BDEW/VKU/GEODE
Best Practice Guidelines

Market processes for the

management of gas balancing groups

Part 1

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Access Regulations	the German Gas Third-Party Access Regulations (*Gasnetzzugangsverordnung*, *GasNZV*)
BalCV	the calorific value used for energy balancing purposes (balancing CV)
BD	business day
BDEW	Bundesverband der deutschen Energie- und Wasserwirtschaft (the German Association of Energy and Water Industries)
BG	balancing group
BGM	balancing group manager
BillCV	the final calorific value used for consumption and transportation billing purposes (billing CV)
BP	biogas balancing period
BSG	balancing subgroup
CD	calendar day
CIP	cross-border interconnection point
Cooperation Agreement	the Cooperation Agreement between the Operators of Gas Supply Networks in Germany pursuant to section 20(1b) of the German Energy Industry Act (*EnWG*)
CV	calorific value
D	the relevant day (= delivery day), in each case corresponding to the relevant gas day
D+1	the day following the relevant delivery day
D+2	the second day following the relevant delivery day
D-1	the day preceding the relevant delivery day
D-2	the second day preceding the relevant delivery day
D-3	the third day preceding the relevant delivery day
DST	data series type
DVGW	Deutscher Verein des Gas- und Wasserfaches e. V. (the German Technical and Scientific Association for Gas and Water)
EDM	energy data management
EnNO	entry network operator

EU	end user
ExNO	exit network operator
BEATE	the administrative ruling on specifications for the conversion of annual capacity tariffs to within-year capacity tariffs for capacity rights with a duration of less than a year and on specifications for the calculation of transportation tariffs in accordance with section 15(2) to (7) of the German Gas Network Tariff Regulations handed down by the Federal Network Agency on 24 March 2014 (ref: BK9-14-608)
Federal Network Agency	Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen (the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway)
GaBi Gas	the administrative ruling on gas balancing handed down by the Federal Network Agency on 19 December 2014 (ref: BK7-14-020; so-called "GaBi Gas 2.0" decision)
GeLi Gas	the administrative ruling on uniform business processes and data formats for supplier switching handed down by the Federal Network Agency (ref: BK7-16-142)
GEODE	the European association of independent electricity and gas distribution companies
M	delivery month
M+2M	2 calendar months after the end of the relevant delivery month
M+2M-xBD	the x^{th} business day prior to the end of the 2^{nd} calendar month following the end of the relevant delivery month
M+xBD	the x^{th} business day following the end of the relevant delivery month
M+xCD	the x^{th} calendar day following the end of the relevant delivery month
MAM	market area manager
MBG	master balancing group
NBA	network balancing account
NBA-BO	NBA balancing object
NO	network operator
PRISMA	the European gas capacity booking platform
RLM	a supply meter installation which records hourly consumption (*registrierende Leistungsmessung*)

S	shipper
SBG	subordinate balancing group
SLP	standard load profile
SSO	storage system operator
TSO	transmission system operator
VKU	Verband kommunaler Unternehmen (the German Association of Local Public Utilities)
VTP	virtual trading point

1 Introduction

1.1 Aims of these best practice guidelines

This best practice guideline document provides descriptions and illustrations for all relevant main processes related to the management and administration of balancing groups. The aim is to put all market participants involved in a position to apply and implement the rules set out in the network code governing third-party access to the German gas supply networks, the so-called Cooperation Agreement (*Kooperationsvereinbarung*).

All definitions used in the text below have either been cited directly from the German Energy Industry Act (*Energiewirtschaftsgesetz*), the associated secondary legislation (regulations), the Cooperation Agreement itself or the rules published by DVGW, the German Technical and Scientific Association for Gas and Water, or have been derived on this basis. All acting market partners are described in terms of "market roles", that is in terms of the function they perform in the market. These market roles are distinguished on a purely functional basis, as several functions and tasks may be carried out by one and the same entity.

This best practice guideline document breaks down into two parts:

Part 1: text description of all processes and related steps, incl. the following annexes

- Annex 1: Master data exchange at the SIP
- Annex 2: Individual NO switchover balance for switchover from low to high CV gas

Part 2: illustration of all processes in the form of use cases in UML format.

1.2 Overview of the market roles involved

The balancing group management processes involve the following market roles:

- balancing group managers (BGM),
- market area manager (MAM),
- network operators (NO), who may be acting in their capacity as:
  - exit network operator (ExNO),
  - entry network operator (EnNO),
  - transmission system operator (TSO),
- storage system operators (SSO),
- biogas injection customers,
- shippers (S),
- end users (EU).

Figure 1 provides an overview of the interactions between the individual market roles and of the contracts and arrangements that are necessary for the management and administration

of balancing groups, including the main associated processes. With regard to the market roles involved, the overall process can be divided into several levels:

- entry level (EnNO),
- market area level (MAM),
- offtake level (ExNO),
- other infrastructure operators, such as SSOs, who are not a party to the Cooperation Agreement.

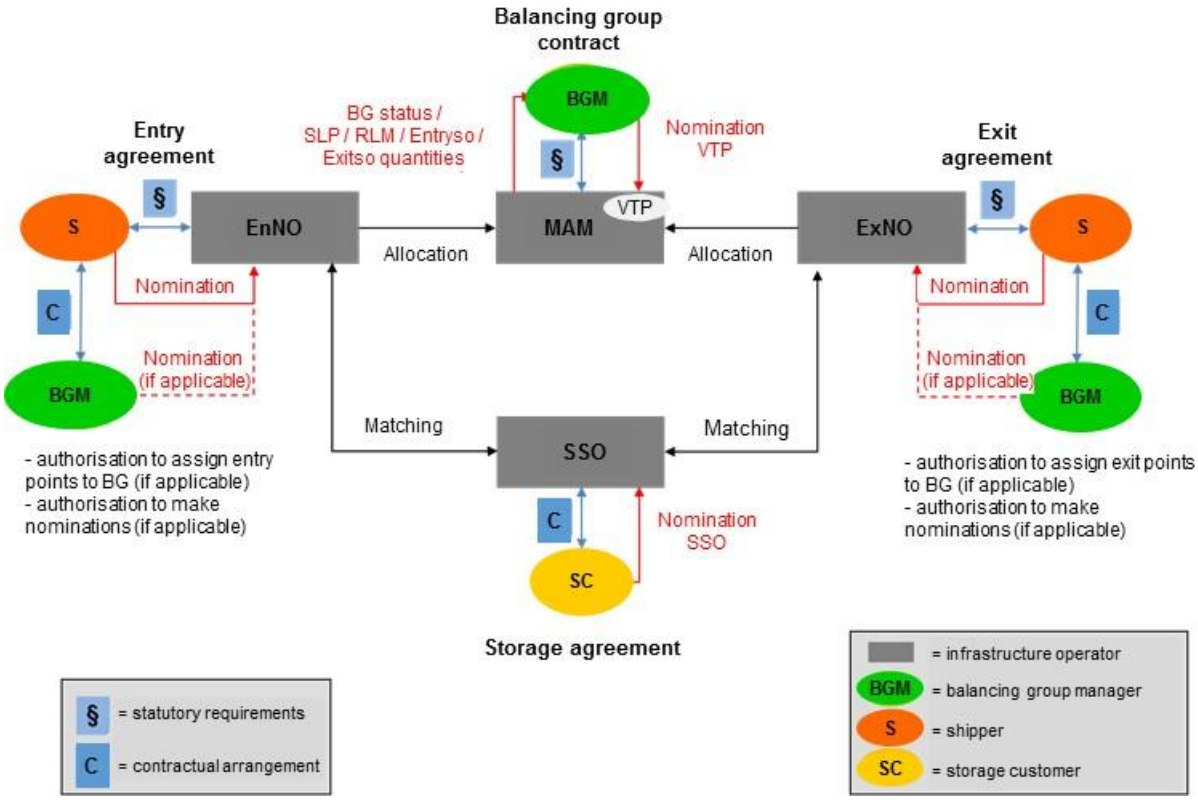

Figure 1: Overview of interactions between individual market roles

The best practice guidelines described in this document do not cover the processes relating to the SSO market role, the only exception being the rules for the injection of biogas into storage, which are described in chapter 6.4. Infrastructure operators who operate adjacent systems (storage facilities, production facilities etc.) are advised to structure their processes in line with the processes described here. This particularly applies with respect to nomination (chapter 4) and quantity allocation (chapter 5) processes.

2 Fundamentals

The task of managing and administering balancing groups is one of the elements in the gas industry's gas transport process chain.

