



E-CONTROL

Electricity Market Code

Chapter 10

Information exchange between system operators and other market players; 1st and 2nd clearing

Version 3.0

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1. Basic principles

The responsibilities of system operators (SOs) include metering, confidential handling of grid user data, and non-discriminatory transmission of information to all market participants; at the same time, they must ensure that data is only transmitted to recipients that are actually entitled to receive it.

The information to be transmitted by SOs in their role as balance responsible parties (BRPs) of the balance group (BG) for grid losses is described in chapter 8 of the Electricity Market Code.

Whenever this document makes reference to (quarter-hourly, daily or annual) consumption, the same statements and indications apply for (quarter-hourly, daily or annual) supply.

2. Flow of information

2.1 Information sent by the system operator to the imbalance settlement responsible

The deadlines for information to be sent from the system operator to the imbalance settlement responsible (ISR) are laid down in the applicable version of the general terms and conditions of the imbalance settlement responsible (GTC ISR).

The SO submits the following information to the ISR (for the basic principles of forming aggregate time series, please consult section 4):

- **Monthly aggregate time series per balance group**

The monthly aggregate time series per balance group indicates the total of all metering points in a balance group, regardless of whether consumption is metered or derived from the standard load profile and daily or annual consumption. There must be separate aggregates for production and consumption.

The consumption of the BG for pumped storage must be recorded in yet another separate aggregate.

- **Monthly aggregate time series per supplier**

The monthly aggregate time series per supplier indicates the total of all metering points serviced by that supplier, regardless of whether consumption is metered or derived from the standard load profile and daily or annual consumption. There must be separate aggregates for production and consumption.

Please note: The SO must also send the ISR the aggregate time series of those direct members that are neither registered as suppliers nor assigned to a supplier.

(For the purpose of mapping these members in the system, the BRP is regarded as their supplier.)

- **Monthly aggregate time series at interconnection points**

Time series (readings of load meters in 15-minute intervals) for each grid's interconnection points; if there are several interconnection points to the same other system, their time series must be aggregated.

- **Monthly aggregate time series for the 2nd clearing**

The calculation and submission of the monthly aggregate time series for the 2nd clearing is described in section 3.1.2 below.

2.2 Information sent by the SO to the BRP

Internal settlement of imbalance charges in a balance group and establishing aggregate balance group schedules are tasks of the BRP.

The SO submits the following information to the BRP (for the basic principles of forming aggregate time series, please consult section 4):

- **Monthly aggregate time series per balance group**

The monthly aggregate time series per balance group indicates the total of all metering points in a balance group, regardless of whether consumption is metered or derived from the standard load profile and daily or annual consumption. There must be separate aggregates for production and consumption.

- **Monthly aggregate time series per supplier**

The monthly aggregate time series per supplier indicates the total of all metering points serviced by that supplier, regardless of whether consumption is metered or derived from the standard load profile and daily or annual consumption. There must be separate aggregates for production and consumption.

- **Monthly aggregate time series for the 2nd clearing**

The calculation and submission of the monthly aggregate time series for the 2nd clearing is described in section 3.1.2 below.

2.3 Information sent by the SO to the supplier

- **Monthly aggregate time series per supplier**

The monthly aggregate time series per supplier indicates the total of all metering points serviced by that supplier, regardless of whether consumption is metered or derived from

the standard load profile and daily or annual consumption. There must be separate aggregates for production and consumption.

- **Individual grid user data**

Time series of individual metering points must be submitted in 15-minute granularity if the points are equipped with a load meter¹ or smart meter with full functionality, and in the available granularity if metered daily (e.g. where they are equipped with smart meters with standard functionality); this is done by the end of the following day² on a monthly basis and whenever the supplier requests so and the grid user explicitly agrees.

All other network users' consumption readings are submitted individually in line with their meter reading or billing periods. Information must include the time of meter reading and the time of data transmission.

Please note: The SO must send the BRP the aggregate time series of those direct members that are neither registered as suppliers nor assigned to a supplier, to allow for the allocation of imbalance charges. (The BRP acts as supplier of these members.)

