection, are already completed by this stage.

### 2. Sending the Reconnection Request to MDM

**Actor: ERP DSO** 

**Description:** ERP DSO sends the reconnection request to MDM, ensuring that all the necessary requirements for the reconnection are included in the message sent. This step is automated, and MDM receives the details related to the meter identification and the reasons for the reconnection. This efficient integration allows MDM to process the request quickly, reducing waiting times.

#### 3. Remote Reconnection

**Actor: MDM** 

**Description:** The MDM system, upon receiving the request, performs the remote reconnection of the smart meter. The reconnection is managed automatically, without physical intervention, and allows the customer to resume electricity consumption. The MDM monitors the process to confirm successful reconnection and ensures data integrity.

### 4. Change meter status - connected to Profile, read meter indices Actor: MDM

**Description:** After reconnection is complete, the MDM system updates the meter status in the customer profile to "connected" and performs a start-up reading. These initial values are essential to resume correct billing of energy consumption, ensuring that all consumption data is accurate and correct from the moment of reconnection.

#### 5. Export data and meter indices

**Actor: MDM** 

**Description:** MDM exports the meter data and initial readings to both the supplier's billing system (Billing) and the distributor's ERP (DSO). This data transfer ensures the synchronization of consumption information between all systems involved, allowing for a unified and accurate management of the customer's account.

#### 6. Update data in ERP DSO

**Actor: ERP DSO** 

**Description:** ERP DSO receives the information from MDM, updating the customer profile with the new data regarding the connection status and initial indices. Thus, ERP DSO maintains an accurate and up-to-date record of the reconnection operations, which can be accessed later for monitoring or auditing.

#### 7. Update data in Billing ES

**Actor: Billing ES** 

**Description:** The supplier's billing system receives the data exported by MDM, including the meter start indices. This information allows billing to be initiated based on updated consumption, providing proper service continuity and accurate records for the customer. Thus, Billing ES can resume the billing process according to the new reconnection status.

#### **Actors and Responsibilities:**

#### **ERP DSO (Distribution System Operator Management System)**

#### **Responsibilities:**

• Records reconnect requests, identifying the meter type associated with each request.

- In the case of smart meters, it sends the reconnect request to the MDM system, initiating the remote reconnect procedure.
- Maintain detailed records of the stages and status of each request in the ERP system.
- Ensures that information about the reconnection performed is updated and transmitted to the parties involved, including the field teams responsible for classic meters.

#### MDM (Measurement Data Management System)

#### **Responsibilities:**

- Receives reconnection requests for smart meters sent by ERP DSO.
- Performs remote reconnection of smart meters, automatically changing the meter status in the consumer profile in the MDM system.
- Read the meter readings to have an initial record of consumption at the time of reconnection.
- Exports relevant data and reconnected meter readings to both the DSO ERP and the supplier's billing system.

#### **Billing ES (Electricity Supplier Billing System)**

#### **Responsibilities:**

- Receives updated reconnection data and meter readings from the MDM system, ensuring accurate energy consumption tracking.
- Updates the consumer profile in the billing system, recording relevant data for issuing future invoices.
- Ensures that reconnection data is correctly integrated into the customer account for accurate and transparent billing.

#### Objectives of the Reconnection Process to the Electricity Grid:

#### 1. Prompt restoration of services

Ensuring rapid reconnection of customers who have paid their debts or renewed their contracts, thus minimizing interruptions in the supply of electricity, through an automated process carried out remotely.

#### 2. Automating the reconnection process

Eliminating manual intervention by fully automating the process, thus ensuring increased operational efficiency and reducing human errors.

#### 3. Improving customer satisfaction

Providing a positive customer experience through fast and accurate processes, reducing wait times for reconnection and ensuring rapid restoration of services.

#### 4. Maintaining data accuracy and transparency

Automatic and real-time update of meter status in relevant systems (MDM, ADMS, Billing), ensuring consistency and accuracy of information in all departments involved.

#### 5. Optimization of technical network management

Ensuring correct synchronization between data management and operational systems to maintain the integrity of the distribution network and facilitate efficient management of the energy infrastructure.

#### 6. Reducing operational costs

Automate processes to reduce costs associated with manual interventions, thus optimizing resource utilization and operational efficiency.

#### 7. Effective monitoring and reporting

Facilitate accurate monitoring and reporting of reconnections, allowing for detailed performance analysis and identification of improvement opportunities.

#### 8. Improving system resilience and flexibility

Developing a robust and flexible system capable of efficiently managing reconnections in various scenarios, including in the event of resolving technical failures and breakdowns.

#### 9. Compliance with regulations and policies

Implementing the process in accordance with legal regulations and internal policies, ensuring compliance with safety and operating standards.

# BP\_4 Meter replacement

#### Initiation of the process:

The meter change process in the MDM system is initiated when the system operator decides that a meter needs to be replaced at the point of consumption. Reasons may include: equipment wear, detected faults in the consumption measurement, the need for more accurate measurement or technological update. Generating the Work Order (OW) in the DSO ERP marks the beginning of the process and allows the necessary tasks to be assigned to the technical team. This prepares the equipment for the dismantling of the old meter and the

installation of the new one, with the measurement data subsequently being transmitted and recorded in the MDM system and the Billing system.

#### **Process Steps/Activities:**

#### 1. Generate WO meter change

**Actor: ERP DSO** 

**Description:** The process begins with the generation of a Work Order (WO) in the DSO ERP for the meter change. This order can be generated for various reasons, such as the need to update old equipment, detecting faults or to improve the accuracy of the measurement, etc. The central technical staff receives the WO, informs themselves about the specific details of the consumption point and prepares the necessary equipment for replacement.

# 2. Dismantling the old meter, installing the new meter, unsealing and sealing, reading the meter indices

**Actor: DSO Technical Staff** 

**Description:** In this stage, the technical team travels to the consumption site to dismantle the old meter and install the new meter. The dismantling process involves unsealing, disconnecting the old meter from the network, recording the final reading and removing it. Then, the new meter is installed, which is connected to the network and tested to ensure correct operation. After installation, the meter is sealed to prevent unauthorized manipulation, to ensure the integrity of the measurements and the initial readings of the newly installed meter are read.

### 3. Complete the WO with the relevant data

**Actor: DSO Technical Staff** 

**Description:** After the installation and sealing of the new meter, the technical team completes the Work Order (OW) with all relevant details. This includes the old meter data (such as serial number and final reading) and the new meter data (serial number, initial reading and other technical information). The correct completion of the OW is essential to ensure a transparent and fair transition between the old and new meters and to document all activities performed.

### 4. Data recording according to WO in ERP

**Actor: ERP DSO** 

**Description:** In the DSO ERP, information is recorded according to the work order previously completed by the DSO technical team, updating the data regarding the disconnected and connected meter, seals and initial/final indices. Thus, the DSO ERP maintains a correct and updated record of meter exchange operations, which can be accessed later for monitoring or auditing.

#### 5. Export data related to meter and indices to MDM

**Actor: ERP DSO** 

**Description:** Relevant meter data, including serial number, initial/final reading and other technical information, is exported to the Meter Data Management (MDM) system. Exporting this data ensures that all the information needed to monitor and manage energy consumption is available in the MDM. This step is essential to enable accurate analysis and ensure correct billing of the consumer.

#### 6. Complete Consumer Profile with NEW data

**Actor: MDM** 

**Description:** MDM receives the data transmitted from the ERP and updates the consumer profile with the information related to the dismantled/installed meter and their indices. The update includes all the relevant technical details, allowing efficient and centralized management of the meter in the metering network.

#### 7. Data update in Billing ES

**Actor: Billing ES** 

**Description:** The electricity supplier's billing system receives the updated data from the MDM and integrates it into the consumer's billing profile. This allows for correct billing based on the new meter readings and measured consumption, ensuring continuity in the billing process without interruptions or dis

crepancies.

#### **Actors and Responsibilities**

#### 1. ERP DSO

#### Responsibilities:

- Generate meter change WO: Initiates the meter change process by generating a Work Order (WO) based on established reasons, such as replacing worn equipment, detected faults, or the need for more accurate measurement.
- Data recording according to WO in ERP: Records detailed information according to the WO completed by the DSO technical team, ensuring correct records of meter exchange operations.
- Export meter data and indices to MDM: Send meter data to MDM, including meter series, initial and final readings, to enable efficient energy consumption management and monitoring.

#### 2. DSO Technical Staff

#### Responsibilities:

- Dismantling the old meter, installing a new meter, unsealing and sealing, reading meter readings: Performs the physical operations of replacing the meter at the point of consumption, including dismantling, sealing the new meter and reading the readings necessary for proper documentation and billing.
- Complete the Work Order (WOR) with related data: Complete the Work Order (WOR) with precise details about the old and new meter, including readings and technical information necessary to document the change.

#### 3. MDM (Meter Data Management)

#### Responsibilities:

- Complete Consumer Profile with NEW data: Update the consumer profile with data received from ERP, including details about the newly installed meter and measurement indices, to allow for centralized and accurate meter management.
- Data transmission to Billing ES: Ensures the export of meter and index data to the supplier's billing system for correct billing.

#### 4. Billing ES

#### • Responsibilities:

 Data Update in Billing: Integrates updated data from MDM into the consumer's billing profile, enabling correct billing based on the new meter readings and ensuring continuity without discrepancies in the billing process.

#### **Objectives of the Meter Replacement Process**

**Ensuring accurate consumption measurements:** By replacing old or faulty meters, the process aims to improve the accuracy of measuring energy consumed, thus ensuring correct billing for the consumer.

**Increased operational efficiency:** Automating data exchange between ERP DSO, MDM and Billing ES optimizes the flow of information, eliminates manual errors and reduces the time needed to record changes in all involved systems.

**Strengthening the consumer profile**: Updating information in MDM and integrating it into the consumer's billing profile ensures that all relevant data (new meter, initial and final indices) are accessible in one place and allow for efficient management of the consumer relationship.

**Regulatory Compliance**: The process aims to comply with regulations regarding the sealing and highlighting of meter readings, providing complete and audited documentation of all changes made at the point of consumption.

**Increased transparency and consumer confidence**: By fully documenting the replacement process and providing up-to-date guidance, the consumer benefits from greater clarity regarding billing and metering of energy consumption.

#### **Initiation of the process:**

The process is initiated when an WO is received for other activities (CT/VT replacement), for technical reasons, checks, breakdowns, etc.

#### **Process Steps/Activities:**

#### 1. Generate WO change CT/VT

**Actor: ERP DSO** 

**Description:** The process of changing the current transformer (CT) or voltage transformer (VT) begins with the generation of a Work Order (WO) in ERP DSO. The WO is initiated to address the need to replace the equipment, either to replace old equipment or due to faults that have occurred. The central technical staff is informed of the specifications of the consumption site, identifying the equipment and resources needed to carry out the change.

BP\_5

# CT or VT replacement

### 2. Dismantling old CT/VT, mounting new CT/VT, unsealing and sealing, reading indices Actor: Technical Staff of DSO

**Description:** The technical team moves to the specified location to replace the current or voltage transformer. The process involves unsealing the old equipment, dismantling it and recording the last indices. After removing the old CT/VT, the team installs the new equipment, connecting it to the network and testing its functionality to verify that the measurements are correct. Finally, the CT/VT is sealed to prevent any unauthorized intervention, and the initial indices are noted.

### 3. Completion of the WO with the relevant data

**Actor: Technical Staff of the DSO** 

**Description:** After the completion of the assembly and sealing process, the technical team completes the WO with all relevant information. The WO will contain details of the dismantled CT/VT, such as the serial number and final indices, as well as the data of the newly installed CT/VT (serial number, initial indices and other necessary information). This careful completion of the WO ensures a clear and transparent record of the equipment change, providing a solid basis for documenting the activities carried out.

#### 4. Data recording according to WO in ERP

**Actor: ERP DSO** 

**Description:** The ERP DSO system receives and records all data from the WO completed by the technical team. Information about the old and new CT/VT, as well as details about seals and measured indices are integrated into the ERP database. This detailed recording facilitates the tracking of operations and allows quick access to information for monitoring and auditing.

#### 5. Export CT/VT data and indices to MDM

**Actor: ERP DSO** 

**Description:** After complete registration in ERP, data about the new CT/VT and its indices are exported to the Meter Data Management (MDM) system. This data, which includes serial number, initial and final indices and other technical details, is transmitted to maintain a centralized and accurate database of the metering equipment in the network. This transfer is essential for continuous monitoring of consumption and ensuring correct billing.