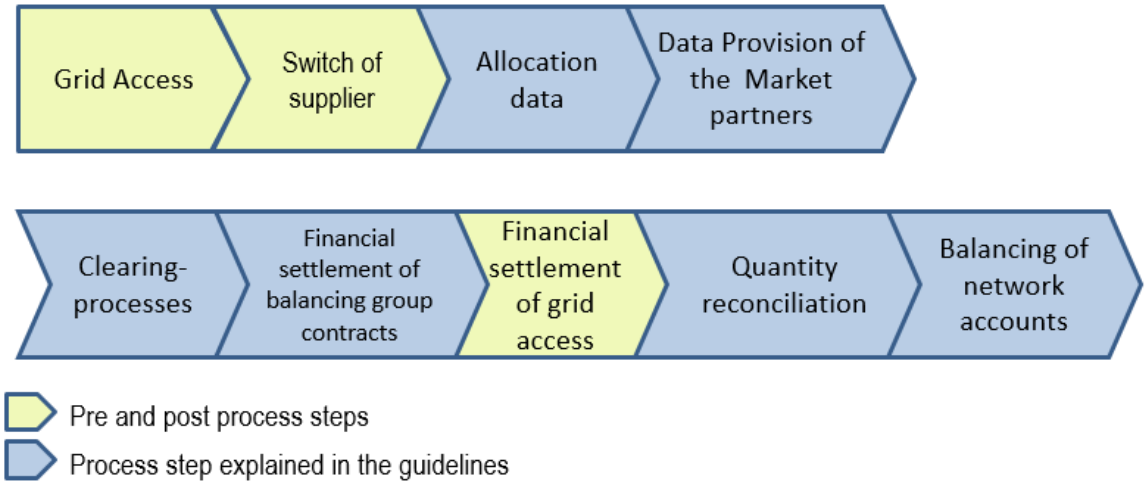

Figure 2: Process chain "implementation of network access"

2.1 Definitions

Allocation

The process of apportioning gas quantities to individual balancing groups.

Exit network operator (ExNO)

Any network operator with whom a shipper has entered into an exit agreement pursuant to sentence 1 of section 3(1) of the Access Regulations, including exit agreements signed in the form of supplier framework agreements.

Exit point

Any point within the market area where a shipper can offtake gas from a network operator's network for the purpose of supplying that gas to end users or injecting it into storage, or any point where gas may be transported across national borders. Where several exit points on a transmission system have been combined to form a zone pursuant to section 11(2) of the Access Regulations, this group of exit points is also deemed to constitute an exit point within the meaning of this definition.

Balancing group (BG)

A portfolio of entry and exit points that have been combined for the purpose of netting the inputs and offtakes made at these points and to enable the settlement of trade transactions.

Balancing group number

A unique number which is assigned to a balancing group manager by the market area manager in relation to a balancing group.

Balancing group manager (BGM)

A natural or legal person who has assumed responsibility for the administration and settlement of a balancing group vis-à-vis the relevant market area manager.

Biogas

Biomethane, gas produced from biomass, landfill gas, sewage gas and coal seam methane as well as hydrogen obtained from the electrolysis of water and synthetic methane, provided the major part of the electricity used for electrolysis and the major part of the carbon dioxide or carbon monoxide used for methanation has been established as coming from renewable energy sources as defined in Directive 2009/28/EC (OJ L 140, 5 June 2009, p16).

Biogas balancing period (BP)

The balancing period applicable to biogas BGs (up to 12 months).

Price for RLM quantity differences

The daily weighted average price of gas as determined for the market area for all transactions for the delivery of gas at the relevant virtual trading point (including both transactions effected on a day-ahead as well as on a within-day basis).

Entry network operator (EnNO)

Any network operator with whom a shipper has entered into an entry agreement pursuant to sentence 1 of section 3(1) of the Access Regulations. Entry agreements may, for example, be entered into at storage connection points, LNG entry points, domestic production facilities, cross-border interconnection points with networks in other countries and biogas entry points or mixing plants. This means that any network operator can become an EnNO once the first biogas plant connected to its network comes online and starts injecting gas to its network.

Entry point

Any point within the market area where a shipper may deliver gas to a network operator's network from another country, a domestic source, a production facility, an LNG or biogas plant or a storage facility. Where several entry points on a transmission system have been combined to form a zone pursuant to section 11(2) of the Access Regulations, this group of entry points is also deemed to constitute an entry point within the meaning of this definition.

Transmission system operator (TSO)

Any network operator on whose network shippers are required to book entry or exit capacity in order to be granted access to the network. Network operators of this type do not apply postage-stamp tariff systems.

Gas day

The gas day commences at 06:00 hours each day and ends at 06:00 hours on the following day.

Cross-border interconnection point (CIP)

A system interconnection point connecting two adjacent network operators who operate networks in different countries.

Capacity

The maximum hourly flow rate at an entry or exit point expressed in kWh/h.

End user (EU)

Any natural or legal person who purchases energy for own consumption purposes.

Supplier

Any natural or legal person conducting a business the sole or partial purpose of which is to sell gas for the supply of end users, as defined in section 3, No. 19b of the German Energy Industry Act. For the purposes of the communication processes between market participants the role of suppliers is to supply energy at market locations where energy is consumed and to receive delivery of energy at market locations where energy is generated.

Delivery month

The month M refers to the delivery month. The delivery month refers to the period commencing at 06:00 hours on the first day of the delivery month and ending at 06:00 hours on the first day of the following month. Where the registered supply start date falls on a day other than the first day of the month, the delivery month commences at 06:00 hours on the first day of the relevant supply period. For registered supply end dates falling on a day other than the last day of the month, the delivery month ends at 06:00 hours on the following day.

Market area (MA)

An organisational unit encompassing adjacent as well as upstream and downstream networks on various levels within the boundaries of which shippers can freely combine their capacity bookings, offtake gas for the supply of end users and transfer gas to other balancing groups.

Market area manager (MAM)

The MAM of the market area is a natural or legal person designated by the TSOs who provides those services in its respective market area that must be rendered by a single

person so as to ensure that third-party access to the gas networks in the market area can be implemented in an efficient manner.

The MAM does not operate any physical entry or exit points. Only the virtual trading points (VTP) are the responsibility of the MAM. The MAM is also responsible for the coordination of system balancing actions and the procurement of the required gas quantities as well as for the administration and settlement of the balancing groups registered in its market area.

Market location[1]

A market location is a location where energy is either generated or consumed. There is at least one pipeline connecting the property to a network.

Metering location[2]

A metering location is a location where energy is measured. A metering location features all the technical equipment required to determine and, if necessary, transmit the meter readings. Additional information: In a metering location, each relevant physical variable is determined no more than once at any one time.

Network operator (NO)

Any network operator with whom a shipper has entered into an entry or exit agreement or a supplier framework agreement.

System interconnection point (SIP)

A point at which two adjacent gas networks are connected.

Network balancing account (NBA)

An account in which all inputs delivered to a network on a day are recorded and compared against all allocated offtakes delivered from that network to end users, downstream networks, storage facilities and networks in other countries on that day.

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[1] For the parameters exit point, meter point, delivery point and recording station, the terms market location and metering location were introduced on the basis of the BNetzA BK7 -16-142 GeLi Gas to adapt the electronic market communication. The aim of these terms is to achieve a uniform understanding of the process-relevant parameters. In this context, the market location always represents the commercial balance sheet value, while the metering location is a technical parameter.

[2] For the parameters exit point, meter point, delivery point and recording station, the terms market location and metering location were introduced on the basis of the BNetzA BK7 -16-142 GeLi Gas to adapt the electronic market communication. The aim of these terms is to achieve a uniform understanding of the process-relevant parameters. In this context, the market location always represents the commercial balance sheet value, while the metering location is a technical parameter.

Additional information: A separate network balancing account will be set up by the MAM for each NO for each gas quality.

NBA balancing object (NBA-BO)

A separate balancing object which is used to take account of linepack changes and/or operational balancing accounts (OBA) when determining the quantities to be recorded in the associated network balancing account.

Nomination

A notification specifying the gas quantities in kWh/h to be received or delivered in a certain period.

Operational balancing account (OBA)

The differences arising between the aggregate hourly gas flow measured at a point and the aggregate gas quantities allocated at that point for the relevant hour are recorded and cumulated in a so-called “operational balancing account” (OBA). OBAs are agreed between two adjacent network operators (“operational balancing agreement”). OBAs are also agreed at volumetrically controlled connection points between infrastructure operators and their adjacent network operators where the allocation rule “allocated as nominated” applies.