2.4 Information sent by the SO to the consumer

- **Consumption readings for network charges**

The SO informs the customer about the meter readings (in accordance with the *Systemnutzungsentgelte-Verordnung* (Electricity System Charges Ordinance)) that are used to calculate the system charges.

- **Consumption readings for energy billing**

The consumer can request information about the meter readings from the SO to check whether their supplier's bills are correct; the SO must be compensated for this.

2.5 Information sent by the SO to the other relevant SOs

The SO responsible for metering at the interconnection points submits the time series (15-minute intervals, as aggregates of all interconnection points connected to the same system) to

¹ This only applies to load meters with this functionality; once smart meters have been rolled out in accordance with section 1(3) *Intelligente Messgeräte-Einführungs-Verordnung* (Smart Meter Rollout Ordinance) 2012, daily data submission must be possible for all load meters.

² This applies as of 1 February 2018; if supplier and system operator agree, it may be applied earlier. The system operator is obliged to submit data on a daily basis and make the meter readings available if so possible; if there are delays immediately after consumption is read from the meter, they must be submitted/made available as soon as they become available in the consumer's web interface under Section 84(2) *Elektrizitätswirtschafts- und -organisationsgesetz* (Electricity Act) 2010.

the other relevant SOs on a monthly basis – in accordance with the clearing interval – and no later than the 5th working day of the next month.

This allows them to calculate the time series of the local player balance group.

2.6 Information sent by the SO to the control area operator

The SO submits to the control area operator (CAO) on a daily basis, always on D+1, the time series (in 15-minute intervals) of those power plants for which network-node schedules must be submitted. There must be separate aggregates for production and consumption for pumping.

For each balancing service provider that requests application of the grid utilisation charge under section 4(1)(9) Electricity System Charges Ordinance, the system operator sends the control area operator the aggregated time series for the secondary and tertiary control energy provided by that balancing service provider in the system operator's grid. This information is submitted in 15-minute granularity and no later than six working days after the end of the system charges billing period.

2.7 Information sent by the CAO to the balancing service provider

Each balancing service provider that requests application of the grid utilisation charge under section 4(1)(9) Electricity System Charges Ordinance must be sent the aggregated time series for the secondary and tertiary control energy provided by that balancing service provider. This information is submitted in 15-minute granularity and no later than two working days after the end of the system charges billing period.

2.8 Information sent by the balancing service provider to the relevant SOs

Application of the grid utilisation charge under section 4(1)(9) Electricity System Charges Ordinance requires that the time series for the secondary and tertiary control energy provided through each metering point be submitted, including any zero time series. This information is submitted in 15-minute granularity and no later than four working days after the end of the system charges billing period. In addition, aggregates of these time series for secondary and tertiary control energy must be submitted.

The time series for secondary and tertiary control energy provided through any metering points that do not fall under section 4(1)(9) Electricity System Charges Ordinance are aggregated across all these metering points and submitted to the ISR directly, again in 15-minute granularity.

3. Principles of the clearing process

The clearing process includes technical and financial clearing. Technical clearing, i.e. determining each balance group's imbalances, requires that 15-minute consumption information be available. These might either be actual readings or calculated consumption values derived from standard load profiles. As smart metering is rolled out, the availability of actual readings for shorter periods (daily or quarter-hourly, depending on the meter) improves. Technical clearing differentiates between

1. metering points equipped with load meters; these are cleared based on 15-minute readings;
2. metering points equipped with smart meters that transmit 15-minute readings to comply with requirements that result from the contract chosen by the customer; these are cleared based on 15-minute readings also;³
3. metering points equipped with smart meters; these are cleared based on daily readings that are combined with relevant standard load profiles;⁴ and
4. all other metering points; these are cleared based on annual readings that are combined with the relevant standard load profiles.

3.1 Technical clearing

1. Technical clearing is comprised of data collection, first clearing and second clearing.
2. For each clearing period, the ISR receives the following data:
 - a) from the BRPs: the internal schedules: separate procurement and supply schedules
 - b) from the CAO: the external schedules: separate procurement and supply schedules
 - c) from the SOs: the monthly aggregate time series: information from the time series of each supplier and each balance group, for production and consumption separately, as well as time series of the grid's interconnection points
3. The procedure followed by the ISR to determine imbalances is the same for the first and second clearings. In the interest of data security and transparency, the results of the first clearing are documented and saved. Any retroactive billing that takes place before the second clearing is regarded as part of the first clearing.
4. In determining imbalances, the ISR relies solely on the information from the schedule time series provided by the BRP and the CAO that are assigned to each balance

³ This applies as of 1 February 2018; if supplier and system operator agree, it may be applied earlier.