#### 6. Completing the Consumer Profile with NEW data

**Actor: MDM** 

**Description:** MDM receives the information about the new CT/VT from the ERP DSO and updates the consumer profile. The profile is completed with the data of the new equipment, including technical specifications and initial measurement indices. This update contributes to the efficient management of the equipment in the system and ensures that the energy consumption data is as accurate and up-to-date as possible.

#### 7. Update data in Billing ES

**Actor: Billing ES** 

**Description:** The electricity supplier's billing system, Billing ES, receives and integrates data from MDM regarding the new CT/VT and its indices. This step ensures that billing is based on the new measurements, avoiding any discrepancies or errors in billing of consumption. Updating is crucial to maintain the continuity of the billing process and to ensure the accuracy of the amounts billed to the consumer.

#### **Actors and Responsibilities**

#### 1. ERP DSO

#### **Responsibilities:**

- Generation of Work Order (WO) for CT/VT change, based on the need to replace equipment for technical or safety reasons.
- Recording all relevant data from the WO into the ERP system, including information about dismantled and assembled equipment, as well as their indices.
- Exporting data related to the new CT/VT, such as serial number and measured indices, to the MDM system, thus ensuring the consumer profile is updated.

#### 2. DSO Technical Staff

**Responsibilities:** 

- Carrying out the dismantling operation of the old CT/VT and installing the new equipment at the place of consumption, respecting safety and compliance procedures.
- Taking the final reading of the old equipment's indices and the initial reading of the new equipment, thus ensuring continuity of measurements.
- Sealing the new equipment to prevent unauthorized access and completing the Work Order with all the technical data necessary for complete documentation of the process.

# 3. MDM (Meter Data Management) Responsibilities:

- Receiving and recording data from the DSO ERP to update the consumer profile with the information of the newly installed CT/VT.
- Maintaining an updated and accurate database for managing and monitoring network metering equipment.
- Transmitting new equipment data and indices to the supplier's billing system, ensuring accurate billing based on measurements taken with the new equipment.

# 4. Billing ES Responsibilities:

- Integrate and update data received from MDM into the consumer's billing profile to reflect the new metering equipment.
- Ensuring accurate and continuous billing of energy consumption, based on measurements made by the new CT/VT.
- Monitoring billing information to prevent discrepancies or errors that could affect the end consumer.

#### Objectives of the CT/VT Replacement Process

The process of replacing current transformers (CT) or voltage transformers (VT) is essential for maintaining the efficiency and safety of the electricity distribution network. Here are the main objectives of this process:

#### 1. Ensuring Continuity and Quality of Service

**Objective:** Maintaining the continuity of the supply of electricity to consumers and ensuring that it is delivered at established quality standards.

#### 2. Improving Metering Accuracy

**Objective:** Guaranteeing the accuracy of electricity consumption measurements for correct billing.

#### 3. Increasing Network Reliability

**Objective:** Improving the reliability and sustainability of the electricity

distribution network.

#### 4. Compliance with Norms and Regulations

**Objective:** Ensuring compliance with standards and technical regulations in force.

#### 5. Reducing Technical Losses

**Objective:** Minimize technical losses in the network.

#### 6. Maintenance Optimization

**Objective:** Streamlining maintenance processes and reducing associated costs.

#### 7. Customer Satisfaction

**Objective:** Improve customer satisfaction by ensuring high quality service.

#### Intiation of the process:

The process of detecting and managing anomalies in consumption data is automatically initiated when the Meter Data Management (MDM) system receives and analyzes the consumption data collected from smart meters. If the recorded values do not align with the expected values, according to the predefined rules in the MDM, the anomaly detection process is triggered.

These rules can include identifying unusual consumption variations, detecting signs of manipulation, and monitoring other possible failures. Thus, any deviation identified in real time or during the scheduled analysis process can trigger the initiation of this process, allowing the system to promptly manage any potential problems.

**BP\_6** 

#### **Anomaly detection**

#### **Process Steps/Activities:**

#### 1. Predefined anomaly detection rules

**Actor: MDM** 

**Description:** The MDM (Meter Data Management) system uses a set of predefined rules to detect anomalies in meter consumption data. These rules are configured to identify deviations from normal values, such as unusual variations in energy consumption, signs of tampering, or technical failures. MDM constantly monitors meter data in real time to ensure prompt detection of any problems.

#### 2. Anomaly messages

**Actor: MDM** 

**Description:** When the MDM system detects an anomaly according to predefined rules, it automatically generates alert messages. These messages contain detailed information about the type and nature of the detected anomaly, such as the date and time of detection, the location of the meter, and a description of the problem. Anomalies can be removed remotely from the MDM, and if they cannot be removed remotely, the anomaly messages are transmitted to the ERP DSO system to initiate further investigations.

#### 3. Remote anomaly removal

**Actor: MDM** 

**Description:** If the detected anomaly can be resolved remotely, MDM initiates automated corrective actions. These actions may include meter recalibration, parameter resets, or other technical adjustments. Remote anomaly removal reduces the need for physical interventions and allows for rapid problem resolution.

#### 4. Update anomaly removal info

**Actor: MDM** 

**Description:** After remote anomaly removal, the MDM system updates the meter profile to reflect the final resolution of the issue. This step ensures that all data in the system is correct and up-to-date, fully documenting the remediation process. The final update in MDM closes the process and ensures continued monitoring of the meter to prevent recurrence of anomalies.

#### 5. Reception of anomaly messages, Generation of AN

**Actor: ERP DSO** 

**Description:** If anomalies cannot be resolved remotely from MDM, the ERP DSO system receives the anomaly messages generated by MDM and creates anomaly notifications (AN). These notifications are used to initiate the process of investigating and resolving the reported anomalies. ERP DSO manages the workflow for technical investigation and distributes the necessary tasks to technical personnel.

#### 6. WO technical verification

**Actor: Technical Staff** 

**Description:** Following the generation of anomaly notifications, the ERP DSO issues a Work Order (WO) for the technical verification of the meter suspected of anomaly. The central technical staff receives the WO and prepares for the field investigation. The WO includes details about the consumption location, the nature of the anomaly and instructions for performing the verification.

#### 7. WO Fulfillment

**Actor: Technical Staff** 

**Description:** Technical personnel travel to the consumption site to perform the meter verification. This includes physical inspection of the meter, functionality testing, and recording any deficiencies or problems identified. Technical personnel document all

findings and actions taken in the WO. After the verification, the WO is completed with details of the findings and actions taken.

#### 8. Registration of technical verification results

**Actor: ERP DSO** 

**Description:** After completing the technical verification, all information is recorded in the DSO ERP system. This stage indicates that all necessary investigations and actions have been completed and that the reported anomaly has been addressed appropriately.

#### 9. Export data related to anomaly removal

**Actor: ERP DSO** 

**Description:** The data and results of the technical verification are exported to the MDM system. This data includes information about the nature of the anomaly, the actions taken and the final status of the meter. Exporting this data ensures that MDM has all the information needed to update the meter profile and for continuous monitoring.

#### 10. Update anomaly removal info in MDM

**Actor: MDM** 

**Description:** The MDM system updates the meter and consumption point profile with information received from the DSO ERP. This ensures that all data is correct and reflects the current meter status, including the resolution of anomalies. Updating information in the MDM is crucial for maintaining an accurate database and preventing similar issues from occurring in the future.

# 11. Update data Actor: Billing ES

**Description:** Once the anomaly removal information and updated meter status have been transmitted from the MDM, the Billing ES system processes this data to adjust the consumer's billing profile. Updating the data in Billing ensures that the bills issued accurately reflect the actual consumption, without errors associated with the detected anomaly. This final step confirms that all necessary adjustments have been integrated so that subsequent billing is accurate and correct, in accordance with the meter's measured and validated data.

#### **Actors and Responsibilities**

#### 1. Actor: MDM (Meter Data Management)

#### Responsibilities:

• Configure and apply predefined rules for anomaly detection in smart meter consumption data to quickly identify any unusual variations.

- Continuous monitoring of measurement data transmitted by meters and automatic generation of alert messages in case of detection of a deviation from normal values.
- In case of anomalies that can be corrected remotely, initiating corrective actions (recalibration, reset) and updating the meter profile with related information.
- Exporting information about detected and resolved anomalies to the DSO ERP, thus ensuring process traceability and maintaining accurate records.

#### 2. Actor: ERP DSO

#### Responsibilities:

- Receiving anomaly messages from MDM and generating the necessary notifications for their investigation.
- Creating and issuing a Work Order (WO) for field investigation in case of anomalies requiring physical intervention, specifying the relevant details of the consumption location and the nature of the problem.
- Recording the results of the technical investigation carried out at the point of consumption and exporting relevant data to MDM to complete the meter profile.
- Monitoring and coordinating technical verification activities to ensure that all detected anomalies are managed effectively.

#### 3. Actor: DSO Technical Staff

#### Responsibilities:

- Receiving and fulfilling the Work Order (WO) issued by the ERP DSO to verify technical anomalies reported at the place of consumption.
- Conducting physical inspections, testing meter functionality, and documenting any deficiencies or issues identified within the WO.
- Recording all observations and corrective actions taken to eliminate the anomaly, thus completing the WO with accurate and relevant data.
- Ensuring meter security through preventive measures (sealing or other checks) and transmitting results to the DSO ERP for recording and export to MDM.

#### 4. Actor: Billing ES

#### Responsibilities:

- Integrate updated data and anomaly removal information from MDM to maintain an accurate consumer billing profile.
- Verifying and adjusting consumption data to ensure billing accuracy, eliminating any discrepancies due to reported anomalies.
- Regularly updating billing profile data to reflect real-time consumption and meter status, ensuring the continuity of correct billing.

#### **Objectives of the Anomaly Detection Process**

#### 1. Ensuring the accuracy of consumption data

The process aims to detect and correct anomalies in consumption data collected from smart meters, so that the data used for billing and monitoring is accurate and reliable. This reduces the risk of billing errors and ensures an accurate record of users' actual energy consumption.

#### 2. Preventing and identifying unauthorized interventions

The system quickly detects any attempts to manipulate or alter the meter, as well as other technical failures, thus protecting data integrity. This objective contributes to maintaining the safety and security of equipment and compliance with regulations regarding the use of meters.

#### 3. Reduce intervention time and optimize resources

By identifying anomalies in real time and, when possible, resolving them remotely, the process minimizes the need for physical interventions. This lowers operational costs and allows technical teams to more efficiently manage the necessary interventions in the field.

#### 4. Improving the customer experience

By ensuring rapid detection and proactive correction of anomalies, the process contributes to accurate billing and the avoidance of unexpected consumption issues for users. This objective supports customer satisfaction by providing a reliable and transparent service.

#### 5. Compliance with regulations and reporting standards

The process ensures that all operations related to anomaly detection and management comply with industry standards and reporting requirements. By continuously updating consumption profiles in MDM and ERP, full traceability of corrective actions and a complete audit history are maintained, in accordance with applicable regulations.

These objectives contribute to the creation of a robust monitoring and billing system that supports both the interests of the system operator and the end consumer.

#### **Initiation of the process:**

**BP\_7** 

The process is initiated when the MDM (Meter Data Management) system detects an anomaly in a meter's consumption data, according to predefined rules to identify potential fraud or manipulation.

### Periodic meter check (anti-fraud)

#### **Process Steps/Activities:**

#### 1. Alert notification

**Actor: MDM** 

**Description:** The MDM (Meter Data Management) system constantly monitors meter consumption data using predefined rules to detect anomalies. When a possible anomaly is identified that suggests meter fraud or manipulation, the system automatically generates an alert notification. This alert includes details about the suspect meter and the nature of the anomaly detected, and is transmitted to the ERP DSO for initiation of a detailed investigation.

#### 2. Generation of WO Meter verification (anti-fraud)

**Actor: ERP DSO** 

**Description:** Based on the notification received from MDM, ERP DSO generates a Work Order (action) for the verification of the meter suspected of fraud. The WO is created for the electricity control team and contains all the details necessary for the investigation, including the location of the meter, the nature of the anomaly and the instructions for performing the verification.