Master balancing group (MBG)

A balancing group in which the energy imbalances of other, subordinate balancing groups are collected, netted and, ultimately, invoiced. Standalone balancing groups which are not linked to any subordinate balancing groups are also treated as master balancing groups.

Rounding rule

All quantities or amounts that require rounding will be rounded in accordance with good commercial practice (half away from zero).

Online flow control (OFC)

OFC arrangements involve the transmission of measured data, normally at 3-minute intervals, which are then used as the basis for entry flow arrangements other than the usual nominations process.

Renomination

A notification revising a nomination.

Residual load

The term “residual load” refers to the difference between the gas quantity determined as having flowed onto a network on a day and the gas quantity determined as having flowed from that network on that day to RLM exit points (aggregate RLM exit point load), downstream networks, storage facilities, where applicable adjusted to account for linepack changes and networks in other countries.

Shipper code

A unique international code assigned to a shipper by a network operator which serves as a reference to identify nominations, renominations or accounts. Within the scope of application of the GaBi Gas ruling, the shipper code corresponds to the balancing group number.

Balancing subgroup (BSG)

A balancing subgroup is an account registered as part of a balancing group which allows the BGM to allocate inputs and offtakes to individual shippers and/or to maintain a clear overview of certain quantities.

Flat allocation profile

An imputed load profile established by dividing a daily quantity by the number of hours in the relevant day (24 hours on normal days and 23 hours or 25 hours on days when the clocks change to or from daylight saving time, respectively).

Shipper (S)

Any legal person who has entered into an entry or exit agreement or a supplier framework agreement with a network operator.

Subordinate balancing group (SBG)

Any balancing group which has been linked to a master balancing group. For this type of balancing group, all relevant balances are determined as usual but are then transferred to the corresponding master balancing group and not invoiced directly to the balancing group manager who has registered the subordinate balancing group.

Virtual trading point (VTP)

A single point in the market area where gas can be transferred between balancing groups for gas of the same gas quality but which does not correspond to any physical entry or exit point within the market area.

2.2 Data exchange, data formats and message types

The parties involved in each process must provide all information that is necessary in order to fully implement each individual process step. When doing so they must adhere to all applicable data protection requirements. If these require the parties to encrypt and/or sign the data to be transmitted, the EDI@Energy rules apply.

All electronic messages to be processed and exchanged in the course of the business processes described in these best practice guidelines must be submitted using the data format Edig@s or, where applicable, the specific data formats published by EDI@Energy from time to time. All technical details relating to the generation of Edig@s messages must be implemented in accordance with the general specifications for Edig@s messages as

described in the document entitled "*Allgemeine Festlegungen zu den Edig@s-Nachrichten*" (German only) as modified from time to time or in accordance with the applicable EDI@Energy document.

Further information on the current data formats can be found on the websites of DVGW and EDI@Energy:

http://www.dvgw-sc.de/

http://www.edi-energy.de/

2.3 Setting up a network balancing account with the market area manager

For the operational implementation of the market processes for gas balancing group management, the MAM will set up and administer individual network balancing accounts for each gas quality for each NO in its market area.

To open a network balancing account, the NO must send the required documents to the MAM no later than three months and 10 BD prior to carrying out its first allocation process. The MAM will then notify the NO of its new network balancing account number within a period of 10 BD.

The documents required to be submitted by the NO are:

- a certificate issued by the competent main customs office which confirms that the NO is a registered supplier;
- a certificate issued by the competent tax office which confirms that the NO is considered a reseller of natural gas for VAT purposes;
- the NO's master data (address of NO, bank details, DVGW code, SLP method applied by the NO, meter reading arrangements applied by the NO);
- the NO's communication data sheet (1:1 communications), including information about the preferred communication channel (email, AS2);
- the start date of the network balancing account;
- a list of all adjacent NOs and their network balancing accounts (with the information below to be provided separately for each upstream and downstream NO):
    - DVGW code;
    - network balancing account number;
    - information on which party has been assigned the primary/secondary responsibility to submit the relevant EntryNKP allocations;
    - reverse gas flows onto upstream network yes/no;
- information on relevant gas quality;
- information on available linepack flexibility;
- where applicable, information on authorised service providers.

If there are changes in the DVGW code of an NO or an NO wishes to deregister with the MAM, the NO must notify the MAM thereof in a timely manner. Network balancing accounts can be closed with effect from the last gas day of a delivery month.

2.4 Codes for network balancing accounts and NBA balancing objects

Network balancing account numbers are issued by the MAM in accordance with the coding scheme applied by DVGW (NO role). Each network balancing account number consists of a 16-digit identification number. During the transition to the new THE market area, the previous network balancing accounts (NBA) of the network operators will be continued. However, the nomenclature of the network balancing accounts will change for contract periods commencing on or after 1 October 2021 (see illustration). Since the NBAs are continued by the MAM, the cumulative NBA key figures, such as NBA balance 2 (cumulative), which are required for checking the plausibility of the reconciliation quantity invoicing process, will also be continued.

For network operators who are in the market area overlap or have two separate network balancing accounts of the same gas quality in both market areas, the MAM will only keep one network balancing account per gas quality from 1 October 2021 onwards. For the correct presentation of the cumulated key figures, aggregated key figures will be formed for the contract periods prior to 1 October 2021. This ensures that the billing processes are based on the correct key figure.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Description
Market Area				designation of NBA		Gas type	DVGW Code (starting with the third cipher)									
T	H	E	0	N	K	H	7	1	2	3	4	5	0	0	0	H-Gas network balancing account
T	H	E	0	N	K	L	7	1	2	3	4	5	0	0	0	L-Gas network balancing account

Figure 3: Identification numbers for network balancing accounts in the market area

To take account of linepack changes and/or operational balancing accounts (OBA) when determining the allocations to be recorded in a network balancing account (see chapter 5.5.7), NOs have the option to have a separate NBA balancing object (NBA-BO; German abbreviation “NKBO”) created and assigned to their respective network balancing accounts. As is the case for the corresponding network balancing accounts, the codes for NBA-BOs are issued by the MAM in accordance with the coding scheme applied by DVGW (NO role). The code for each NBA-BO consists of a 16-digit identification number.

Applications for the creation of an NBA-BO must be submitted to the MAM by the NO no later than one month prior to the date on which allocations are to be made for the first time. The MAM provides an application form on its website or on the relevant portal for this purpose. In order to enable the MAM to validate the quantities reported, the NO will also be required to provide information to the MAM on whether its network is pressure controlled or

volumetrically controlled and/or on whether an OBA storage facility is connected to its network when submitting its application.

The NBA-BOs which are used to take account of linepack and/or OBAs for network balancing account allocation will also receive a new nomenclature for contract periods commencing on or after 1 October 2021.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Market Area				Designation of NBA BO		Gas type	DVGW Code (starting with the third cipher)						class			Description
T	H	E	0	B	N	H	7	1	2	3	4	5	N	K	B	H-Gas NBA BO
T	H	E	0	B	N	L	7	1	2	3	4	5	N	K	B	L-Gas NBA BO

Figure 4: Identification numbers for NBA balancing objects in the market area

2.5 Assignment of entry and exit points to balancing groups

(Master) balancing groups, subordinate balancing groups and balancing subgroups are always created and administered by the MAM. The MAM offers different BGs depending on the type of capacity used to transport the relevant quantities: BGs for capacity that is subject to transportation route restrictions will receive the status “beschränkt zuordenbare Kapazitäten” (“BZK”, in English often abbreviated to “CAR”), BGs for freely combinable capacity, i.e. a capacity product that is not subject to any transportation route restrictions or other general restrictions as to its use, will receive the status “frei zuordenbare Kapazitäten” (“FZK”, in English: freely allocable capacity or “FAC”). End-user market locations (SLP and RLM) are assigned to a BG or BSG as part of the business processes described in the GeLi Gas ruling. Capacity bookings at other entry and exit points are registered for use with a BG or BSG by the relevant shipper.

In order to implement the BEATE ruling, the MAM also offers the option of setting up BGs which are only available for use with undiscounted capacity which was booked at entry and/or exit points from or to gas storage facilities that provide the storage customer with access to a market in a neighbouring country. This is necessary to ensure that the respective storage system operator can allocate the quantities to the corresponding storage accounts required to be set up under the BEATE ruling by means of the balancing group codes specified in the underlying nominations. The MAM either reserves a fixed number range for this type of BG or uses a special nomenclature (see chapter 2.6).