⁴ This applies as of 1 February 2019; if supplier and system operator agree, it may be applied earlier.

group, and on the monthly aggregate injection and withdrawal time series submitted by the SO. All metering points of a balance group without 15-minute metering (by way of load meters or smart meters) are assigned standard load profiles (SLPs).

5. The first clearing takes place on a monthly basis. Each BG's imbalances for each 15-minute interval are calculated by offsetting the aggregate schedules against the monthly aggregate time series. The deadlines for information submission by the SO in the first clearing are laid down in the applicable version of the GTC ISR. All recipients entitled to receive the monthly aggregate time series per supplier and balance group must receive the same information.
6. The second clearing takes place on a monthly basis as well, but 14 months later. It serves to correct the imbalances per clearing period determined for each balance group during the first clearing based on the actually metered annual electricity injections and withdrawals. The data necessary for the second clearing, i.e. the information relating to the month 14 months ago, must be provided to the ISR no later than the last working day of each month.

3.1.1 First clearing

1. For the first clearing, the SO each month submits the previous month's aggregate time series $[A_{EC}]$ of each balance group to the ISR. The deadline for this information flow is laid down in the applicable version of the GTC ISR. The aggregate time series for each month includes data from all metering points cleared in 15-minute intervals $[\sum MIA_{vh}]$, data from all metering points with daily clearing $[\sum MIA_T]$ and data from all other metering points $[\sum MIA_J]$.
2. The $\sum MIA_T$ aggregate is calculated by combining the intervals in the standard load profiles with the daily consumption.

For the $\sum MIA_J$ aggregate, the standard load profiles are combined with the annual consumption from the last reading.

To facilitate the handling of metering points with the same SLP, the summer, autumn/spring, winter, working day, Saturday and Sunday profiles are scaled to a consumption of 1000 kWh/year. The SO matches the total consumption of a balance group to an approved load profile (G0 to G6, L0 to L2, H0, LPs for special cases).

The SO applies the following formula to calculate the aggregates for the first clearing:

$$A_{EC} = \sum MIA_{vh} + \sum MIA_T + \sum MIA_J$$

A_{EC}	Monthly aggregate time series of the first clearing for each BG per SO
MIA_{Vh}	Monthly aggregate time series for all metering points with 15-minute clearing, per BG
MIA_T	Monthly aggregate time series for all metering points with daily clearing, per BG
MIA_j	Monthly aggregate time series for all metering points with annual clearing, per BG

3. Upon a supplier's request, the SO must provide, in good time for the first clearing and free of charge, a list of the metering point information (meter point reference number, annual consumption, standard load profiles, validity dates of the information) that is used to calculate the supplier aggregate time series and is part of the data exchange form (s. section 5 below).

The SO and supplier may agree that this list be sent to the supplier each month by default.

4. If the supplier files its request by the last working day of the month it relates to, the SO submits the list together with the monthly aggregate time series relating to that month.
5. The SO submits the metering point lists relating to past months by the 5th working day following the request.
6. The data exchange list is a CSV file.
7. The SO and supplier may agree that any bilateral information verification processes make reference to the 'data confirmation' and 'billing addresses' lists that are provided as supporting information together with the data exchange list.

3.1.2 Second clearing

1. The second clearing serves to correct the data from the first clearing for the actual consumption determined by meter reading. Corrections for any other volume deviations (e.g. correcting dummy values, retroactive supplier switches, changed switching dates) are part of the second clearing as well.

Retroactive changes to schedules are not admissible.

2. The aggregated data for the second clearing are based on the actual consumption metered for the previous billing period and the annual consumption for the entire meter reading period derived from it. The monthly aggregate time series for metering points

with annual clearing [MIA_J] are calculated using the aggregates for the last meter reading period (s Figure 1).