#### 3. Physical verification in the field

**Actor: Technical Staff** 

**Description:** The electricity inspection team travels to the specified location to perform a physical inspection of the meter. The inspection includes visual inspection for signs of tampering, checking electrical connections, and testing the functionality of the meter. All findings are documented for use in subsequent steps.

# 4. Preparation of Protocol of violation of contractual clauses Actor: Electricity Recording Service (DSO)

**Description:** If fraud is detected during the verification, the control team draws up a Report documenting the violations of the contractual clauses. This document includes details about the nature of the fraud, the evidence collected and the impact on the recorded consumption. The Report serves as official proof of the fraud and is used in the following steps to calculate penalties and inform the consumer.

### 5. Legal process (if disagree with the Protocol)

**Actor: Legal department** 

**Description:** If the consumer does not agree with the Protocol and refuses to sign or pay, the case is sent to the legal department for resolution. This may involve initiating legal proceedings to recover debts and penalties. The legal process includes preparing the necessary documentation, representing the consumer in court, and following the process until a final legal solution is reached.

#### 6. Signing of the Protocol

**Actor: Consumer** 

**Description:** If the consumer agrees with the Protocol, he signs them. By signing the document, the consumer acknowledges the breach of the contractual clauses.

#### 7. WO fulfilled

Actor: Electricity Recording Service (DSO)

**Description:** In both cases, whether fraud is detected or not detected during the verification, the WO is completed with the appropriate information and is properly documented in the system.

#### 8. WO updated in ERP DSO

**Actor: ERP DSO** 

**Description:** In case the protocol have not been prepared, this step records the verification information in the DSO ERP system. This step ensures that all actions taken are properly documented and that the system reflects the current status of the verification.

#### 9. Consumer information by email

**Actor: Consumer** 

**Description:** The consumer is informed by email about the results of the verification. If no fraud is detected, he is notified that his meter is working correctly and no further action is required.

#### 10. Update data in MDM

**Actor: MDM** 

**Description:** Similarly, if no PV has been prepared, the information recorded in the ERP DSO is transmitted to MDM for updating the data in this system as well. The data in MDM is updated to reflect the results of the process. This step is essential for maintaining the accuracy and integrity of the meter data. The update ensures that MDM has correct and up-to-date information about the meter status and any corrective actions taken.

#### 11. Data recording in ERP

**Actor: ERP DSO** 

**Description:** Following the preparation and signing of the Protocol (PV) by the consumer, detailed information regarding the verification carried out is recorded in the ERP system of the Distribution System Operator (DSO). This initial recording includes the essential data of the verification process, but is partially completed, as the procedure is not completed at this point. The DSO then calculates the related energy consumption, and the supplier issues the corresponding invoices, also integrating the applicable penalties for any fraud discovered.

#### 12. Performs electricity consumption calculations

**Actor: ERP DSO** 

**Description**: In this stage, the ERP system of the Distribution System Operator (DSO) calculates the electricity consumption based on the data recorded following the verification. This calculation takes into account the actual consumption, according to the

meter readings, and any corrections resulting from the verification process, including fraud or other anomalies identified. The DSO ERP applies specific calculation methods, in accordance with the regulations in force, to determine the correct consumption for the analyzed period. This data will then be transmitted to the supplier, who will integrate the information into the final billing to the consumer, ensuring transparency and accuracy in the billing process.

#### 13. Data update in MDM

**Actor: MDM** 

**Description**: In this stage, the MDM (Meter Data Management) system receives and updates the data received from the DSO ERP, regarding fraudulent electricity consumption, in cases confirmed by a protocol accepted by the consumer. This update includes all relevant details regarding the calculation of additional consumption, documenting the value of the illicitly consumed energy, according to regulations. The integration of this data in MDM ensures a centralized record, facilitating long-term monitoring and prevention of similar situations. Thus, MDM fully and accurately reflects the current status of the meter and the consumer profile, supporting efficient account management in the distribution system.

#### 14. Forward to ES energy consumption calculations

**Actor: MDM** 

**Description:** In this step, the MDM system transmits the calculation of unauthorized electricity consumption to the electricity supplier's billing system (Billing ES). This data includes details of the amount of energy consumed illegally. The prompt transmission of this information ensures that the supplier can issue the invoice and apply the appropriate sanctions to the consumer. This information flow allows Billing ES to efficiently manage the billing process and correctly reflect the penalties for fraudulent consumption, respecting legal procedures and ensuring transparency in the relationship with the consumer.

#### 15. Forwarding Payment Order to Customer

**Actor: Billing ES** 

**Description:** The electricity supplier, through the Billing ES billing system, receives the detailed calculation of unauthorized electricity consumption, transmitted by the MDM system. Based on this information, Billing ES issues the invoice that reflects both the illicit consumption and the associated penalties according to the regulations in force. The payment order is prepared and transmitted to the consumer, providing clear details about the amount owed, the penalties applied and the payment deadline. This step ensures transparency and clarity for the consumer and allows the supplier to comply with billing procedures for correct cost recovery.

#### 16. Payment of debts and penalties

**Actor: Consumer** 

**Description:** After receiving the payment order issued by the supplier, the consumer is responsible for paying the amount related to the unauthorized energy consumption, including the penalties applied. This payment can be made through the payment methods made available by the supplier, respecting the deadline specified in the

invoice. The full payment of debts and fines ensures the closure of the cost recovery process and allows the consumer to avoid additional sanctions or disconnection from the network, according to the procedures and regulations established by the supplier.

#### 17. Confirmation of no debts

**Actor: Billing ES** 

**Description:** After processing the payment from the consumer for the accumulated debts and the related penalties, the supplier's billing system (Billing ES) checks the status of the customer's account. If the payment has been made in full and there are no other outstanding debts, the system updates the customer's status to "no debts." This confirmation is essential to allow the restoration of normal supply conditions, preventing the application of additional measures, such as additional penalties or disconnection from the network.

#### **Actors and Responsibilities**

#### 1. MDM (Meter Data Management)

#### • Responsibilities:

- Constantly monitors meter consumption data to detect anomalies, using predefined rules.
- Generates alert notifications when possible fraud or meter manipulation is identified and sends these alerts to the DSO ERP.
- Transmits to Billing ES the calculation of illicit consumption in cases of confirmed fraud, ensuring a centralized and accurate record of unauthorized consumption.
- Update the consumer profile with data on fraudulent consumption to support efficient and accurate account management.

#### 2. ERP DSO (Distribution System Operator)

#### Responsibilities:

- Receives alerts from MDM and generates work orders (WO) for the control team, triggering the process of physical verification of meters suspected of fraud.
- Records and manages data from work orders and protocol, including technical inspection results and unauthorized consumption calculations.
- It performs detailed calculations of unauthorized consumption and transmits this data to MDM to enable updating of the consumer profile.
- Ensures that a complete and up-to-date record is kept of all actions taken for each meter investigated.

#### 3. Electricity Recording Service (DSO)

#### Responsibilities:

 Performs physical checks at the point of consumption, inspecting suspected meters for signs of tampering or malfunctions.

- Prepares a protocol in cases of fraud, documenting violations of contractual clauses and evidence found.
- Provides the DSO ERP with the information necessary to complete and record data on unauthorized consumption, contributing to the transparency of the process.

#### 4. Legal Department

#### Responsibilities:

- Manages cases of consumer objections to the protocol, initiating legal proceedings when necessary.
- Prepares documentation and legal representation for lawsuits related to electricity fraud, ensuring compliance with regulations.
- Collaborates with other departments to resolve legal cases effectively, protecting the interests of the operator and the supplier.

#### 5. Billing ES (Energy Supplier Billing System)

#### • Responsibilities:

- Integrates into billing the calculations of illicit consumption and related penalties, transmitted by MDM, and issues the final invoice to the consumer.
- Prepares and sends the consumer the payment order detailing the amounts owed and the penalties for unauthorized consumption.
- Verify and confirm full payment of debts and penalties by the consumer, updating the customer's status to reflect the current financial situation.

#### 6. Consumer

#### Responsibilities:

- Collaborates during technical meter inspections and signs the protocol if he agrees with the findings.
- Pay the total amount related to unauthorized energy consumption and the penalties applied, according to the payment order received from the supplier.
- Comply with payment terms to avoid disconnection from the network or other additional sanctions, maintaining an appropriate contractual relationship with the supplier.

#### **Objectives of the Periodic Meter Verification Process (anti-fraud)**

**The main objective** of the fraud detection and management process is to ensure the integrity and accuracy of electricity consumption measurements by quickly identifying and correcting anomalies and fraudulent meter manipulations. This objective is achieved through the following specific activities:

#### 1. Early anomaly detection:

Using a set of predefined rules to continuously monitor consumption data and promptly identify suspicious deviations.

#### 2. Process automation:

Implementing an automated system for generating alerts and initiating investigations, thus reducing manual interventions and ensuring a rapid response.

#### 3. Rigorous verification and documentation:

Conducting detailed physical inspections of suspected meters and accurately documenting any detected contractual violations.

#### 4. Penalty Calculation and Recovery:

Calculating fines and debts resulting from fraud and ensuring their recovery through efficient billing and payment processes.

#### 5. Maintaining transparency and compliance:

Ensuring clear and transparent communication with consumers, notifying them of the results of investigations and requesting compliance with legal and contractual provisions.

#### 6. Dispute Management:

Efficient management of disputes and challenges through the intervention of the legal department, if necessary, for the legal resolution of cases of noncompliance.

#### 7. Data Update and Maintenance:

Constantly update meter profiles and consumption locations in MDM and ADMS systems to correctly reflect status and actions taken.

#### **Initiation of the process**

BP\_8 Migration 1P-3P reflected in MDM The process of changing the meter for increased power is triggered when a consumer officially requests an increase in electrical consumption capacity. Once the application is submitted, all preliminary procedures are followed, including obtaining compliance with the requirements of the Connection Notice (CN) and any necessary adjustments to the electrical installations. After completing these steps, the point is reached where the existing meter must be replaced to support the new capacity. It is at this point, after recording the data in the DSO ERP, that this information is also transmitted to the MDM, thus the consumer profile is updated with the related data related to the migration process from 1P-3P.

#### **Process Steps/Activities:**

#### 1. Generation of WO for meter change

Actor: ERP DSO

**Description:** As a result of the consumer's request for a power increase, and after completing all the preliminary procedures related to the Connection Notice (AR) and the adjustment of the electrical installations, the stage is reached where the existing meter must be replaced to support the new capacity. At this point, the ERP DSO system generates a Work Order (WO) for the meter change, specifying the necessary details for the intervention of the technical team. The technical staff receives the WO and prepares to carry out the meter change, according to the new consumption requirements.

# 2. Dismantling of old meter, installation of new meter, unsealing and sealing, reading of meter readings

**Actor: Technical Staff of DSO** 

**Description:** The technical team travels to the consumption site to dismantle the old meter and install a new meter, which will support the increased power requirements of the consumer. The process includes unsealing the old meter, recording the final readings and dismantling it. Subsequently, the new meter is installed, connected to the network, and checked to ensure correct operation. After installation, the meter is sealed for protection, and the team records the initial readings of the new meter.

#### 3. Filling in the WO with the relevant data

**Actor: Technical Staff of the DSO** 

**Description:** After installing the new meter, the technical team fills in the WO with all the relevant data, including the serial number and final indices of the old meter, as well as the initial data of the new meter. Correct filling in the WO ensures a transparent and accurate recording of the change, essential for documenting the entire procedure.

#### 4. Data recording according to WO in ERP

**Actor: ERP DSO** 

**Description:** Information from WO is entered into ERP DSO, updating data about the replaced and new meter, including seals and registered indices. This recording ensures the maintenance of a complete and updated record, useful for subsequent verifications.

#### 5. Export meter data and indices to MDM

**Actor: ERP DSO** 

**Description:** Meter data, including series and initial/final indices, are exported from ERP to the MDM (Meter Data Management) system. This information transfer allows MDM to integrate the information into the consumption monitoring network and ensure the accuracy of future billing.

#### 6. Fill in the Consumer Profile with NEW data

**Actor: MDM** 

**Description:** MDM retrieves and updates the consumer profile, including information about meters and their indices. Updating the technical details in the MDM profile ensures centralized and efficient meter management within the network.

7. Update data in Billing ES

**Actor: Billing ESD** 

**Description:** The supplier's billing system receives the data from the MDM, updating the consumer's billing profile. This allows for correct billing, aligned with the new requested power capacity, ensuring continuity and accuracy of billing.