Capacity at entry and exit points from or to gas storage facilities which is not sold at a reduced tariff in accordance with the BEATE ruling (below referred to as “undiscounted capacity”) may only be registered to one or more specially designated BG/BSG for undiscounted capacity in the amount of the booking of the undiscounted capacity. BSGs for

undiscounted capacity can only be set up as part of an existing dedicated BG for undiscounted capacity. Capacity at gas storage facilities which is sold at a reduced tariff in accordance with the requirements set out in the operative part of the BEATE ruling must not be registered to a BG/BSG for undiscounted capacity.

Capacity held at CIPs and storage connection points can be registered for use with several BGs/BSGs. The quantities to be recorded for energy balancing purposes in respect of each BG/BSG are determined by the relevant NO, this is the process referred to as allocation. These quantities are allocated to the relevant BG/BSG and submitted to the MAM, who in turn forwards these data to the relevant BGM. BGMs who have registered an existing BG with the MAM may apply to the MAM to request that a BSG be set up as part of that BG. A BSG represents a separate account with its own balancing subgroup number. Each BSG is linked to the corresponding BG and allows the BGM to allocate inputs and offtakes to individual shippers and/or to maintain a clear overview of certain quantities. In line with the rules that apply to BGs, BSGs can be closed upon three months' notice.

In order to ensure that the imbalances arising in the network balancing accounts are kept as small as possible, the exit points NOs use for own use gas, such as pre-heating of control equipment, buildings etc., are in each case assigned to a balancing group by the relevant NO.

2.6 Balancing group numbers and balancing group codes

Balancing group numbers and balancing subgroup numbers are issued by the MAM in accordance with the coding scheme applied by DVGW. Changes to the identification numbers used will be put to consultation and published as part of the DVGW change management process for data format changes.

http://www.dvgw-sc.de/

Each balancing group number or balancing subgroup number consists of a 16-digit identification number. Balancing groups are identified as such by the last four digits of the assigned code, which are either “0000” or “9000”. Balancing subgroups are also identified by the last four digits of the assigned code, which in this case represent a number between “0001” and “9999”.

From 1 October 2021, all balancing groups (including balancing sub-groups) will use the THE nomenclature. For contract periods before 1 October 2021, the balancing group numbers of the GASPOOL and NCG market areas must still be used.

The following codes are used to indicate whether a balancing (sub)group is registered for biogas and to identify the relevant gas quality and applicable capacity tariff class:

1 2 3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Market Area		designation as BG	class and capacity type	Gas type	Individual number (Position 8: applicable capacity tarrif)					Subgroup number				Description
T H E	0	B	F	H	1	1	2	3	4	0	0	0	0	Balancing group for high CV gas quantities
T H E	0	B	F	L	1	1	2	3	4	0	0	0	0	Balancing group for low CV gas quantities
T H E	0	B	F	H	9	1	2	3	4	0	0	0	0	Balancing group for high CV gas quantities, undiscounted
T H E	0	B	F	L	9	1	2	3	4	0	0	0	0	Balancing group for low CV gas quantities, undiscounted
T H E	0	B	F	H	1	1	2	3	4	1	2	3	4	Balancing subgroup for high CV gas quantities
T H E	0	B	F	L	1	1	2	3	4	1	2	3	4	Balancing subgroup for low CV gas quantities
T H E	0	B	F	H	9	1	2	3	4	1	2	3	4	Balancing subgroup for high CV gas quantities, undiscounted
T H E	0	B	F	L	9	1	2	3	4	1	2	3	4	Balancing subgroup for low CV gas quantities, undiscounted
T H E	0	B	D	H	1	1	2	3	4	0	0	0	0	Balancing group for high CV gas quantities for dynamically allocable capacity (DZK)
T H E	0	B	D	L	1	1	2	3	4	0	0	0	0	Balancing group for low CV gas quantities for dynamically allocable capacity (DZK)
T H E	0	B	D	H	9	1	2	3	4	0	0	0	0	Balancing group for high CV gas quantities for DZK, undiscounted
T H E	0	B	D	L	9	1	2	3	4	0	0	0	0	Balancing group for low CV gas quantities for DZK, undiscounted
T H E	0	B	D	H	1	1	2	3	4	1	2	3	4	Balancing subgroup for high CV gas quantities for DZK
T H E	0	B	D	L	1	1	2	3	4	1	2	3	4	Balancing subgroup for low CV gas quantities for DZK
T H E	0	B	D	H	9	1	2	3	4	1	2	3	4	Balancing subgroup for high CV gas quantities for DZK, undiscounted
T H E	0	B	D	L	9	1	2	3	4	1	2	3	4	Balancing subgroup for low CV gas quantities for DZK, undiscounted
T H E	0	B	B	H	1	1	2	3	4	0	0	0	0	Balancing group for high CV bio gas quantities
T H E	0	B	B	L	1	1	2	3	4	0	0	0	0	Balancing group for low CV bio gas quantities
T H E	0	B	B	H	9	1	2	3	4	0	0	0	0	Balancing group for high CV bio gas quantities, undiscounted
T H E	0	B	B	L	9	1	2	3	4	0	0	0	0	Balancing group for low CV bio gas quantities undiscounted
T H E	0	B	B	H	1	1	2	3	4	1	2	3	4	Balancing subgroup for high CV bio gas quantities
T H E	0	B	B	L	1	1	2	3	4	1	2	3	4	Balancing subgroup for low CV bio gas quantities
T H E	0	B	B	H	9	1	2	3	4	1	2	3	4	Balancing subgroup for high CV bio gas quantities, undiscounted
T H E	0	B	B	L	9	1	2	3	4	1	2	3	4	Balancing subgroup for low CV bio gas quantities, undiscounted

Variables in nomenclature:

6: F: Natural gas balancing group
D: DZK (*DAC*) for natural gas balancing group
B: Biogas balancing group
Y: DZK (*DAC*) Biogas balancing group

7: H: High CV gas balancing group
L: Low CV gas balancing group

8-12: BG No. (5 digits), of which:

8: 0-6: Discounted capacity tariff
9: Undiscounted capacity tariff

9-12: Remaining 4 digits of the BG No.

13-16: BSG No. (4 digits, 0000 = BG, 0001-9999 = BSG)

Figure 5: Balancing group and balancing subgroup codes

Whenever we refer to a “balancing group number” in the text below, this should be read as also referring to the identification numbers used for biogas BGs and biogas BSGs.

2.7 Special characteristics of biogas balancing groups

Special energy balancing rules apply to biogas BGs, in respect of which a so-called flexible energy balancing service is provided pursuant to section 35 of the Access Regulations. The following requirements must be satisfied for a BG to be granted this status:

- Only entry points from physical plants that produce biogas within the meaning of the definition provided above can be registered with a biogas BG. If the biogas injected to the network at such a point is biogenic hydrogen gas, the relevant quantities are allocated using the data series type “Entry Wasserstoff”.
- At the request of the MAM, the BGM must submit suitable evidence confirming that the gas physically delivered to its BG is biogas.
- Where gas is to be received at the VTP from other BGs, the BGM must ensure that this gas is also sourced from a biogas BG. For transfers at the VTP, compliance with this requirement will be verified by the MAM in the course of the nomination process based on the relevant BG numbers, which contain a special identifier.
- Biogas BGs may only be linked with other biogas BGs for netting purposes.
- No limitations apply with respect to the offtake of gas from a biogas BG. There are no requirements that biogas may only be used for certain purposes.

There is no obligation to deliver biogas quantities to biogas BGs only. The relevant BGM or shipper may also decide to have its biogas quantities allocated to an ordinary BG. In this case, however, the benefits arising in connection with the special energy balancing rules for biogas pursuant to section 35 of the Access Regulations will not apply.

One prerequisite for the special energy balancing treatment of biogas injections is that the relevant shipper assigns the relevant entry point to a biogas BG when registering with the relevant EnNO.

In order to prevent any biogas BG from losing its special biogas status with retrospective effect, the MAM at the VTP will verify whether the disposing BG is a biogas BG when checking the nominations received. If this is not the case, the MAM will reject the nomination at the VTP.

If the BGM becomes aware that any inputs delivered to its biogas BG no longer meet the requirements set out in section 3, No. 10c of the Energy Industry Act, it must notify the MAM thereof without undue delay.

If the entire gas quantity delivered to a biogas BG does not meet the requirements set out in section 3, No. 10c of the Energy Industry Act, the supplementary energy balancing provisions for biogas will no longer apply from the date on which the MAM becomes aware of the fact that biogas was not exclusively delivered until the end of the balancing period concerned. In this case the biogas BG/biogas BSG in question will be closed without undue

delay and the gas inputs delivered to it will be transferred to and continued in a BG for natural gas.

