Technical Rule no. 3/MOBI.E/2022

Model and format of data exchanged between EGME and ORDs

AV. ENG. DUARTE PACHECO Nº 19, 6º
1070-100 LISBOA PORTUGAL
T: +351 212 699 830
GERAL@MOBIE.PT
WWW.MOBIE.PT

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1. ACRONYMS

The following acronyms are used in the present regulation:

- CEME - Electricity Supplier for Electric Mobility

- CPE - Delivery Point Code;

- CSE - Electricity Sector Supplier;

- DPC - Private access charging point holder;

- EGME - Electric Mobility Network Managing Entity;

- ERSE - Energy Services Regulatory Authority;

- GMLDD - Electricity Sector Measurement, Reading and Data Availability Guide;

- OPC - Charging Point(s) Operator;

- ORD - Electricity distribution network operator;

- RAA - Autonomous Region of the Azores;

- RAM - Autonomous Region of Madeira;

- RARI - Regulations on Access to Networks and Interconnections for the Electricity Sector;

- RESP - Public Service Electricity Network;

- RGPD - General Data Protection Regulation;

- RME - Electric Mobility Regulation;

- RRC - Commercial Relations Regulations for the electricity sector;

- RT - Tariff Regulations for the electricity sector;

- UVE - Electric vehicle user.

2. INTRODUCTION

Pursuant to article 60 of the RME (Regulation No. 854/2019, as amended), the EGME must publish and keep updated, on its website, the model and format of the data exchanged with the ORDs, which has been established by agreement between the parties.

Also under the terms of article 57 of the RME, the data made available by the EGME to the CEMEs immediately after the end of each session is used by them for the purpose of invoicing their UVE customers. Therefore, corrections to the values resulting from the exchange of information defined in this Technical Rule have no impact on the invoicing of the UVEs, being absorbed by the CEMEs and OCPs.

3. ENTITIES INVOLVED

The content of the present rule has been agreed with the ORDs whose grids, to date, feed installations in which electric vehicle recharging stations integrated in the Mobi.E grid are integrated. E-Redes, EDA and EEM have been consulted.

4. OBJECT

This technical rule defines the model and format of the data exchanged between EGME and the ORDs, for the purposes set forth in article 60 of the RME, which has been established by agreement between the parties.

5. APPLICATION

In accordance with current legislation and regulations, the electrical active energy consumption recorded in the ORD's metering equipment upstream to the electrical installation to which a charging station integrated in the electric mobility network is connected, must be deducted from the electrical active energy consumption measured in the metering equipment of the electric mobility network. The exchange of information between EGME and the ORDs for this purpose must respect the principles defined herein.

6. AVAILABILITY OF DATA

The exchange of information between the EGME and the ORD is carried out automatically by exchanging files on a specific server, through the SFTP service, each entity using two exclusive credentials for this purpose, for sending and receiving information.

The files shall have the ".sgl" format, whose name and content follow the dispositions in point 7 of this document.

The procedure for information exchange between the EGME and the ORDs, for each CPE integrated by the ORD in electric mobility, follows the steps below:

- On day D+1 the ORD shares files with the EGME containing the total consumption of the CPE, divided by the various quarter-hour periods of the day;

- At the end of the same day D+1, the EGME starts the process of sending the ORD files with the electric mobility consumption at the CPE, divided into the various quarter-hour periods of the day:

    o The information sent by the EGME is broken down by CSE, Tariff and time cycle. This identification/distinction is made through the file name, as will be explained in point 7 of this document.

- In order to enable the integration of consumption not sent by the recharging stations by D+1, or in the case of the ORD sending provisional consumption, it is possible that, during the period defined in article 55 of the RME (until day D+30)

    o The ORD sends a new version of the file with the total consumption associated with the CPE to the EGME, following the rules described above.

    O The EGME sends the ORD a new version of the files mentioned above with the electric mobility consumption.

The files sent by D+30 may or may not contain adjustments and corrections to the files sent on D+1. However, the most recent version of the file is the one that must be considered the closing file for electric mobility sector. From that date onwards, all the information received, both by the EGME and the ORD, will be only processed in the electricity sector.