#### **Actors and Responsibilities**

#### 1. ERP DSO

#### Responsibilities:

- WO generation for meter change as a result of consumer demand for power increase.
- Detailed record of meter change, updating information about the old and new meter, including their seals and indices.
- Export relevant meter data and consumption indices to the MDM system for monitoring and management.

#### 2. DSO Technical Staff

#### • Responsibilities:

- Travel to the consumption site to dismantle the old meter and install the new meter, according to the power increase requirements.
- Accurate documentation of the changeover process, including unsealing, recording the final readings of the old meter, installing the new meter and sealing it.
- Filling in the WO with detailed data about the old meter (serial number and final indices) and about the new meter (serial number, initial indices and other technical information).

#### 3. MDM (Meter Data Management)

#### Responsibilities:

- Receiving and updating the consumer profile with the information transmitted by the DSO ERP regarding the new meter and the registered indices.
- Centralized monitoring of consumer data to ensure accuracy in future billing and maintain meter data integrity.
- Ensuring a correct and updated data flow to the ES Billing system for efficient and accurate consumption billing.

#### 4. Billing ES

#### • Responsibilities:

 Integrate and update the consumer's billing profile based on data from MDM, reflecting the new consumption capacity and corresponding indices.  Correctly issuing invoices, aligned with the new consumption configuration, and maintaining transparency in the billing relationship with the consumer.

#### Objectives of the Meter Change Process in the Event of a Power Increase

#### **Ensuring continuity and reliability of electricity supply:**

The main objective of the meter change is to enable support for the new consumption capacity required by the customer, in accordance with the demand for increased power and all technical and safety requirements. The process contributes to the stable and secure supply of electricity, without the risk of overloading or malfunctioning of the metering system.

#### **Compliance with regulations and technical procedures:**

The entire process is carried out in accordance with applicable legal, technical and connection regulations. The sealing/unsealing procedures, WO registration and consumer profile updating are intended to comply with the standards imposed by national legislation and system operator regulations.

#### **Documentation and transparency of activities:**

Each stage of the meter change is rigorously documented to ensure transparency of the activities carried out. From the registration of the WO and the readings of the old and new meter to the updating of data in the DSO and MDM ERP systems, the process aims to provide a clear and complete record for customers, operators and suppliers.

#### Process optimization and reduction of intervention time:

The process is designed to facilitate a quick and efficient meter change, reducing intervention time and minimizing potential interruptions in energy supply. By automating certain steps and integrating data into IT systems, the process becomes more efficient and easier to manage.

#### Correct update and synchronization of data in all relevant systems:

Another fundamental objective is to ensure that all data regarding the old and new meter, including technical specifications and consumption indices, are updated in real time in the ERP DSO, MDM and ERP ES systems. This update allows for efficient management of energy consumption and correct synchronization with the billing and reporting processes of the electricity supplier.

#### Improving customer relations:

Changing the meter in accordance with the customer's requirements, while respecting transparency and informing them about each stage, contributes to improving the relationship between the operator, supplier and customer. The aim is to ensure quality service and open and efficient communication.

#### **Facilitates monitoring and control of consumption:**

By updating data in meter management and monitoring (MDM) systems, the process

allows for accurate tracking of energy consumption and prompt interventions in case of anomalies. This contributes to optimized and predictable management of customer energy requirements.

#### **Initiation of the process:**

The process of changing the meter for **power reduction** from 3-phase to 1-phase is triggered when a consumer officially requests a reduction in electrical consumption capacity. After submitting the request for power reduction, all preliminary procedures are completed, including obtaining the Connection Notice (CN) and the necessary adjustments to the electrical installations to comply with the new consumption capacity. After completing these steps, the existing meter must be replaced to support the reduced power requirements. At this point, the data is recorded in the DSO ERP, and the information is also transmitted to the MDM, so that the consumer profile is updated with the data corresponding to the migration from 3P to 1P.

#### **Process Steps/Activities:**

#### BP\_9 3P-1P migration reflected in MDM

### 1. Generation of WO meter change

Actor: ERP DSO

**Description:** As a result of the consumer's request for power reduction, and after completing all procedures related to the Connection Notice (CN) and the adjustment of the installations, the stage of meter replacement is reached to support the new reduced capacity. ERP DSO generates a Work Order (WO) for the meter change, specifying details about the power reduction requirements. The WO is received by the technical staff, who prepare to carry out the change.

2. Dismantling of old meter, installation of new meter, unsealing and sealing, reading meter readings

**Actor: Technical Staff of DSO** 

**Description:** The technical team travels to the consumption site to dismantle the old meter and install a new one, in accordance with the power reduction requirements. The process includes unsealing the old meter, recording the final readings and disconnecting it. The new meter is then installed, sealed and tested to ensure correct operation at the reduced capacity.

#### 3. Completion of WO with the related data

**Actor: Technical Staff of DSO** 

**Description:** After the installation of the new meter, the technical team completes the Work Order (LO) with the relevant data, including the series and final indices of the old meter and the initial data of the new meter. This documentation is essential for the transparency and traceability of the replacement process.

#### 4. Data recording according to WO in ERP

**Actor: ERP DSO** 

**Description:** Information from the WO is recorded in the DSO ERP, updating the data about the replaced and new meter, including seals and consumption indices. This detailed recording in the ERP allows access to the data for future monitoring or audits.

#### 5. Export data related to meter and indices to MDM

**Actor: ERP DSO** 

**Description:** The new meter data, including the initial series and indices, is exported from the DSO ERP to the Meter Data Management (MDM) system. This transfer ensures that the MDM has access to the updated data for accurate consumption monitoring at the new capacity.

#### 6. Complete Consumer Profile with NEW data

**Actor: MDM** 

**Description:** MDM receives data from ERP and updates the consumer profile with information related to the new meter and its readings, ensuring that all technical information is centralized and correctly integrated into the monitoring network.

#### 7. Update data in Billing ES

**Actor: Billing ES** 

**Description:** The electricity supplier's billing system receives data from the MDM and updates the consumer's billing profile, ensuring that billing reflects the new consumption configuration and reduced capacity, for correct and transparent management of the billing relationship.

#### **Actors and Responsibilities**

#### 1. ERP DSO

#### Responsibilities:

- WO generation for meter change as a result of consumer request for power reduction.
- Detailed recording of the meter change, updating information about the old and new meter, including their seals and indices.

• Export relevant meter data and consumption indices to the MDM system for monitoring and management.

#### 2. DSO Technical Staff

#### Responsibilities:

- Travel to the consumption site to dismantle the old meter and install the new meter, according to power reduction requirements.
- Documenting the changeover process, including unsealing, recording the final readings of the old meter, installing the new meter and sealing it.
- Filling in the WO with detailed data about the old meter (serial number and final indices) and about the new meter (serial number, initial indices and other technical information).

# 3. MDM (Meter Data Management)

#### Responsibilities:

- Receives and updates the consumer profile with the information transmitted by the DSO ERP regarding the meters and registered indices.
- Centrally monitor consumer data to ensure the accuracy of future billing and maintain the integrity of meter data.
- Transmits updated data to Billing ES for accurate and efficient consumption billing.

# 4. Billing ES

#### Responsibilities:

- Integrate and update the consumer's billing profile based on data from MDM, reflecting reduced consumption capacity and corresponding indicators.
- Issuing correct invoices, aligned with the new consumption configuration, and maintaining transparency in the billing relationship with the consumer.

#### **Objectives of the 3P-1P Migration Process**

# Adaptation of equipment to reduced consumer consumption requirements

The main goal of this process is to ensure the compatibility of metering equipment with reduced consumption requirements, by switching from a 3-phase to 1-phase configuration. This objective allows energy efficiency and continuity of supply at an adjusted capacity.

# Compliance with technical and safety requirements

The process aims to maintain the safety of the installation and the integrity of the metering system by complying with all technical regulations and sealing standards.

Meter sealing and technical checks ensure protection against unauthorized manipulation.

### Correctly updating data in management and billing systems

transition, aligned with the consumer's updated requirements.

It is essential that new data, including serial number and meter readings, are correctly integrated into DSO ERP, MDM and Billing ES. This update allows for accurate consumption monitoring and accurate billing based on the new power capacities, contributing to the transparency and integrity of the billing process.

# **Ensuring operational traceability and transparency**

Detailed documentation of each stage of the meter change process facilitates subsequent verifications and audits. Traceability of each action ensures transparency and accountability for all technical and administrative changes.

Improving the consumer experience through prompt and accurate processing
The objective of this process is to efficiently respond to the consumer's request for reduced consumption capacity, thus minimizing waiting time and ensuring a smooth

# **Initiation of the process:**

The monthly closing process of the DSO is initiated on the 1st of each month, at 00:00, when the border meter readings with Moldelectrica are taken. This moment marks the beginning of the process of reconciling and reporting the electricity consumption and delivery data for the previous period. The readings taken are the basis for calculating the total amount of energy that entered the Electricity Distribution Network (EDN) from the Electricity Transmission Network (ETN). Subsequently, the process includes reconciling data with renewable energy producers, verifying consumption and deliveries to Electricity Suppliers (ESPs), calculating technological losses and drawing up the monthly energy balance, which is transmitted to Moldelectrica for validation and confirmation. The process is intended to ensure transparency and compliance of data on energy distributed and consumed within the network.

# BP\_10 Monthly closing

#### **Process Steps/Activities:**

**Actor: MDM DSO** 

# 1. Border Meter Reading with Moldelectrica (01.01)

**Description:** On the 1st of each month, at 00:00, the MDM system of the Distribution System Operator (DSO) performs border meter reading to determine the amount of electricity entering the Distribution Network (DN) from the Transmission Network (TN) operated by Moldelectrica. This process is essential for establishing the amount of energy supplied and for verifying the energy balance between energy inputs and

outputs in the DN. The collected data is automatically recorded in the MDM system and will be used to prepare the monthly energy balance.

# 2. Closing with REP Producers and Transmission of the Monthly Report

**Actor: MDM DSO** 

**Description:** After reading the border meters, MDM DSO centralizes the data on the electricity delivered by Renewable Energy Producers (REP) during the previous month. A detailed report is generated that includes the total amount of energy supplied, producer identification data and other relevant information. This report is transmitted to each producer, as part of the process of reconciliation and transparency of energy deliveries.

#### 3. Receipt of Monthly Report

**Actor: Producers** 

**Description:** Renewable energy producers receive the monthly report from MDM DSO, which contains the energy delivery data for the respective period. They are responsible for verifying the accuracy of the reported data, analyzing the information received to ensure that everything is in accordance with their internal records.

#### 4. Submitting Data Confirmation

**Actor: Producers** 

**Description:** After verifying the data in the monthly report, producers submit a formal confirmation to MDM DSO. This indicates acceptance of the reported data or signals any inconsistencies that require clarification. Confirmation is a crucial step in the reconciliation process, ensuring alignment between the data provided and those recorded.

#### 5. Data Confirmation Reception

**Actor: MDM DSO** 

**Description:** MDM DSO receives data confirmation from producers and records their validation. In case of inconsistencies, MDM DSO may initiate additional procedures to verify and correct the data. Completion of this stage guarantees the correctness of the data on the energy delivered by producers.

# 6. Transmission of the Monthly Consumption Report to ES

**Actor: MDM DSO** 

**Description:** After reconciling the data with the producers, MDM DSO generates a monthly report on electricity consumption and transmits it to the Electricity Suppliers (ES). The report contains detailed information on the amount of energy delivered, the recorded consumption and other data necessary for the billing and management processes.

# 7. Report Reception

**Actor: Electricity Supplier** 

**Description:** ES receives the monthly report from MDM DSO and analyzes it to verify the accuracy and compliance of the data with its own records. This step is essential to ensure correct billing and to reconcile data between the distributor and suppliers.

# 8. Calculation of Technological Losses

**Actor: MDM DSO** 

**Description:** Based on the data on the energy entering and leaving the network, MDM DSO calculates the technological losses. This calculation reflects the differences between the total energy entering and that consumed by end users and is necessary for monitoring the efficiency of the network and reporting to regulatory authorities.