If a shipper wishes to inject biogas to a network, it must notify the relevant EnNO of the balancing group number of the receiving biogas BG to which the gas is to be allocated and of the date from which the gas is to be delivered, which notice must be given no later than 10 BD prior to the start of delivery. Prior to the date of first delivery the entry agreement between the EnNO and the shipper ensures that the gas delivered comprises biogas only. Where exit market locations are to be assigned to a biogas BG, this must be effected in accordance with the GeLi Gas processes.

In order to be able to distinguish biogas BGs from BGs for conventional natural gas for energy balancing purposes, biogas BGs must clearly be identified as such. The nomenclature used for this purpose is described in Figure .

With regard to biogas injections to a network the following also applies:

Starting from the receiving biogas BG initially specified, the biogas inputs made can be apportioned between other BGs, SBGs and BSGs through the nomination process described in chapter 4, for example by nominating flat gas deliveries or dividing the inputs proportionally. In the case of a pro-rata distribution, the receiving BG is linked to several other BGs. The BGs to be linked in each case and their individual proportions are determined in a separate Agreement on the Linking of Balancing Groups as provided in Appendix 5 to the Cooperation Agreement (please also see chapters 2.8 and 2.9), which must be entered into in addition to the respective balancing group contracts.

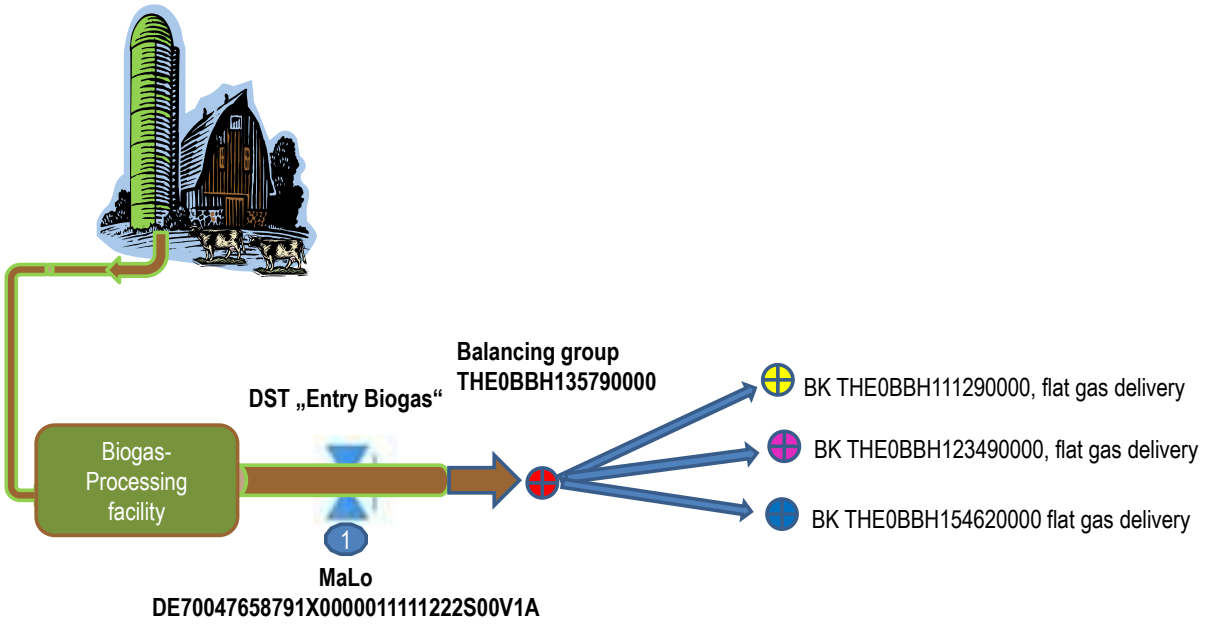

Figure 6: Sample distribution of biogas inputs between different balancing groups

2.8 Linking arrangements between balancing groups

Balancing groups can be linked so as to allow the balances determined for each of the linked balancing groups to be netted and invoiced together. BGMs who have registered balancing groups both for high CV gas and for low CV gas have an obligation to link those balancing groups. The BGMs involved in each case enter into a written “Agreement on the Linking of Balancing Groups” with the MAM as provided in Appendix 5 to the Cooperation Agreement. Under this agreement the daily and hourly energy imbalances arising in the BGMs' individual balancing groups are netted in a designated MBG to which all relevant balancing groups are linked and invoiced to the BGM responsible for that MBG. The actual linking arrangements between an SBG and an MBG are agreed in text form as part of the “Agreement on the Linking of Balancing Groups” or on the MAM portal. The “Agreement on the Linking of Balancing Groups” must in each case be provided to the MAM no later than 10 BD prior to the start date of the linking arrangements in question. For all linking arrangements a minimum term of one month applies. Only balancing groups for freely combinable capacity with the status “FAC” may be linked in this way. Balancing groups for restricted capacity with the status “CAR” may not be linked with other balancing groups.

SBGs can be created on up to 10 levels for each MBG. Each MBG and SBG can comprise up to 9999 BSGs.

Figure shows examples of different linking arrangements between balancing groups. BGMs who have registered balancing groups for different gas qualities must select linking arrangements that ensure that the corresponding quantities are netted within one and the same MBG. A BGM may only register an MBG if its balancing groups for the different gas qualities have been assigned the status “FAC”. If a BGM has registered several balancing groups which are for gas of the same gas quality, these do not need to be linked.

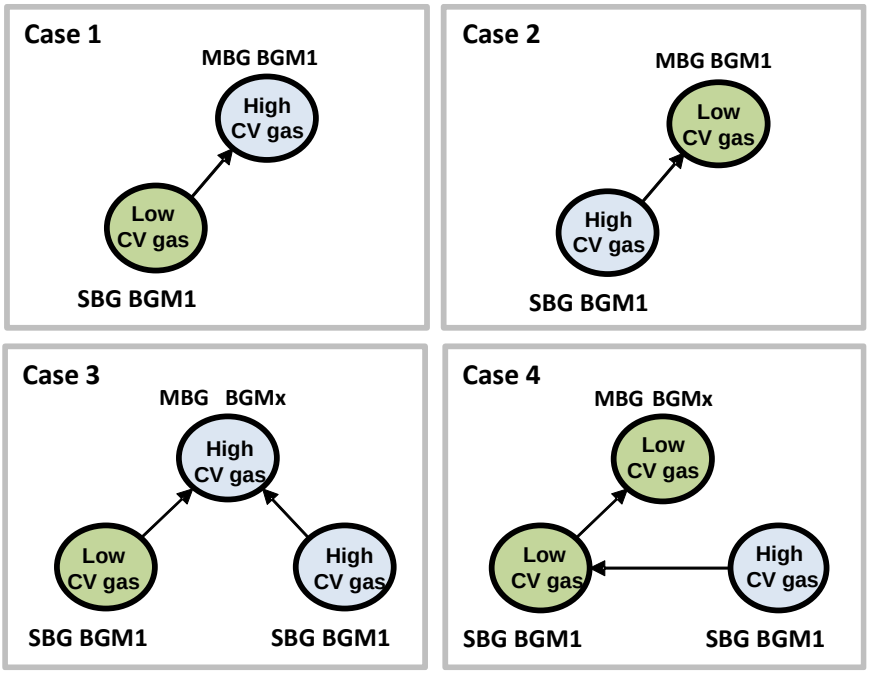

Figure 7: Possible linking arrangements between balancing groups

The tolerances granted under the within-day obligation rules on the basis of the aggregate quantities recorded in the individual SBGs will be applied in aggregate in the relevant MBG. The balancing neutrality charges and conversion neutrality charges payable in respect of each SBG will also be invoiced through the MBG.

All SBGs are linked to an MBG. However, only balancing groups for high CV and low CV gas can be combined freely; BSGs are automatically assigned the gas quality of the balancing group for which they were created. The gas quality of the MBG is determined by the relevant BGM.

Irrespective of the linking arrangements in place between their balancing groups, each of the BGMs involved will continue to be responsible for its own balancing group, which means that the daily BG status notices and the SLP and RLM allocations for each SBG will still be submitted to the BGM who has registered the respective SBG. The BGM responsible for the MBG receives additional information on an aggregated level – daily on D+1 CD, on the date M+15 BD and again at the time the balancing group invoice is raised. With respect to the MAM, the BGM responsible for the MBG has the sole commercial responsibility for the net overall energy imbalances incurred across the individual SBGs.