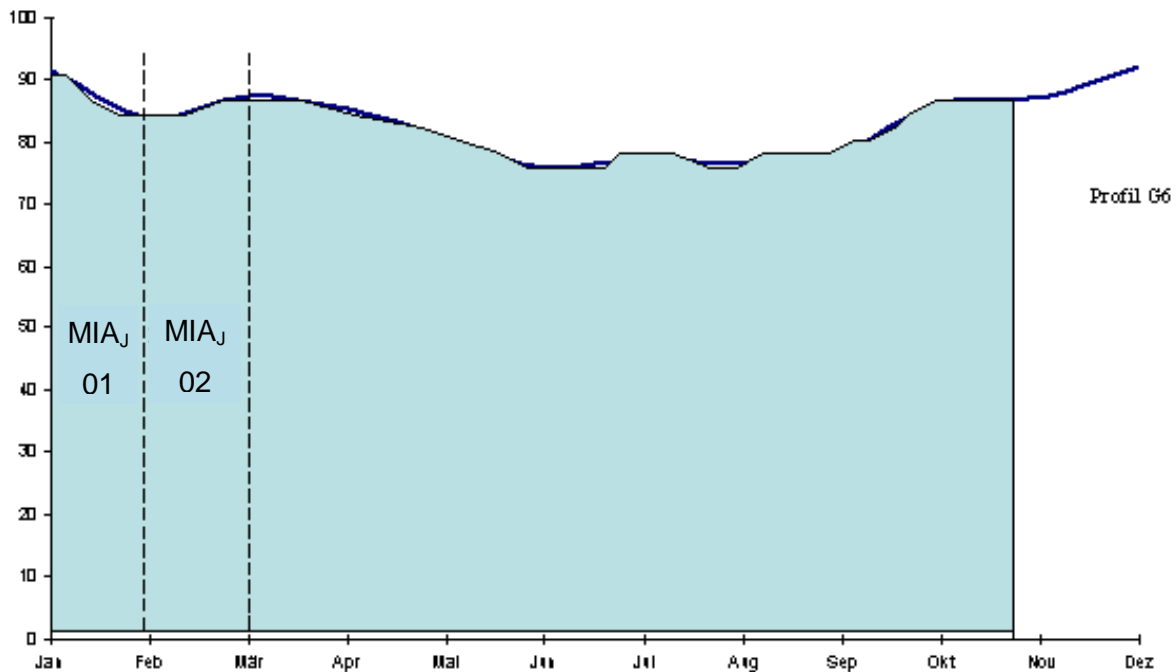


Figure 1

3. Given rolling meter reading and the objection periods for the BRPs, suppliers and consumers, the second clearing takes place 14 months later.
4. The information relating to the month 14 months ago must be provided to the ISR, the BRPs and the suppliers by the last working day of each month.
5. The data for the second clearing must be uploaded to the designated areas established by the ISR. Should individual SOs consider that this is necessary, the ISR has the option of creating a dedicated e-mail address for data transmission related to the second clearing.
6. The data for the second clearing must make reference to the same metering point reference numbers and component names that were used in the first clearing.
7. Once the data have been submitted and imported at the ISR's, the SOs access their data on the ISR's website and verify whether they are complete and correct (last check before the second clearing).
8. If no data are submitted for the second clearing, the data submitted for the first clearing are used again.

9. The procedure followed by the ISR to determine imbalances is the same for the first and second clearings. Any portfolio balancing energy charges are calculated at the imbalance price valid at the time of the first clearing.
10. Once the calculations have taken place, the ISR notifies the market players; they then access their data on the ISR's website and verify the results of the second clearing. To object to the data on the website, market players must notify the ISR; failure to notify the ISR is taken as confirmation of the data.
11. The ISR must enable the data to be downloaded from its website.
12. After conclusion of the quality assurance process, the ISR sets a binding clearing deadline. The ISR makes no more revisions or corrections after this date. Should any additional corrections be necessary, they must either be carried out bilaterally or the ISR performs them upon request and is compensated for this effort.
13. The bills issued as part of the second clearing list the amounts of positive and negative portfolio balancing energy and the corresponding charges (credits and debits) as totals per month. In addition, any deviations from the volumes and charges determined in the first clearing are listed.
14. The ISR publishes a calendar with all relevant deadlines on its website (e.g. MSCONS deadline, end of clearing, objection deadline).