In summary, we have the following procedure:

Sender	Recipient	Format	Method	Frequency	Quantity	Content
ODR	EGME	.sgl or .txt	SFTP Server	Daily, on D+1	1 file by CPE	Average power in the quarter-hour periods of the day
EGME	ORD	.sgl	SFTP Server	Daily, on D+1	1 file by CPE, CSE, and by tariff and time cycle	Average transmission capacity for electric mobility in quarter-hour periods of the day
ORD	EGME	.sgl or .txt	SFTP Server	Daily, up to D+30	1 file by CPE	Average power in the quarter-hour periods of the day
EGME	ORD	.sgl	SFTP Server	Daily, up to D+30	1 file by CPE, CSE, and by tariff and time cycle	Average transmission capacity for electric mobility in quarter-hour periods of the day

7. FILE FORMAT AND STRUCTURE (MAINLAND ORD)

The information exchange is done through the exchange of files, using an SFTP service provided by EGME. All files should have the ".sgl" or ".txt" format, whose name and content follow the disposition in the following sections.

7.1 Name of the files

The file name structure allows a complete characterization of the files, according to the various aggregation criteria. This structure of the files sent by the ORD is different from the structure of the files sent by the EGME.

Files sent by the ORD to the EGME must obey the following structure:

nnnnnnGroup_aaaammddd_NTransm.sgl

where:

- **nnnnnn**: is the internal ORD request code, which may have from 1 to 6 numerical digits;

- **Group**: corresponds to the groups defined after data aggregation, being divided into two parts:

  o 'PE': fixed; two letters

  o xxxxxxxxxxxxxxxxxxxx: variable (delivery point code - CPE); alphanumeric

- **yyyymmdd**: year, month and day on which the file is generated;

- **NTransm**: corresponds to the version number of the file

Note. - The inclusion of this value in the file name has the following main objectives:

o Avoiding file overlapping if two files are generated on the same day;

o To allow the agents to control possible problems in the availability and transfer of files as they will be able to compare the transmission number with the last transmission number received.

- **.sgl**: format in which the file is made available

For a given Delivery Point Code (CPE) at least one file is generated daily, for example:

o 171234PEPT0002000123681633GX_20190509_693.sgl

In turn, **the files sent by the EGME to the** ORD must obey the following structure:

XXYYZZZGroup_aaaammdd_NTransm.sgl

where:

- **XX**: is the fixed numerical code, without meaning, always with the value 00

- **YY**: is the two-number code that identifies the CSE with the ORD. This code is generated by the electricity sector whenever a new market agent appears.

- **ZZ**: is the two digit code that identifies the tariff and time cycle of the file consumption. This code can take 4 possible combinations

- 01: Bi-Hourly Tariff, Daily Cycle

- 02: Tri-Hourly, Daily Cycle Rate

- 03: Bi-hourly rate, Weekly cycle

- 04: Tri-Hourly rate, Weekly cycle

- **Group**: corresponds to the groups defined after the aggregation of the data, being divided into two parts:

o 'PE': fixed; two letters

o xxxxxxxxxxxxxxxxxxxx: variable (delivery point code - CPE); alphanumeric

- **yyyymmdd**: year, month and day on which the file is generated;

- NTransm: corresponds to the version number of the file

- .**sgl**: format in which the file is made available

For a given Delivery Point Code (CPE) a minimum of 4 files are generated daily by CSE, for example:

o 000201PEPT0002000123681633GX_20190509_0000000001.sgl

o 000202PEPT0002000123681633GX_20190509_0000000001.sgl

o 000203PEPT0002000123681633GX_20190509_0000000001.sgl

o 000204PEPT0002000123681633GX_20190509_0000000001.sgl

7.2 Content of the files

The contents of the files sent by the ORD and EGME are similar, consisting of different types of record, which appear in sequential order as follows:

- Header ("00"): mandatory. It has transmission control information;

- Criteria for data availability ("01"): compulsory;

- Type of detail ("04"): identification of the detail records (type "20") that will be provided;

- Detail record ("20"): a line will be displayed for each consumption period made available;

- Total Record ("99"): compulsory.

Each file must have a header record ("00"), a record of data provision criteria ("01") and a totals record ("99").