#### 9. Generation of the Monthly Balance Sheet

**Actor: MDM DSO** 

**Description:** MDM DSO compiles all collected and validated data into a monthly balance sheet that presents details about the electricity entering the RED, the recorded consumption, the energy supplied to consumers and the technological losses. This balance sheet serves as the basis for official reporting and for establishing financial responsibilities.

# 10. Transmission of the Monthly Balance Sheet to Moldelectrica

**Actor: MDM DSO** 

**Description:** MDM DSO transmits the monthly balance sheet to Moldelectrica for verification and reconciliation. The document details the quantities of energy delivered, consumed and technological losses, ensuring clear and transparent records between network operators.

# 11. Reception of the Monthly Balance

**Actor: Moldelectrica** 

**Description:** Moldelectrica receives the monthly balance transmitted by MDM DSO and performs checks to ensure the compliance and correctness of the data. This stage facilitates reconciliation between network operators and contributes to establishing an agreement on the transmitted data.

#### 12. Sending the Response

**Actor: Moldelectrica** 

**Description:** After verifying the balance, Moldelectrica sends an official response to MDM DSO, confirming acceptance of the data or indicating any discrepancies that require additional clarification.

# 13. Response Reception and Update, if Necessary

**Actor: MDM DSO** 

**Description:** MDM DSO receives the response from Moldelectrica and, if necessary, makes updates and corrections to the reported data. This process completes the monthly reconciliation and ensures that all information is correct and compliant with the requirements of the regulations in force.

# **Actors and Responsibilities**

#### 1. MDM DSO (Distribution Operator Data Management System)

# • Responsibilities:

- Reading border meters with Moldelectrica to determine the amount of electricity entering the Electricity Distribution Network (EDN) from the Electricity Transmission Network (ETN).
- Performing monthly closing with renewable energy producers (REP) by generating and submitting the monthly report on the amount of energy supplied.
- Sends monthly consumption report to the Electricity Supplier.
- Calculation of technological losses in the network, based on the amounts of energy input and output.
- Generating the monthly energy balance for RED, which includes all energy consumption, production and delivery data.
- Sending the monthly balance sheet to Moldelectrica for verification and validation, as well as updating the data based on the ESdback received.

#### 2. Renewable Energy Producers (REP)

#### • Responsibilities:

- Receiving the monthly report from the DSO and verifying the data transmitted regarding the amount of energy supplied in the RED.
- Confirmation of data transmitted by MDM DSO, ensuring the accuracy of information regarding energy deliveries.

#### 3. ES (Electricity Supplier)

#### Responsibilities:

- Receiving the monthly consumption report from MDM DSO and verifying the data on the amount of energy distributed to consumers.
- Ensuring the correlation of consumption data with the monthly balance sheet to guarantee transparency and accuracy in reporting to customers and authorities.

# 4. Moldelectrica (Transmission Network Operator)

#### • Responsibilities:

- Receiving the monthly balance sheet sent by MDM DSO for verification and validation of data on energy entering and leaving the RED.
- Sending an official response following data validation, indicating confirmation or the need for adjustments to the consumption and delivery ratio.

**Objectives of the DSO Monthly Closing Process** 

**Ensuring Complete Coverage of Electricity Consumption and Delivery Data:** Complete collection and analysis of data on energy entering the Electricity Distribution Network (EDN) from the Electricity Transmission Network (ETN) and energy supplied to consumers and producers.

#### **Data Correlation and Validation between All Involved Actors:**

Establishing a clear and rigorous data verification procedure to ensure the consistency of information in reporting to renewable energy producers (REP), Electricity Suppliers (ESPs) and Moldelectrica (Transmission Network Operator).

### **Correct Calculation and Transparency of Technological Losses:**

Determination of energy losses in the network based on the quantities of energy input and output, in order to highlight and report technological losses that must be covered by the DSO, according to the regulations in force.

# **Accurate Reporting and Transparency in Communication:**

Generating the monthly energy balance, which correctly reflects the input and output data, and transmitting it to Moldelectrica for validation and verification. Accurate and fast communication with all stakeholders involved, including REP and ES producers, to ensure the transparency of consumption and supply data.

#### **Optimization of Energy Data Management Processes:**

Using the MDM and ERP system for efficient data management, eliminating errors and ensuring an automatic update of consumption and supply data in real time.

# **Compliance with Regulations and Legal Requirements:**

Ensuring compliance with legal requirements and regulations in force regarding the reporting and management of electricity consumption and supply data, so that the quality and integrity standards imposed by the authorities are respected.

#### **Identifying and Implementing Network Improvements:**

Using collected and analyzed data to identify opportunities to improve energy efficiency, reduce losses, and optimize energy delivery to consumers.

#### **Initiation of the process:**

BP\_11.1 Supplier Change, household consumer The process of changing electricity supplier is triggered when a household consumer decides to conclude a contract with a new supplier, either for reasons of cost, better services, or other advantages offered by the new supplier.

#### **Process Steps/Activities:**

# 1. Choose a new supplier

**Actor: Household consumer** 

**Description : The consumer analyzes** the offers available on the market and decides to change the electricity supplier, choosing a new supplier that offers more advantageous conditions in terms of price or services.

#### 2. Concludes a New Contract

**Actor : New Supplier** 

**Description:** In order to conclude an electricity supply contract, the final consumer negotiates with the new supplier and transmits to him all the data necessary for drawing up the electricity supply contract provided for in the Regulation on the supply of electricity, as well as the name of the current supplier, the address of the place of consumption(s) where the electricity consumption is expected and the contracted electrical powers. The new supplier is obliged to provide sufficient quantities of electricity to cover the electricity consumption of the final consumer, in accordance with the provisions of the concluded contract.

#### 3. Submit Supplier Change Request to current ES

**Actor: Household consumer** 

**Description**: After the household consumer and the new supplier agree on the contractual clauses, including the electricity price, the household consumer is obliged to submit to the current supplier the request for changing the electricity supplier (hereinafter – request) in the following ways:

1) submitting the request directly to the current supplier's office; 2) sending by registered letter; 3) sending in electronic format through the Personal Cabinet, only if the request is authenticated by electronic signature.

# Content of the request to change the electricity supplier submitted by the household consumer:

- a) Name, surname of the household consumer;
- b) IDNP;
- c) Home address;
- d) Contact details (contact address, telephone, fax, email);
- e) Address of the place of consumption for which the change of supplier is requested;
- f) Name of the new supplier;
- g) Contact details of the new supplier.

# 4. Submit Supplier Change Request to current ES (through the power of attorney) Actor: New supplier

**Description**: If the consumer provides a power of attorney to the new supplier, the latter can submit the supplier change request on behalf of the consumer. This step is useful for consumers who cannot submit the request in person.

# 5. Request Reception

**Actor: Current supplier** 

**Description :** The current supplier receives the request to change supplier and initiates the verification process. At this stage, the request is registered in the internal system.

# 6. Send notification of receipt of application

Actor: Current supplier

**Description**: On the first working day following receipt of the application, the current supplier shall notify the final consumer, the new supplier and the system operator to whose electricity network the consumption point(s) is/are connected of the receipt of the application by means of a notification. The information regarding the receipt of the application shall be transmitted by e-mail, personal cabinet, fax or other means of written communication.

# 7. Notification of receipt of request

**Actor: Household consumer** 

**Description :** The consumer receives the notification from the current supplier, confirming that the change request has been received and that the process is ongoing.

# 8. Notification of receipt of request

Actor: New supplier

**Description:** The new supplier is informed by the current supplier of the receipt of the request to change supplier and can thus continue the process in coordination with the system operator.

#### 9. Notification of receipt of request

**Actor: ERP DSO** 

**Description :** The system operator receives the notification regarding the change of supplier, preparing for the technical and administrative verification of the process.

# 10. Debt Check

Actor: Current supplier

**Description :** The current supplier checks whether the consumer has outstanding debts for the electricity supplied up to the time of application. This check is crucial to determine whether the procedure can continue.

#### 11. Debt settlement

Actor: Household consumer

**Description:** Within a maximum of 7 (seven) days from the date of sending the request, the final consumer is obliged to pay all invoices for the place(s) of consumption for which the procedure for changing the electricity supplier was initiated, issued by the current supplier for the electricity consumed prior to the submission of the request and, where applicable, all penalties, calculated in accordance with and pursuant to the electricity supply contract, for the consumption of electricity at the place(s) of consumption for which the procedure for changing the electricity supplier was initiated.

#### 12. Notifies suspension of the procedure

Actor: Current supplier

**Description:** If the consumer does not pay the debts, within one working day of the expiry of the established deadline, the current supplier notifies the final consumer, the new supplier and the system operator, to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated

is connected, about the existence of debts at the consumption place(s) for which the change of electricity supplier is requested. The supplier change procedure is considered suspended for the consumption place(s) for which there are debts until the final consumer meets the requirements for the debt settlement. The current supplier immediately notifies the new supplier and the system operator to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated are connected, about the removal of the causes for the suspension of the supplier change procedure.

# 13. Suspension notification due to debt

**Actor: Household consumer** 

**Description :** The consumer is officially notified by the current supplier that the supplier change procedure has been suspended due to outstanding debts.

# 14. Notification of suspension due to debt

**Actor: New supplier** 

**Description :** The new supplier receives notification that the procedure has been suspended, being informed that the change of supplier cannot continue until the debts are resolved.

#### 15. Notice of suspension due to debt

Actor: ERP DSO

**Description :** The system operator is informed that the supplier change procedure has been suspended due to the existence of outstanding debts to the consumer.

# 16. Transmits data related to the consumer profile

**Actor: ERP DSO** 

**Description**: Within a maximum of 7 (seven) days from the date of receipt of the notification regarding the initiation of the procedure for changing the electricity supplier, the system operator, to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is(are) connected, shall transmit the following information to the new supplier:

- 1) the name/designation of the final consumer, the address and the specific number of the consumption place(s) for which the change of electricity supplier is requested;
- 2) the method of carrying out and the current date(s) of reading the indications of the measuring equipment(s), respectively whether the reading is done remotely or on site;
- 3) copies of the documents signed by the system operator and the final consumer, provided for in point 82 of the Regulation on connection.

# 17. Reception of consumer profile data

**Actor: New supplier** 

**Description:** The new supplier receives from the system operator the data relating to the point of consumption (CPN), including information about connections, meter readings and other technical details necessary to continue the process.

#### 18. Send notification of lack of debt

Actor: Current supplier

**Description:** If the consumer has no unpaid invoices by the time of submitting the application or if the consumer has settled the debt with the current supplier, the latter is obliged to notify the system operator regarding the confirmation of the lack of debt.

#### 19. Receipt of notification of lack of debts

**Actor: ERP DSO** 

**Description**: The system operator receives confirmation of the absence of debt from the current Provider, so the process can continue.

# 20. Generation and transmission of signed additional agreements

**Actor: ERP DSO** 

**Description**: After receiving the confirmation of the absence of debt, within a maximum of 7 (seven) days from receiving the notification regarding the initiation of the procedure for changing the electricity supplier, the system operator to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, sends to the current supplier and the new supplier the additional agreements regarding the modification of the consumption places within the contract for the provision of the transport service or the contract for the provision of the electricity distribution service, as the case may be. The inclusion in the additional agreements regarding the modification of the consumption places of other clauses than the modification of the consumption place(s) is not allowed.

# 21. Reception of additional agreement

**Actor: New supplier** 

**Description :** The new supplier receives the signed additional agreement, which details the changes made to the distribution contract for the place of consumption, and checks it for correctness.

#### 22. Signing and transmission to the DSO

**Actor: New supplier** 

**Description:** Within one working day of receiving the additional agreements regarding the modification of the consumption points within the contract for the provision of the transmission service or the contract for the provision of the electricity distribution service, the new supplier signs and transmits to the system operator to whose electricity network the consumption point(s) for which the procedure for changing the electricity supplier has been initiated are connected.

# 23. Reception of additional agreement

Actor: Current supplier

**Description**: The current supplier receives the additional agreement and checks it, ensuring that all changes comply with the legislation and regulations in force.

# 24. Signing and transmission to the DSO

Actor: Current supplier

**Description:** Within one working day of receiving the additional agreements regarding the modification of consumption points within the contract for the provision of the transmission service or the contract for the provision of the electricity distribution service, the current supplier signs and transmits to the system operator to whose electricity network the consumption point(s) for which the procedure for changing the electricity supplier has been initiated are connected.