4. Forming aggregate time series

1. A balance group's or supplier's monthly aggregate time series contains actual consumption figures for all metering points with a 15-minute clearing rhythm and calculated consumption figures for all other metering points.
2. The monthly aggregate time series for daily metered points are derived by combining the (daily) metered consumption during the month with the load curve from the standard load profile.
3. The monthly aggregate time series for annually metered points are derived by combining the annual consumption with the monthly load curve from the standard load profile.
4. Annual consumption may be either agreed or actually read. Normally, the latter should be the case.
5. The annual consumption figure must be qualified by a "valid from" date. The supplier receives the annual consumption figure either as part of the switching list or as *1 value in the MSCONS file. The MSCONS file also contains the "valid from" date. The annual

consumption figure is used for calculating the clearing data and serves as a basis for the system operator and supplier aggregates. It is normally submitted once a year.

6. Due to the rolling meter reading calendar, the annual consumption figure must be scaled. The adjusted figure is normally used by the system operator and supplier to calculate the aggregates as from the beginning of the month following billing (e.g. meter reading on 20/06, billing date 15/07, new annual consumption figure as from 01/08). If the new annual consumption figure cannot be sent to the supplier at least seven working days before the beginning of the month, it is only applied as from the start of the next month (e.g. meter reading on 05/07, billing date 28/07, new annual consumption figure as from 01/09).
7. The MSCONS file must contain the date from which the annual consumption figure is valid. The figure may become valid retroactively, after billing has taken place, as from the meter reading date or the start of the previous month if the receipt of identical time series from the system operator by all involved recipients is ensured.
8. The annual consumption figure is derived from the agreed or actually metered annual consumption. The annual consumption figure is the billed consumption scaled to a period of 365 days; there are several options for calculating it (s. section 8). If deviation factors are used for this purpose, the applicable formula reads:

annual consumption figure = deviation factor x 100

9. The annual consumption figure may be calculated by applying either of the following two procedures:

a. Prorating

(Example)

Meter reading period:	01/01/2002 to 28/10/2002 (300 days)
Consumption during the meter reading period:	5,000 kWh
Annual consumption figure:	6,083 kWh/h (5000:300x365)

b. Using deviation factors based on SLPs

(Example)

Meter reading period:	01/01/2002 and 28/10/2002
Consumption during the meter reading period:	5,000 kWh
Standard consumption during the meter reading period:	821 kWh
Deviation factor:	6.09 (5000/821)
Annual consumption figure:	6,090 kWh/h (6.09x1000)

Use of procedure b is recommended.

10. The monthly aggregate time series for metering points with SLPs are derived from the monthly data of the annual profiles, which are in turn calculated from the valid annual consumption figures and the assigned SLPs. The calculation always refers to whole months. The consumption upon which the SLP is based is multiplied by the current deviation factor.
11. Actual values are obtained by meter reading on a certain day. As most meters do not save monthly data, the readings do not always refer to whole months.
12. Aggregating the monthly time series for the 1st and 2nd clearing is the system operator's task. The SO describes the calculation method it has chosen and provides this description to the affected market players upon request.
13. Aggregation may be achieved by employing one of three methods: method a (daily): consumption is calculated into the monthly time series on a daily basis; method b: consumption of incomplete month is spread over the following meter reading period; method c: annual consumption is shifted to start on the first day of the month during which the meter reading period began.