In addition to these records, there must always be at least one detail record ("20"). Whenever there are detail services ("20"), there will be a register of the type "04" with the identification of the services.

7.2.1 Header Record ("00")

The header record comprises eight fields, whose identification is represented by the ID. The following table describes and characterizes the header record:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value '00
2	Originating Entity	Text	8	Identification of the Entity that sent the data. Fixed value 'EDIS' or 'MOBI
3	Destination Entity	Numeric	6	Fixed internal code for the recipient. Always 0099/1
4	Transmission ID	Numeric	10	Sequencer
5	Previous Transmission ID	Numeric	10	Sequencer
6	No. of Delivery Points in the File	Numeric	8	Total no. of delivery points aggregated in the file
7	Start Date of Selection	Text	8	Start Date of Considered Readings
8	End Date of selection	Text	8	End date of the readings considered

7.2.2 Availability criteria record ("01")

This record succeeds the previous one, has the same number of fields, and characterize the quality of the data in the file, plus the information referred to in the following table:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value "01"
2	Data status	Text	1	'P'rovisory' or 'D'efinitive
3	Interpolation	Text	1	'Y' or 'N'. Whether the values undergo some type of interpolation in the process.

4	Aggregation Criterion	Numeric	2	Fixed value '06', without meaning
5	Value	Text	10	'Energy' or 'Power
6	Unit	Text	1	'K'ilo
7	Range	Text	4	'15M'
8	Losses	Numeric	1	Fixed value '0', no loss

The file is in the Provisional ("P") status whenever:

- There is at least one estimated missing period (with status "1") or non-estimated missing period (with status "2");

- At least one of the delivery points considered has exceeded the 10% interpolation limit.

7.2.3 Type of detail record ("04")

The type of detail characterizes the quantities to be made available, always considering A+ (active power). It precedes the values that constitute the detail record ("20"). Its composition is described in the following table:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value "04"
2	Quantity	Text	2	Fixed value "A+" referring to active power

The file will only contain one such record when there is at least 1 such record of the type "20".

7.2.4 Detail Services Record ("20")

This record presents consumption values, whose characterization is made by the previous record (detail type service record), with the following structure:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	1	Fixed value "20"
2	Data	Text	8	Date of reading YYYYMMDD
3	Period	Text	4	Period of reading (HHMM)
4	Value1a	Numeric	16	Value of service detail order =1, for date and period
5	Status1a	Text	1	Status of the service detail order=1

Notes:

Each date/period combination corresponds to a record type "20".

Each file will contain as many such records ("20"), as there are periods in one day (usually 96) number of days in the selection (difference between start and end date).

7.2.5 Totals record ("99")

This register serves to control the quantity of records (consumption values) by type of detail. Its description and characterization are shown in the following table:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value "99"
2	Total of services 'A'cumulated	Numeric	6	Total of services of cumulative type (record type = '10')
3	Total of services 'D'etail	Numeric	6	Total of services in each record of type '20'.
4	Total detail records	Numeric	6	Total of records type = '20'

7.2.6 Example

The following is an example of the contents of a data file with the following characteristics:

- File name: 12PEPT0002000099999999XX_20210705_476.sgl;

- File of a delivery point (PT000200009999999999XX);

- File with data for 5 July 2021;

- Consumption values, in power;

- Status of the file: provisional.

00 EDIS 0099/1 0000000372 0000000371 00000001 20210705 20210705

01 P S 06 POWER K 15M 0

04 A+

20 20210705 0015 000000000012.000 0

20 20210705 0030 000000000012.000 0

20 20210705 0045 000000000012.000 0

20 20210705 0100 000000000012.000 0

20 20210705 0115 000000000000.000 2

20 20210705 0130 000000000000.000 2

20 20210705 0145 000000000000.000 2

20 20210705 0200 000000000000.000 2

(....)

20 20210705 2315 000000000000.000 2

20 20210705 2330 000000000000.000 2

20 20210705 2345 000000000000.000 2

20 20210705 2400 000000000000.000 2

99 000000 000001 000096

8. FILE FORMAT AND STRUCTURE (ORD FROM RAA AND RAM)

The exchange of information with the ORDs of the Autonomous Regions is also processed through the exchange of files using an FTP and SFTP service. These files have special features in relation to the Mainland ORDs, in order to respond to the Regional reality.