An SBG may be linked with several MBGs. In this case the relevant quantities can only be distributed between the MBGs on a pro-rata basis, the sum of the individual proportions must equal 100% and the relevant figures will be rounded to whole numbers (half away from zero).

Figure 4 shows a simple, non-cascading relationship between one SBG and two directly linked MBGs.

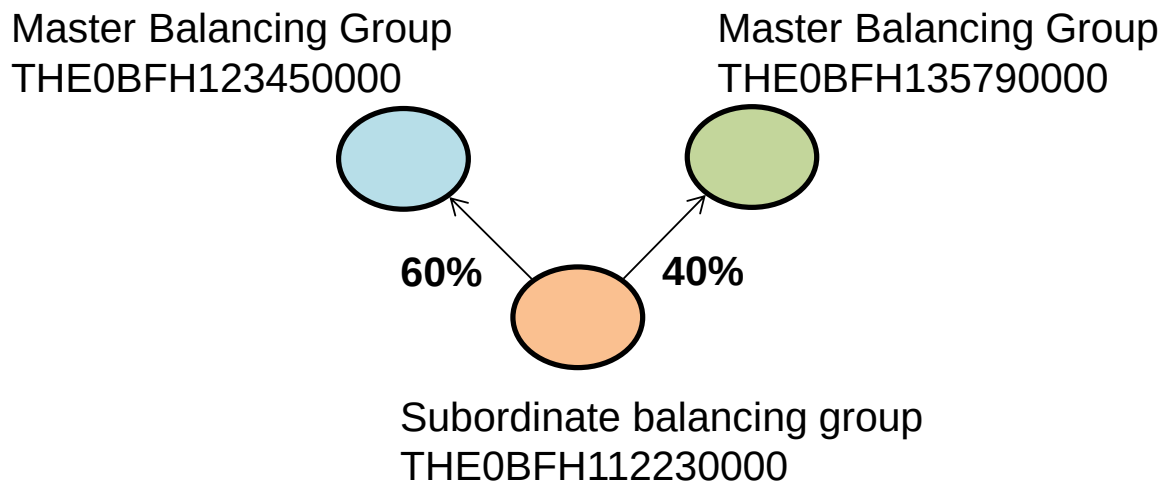

Figure 4: Pro-rata distribution of SBG quantities between several MBGs

2.9 Special aspects of linking arrangements between biogas balancing groups

The Access Regulations also allow for biogas BGs to be linked. In this case the required "Agreement on the Linking of Balancing Groups" must be provided to the MAM no later than 10 BD before the end of the relevant biogas balancing period. If linking arrangements are in place, the flexibility range granted pursuant to section 35(3) will be uniformly applied to the MBG and all SBGs linked to the MBG. For this purpose, the available flexibility and BG balances determined for each individual SBG will be transferred to the corresponding MBG. All SBGs interlinked in this way must have the same balancing period end date, the balancing period start date may vary. This makes it possible to also implement linking arrangements between biogas BGs with differing initial balancing periods (which may be shorter than the standard biogas balancing period). The absolute flexibility and the BG invoice amounts will be calculated by the MAM based on the linking arrangements in place at the end of the balancing period. All further details relating to the invoicing of biogas BGs are explained in chapter 6.3.

Transfers of flexibility and BG balances to other biogas BGs may only be effected from the MBG. The relevant details are described in chapter 6.3.3.

2.10 Definition of data series types

Below we provide definitions of the different data series types (DSTs) that may be used in data submissions between the market roles NO, MAM and BGM where the relevant data must be submitted in the form of data series (e.g. allocations or balancing group balances). Each such data series will always comprise 24 individual hourly quantities expressed in whole numbers (23 or 25 hours on days when the clocks change from or to daylight saving time). Where revisions are necessary, the corresponding revised data series will be sent by the MAM to the relevant BGM for the entire month in question, with the entire monthly data series to be identified as a revised data series. Only the DSTs described below may be used in data submissions. All data series to be submitted using any of the DSTs described below will always constitute an aggregate of the corresponding individual data series determined for the relevant BG/BSG or NO (as the case may be).

2.10.1 Data series types for input allocations

1. Data series type "Entryso": Data series specifying the quantities of gas that have been delivered to a network at CIPs, entry points from domestic production facilities (other than biogas plants) and network entry points from storage facilities as well as the quantities of gas that have been allocated to an NBA balancing object to take account of linepack changes and OBA balances, in each case as allocated in the course of the allocation process.

The allocation rules applicable at each entry point are defined in the relevant entry agreement or supplier framework agreement (see chapter 5.1).

2. Data series type "Entry NKP": Data series specifying the measured gas flow at system interconnection points between adjacent German NOs as allocated in the course of the allocation process.

This DST is also used to report the allocated gas flow at mixing plants and conversion facilities.

3. Data series type "Entry VHP": Data series specifying the sum of all input nominations made for the receipt of natural gas, hydrogen gas or biogas quantities from other BGs at the VTP as allocated in the course of the allocation process.

BGMs who use the VTP are required to pay a fee, which is calculated on the basis of the relevant quantities.

4. Data series type "Entry Biogas": Data series specifying the measured hourly biogas quantities delivered to a network at an entry point from a biogas production plant as allocated in the course of the allocation process. This DST does not apply to biogenic hydrogen gas quantities (which are recorded for energy balancing purposes using the DST "Entry Wasserstoff").

Allocations for biogas injections to a network must be based on the gas quantity delivered by the shipper as determined on the basis of the calorific value (CV) as measured at the relevant biogas entry point on the relevant day D, prior to the addition of liquefied petroleum gas where the NO uses liquefied petroleum gas to upgrade the gas to the required network entry CV.

5. Data series type "Entry Wasserstoff": Data series specifying the measured hourly hydrogen gas quantities delivered to a network at an entry point from a hydrogen production facility as allocated in the course of the allocation process.

When dealing with this DST, it should be noted whether the corresponding hydrogen gas has been produced biogenically. The relevant gas quantities may only be allocated to a BG for biogas if this is the case. If the gas has not been produced biogenically, the relevant gas quantities may only be used with BGs for natural gas. The gas quantities produced must be converted to kWh on the basis of the applicable CV determined for the gas produced and will be allocated by the relevant NO.

6. Data series type "Entry Flüssiggas": Data series specifying the quantities of liquefied petroleum gas (LPG) that have been added in relation to biogas injections to a network or where gas is received by way of an auxiliary gas supply.

Data series of this type will not be allocated to any balancing group, they will only be recorded in the relevant network balancing account. Where LPG must be added to a network, the relevant NO will determine the quantities of LPG that have been delivered to its network, e.g. by separately measuring the corresponding inputs.

2.10.2 Data series types for offtake allocations

7. Data series type "Exitso": Data series specifying the quantities of gas that have been offtaken from a network at CIPs and network exit points to storage facilities as allocated in the course of the allocation process. With respect to these quantities the allocation rule "allocated as nominated" applies; this DST is also used to allocate gas quantities to an NBA balancing object to take account of linepack changes and OBA balances.

8. Data series type "Exit VHP": Data series specifying the sum of all output nominations made for the delivery of natural gas, hydrogen gas or biogas quantities to other BGs at the VTP as allocated in the course of the allocation process.

BGMs who use the VTP are required to pay a fee, which is calculated on the basis of the relevant quantities.

9. Data series type "RLMmT": Data series specifying the offtakes made at RLM exit points as allocated in the course of the allocation process on the basis of the actual measured

hourly gas flow. However, the actual measured hourly gas flow will in this case be converted to a flat allocation profile by the MAM ("RLM exit point with a flat allocation profile").

The data series type "RLMmT" may also be used for RLM exit points that have been assigned a dedicated entry point where the corresponding entry flows are controlled using a procedure other than the usual nomination process.

10. Data series type "RLMoT": Data series specifying the offtakes made at RLM exit points for which the actual measured hourly gas flow is also relevant for energy balancing purposes ("RLM exit point with a structured allocation profile") as allocated in the course of the allocation process.

The data series type "RLMoT" may also be used for RLM exit points that have been assigned a dedicated entry point where the corresponding entry flows are controlled using a procedure other than the usual nomination process.

11. Data series type "SLPsyn": Data series specifying the offtakes made at SLP exit points as determined on the basis of the synthetic SLP method and as allocated in the course of the allocation process.

12. Data series type "SLPana": Data series specifying the offtakes made at SLP exit points as determined on the basis of the analytical SLP method and as allocated in the course of the allocation process.