# 25. Reception of additional agreements

**Actor: ERP DSO** 

**Description :** The system operator receives all additional agreements signed by both parties (current and new supplier), thus confirming that the supplier change process can continue.

Note: If the current supplier or the new supplier refuses without justification to sign the additional agreement to the contract for the provision of the transport service or to the contract for the provision of the electricity distribution service for the place(s) of consumption indicated by the final consumer requesting the change of electricity supplier, this fact is considered as an obstacle by the current supplier/new supplier to the exercise of the right to change the electricity supplier by the final consumer. In the event of an unreasoned refusal by the current supplier/new supplier to sign the additional agreement, the system operator shall unilaterally amend the contract for the provision of the electricity transport/distribution service for the respective place(s) of consumption.

# 26. Notifies the day, time of meter reading and verification, seals Actor: ERP DSO

Description: Within 5 (five) days, but not earlier than 2 (two) days from the moment of signing the additional agreements, the system operator to the electricity network of which the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, is obliged, in the presence of the final consumer or the final consumer's representative, to carry out the control of the measuring equipment and the seals applied to it, to read the indications of the measuring equipment, to check the connection diagram of the measuring equipment and to draw up the act of control of the measuring equipment and, if necessary, the act of delimitation of the property of the electrical installations, in two copies each. Thus, the system operator informs the final consumer, the current supplier and the new supplier about the date and time of carrying out these activities. If at the time of the control of the metering equipment by the system operator one of the parties is not present, the activities shall be carried out in its absence, with this fact indicated in the act of reading the indications of the metering equipment and in the act of control of the metering equipment. In the event of the end consumer's failure to appear, the act of control of the metering equipment, signed by the responsible person of the system operator, shall be sent to the end consumer by registered mail or by signed personal cabinet, within 3 days from the date of the respective control. In the event of unforeseen situations that prevent the system operator from appearing at the set date and time, he is obliged to notify the final consumer, the current supplier and the new supplier about this fact and to establish another date and time that would not exceed 5 (five) days from the moment of signing the additional agreements, otherwise, the failure of the system operator's representatives to appear at the set date and time communicated to the suppliers and the final consumer is considered an impediment created by the system operator to the final consumer's right to change supplier and is sanctioned according to the provisions of the Law on Electricity.

#### 27. Notification

**Actor: Household consumer** 

**Description :** The consumer receives notification from the system operator regarding the date and time of the verification of the metering equipment, in order to be present on site.

#### 28. Notification

**Actor: New supplier** 

**Description :** The new supplier is notified by the system operator regarding the meter reading and verification, to ensure a proper transition of the electricity supply.

#### 29. Notification

Actor: Current supplier

**Description :** The current supplier is also notified about the reading and verification of the metering equipment so that it can finalize the contractual relationship with the consumer

.

#### 30. Preparation of control act

Actor: ERP DSO

**Description**: The system operator is obliged, in the presence of the final consumer or the final consumer's representative, to carry out the control of the measuring equipment and the seals applied to it, to read the indications of the measuring equipment, to check the connection diagram of the measuring equipment and to draw up the act of control of the measuring equipment and, if necessary, the act of delimitation of the property of the electrical installations, in two copies each.

# 31. The readings will be read remotely

Actor: MDM

**Description:** If the metering equipment installed at the household consumer allows remote data transmission, the system operator is obliged to read the readings of the metering equipment installed at the consumption location(s) for which the change of electricity supplier is requested, taking the readings of the respective metering equipment from the electronic records in MDM, setting the value recorded at 00-00 CET (Central European Time) on the date of reading the metering equipment readings, and entering them in the act of reading the metering equipment readings.

#### 32. Indices read manually on the meter site

**Actor: ERP DSO** 

**Description:** In the case of a household consumer whose installed metering equipment does not allow remote data transmission, the system operator indicates in the act of reading the indications of the metering equipment installed at the consumption location(s) for which a change of electricity supplier is requested, the indications of the

metering equipment at the time of reading.

#### 33. Update data in MDM and transmit meter readings

Actor: MDM

**Description :** The system operator transmits meter readings to the current and new supplier, ensuring that both parties have access to the correct data for billing and supply takeover.

# 34. Receives meter readings

**Actor: New supplier** 

**Description**: The new supplier receives the meter readings in order to issue the invoice based on the measured consumption and to continue the contractual relationship with the consumer.

# 35. Receives meter readings

**Actor: Current supplier** 

**Description :** The current supplier receives the meter readings to issue the last invoice, thus closing the contractual relationship with the consumer.

#### 36. Terminated contract

**Actor: Current supplier** 

**Description :** Once the current supplier receives the meter readings and the consumption calculation from the DSO, the contract is considered terminated. Based on these data, the supplier performs the necessary recalculation. If applicable, the last invoice is issued, without affecting the official termination of the contract.

#### 37. Issue invoice or return advance payment (as applicable)

**Actor: Current supplier** 

**Description:** The current supplier issues the final invoice for the remaining consumption or, in the event of debts of the current supplier towards the final consumer, the current supplier is obliged to return them to the consumer within 15 (fifteen) days from the date of the change of supplier. This represents the last billing interaction with the consumer.

#### 38. Receives recalculation and notification of terminated contract

**Actor: Household consumer** 

**Description:** The consumer receives the final invoice or recalculation, which must be paid within the specified deadline. If there is an advance, it will be returned by the current supplier.

# 39. Payment

**Actor: Household consumer** 

**Description :** The consumer pays the last invoice issued by the current supplier, thus officially ending the contractual relationship with it.

# **Actors and Responsibilities**

#### 1. Household consumer

# Responsibilities:

- Analyze the offers and choose a new provider that offers more advantageous conditions.
- Sign the contract with the new supplier and, depending on your preferences, submit the request to change supplier to the current supplier, either in person or online, with an electronic signature.
- Ensures that he has no outstanding debts with the current supplier, paying the invoices by the date set for continuing the process.
- Receives notifications from involved suppliers and ERP DSO about the status of the request and participates in meter reading, as scheduled.
- Pay the final invoice issued by the current supplier, thus finalizing the previous contractual relationship.

# 2. New supplier

#### Responsibilities :

- Negotiates and finalizes a new supply contract with the consumer, preparing all necessary documents for submitting the change request.
- In case of power of attorney, he can submit the change request on behalf of the consumer.
- Receives notifications from the current provider regarding confirmation of receipt of the request and coordinates with ERP DSO and the current provider the continuation of the procedure.
- Checks and signs the necessary additional agreements with ERP DSO and, finally, receives the meter readings from MDM to begin supply and billing.

# 3. Current supplier

#### Responsibilities :

- Receives and records the supplier change request, notifying all parties involved (consumer, new supplier, ERP DSO) of the status of the request.
- Checks whether the consumer has outstanding debts and, if they exist, suspends the procedure until they are paid, notifying the parties.
- Sign the additional agreements necessary for the transfer of the place of consumption and the completion of the relationship with the consumer.
- Receives meter readings from MDM for issuing the last invoice and, if applicable, refunding the advance to the consumer within the established deadline.

#### 4. ERP DSO

# • Responsibilities :

- Receive notifications regarding the request to change supplier and prepare information related to the place of consumption, including profile and technical details.
- Transmits the consumer's profile data and technical information to the new supplier to continue the supply takeover process.
- Coordinates with MDM for meter reading and verification, including seals, in the presence of the parties involved or remotely, if equipment allows.
- Collaborates with MDM to transmit the necessary information to the involved suppliers, ensuring the accuracy of billing and completion of the transfer process.

#### 5. Meter Data Management (MDM)

#### Responsibilities:

- Monitors, stores and updates the meter's measurement data and consumption profile.
- Remote reading of the equipment, if supported (smart), and recording of data from classic meters (manually read by the technical team on-site).
- Transmit meter readings to both the new and current supplier for correct billing and supply takeover.
- Ensures that consumption data is accurate and accessible to suppliers, contributing to an accurate and efficient transition in the supplier switching process.

# The objectives of the process of changing electricity supplier are the following:

# Facilitating access to a competitive energy market

The main objective of the process is to allow consumers to freely change their electricity supplier, depending on the more advantageous offers or better services available on the market. This stimulates competition between suppliers and ensures consumers' access to competitive prices and quality services.

# **Ensuring continuity of electricity supply**

The process aims to ensure a seamless transition in electricity supply when a consumer changes supplier. Through proper coordination between the current supplier, the new supplier and the system operator, disruptions in energy supply and negative impact on the consumer are avoided.

#### Compliance with legal and contractual regulations

Another objective is to comply with all legal provisions and specific regulations in the energy sector, including the consumer's financial obligations towards the current supplier (such as paying debts) and ensuring fair conditions for all actors involved. It also ensures compliance with the contractual terms and conditions between the consumer and suppliers.

# Transparency and correct information of the parties involved

The process is designed to ensure full transparency regarding the change of supplier. All actors (consumer, current supplier, new supplier, system operator) are informed at every stage of the process, and the consumer has access to clear and accurate information related to energy consumption and billing.

#### Cost optimization for the consumer

The process allows the consumer to optimize their electricity costs by choosing a supplier that offers more advantageous rates, discounts or other benefits. Through a more competitive and transparent market, consumers can save financial resources.

# Simplification and automation of procedures

Another objective of the process is to simplify and automate administrative steps, such as electronic submission of requests, automatic meter reading and invoicing. This reduces the time and effort involved for all parties and makes the process more efficient.

#### **Protecting consumer rights**

The process is intended to protect the consumer's rights, giving them the opportunity to choose the desired provider and benefit from better services or lower prices, without unjustified delays or abusive penalties.

These objectives contribute to creating a balanced, efficient and transparent process that meets the needs and interests of consumers, while respecting regulations and good practices in the energy field.

#### **Initiation of the process**

The process of changing electricity supplier is triggered when a non-household consumer decides to conclude a contract with a new supplier, either for reasons of cost, better services, or other advantages offered by the new supplier.

# **Process Steps/Activities:**

# 1. Choose a new supplier

Actor: Non-household consumer

BP\_11.2 Supplier change, nonhousehold consumer **Description :** The consumer analyzes the offers available on the market and decides to change the electricity supplier, choosing a new supplier that offers more advantageous conditions in terms of price or services.

# 2. Concludes a New Contract

**Actor: New Supplier** 

**Description:** In order to conclude an electricity supply contract, the final consumer negotiates with the new supplier and transmits to him all the data necessary for drawing up the electricity supply contract provided for in the Regulation on the supply of electricity, as well as the name of the current supplier, the address of the place of consumption(s) where the electricity consumption is expected and the contracted electrical powers. The new supplier is obliged to provide sufficient quantities of

electricity to cover the electricity consumption of the final consumer, in accordance with the provisions of the concluded contract.

# 3. Submit Supplier Change Request to Current ES

Actor: Non-household consumer

**Description**: After the non-household consumer and the new supplier agree on the contractual clauses, including the electricity price, the household consumer is obliged to submit to the current supplier the request for changing the electricity supplier (hereinafter – request) in the following ways:

- 1) submitting the request directly to the current supplier's office;
- 2) sending by registered letter;
- 3) sending in electronic format through the Personal Cabinet, only if the request is authenticated by electronic signature.

# Content of the request to change the electricity supplier submitted by the non-household consumer:

- a ) Name of the non-household consumer;
- b) IDNO;
- c) Legal address;
- d) Contact details (contact address, telephone, fax, email);
- e) List of consumption places for which the supplier change is requested, mentioning the specific number of the consumption place, as well as the name of the system operator to whose electrical networks the consumption place is connected;
- f) Address of the consumption place(s) for which the supplier change is requested;
- g) Name of the new supplier;
- h) Contact details of the new supplier.

# 4. Submit Supplier Change Request to Current ES (through power of attorney)

**Actor**: New supplier

**Description**: If the consumer provides a power of attorney to the new supplier, the latter can submit the supplier change request on behalf of the consumer. This step is useful for consumers who cannot submit the request in person.

#### 5. Request Reception

**Actor: Current Supplier** 

**Description :** The current supplier receives the request to change supplier and initiates the verification process. At this stage, the request is registered in the internal system.

#### 6. Send notification of receipt of application

**Actor : Current supplier** 

**Description**: On the first working day following receipt of the application, the current supplier shall notify the final consumer, the new supplier and the system operator to whose electricity network the consumption point(s) is/are connected of the receipt of the application by means of a notification. The information regarding the receipt of the application shall be transmitted by e-mail, personal cabinet, fax or other means of written communication.