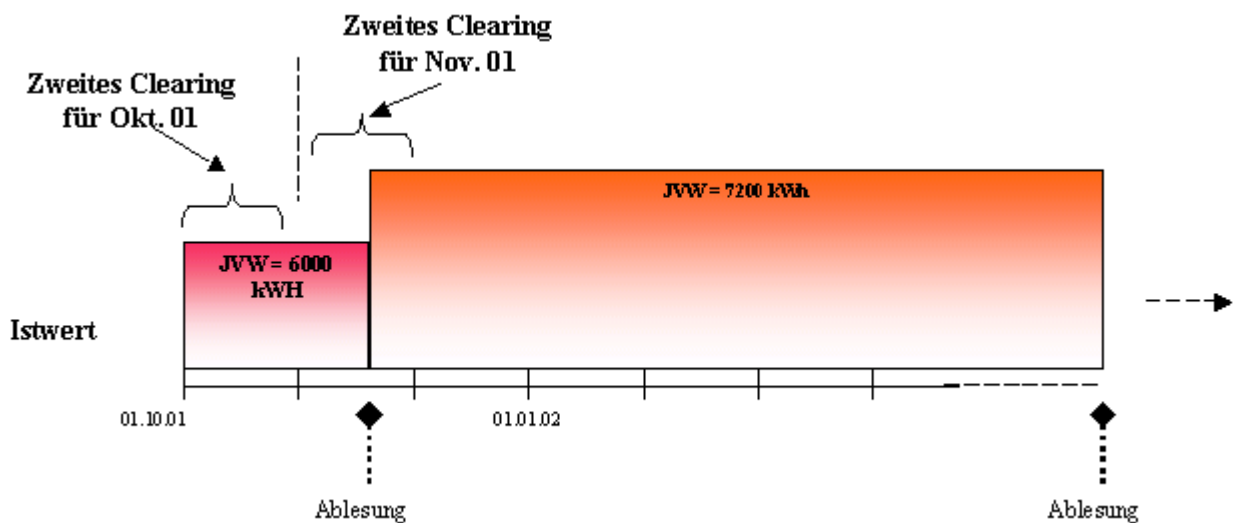


Figure 2: Baseline: clearing period: November 2001; meter reading on 20/11/2001

Method a:

Daily - consumption is calculated into the monthly time series on a daily basis. The deviation factor is adjusted on 20/11/2001.

**Zweites Clearing
für Nov. 01**

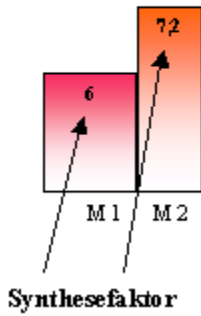


Figure 3: Method a (daily)

Method b:

Consumption of incomplete month is spread over the following meter reading period.

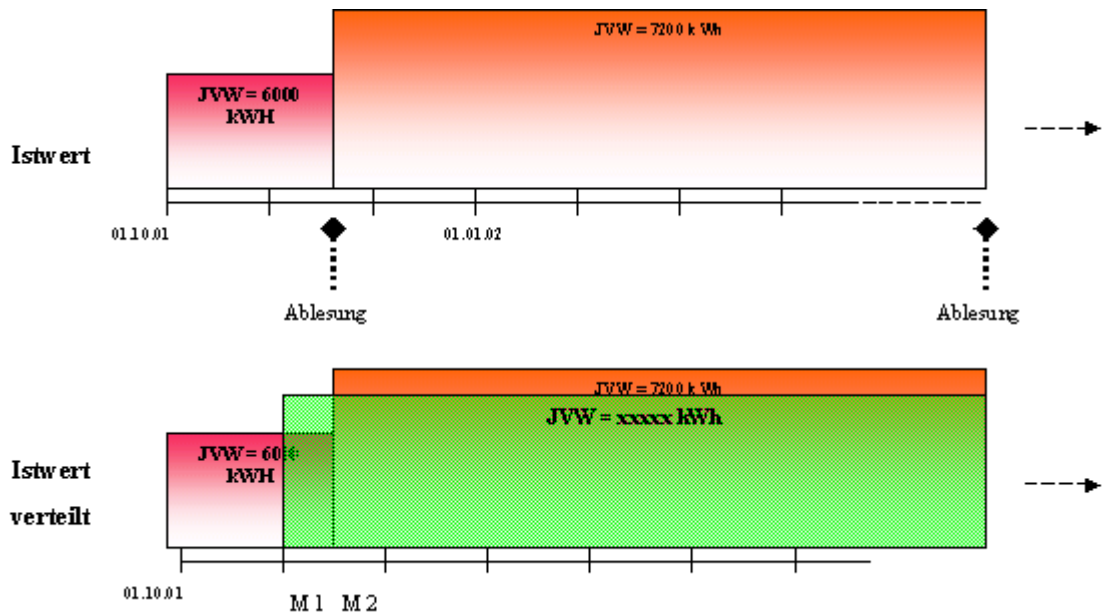


Figure 4: Method b (spreading)

Method c:

Annual consumption is shifted to start on the first day of the month during which the meter reading period began.