2.10.3 Data series types for energy balancing data (network balancing accounts)

13. Data series type "NKSALD0": Data series specifying the NBA balance 0 as determined for a network balancing account, with RLM allocations being based on the applicable CV used for energy balancing purposes (referred to in each case as the "balancing CV"). The NBA balance 0 is determined for each NO and each network balancing account by the MAM in accordance with chapter 11 on a daily and monthly basis and subsequently submitted to the relevant NO. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

14. Data series type "NKSALD1": Data series specifying the NBA balance 1 as determined for a network balancing account, with RLM allocations being based on the applicable CV used for consumption and transportation billing purposes (referred to as the "billing CV"); the NBA balance 1 is the NBA balance relevant for the financial settlement according to the daily network balancing account system as an incentive mechanism. The NBA balance 1 is determined for each NO and each network balancing account by the MAM in accordance with chapter 11 on a monthly basis and subsequently submitted to the relevant NO. Data

series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

2.10.4 Data series types for energy balancing data (balancing groups)

The **data series types 15 to 42** are used in MAM-to-BGM data submissions, with the corresponding data being transmitted from the MAM to the relevant BGM in IMBNOT or TRANOT format. Data series types whose name ends in "**über**" refer to data series which are transferred from a lower-level BG to a higher-level BG. The corresponding messages will specify both the delivering and the receiving BGs. Data series of this type are only submitted for BGs that are linked to an SBG. The abbreviation "**nach**" in the name of a DST indicates data series that represent the sum of the balances determined for the BG in question plus the data series received from other BGs. Data series of this type are only submitted for BGs that are linked to an SBG.

15. Data series type "BKSALD": Data series specifying the balances as determined for a BG, with RLM allocations being based on the applicable balancing CV. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

16. Data series type "BKSALDüber": Data series specifying the "BKSALD" quantities as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "BKSALDüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

17. Data series type "BKSALDnach": Data series specifying the net balances as determined for a BG for the purpose of calculating the BG's daily imbalance quantities, including the "BKSALDüber" quantities received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

18. Data series type "BKSALDABR": Data series specifying the balances as determined for a BG based on its final allocations, with RLM allocations being based on the applicable billing CV. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

19. Data series type "BKSALDABRüber": Data series specifying the "BKSALDABR" quantities as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "BKSALDABRüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT

format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

20. Data series type "BKSALDABRnach": Data series specifying the net balances as determined for a BG on the basis of its "BKSALDABR" quantities, including the "BKSALDABRüber" quantities received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

21. Data series type "BKRLMDIF": Data series specifying the RLM quantity differences as determined for a BG to take account of the differences between the applicable balancing and billing CVs used to calculate the allocation quantities for RLM exit points. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

22. Data series type "BKRLMDIFüber": Data series specifying the "BKRLMDIF" RLM quantity differences as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "BKRLMDIFüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

23. Data series type "BKRLMDIFnach": Data series specifying the net RLM quantity differences as determined for a BG on the basis of its "BKRLMDIF" quantities, including the "BKRLMDIFüber" quantities received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

24. Data series type "BKKUM": Data series specifying the cumulative hourly balances as determined for a balancing group. These quantities are determined by calculating the balance between all inputs recorded for the balancing group for energy balancing purposes and all offtakes recorded for the balancing group for energy balancing purposes for each hour of the relevant gas day, with RLM allocations being based on the applicable balancing CV. The hourly balances thus determined are then cumulated over the course of the gas day. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

25. Data series type "BKKUMüber": Data series specifying the cumulative hourly "BKKUM" balances as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "BKKUMüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

26. Data series type "BKKUMnach": Data series specifying the net cumulative hourly balances as determined for a BG on the basis of its "BKKUM" quantities, including the "BKKUMüber" quantities received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity.

27. Data series type "BKTOL": Data series specifying the tolerances available for a BG under the within-day obligation rules as calculated on the basis of the hourly allocations recorded for the customer groups "RLMmT" (after conversion to flat allocation profile) and "RLMoT" (actual structured allocation profile), with these allocations being based on the applicable balancing CV. Data series of this type are transmitted in IMBNOT format and specify daily quantities, which are always shown as a positive quantity.

28. Data series type "BKTOLüber": Data series specifying the "BKTOL" tolerances as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "BKTOLüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify daily quantities, which are always shown as a positive quantity.

29. Data series type "BKTOLnach": Data series specifying the total tolerances available for a BG, including the "BKTOLüber" tolerances received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify daily quantities, which are always shown as a positive quantity.

30. Data series type "UETOL": Data series specifying the hourly imbalance quantities falling outside the applicable tolerance limits available under the within-day obligation rules. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity. The hourly quantities are shown as a positive quantity where the cumulative hourly imbalance as determined for the relevant hour by calculating inputs less offtakes exceeds the upper tolerance limit as specified in the corresponding "BKTOL" data series, and as a negative quantity where the cumulative hourly imbalance is below the lower tolerance limit as specified in the corresponding "BKTOL" data series (see Figure in chapter 6.2).

31. Data series type "UETOLnach": Data series specifying the net hourly imbalance quantities falling outside the applicable tolerance limits as recorded after the cumulative hourly "BKKUMüber" imbalance quantities and "BKTOLüber" tolerances have been transferred from all SBGs linked to the BG in question. Data series of this type thus represent the total quantity by which the aggregate tolerance limits available for the BG together with its SBGs have been exceeded. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, each of which may be a positive or a negative quantity. The relevant quantities are shown as a positive quantity where the "BKKUMnach" quantity exceeds the upper tolerance limit as specified in the corresponding "BKTOLnach"

data series, and as a negative quantity where the “BKKUMnach” quantity is below the lower tolerance limit as specified in the corresponding “BKTOLnach” data series.

32. Data series type “BKFLEX”: Data series specifying the cumulative sum of the absolute values of the hourly imbalance quantities falling outside the tolerance limits available under the within-day obligation rules (“UETOL”). Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, which are always shown as a positive quantity. The quantity shown for the last hour of the relevant day constitutes the within-day flexibility quantity on which the applicable within-day flexibility charge in € per MWh is levied (see chapter 6.2). This charge will not be invoiced to BGMs who are responsible for SBGs.

33. Data series type “BKFLEXüber”: Data series specifying the cumulative sum of the absolute values of the hourly imbalance quantities falling outside the tolerance limits available under the within-day obligation rules (“BKFLEX”) as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the “BKFLEXüber” quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, which are always shown as a positive quantity.

34. Data series type “BKFLEXnach”: Data series specifying the total cumulative sum of the absolute values of the hourly imbalance quantities falling outside the tolerance limits available under the within-day obligation rules (“BKFLEX”), including the “BKFLEXüber” quantities received from all SBGs linked to the BG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, which are always shown as a positive quantity. The quantity shown for the last hour of the relevant day constitutes the within-day flexibility quantity on which the applicable within-day flexibility charge in € per MWh is levied (see chapter 6.2). This charge will not be invoiced to BGMs who are responsible for SBGs.

35. Data series type “SLPUMLüber”: Data series specifying the offtake quantities of a BG that are subject to SLP balancing neutrality charges as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the “SLPUMLüber” quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, which are always shown as a positive quantity.

36. Data series type “SLPUMLnach”: Data series specifying the total offtake quantities of a BG that are subject to SLP balancing neutrality charges, including the “SLPUMLüber” quantities received from all SBGs linked to the MBG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, which are always shown as a positive quantity.

37. Data series type "RLMUMLüber": Data series specifying the offtake quantities of a BG that are subject to RLM balancing neutrality charges as determined on the basis of the applicable billing CV and as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "RLMUMLüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, which are always shown as a positive quantity.

38. Data series type "RLMUMLnach": Data series specifying the total offtake quantities of a BG that are subject to RLM balancing neutrality charges, including the "RLMUMLüber" quantities received from all SBGs linked to the MBG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, which are always shown as a positive quantity.

39. Data series type "KONVUMLüber": Data series specifying the quantities of a BG that are subject to conversion neutrality charges as transferred to a higher-level BG from an SBG linked to that higher-level BG, including the "KONVUMLüber" quantities previously transferred to the SBG from other, lower-level SBGs linked to that SBG. Data series of this type are transmitted in TRANOT format and specify individual hourly quantities, which are always shown as a positive quantity.

40. Data series type "KONVUMLnach": Data series specifying the total quantities of a BG that are subject to conversion neutrality charges, including the "KONVUMLüber" quantities received from all SBGs linked to the MBG in question. Data series of this type are transmitted in IMBNOT format and specify individual hourly quantities, which are always shown as a positive quantity.