# 7. Notification of receipt of request

Actor: Non-household consumer

**Description :** The consumer receives the notification from the current supplier, confirming that the change request has been received and that the process is ongoing.

#### 8. Notification of receipt of request

**Actor: New supplier** 

**Description:** The new supplier is informed by the current supplier of the receipt of the request to change supplier and can thus continue the process in coordination with the system operator.

#### 9. Notification of receipt of request

**Actor: ERP DSO** 

**Description :** The system operator receives the notification regarding the change of supplier, preparing for the technical and administrative verification of the process.

#### 10. Checking measuring equipment

**Actor: ERP DSO** 

**Description:** Within 7 (seven) days from the date of receipt of the notification regarding the initiation of the procedure for changing the electricity supplier, the system operator, to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, shall check the measuring equipment installed at the consumption place(s) of the non-household consumer requesting the change of electricity supplier (it must comply with the provisions of the Regulation on the measurement of electricity for commercial purposes, approved by the Agency and allow for the hourly recording of electricity consumption) and, in the event of non-compliance with the requirements, notify the non-household consumer, the current supplier and the new supplier of this fact. The supplier change procedure shall be considered suspended for the consumption place(s) that do not meet the requirements until the non-household consumer meets them.

# 11. Notification of suspension of the procedure

**Actor: ERP DSO** 

**Description**: in case of non-compliance with the requirements (non-compliance of the metering equipment), the DSO notifies the non-household consumer, the current supplier and the new supplier about this fact. The supplier change procedure is considered suspended for the consumption place(s) that do not meet the requirements until the non-household consumer meets them.

#### 12. Suspension notification due to non-compliant equipment

**Actor: Current supplier** 

**Description:** The current supplier receives notification from the DSO that the procedure has been suspended, being informed that the consumer has metering equipment that does not meet the requirements and the procedure cannot continue until he changes the equipment on his account.

# 13. Suspension notification due to non-compliant equipment

**Actor: New supplier** 

**Description:** The new supplier receives notification from the DSO that the procedure has been suspended, being informed that the consumer has metering equipment that does not meet the requirements and the procedure cannot continue until he changes the equipment on his account.

# 14. Notification of suspension due to inadequate equipment

Actor: Non-household consumer

**Description**: The non-household consumer receives the notification from the DSO regarding the suspension of the procedure, being informed that he has metering equipment that does not meet the requirements and the procedure cannot continue until he changes the equipment on his account.

## 15. Change the metering equipment on his own account

Actor: Non-household consumer

**Description:** The non-household consumer is obliged to change the metering equipment on his account, which must comply with the provisions of the Regulation on the metering of electricity for commercial purposes, approved by the Agency and allow hourly recording of electricity consumption.

# 16. Notify DSO

Actor: Non-household consumer

**Description**: if the consumer has changed the metering equipment according to the requirements, then notify the system operator about it. Otherwise, the supplier change procedure will not be able to continue.

# 17. Reception of notification of exchange of measuring equipment

Actor: ERP DSO

**Description :** The system operator receives the notification regarding the change of metering equipment in accordance with the requirements. The system operator immediately notifies the current supplier and the new supplier about the removal of the causes for the suspension of the supplier change procedure.

# 18. Send notification of removal of the cause of suspension

Actor: ERP DSO

**Description :** The system operator shall promptly notify the current supplier and the new supplier of the removal of the causes of the suspension of the supplier change procedure.

# 19. Notification reception removal of the cause of suspension

**Actor: New supplier** 

**Description :** The new supplier receives the notification about the removal of the causes of suspension of the supplier change procedure.

# 20. Notification reception removal of the cause of suspension

**Actor: Current provider** 

**Description :** The current provider receives the notification about the removal of the causes of suspension of the provider change procedure.

#### 21. Debt Check

**Actor: Current Supplier** 

**Description**: The current supplier checks whether the consumer has outstanding debts for the electricity supplied up to the time of application. This check is crucial to determine whether the procedure can continue.

# 22. Debt settlement

Actor: Non-household consumer

**Description:** Within a maximum of 7 (seven) days from the date of sending the request, the final consumer is obliged to pay all invoices for the place(s) of consumption for which the procedure for changing the electricity supplier was initiated, issued by the current supplier for the electricity consumed prior to the submission of the request and, where applicable, all penalties, calculated in accordance with and pursuant to the electricity supply contract, for the consumption of electricity at the place(s) of consumption for which the procedure for changing the electricity supplier was initiated.

#### 23. Notifies suspension of the procedure

**Actor: Current supplier** 

**Description**: If the consumer does not pay the debts, within one working day of the expiry of the established deadline, the current supplier notifies the final consumer, the new supplier and the system operator, to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, about the existence of debts at the consumption place(s) for which the change of electricity supplier is requested. The supplier change procedure is considered suspended for the consumption place(s) for which there are debts until the final consumer meets the requirements for settling the debt. The current supplier immediately notifies the new supplier and the system operator to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated are connected, about the removal of the causes for the suspension of the supplier change procedure.

#### 24. Suspension notification due to debt

Actor: Non-household consumer

**Description :** The consumer is officially notified by the current supplier that the supplier change procedure has been suspended due to outstanding debts.

# 25. Notification of suspension due to debt

**Actor: New supplier** 

**Description :** The new supplier receives notification that the procedure has been suspended, being informed that the change of supplier cannot continue until the debts are resolved.

# 26. Notice of suspension due to debt

Actor: ERP DSO

**Description :** The system operator is informed that the supplier change procedure has been suspended due to the existence of outstanding debts to the consumer.

# 27. Transmits data related to the consumer profile

**Actor: ERP DSO** 

**Description:** Within a maximum of 7 (seven) days from the date of receipt of the notification regarding the initiation of the procedure for changing the electricity supplier, the system operator, to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is(are) connected, shall transmit the following information to the new supplier:

- 1) the name/designation of the final consumer, the address and the specific number of the consumption place(s) for which the change of electricity supplier is requested;
- 2) the method of carrying out and the current date(s) of reading the indications of the measuring equipment(s), respectively whether the reading is done remotely or on site;
- 3) copies of the documents signed by the system operator and the final consumer, provided for in point 82 of the Regulation on connection.

# 28. Reception of data related to the consumer profile

**Actor: New supplier** 

**Description :** The new supplier receives from the system operator the data related to the place of consumption - the consumer profile, including information about connections, meter readings and other technical details necessary to continue the process.

### 29. Send notification of lack of debt

**Actor**: Current supplier

**Description:** If the consumer has no unpaid invoices by the time of submitting the application or if the consumer has settled the debt to the current supplier, the latter is obliged to notify the system operator regarding the confirmation of the lack of debt.

# 30. Receipt of notification of lack of debts

Actor: ERP DSO

**Description :** The system operator receives confirmation of the absence of debt from the current Provider, so the process can continue.

#### 31. Generation and transmission of signed additional agreements

**Actor: ERP DSO** 

**Description**: After receiving the confirmation of the absence of debt, within a maximum of 7 (seven) days from receiving the notification regarding the initiation of the procedure for changing the electricity supplier, the system operator to whose electricity network the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, sends to the current supplier and the new supplier the additional agreements regarding the modification of the consumption places within the contract for the provision of the transport service or the contract for the provision of the electricity distribution service, as the case may be. The inclusion in

the additional agreements regarding the modification of the consumption places of other clauses than the modification of the consumption place(s) is not allowed.

# 32. Reception of additional agreement

**Actor: New supplier** 

**Description**: The new supplier receives the signed additional agreement, which details the changes made to the distribution contract for the place of consumption, and checks it for correctness.

#### 33. Signing and transmission to the DSO

**Actor: New supplier** 

**Description:** Within one working day of receiving the additional agreements regarding the modification of the consumption points within the contract for the provision of the transmission service or the contract for the provision of the electricity distribution service, the new supplier signs and transmits to the system operator to whose electricity network the consumption point(s) for which the procedure for changing the electricity supplier has been initiated are connected.

# 34. Reception of additional agreement

**Actor: Current supplier** 

**Description :** The current supplier receives the additional agreement and checks it, ensuring that all changes comply with the legislation and regulations in force.

#### 35. Signing and transmission to the DSO

**Actor**: Current supplier

**Description:** Within one working day of receiving the additional agreements regarding the modification of consumption points within the contract for the provision of the transmission service or the contract for the provision of the electricity distribution service, the current supplier signs and transmits to the system operator to whose electricity network the consumption point(s) for which the procedure for changing the electricity supplier has been initiated are connected.

#### 36. Reception of additional agreements

**Actor: ERP DSO** 

**Description :** The system operator receives all additional agreements signed by both parties (current and new supplier), thus confirming that the supplier change process can continue.

Note: If the current supplier or the new supplier refuses without justification to sign the additional agreement to the contract for the provision of the transport service or to the contract for the provision of the electricity distribution service for the place(s) of consumption indicated by the final consumer requesting the change of electricity supplier, this fact is considered as an obstacle by the current supplier/new supplier to the exercise of the right to change the electricity supplier by the final consumer. In the event of an unreasoned refusal by the current supplier/new supplier to sign the additional agreement, the system operator shall unilaterally amend the contract for the provision of the electricity transport/distribution service for the respective place(s) of consumption.

#### 37. Notifies the day, time of meter reading and verification, seals

**Actor: ERP DSO** 

Description: Within 5 (five) days, but not earlier than 2 (two) days from the moment of signing the additional agreements, the system operator to the electricity network of which the consumption place(s) for which the procedure for changing the electricity supplier has been initiated is connected, is obliged, in the presence of the final consumer or the final consumer's representative, to carry out the control of the measuring equipment and the seals applied to it, to read the indications of the measuring equipment, to check the connection diagram of the measuring equipment and to draw up the act of control of the measuring equipment and, if necessary, the act of delimitation of the property of the electrical installations, in two copies each. Thus, the system operator informs the final consumer, the current supplier and the new supplier about the date and time of carrying out these activities. If at the time of the control of the metering equipment by the system operator one of the parties is not present, the activities shall be carried out in its absence, with this fact indicated in the act of reading the indications of the metering equipment and in the act of control of the metering equipment. In the event of the end consumer's failure to appear, the act of control of the metering equipment, signed by the responsible person of the system operator, shall be sent to the end consumer by registered mail or by signed personal cabinet, within a maximum period of 3 days from the date of the respective control. In the event of unforeseen situations that prevent the system operator from appearing at the set date and time, he is obliged to notify the final consumer, the current supplier and the new supplier about this fact and to establish another date and time that would not exceed 5 (five) days from the moment of signing the additional agreements, otherwise, the failure of the system operator's representatives to appear at the set date and time communicated to the suppliers and the final consumer is considered an impediment created by the system operator to the final consumer's right to change supplier and is sanctioned according to the provisions of the Law on Electricity.

#### 38. Notification

Actor: Non-household consumer

**Description :** The consumer receives notification from the system operator regarding the date and time of the verification of the metering equipment, in order to be present on site.

# 39. Notification

**Actor: New supplier** 

**Description :** The new supplier is notified by the system operator regarding the meter reading and verification, to ensure a proper transition of the electricity supply.

#### 40. Notification

**Actor: Current supplier** 

**Description :** The current supplier is also notified about the reading and verification of the metering equipment so that it can finalize the contractual relationship with the consumer.

# 41. Preparation of control act

**Actor: ERP DSO** 

**Description :** The system operator is obliged, in the presence of the final consumer or the final consumer's representative, to carry out the control of the measuring equipment and the seals applied to it, to read the indications of the measuring equipment, to check the connection diagram of the measuring equipment and to draw up the act of control of the measuring equipment and, if necessary, the act of delimitation of the property of the electrical installations, in two copies each.

#### 42. Indices read manually on the meter site

Actor: ERP DSO

**Description:** In the case of non-household consumers whose installed metering equipment does not allow remote data transmission, the system operator indicates in the act of reading the indications of the metering equipment installed at the consumption location(s) for which the change of electricity supplier is requested, the indications of the metering equipment at the time of reading.

#### 43. The indicators will be read remotely

Actor: MDM

**Description**: If the metering equipment installed at the non-household consumer allows remote data transmission, the system operator is obliged to read the indications of the metering equipment installed at the consumption location(s) for which the change of electricity supplier is requested, taking the indications of the respective metering equipment from the electronic records in MDM, setting the value recorded at 00-00 CET (Central European Time) on the date of reading the metering equipment indications, and to enter them in the act of reading the metering equipment indications.