8.1 Name of the files

As in the Mainland, the structure of the name of the files sent by the ORDs is different from the structure of the files sent by EGME. There are differences between the files shared by EDA and EEM

In the case of the files sent by the DSO of the Autonomous Region of the Azores (RAA) to the EGME, they obey the following structure:

CPE_aaaammddd_NTransm.txt

where:

- **CPE**: xxxxxxxxxxxxxxxxxxxx: variable (delivery point code - CPE); alphanumeric

- **yyyymmddd**: year, month and day of the consumptions in the file;

- **NTransm**: corresponds to the version number of the file

- **.txt**: format in which the file is made available

For a given Delivery Point Code (CPE) at least one file is generated daily, e.g:

o PT0014000100605384QR_20210707_01.txt

In the case of files sent by the ORD of the Autonomous Region of Madeira (RAM) to the EGME, the names obey the same structure used in the Mainland:

nnnnnnGroup_aaaammddd_NTransm.sgl

where:

- **nnnnnn**: is the internal ORD request code, and may have from 1 to 6 numerical digits;

- **Group:** corresponds to the groups defined after data aggregation, being divided into two parts:

o 'PE': fixed; two letters

o xxxxxxxxxxxxxxxxxxxx: variable (delivery point code - CPE); alphanumeric

- **yyyymmdd**: year, month and day on which the file is generated;

- **NTransm**: corresponds to the version number of the file

- **.sgl**: format in which the file is made available

For a certain Delivery Point Code (CPE) at least one file is generated daily, for example:

o 000999PEPT0013700005415700NY_20200618_0000000999

Regarding, the **name of the files sent by the EGME to the ORSs, RAA and RAM**, they are identical and respect the following format:

XXXXYYGroup_aaaammddd_NTransm.sgl

where:

- **XXXX**: is the assigned 4-letter code that identifies the CEME with the ORD of RAA and RAM. This code is generated by the EGME whenever it registers a new market agent in its system.

- **YY**: is the code of two numbers that identifies the tariff and time cycle of the consumptions in the file. This code takes 4 possible combinations:

- 01: Bi-Hourly Tariff, Daily Cycle

- 02: Tri-Hourly, Daily Cycle Rate

- 03: Bi-hourly rate, Weekly cycle

- 04: Tri-Hourly rate, Weekly cycle

- **Group**: corresponds to the groups defined after the aggregation of the data, being divided into two parts:

o 'PE': fixed; two letters

o xxxxxxxxxxxxxxxxxxxx: variable (delivery point code - CPE); alphanumeric

- **yyyymmdd**: year, month and day on which the file is generated;

- **NTransm**: corresponds to the version number of the file

- **.sgl**: format in which the file is made available

For a certain Delivery Point Code (CPE), at least 4 files are generated daily by CEME, for example

- MOBI01PEPT0014000100386193PT_20210707_0000000001.sgl
- MOBI02PEPT0014000100386193PT_20210707_0000000001.sgl
- MOBI03PEPT0014000100386193PT_20210707_0000000001.sgl
- MOBI04PEPT0014000100386193PT_20210707_0000000001.sgl

8.2 Content of the files

The contents of the files sent by the ORD and the EGME are similar, consisting of different types of record, which appear in sequential order, as follows:

- Header ("00"): mandatory. It contains transmission control information;

- Data availability criteria ("01"): compulsory;

- Type of detail ("04"): identification of the detail records (type "20") that will be made available;

- Detail record ("20"): a line will be displayed for each consumption period made available;

- Total Record ("99"): compulsory.

Each file must have a header record ("00"), a record of data provision criteria ("01") and a totals record ("99").

In addition to these records, there must always be at least one detail record ("20"). Whenever there are detail services ("20"), there will be a register of the type "04" with the identification of the services.