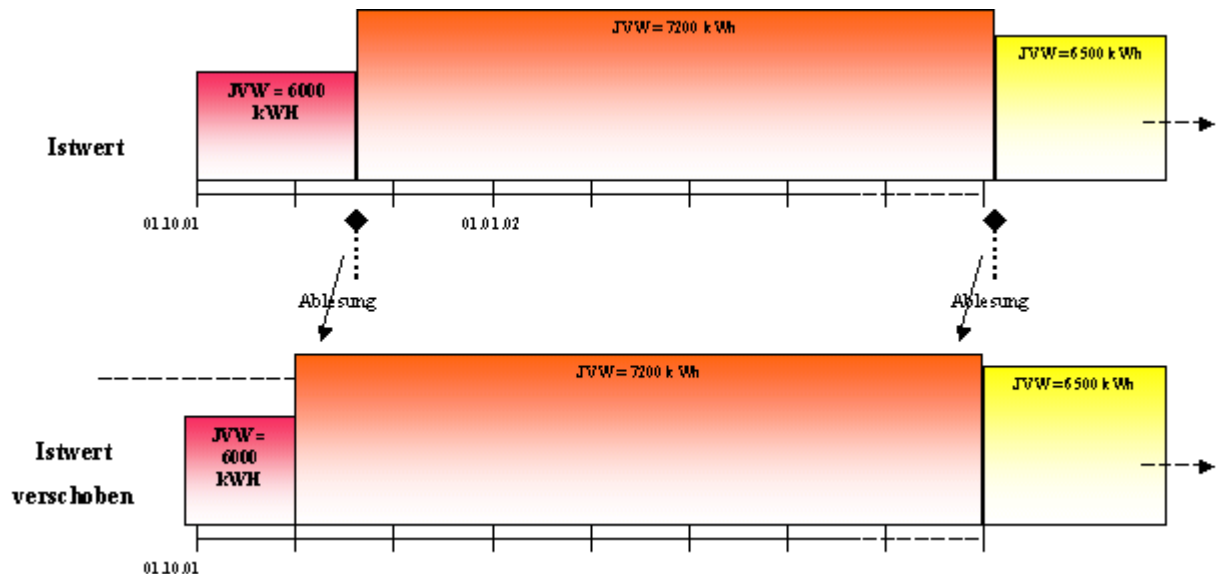


Figure 5: Method c (shifting)

14. The aggregated data for the second clearing are based on the actual consumption metered for the previous billing period and the annual consumption for the entire meter reading period derived from it.
15. The deadlines for objecting if incorrect data have been supplied by the SO are set by the ISR each month and published in the clearing calendar on the ISR's website. The second clearing must take place after this deadline has expired.
16. The suppliers and system operators should eliminate any differences between their relevant data (metering point information, assigned load profiles etc.) before they must be submitted for second clearing. Neither party can charge any fees in this context.

5. Data exchange list⁵

5.1 Framework

The data exchange list is available for download from E-Control's website (www.e-control.at) in .xls format (file name: Datenaustausch.xls).

⁵ Once chapter 5 of the Electricity Market Code (Customer processes) comes into force, this section is no longer relevant.

5.2 Purpose of the data exchange list

The file comprises the following sheets:

- **Metering point information:**
SO submits the data used for calculating the monthly aggregate time series to the supplier (s. section 3.1.1(2)).
- **Data confirmation:**
Assists in the efficient submission of consumer data that have changed or in verifying data relating to existing consumers between SO and supplier (s. section 3.1.1(7)); use of this sheet may be agreed bilaterally.
- **Billing addresses:**
Assists in the efficient submission of billing addresses that have changed between SO and supplier (s. section 3.1.1(7)); use of this sheet may be agreed bilaterally.

5.3 Format

The rules for switching lists apply mutatis mutandis to the format to be used for the data exchange list.

5.4 Structure

For the structure of the lists, please refer to the German version of this chapter of the Electricity Market Code.