# 44. Transmit meter readings

Actor: MDM

**Description :** The system operator transmits meter readings to the current and new supplier, ensuring that both parties have access to the correct data for billing and taking over the supply.

#### 45. Receives meter readings

**Actor: New supplier** 

**Description:** The new supplier receives the meter readings from the MDM in order to issue the invoice based on the measured consumption and to continue the contractual relationship with the consumer.

# 46. Receives meter readings

**Actor: Current supplier** 

**Description :** The current supplier receives the meter readings/energy calculation to issue the last invoice, thus closing the contractual relationship with the consumer.

# 47. Terminated contract

**Actor: Current supplier** 

**Description**: Once the current supplier receives the meter readings and the

consumption calculation from MDM, the contract is considered terminated. Based on these data, the supplier performs the necessary recalculation. If applicable, the last invoice is issued, without affecting the official termination of the contract.

# 48. Issue invoice or return advance payment (as applicable)

#### **Actor : Current supplier**

**Description:** The current supplier issues the final invoice for the remaining consumption or, in the event of debts of the current supplier towards the final consumer, the current supplier is obliged to return them to the consumer within 15 (fifteen) days from the date of the change of supplier. This represents the last billing interaction with the consumer.

#### 49. Receives recalculation

#### Actor: Non-household consumer

**Description :** The consumer receives the final invoice or recalculation, which must be paid within the specified deadline. If there is an advance, it will be returned by the current supplier.

#### 50. Payment

#### Actor: Non-household consumer

**Description :** The consumer pays the last invoice issued by the current supplier, thus officially ending the contractual relationship with it.

#### **Actors and Responsibilities:**

#### 1. Non-household consumer

#### Responsibilities:

- Choose the new provider based on the available offers.
- Enter into a contract with the new supplier, according to the established clauses.
- Submit the request to change supplier to the current supplier or provide a power of attorney to the new supplier to do so on their behalf.
- Pay any outstanding debts to your current provider within 7 days of submitting the request.
- Participates, if necessary, in the verification of the meter and measuring equipment.
- Pay the final invoice issued by the current supplier for energy consumption up to the time of the change or, if applicable, have the advance payment returned from the current supplier.

# 2. Current supplier

#### Responsibilities:

 Receives the request to change supplier from the consumer or the new supplier and initiates the process.

- In the event of debts after the expiration of the 7-day period from the time of filing the application, suspend the process and notify all parties involved.
- In the event of no debts or after payment of expired debts, the current supplier notifies DSO.
- Participates in the signing of additional agreements necessary to modify consumption locations.
- Performs consumption recalculation and issues the final invoice for the energy consumed up to the time of change.
- In the event that the consumer has an advance on the respective CPN(s), the current supplier is obliged to return it to the consumer within 15 days.

#### 3. New supplier

# • Responsibilities:

- It concludes the contract with the consumer and may take responsibility for submitting the request to change supplier, based on a power of attorney provided by the consumer.
- Receives technical data from the system operator regarding the place of consumption.
- In case of suspension of the procedure due to unpaid debts of the consumer, he is notified of this by the current supplier.
- Sign the additional agreement sent by the system operator, for taking over the consumption site(s).
- It receives the meter readings from the system operator to issue the first invoice based on actual energy consumption from the time of taking over the supply.

# 4. ERP DSO (includes not only actions performed automatically by the ERP system but also the data that is recorded in this system)

#### Responsibilities:

- Receives notifications regarding supplier change and coordinates technical and administrative verification.
- Check if there are legal and technical conditions for changing supplier, including debts or irregularities in metering equipment.
- Transmits the data related to the place of consumption (CPNs) to the new supplier, ensuring that all technical details are correct.
- Organizes and performs the reading of the measuring equipment (manually), draws up the verification report and transmits the meter reading data to MDM.
- If the consumer is not present at the meter check, the operator sends the verification document by mail/personal office.

# 5. Meter Data Management (MDM)

# Responsibilities:

- Monitors, stores and updates the meter's measurement data and consumption profile.
- Remote readings of equipment, in the case of smart meters.
- Transmit meter readings to both the new and current supplier for correct billing and supply takeover.
- Ensures that consumption data is accurate and accessible to suppliers, contributing to an accurate and efficient transition in the supplier switching process.

# The objectives of the process of changing electricity supplier are the following:

### Facilitating access to a competitive energy market

The main objective of the process is to allow consumers to freely change their electricity supplier, depending on the more advantageous offers or better services available on the market. This stimulates competition between suppliers and ensures consumers' access to competitive prices and quality services.

# **Ensuring continuity of electricity supply**

The process aims to ensure a seamless transition in electricity supply when a consumer changes supplier. Through proper coordination between the current supplier, the new supplier and the system operator, disruptions in energy supply and negative impact on the consumer are avoided.

# Compliance with legal and contractual regulations

Another objective is to comply with all legal provisions and specific regulations in the energy sector, including the consumer's financial obligations towards the current supplier (such as paying debts) and ensuring fair conditions for all actors involved. It also ensures compliance with the contractual terms and conditions between the consumer and suppliers.

# Transparency and correct information of the parties involved

The process is designed to ensure full transparency regarding the change of supplier. All actors (consumer, current supplier, new supplier, system operator) are informed at every stage of the process, and the consumer has access to clear and accurate information related to energy consumption and billing.

# Cost optimization for the consumer

The process allows the consumer to optimize their electricity costs by choosing a supplier that offers more advantageous rates, discounts or other benefits. Through a more competitive and transparent market, consumers can save financial resources.

# Simplification and automation of procedures

Another objective of the process is to simplify and automate administrative steps, such as electronic submission of requests, automatic meter reading and invoicing. This

reduces the time and effort involved for all parties and makes the process more efficient.

# **Protecting consumer rights**

The process is intended to protect the consumer's rights, giving them the opportunity to choose the desired provider and benefit from better services or lower prices, without unjustified delays or abusive penalties.

These objectives contribute to creating a balanced, efficient and transparent process that meets the needs and interests of consumers, while respecting regulations and good practices in the energy field.

PROCESS	FINISHING THE PROCESS ELEMENTS
BP_12  Automatic Import of Manually Collected Data from ERP into MDM	<ul> <li>Initiation of the process:</li> <li>This data capture and transmission process specifically refers to classic meters, which are managed manually within the DSO ERP. Although the Metering Data Management (MDM) system is primarily designed to manage smart meter data, during the transition period to the exclusive use of smart meters, it is necessary to transmit data related to classic meters to the MDM.</li> <li>The process is triggered automatically when changes or events are recorded in ERP DSO, such as: <ul> <li>Installation, dismantling or replacement of classic meters.</li> <li>Any manual intervention, such as unsealing, sealing or manual reading of meter readings.</li> <li>Modification of technical parameters or other aspects related to classic measuring equipment.</li> <li>Any other intervention carried out on classic meters.</li> </ul> </li> <li>The purpose of this process is to ensure the automatic transmission and update of data from ERP DSO to MDM for all manually collected information. This integration between ERP DSO and MDM facilitates correct and synchronized data management during the transition period, in which both types of meters (classic and smart) are present in the network.</li> </ul>
	Process Steps/Activities:  1. Recording of manually collected Data in the DSO ERP
	Actor: ERP DSO  Description: All manually collected data including manual readings, technical
	<b>Description:</b> All manually collected data, including manual readings, technical interventions (mounting, dismantling, sealing, unsealing, configuration changes, etc.) are recorded in the ERP DSO system. This includes information such as meter

serial numbers, reading data, changes made, and any other details associated with the meter.

### 2. Generating Update Events

**Actor: ERP DSO** 

**Description:** After recording the manually collected data, ERP DSO automatically generates update events that reflect these interventions. Update events can include details about consumption readings, changing or reconfiguring meters/CT/VT, connections and disconnections, as well as other significant changes. The purpose of these events is to document in a structured way all actions and changes made to the classic metering equipment. These events are essential for maintaining a complete history and ensuring the consistency of the information to be transmitted to the Meter Data Management (MDM) system. In this way, all manually collected data is ready for export and integration, facilitating a gradual transition to unified management, even if the classic meters are still in use for a period of time.

#### 3. Data Transmission to MDM

**Actor: ERP DSO** 

**Description:** ERP DSO automatically transmits update events and associated data to the DSO's MDM system. This transfer is achieved through an automatic integration, ensuring that all information related to not only smart but also classic meters is correctly reflected in the MDM system. The data transfer includes: serial number, meter status (mounted/dismounted)/CT/VT, initial/final readings, details about technical interventions and other relevant information.

#### 4. Retrieving and Updating the Customer Profile in MDM

**Actor: MDM** 

**Description:** The MDM system receives the data transmitted from the ERP DSO and processes it to update the customer profile. This update includes all the information related to the classic measurement and control devices and ensures that all recent changes are reflected in the metering data management system. Updating the customer profile allows for efficient consumption monitoring and data integrity, in the same way as it is managed for smart meters.

# 5. Validation and Synchronization

**Actor: MDM and ERP DSO** 

**Description:** The MDM system validates the received data to verify its accuracy and integrity. If discrepancies or errors are detected, they are communicated back to the ERP DSO for corrections. After validation, the data is synchronized between the two systems to ensure a uniform and up-to-date meter record in the distribution network.

# 6. Continuous Monitoring and Subsequent Integration of Smart Meters

**Actor: MDM** 

**Description:** As the transition to smart meters progresses, the MDM system will continue to manage both classic and smart meters. Once a classic meter is replaced by a smart one, the customer profile will be automatically updated in MDM to reflect the new configuration, and consumption data will be collected and managed according to the new digital parameters of the smart meter.

# **Actors and Responsibilities:**

#### 1. ERP DSO

# Responsibilities:

- Recording of manually collected data, including readings, configuration changes, connections and disconnections, etc.
- Automatic generation of update events for any changes to recorded classic measurement and control devices, to accurately reflect the status and consumption in the system.
- Transmitting update data to MDM for complete information integration and synchronization of consumer profiles.
- Ensuring that all relevant data is documented correctly and consistently in the ERP system and is ready for export to MDM.

# 2. MDM (Meter Data Management) System Responsibilities:

- Receiving manually collected data transmitted by ERP DSO, including changes, readings, interventions and connections/disconnections.
- Integrating data into the consumer profile, updating all information related to metering equipment.
- Ensuring efficient management and monitoring of consumer network data, even if this data comes from classic meters.
- Keeping a complete history of changes and data received, to maintain accurate records and support the transition process to smart meters.

#### **Process Objectives:**

Process Objectives for Automatic Import of Manually Collected Data from ERP to MDM

# **Ensuring Data Integrity and Accuracy:**

• Importing data from ERP to MDM aims to maintain the integrity and accuracy of manually collected consumption information. The process aims to minimize errors, eliminate discrepancies, and ensure that the data accurately reflects the actual consumption at each point of consumption.

# **Data Centralization in the MDM System:**

 The goal of the process is to consolidate manually retrieved data from ERP into the MDM system, enabling centralized and uniform management of data related to classic meters. This centralization facilitates quick and easy access to data for analysis and reporting.

# **Analysis and Anomaly Detection:**

After importing data into MDM, a key objective of the process is to analyze
the data to detect any anomalies, discrepancies, or unusual variations in
consumption. This analytical capability helps to quickly identify possible
technical issues, unusual consumption, or unauthorized interventions.

# **Data Synchronization Between Systems:**

 The process ensures data synchronization between ERP and MDM, allowing all information regarding classic meters to be updated and reflected in real time. This contributes to data uniformity and consistency between the operator's different systems.

# **Facilitating the Transition to Smart Meters:**

 By integrating traditional meter data into MDM, the process helps prepare for an efficient transition to the exclusive use of smart meters. This objective includes maintaining accurate records of consumption history and changes made for each point of consumption (CPN).

# **Improving Efficiency and Reducing Manual Interventions:**

 Automated data import and analysis in MDM reduces the need for additional manual interventions and streamlines consumer data management processes, allowing staff to focus on other critical activities.

#### **Compliance with Data Use Regulations and Policies:**

 The process aims to ensure compliance with regulations and policies regarding data use and management, providing traceability and transparency over information recorded and managed through MDM.