8.2.1 Header Record ("00")

The header record comprises eight fields, whose identification is represented by the ID. The table below describes and characterizes the header record:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value "00"
2	Originating Entity	Text	8	Identification of the Entity sending the data. Fixed value "MOBI" , "EEM" and "EDA".
3	Destination Entity	Numeric	6	Identification of the Entity that has received the data. Fixed value "MOBI" , "EEM" and "EDA".
4	Transmission ID	Numeric	10	Sequencer
5	Previous Transmission ID	Numeric	10	Sequencer
6	No. of Delivery Points in the File	Numeric	8	Total No. of delivery points aggregated in the file
7	Start Date of Selection	Text	8	Start Date of considered readings
8	End date of selection	Text	8	End date of the considered readings

8.2.2 Availability criteria record ("01")

This record succeeds the previous one, has the same number of fields, and characterizes the quality of the data in the file, plus the information referred to in the following table:

ID	Description	Type	Length	Characterization
1	Type of Registration	Text	2	Fixed value "01"
2	Data status	Text	1	'P'rovisory' or 'D'efinitive
3	Interpolation	Text	1	'Y' or 'N'. Whether the values undergo some type of interpolation in the process.
4	Aggregation Criterion	Numeric	2	Fixed value '06', without meaning
5	Value	Text	10	'Energy' or 'Power'
6	Unit	Text	1	'K'ilo
7	Interval	Text	4	'15M
8	Losses	Numeric	1	Fixed value '0', no loss

The file is in the Provisional ("P") status whenever:

- There is at least one estimated missing period (with status "1") or non-estimated missing period (with status "2");

- At least one of the delivery points considered has exceeded the 10% interpolation limit.

8.2.3 Type of detail registration ("04")

The type of detail characterizes the quantities to be made available, always considering A+ (active power). It precedes the values that constitute the detail record ("20"). Its composition is described in the following table:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value "04"
2	Quantity	Text	2	Fixed value "A+" referring to the active power

The file will only contain a record of this type when there is at least 1 record of the type "20".

8.2.4 Detail Services Record ("20")

This record presents consumption values, whose characterization is made by the previous record (detail type service record), with the following structure:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	1	Fixed value "20"
2	Date	Text	8	Date of reading YYYYMMDD
3	Period	Text	4	Period of reading (HHMM)
4	Value	Numeric	16	Value of service detail order =1, for date and period
5	Status1a	Text	1	Status of service detail order=1

Notes:

Each date/period combination corresponds to a record type "20".

Each file will contain as many records of this type ("20"), as there are periods in one day (generally 96) number of days of the selection (difference between start and end date).

8.2.5 Totals record ("99")

This register serves to control the quantity of records (consumption values) by type of detail. Its description and characterization are shown in the following table:

ID	Description	Type	Length	Characterization
1	Type of Record	Text	2	Fixed value “99”
2	Total 'A’ccumulated services	Numeric	6	Total of services accumulated type (records type = '10')
3	Total of services 'D'etail	Numeric	6	Total of services in each record of type '20'.
4	Total detail records	Numeric	6	Total of records type = '20'

8.2.6 Example

The following is an example of the contents of a data file with the following characteristics:

- File name: 12PEPT0002000099999999XX_20200519_476.sgl;

- File of a delivery point (PT0002000099999999XX);

- File with data for 19 May 2020;

- Consumption values, in power;

- File status: definitive.

00 EEM MOBI 0000000999 0000000998 0000000001 20200519 20200519

01 D N 06 POWER K 15M 0

04 A+

20 20200519 0015 000000000000.000 0

20 20200519 0030 000000000000.000 0

20 20200519 0045 000000000000.000 0

20 20200519 0100 000000000000.000 0

20 20200519 0115 000000000000.000 0

20 20200519 0130 000000000000.000 0

(....)

20 20200519 2245 000000000000.020 0

20 20200519 2300 000000000000.019 0

20 20200519 2315 000000000000.020 0

20 20200519 2330 000000000000.019 0

20 20200519 2345 000000000000.019 0

20 20200519 2400 000000000000.019 0

99 000000 000001 000096

9. PUBLICATION AND UPDATING

Published on XX XXX, XXXX.

According to Article 60 of the RME, the template and format of the data exchanged between EGME and ORDs are published and kept up to date on the EGME website.

The model and format of data exchanged between the EGME and the ORDs comes into force 30 days after the publication, on the MOBI.E website, of this Technical Rule.