41. Data series type "KONVHL": Data series specifying the quantities to be converted from high CV quality to low CV quality under the virtual gas quality conversion mechanism, with RLM allocations being based on the applicable billing CV. Data series of this type are transmitted in IMBNOT format and specify daily quantities, which are always shown as a positive quantity. Data series of this type are only sent in relation to MBGs.

42. Data series type "KONVLH": Data series specifying the quantities to be converted from low CV quality to high CV quality under the virtual gas quality conversion mechanism, with RLM allocations being based on the applicable billing CV. Data series of this type are transmitted in IMBNOT format and specify daily quantities, which are always shown as a positive quantity. Data series of this type are only sent in relation to MBGs.

2.10.5 Data series types for biogas

The **data series types 43 to 49** are only used in relation to biogas MBGs and are transmitted in IMBNOT format.

43. Data series type "BIOFLEX": Data series specifying the absolute flexibility quantity available under the energy balancing rules applicable to biogas balancing groups (see chapter 6.3.4), with all relevant quantities being based on the applicable billing CV. Data series of this type specify positive quantities in kWh for an entire balancing period.

44. Data series type "BIOFLEXMAX": Data series specifying the highest imbalance quantity falling within the available flexibility range as determined under the energy balancing rules applicable to biogas balancing groups (see chapter 9.3), with all relevant quantities being based on the applicable billing CV. Data series of this type specify positive quantities in kWh for an entire balancing period.

45. Data series type "BIOFLEXSALD": Data series specifying the daily imbalance quantities falling outside the available flexibility range as determined under the energy balancing rules applicable to biogas balancing groups, with all relevant quantities being based on the applicable billing CV (see chapter 9.3.2). Data series of this type specify aggregate positive (positive imbalance quantity exceeding the positive flexibility limit) and negative (negative imbalance quantity exceeding the negative flexibility limit) daily quantities in kWh.

46. Data series type "BIOABRSALD": Data series specifying the final balances of a biogas balancing group relevant for invoicing as determined on the basis of the applicable billing CV under the energy balancing rules applicable to biogas balancing groups, including any quantities carried over from the preceding period and carried forward to the next period (see chapter 9.3.3). Data series of this type specify positive or negative quantities in kWh for an entire balancing period.

47. Data series type "BIOUEBERTR": Data series specifying the positive balance of a biogas balancing group as determined on the basis of the applicable billing CV that is carried forward to the next period (see chapter 9.3.3). Data series of this type specify positive quantities in kWh for an entire balancing period.

48. Data series type "BIOKONVHL": Data series specifying the quantities to be converted from high CV quality to low CV quality under the virtual gas quality conversion mechanism (see chapter 0) as determined on the basis of the applicable billing CV at the end of each biogas balancing period. Data series of this type specify positive quantities in kWh for an entire balancing period.

49. Data series type "BIOKONVLH": Data series specifying the quantities to be converted from low CV quality to high CV quality under the virtual gas quality conversion mechanism (see chapter 0) as determined on the basis of the applicable billing CV at the end of each biogas balancing period. Data series of this type specify positive quantities in kWh for an entire balancing period.

2.10.6 Overview of all data series types in table form

No.	Abbreviation	Submitted on							Declaration mandatory	Reporting mandatory	Format
		D (06:00-12:00) by 15:00 hrs	D (06:00-15:00) by 18:00 hrs	D-1 CD	D+1 CD	M+12 BD	M+21 BD				
1	Entryso				x	(x)					ALOCAT
2	Entry NKP				x		x			x	ALOCAT
4	Entry Biogas				x	x					ALOCAT
5	Entry Wasserstoff				x	x					ALOCAT
6	Entry Flüssiggas					x				x	ALOCAT
7	Exitso				x	(x)					ALOCAT
9	RLMmT (BalCV)	x	x		x	x			[x]		ALOCAT
	RLMmT (BillCV)					x					ALOCAT
10	RLMoT (BalCV)	x	x		x	x			[x]		ALOCAT
	RLMoT (BillCV)					x					ALOCAT
11	SLPsyn			x					x		ALOCAT
12	SLPana			x					x		ALOCAT

X Always to be submitted
(X) To be submitted depending on allocation method applied
[X] Submission not compulsory for TSOs

Figure 9: Overview of NO-to-MAM data submissions

No.	Abbreviation	Submitted on				Format
		D-1 CD	D+1 CD	M+2M-5BD	M+2M+15BD	
11	SLPsyn	D				ALOCAT
12	SLPana	D				ALOCAT
13	NKSALD0		X	X	X	IMBNOT
14	NKSALD1			X	X	IMBNOT

X Always to be submitted
D Default allocations

Figure 10: Overview of MAM-to-NO data submissions

No.	Abbreviation	Submitted on									At the time invoice is raised	Within-day tolerance available	Subject to neutrality charge	Declaration mandatory	Format
		D (06:00-12:00) by 16:00 hrs	D (06:00-15:00) by 19:00 hrs	D-1 CD	D+1 CD	D+3 BD in case of revised data	M+14 BD	M+15 BD following actual changes	BP+2M-4 BD	BP+2M+17 BD					
1	Entryso				x		x				x		x		ALOCAT
3	Entry VHP				x	x									ALOCAT
4	Entry Biogas				x		x				x		x		ALOCAT
5	Entry Wasserstoff				x		x				x		x		ALOCAT
7	Exitso				x		x				x				ALOCAT
8	Exit VHP				x	x									ALOCAT
9	RLMmT (BalCV)	x	x		x		x				x	x		x	ALOCAT

No.	Abbreviation	Submitted on									At the time invoice is raised	Within-day tolerance available	Subject to neutrality charge	Declaration mandatory	Format
		D (06:00-12:00) by 16:00 hrs	D (06:00-15:00) by 19:00 hrs	D-1 CD	D+1 CD	D+3 BD in case of revised data	M+14 BD	M+15 BD following actual changes	BP+2M-4 BD	BP+2M+17 BD					
	RLMmT (BillCV)						x				x		x		ALOCAT
10	RLMoT (BalCV)	x	x		x		x				x	x		x	ALOCAT
	RLMoT (BillCV)						x				x		x		ALOCAT
11	SLPsyn			x									x	x	ALOCAT
12	SLPana			x									x	x	ALOCAT
15	BKSALD				x			x			x				IMBNOT
16	BKSALDüber				x			x			x				TRANOT
17	BKSALDnach				x			x			x				IMBNOT
18	BKSALDABR							x			x				IMBNOT
19	BKSALDABRüber							x			x				TRANOT
20	BKSALDABRnach							x			x				IMBNOT
21	BKRLMDIF							x			x				IMBNOT
22	BKRLMDIFüber							x			x				TRANOT
23	BKRLMDIFnach							x			x				IMBNOT
24	BKKUM				x			x			x				IMBNOT
25	BKKUMüber				x			x			x				TRANOT
26	BKKUMnach				x			x			x				IMBNOT
27	BKTOL				x			x			x				IMBNOT
28	BKTOLüber				x			x			x				TRANOT
29	BKTOLnach				x			x			x				IMBNOT
30	UETOL				x			x			x				IMBNOT
31	UETOLnach				x			x			x				IMBNOT
32	BKFLEX				x			x			x				IMBNOT
33	BKFLEXüber				x			x			x				TRANOT
34	BKFLEXnach				x			x			x				IMBNOT
35	SLPUMLüber							x			x				TRANOT

No.	Abbreviation	Submitted on									At the time invoice is raised	Within-day tolerance available	Subject to neutrality charge	Declaration mandatory	Format
		D (06:00-12:00) by 16:00 hrs	D (06:00-15:00) by 19:00 hrs	D-1 CD	D+1 CD	D+3 BD in case of revised data	M+14 BD	M+15 BD following actual changes	BP+2M-4 BD	BP+2M+17 BD					
36	SLPUMLnach							x			x				IMBNOT
37	RLMUMLüber							x			x				TRANOT
38	RLMUMLnach							x			x				IMBNOT
39	KONVUMLüber							x			x				TRANOT
40	KONVUMLnach							x			x				IMBNOT
41	KONVHL				x			x			x				IMBNOT
42	KONVLH				x			x			x				IMBNOT
43	BIOFLEX								x	x	x				IMBNOT
44	BIOFLEXMAX								x		x				IMBNOT
45	BIOFLEXSALD								x		x				IMBNOT
46	BIOABRSALD								x		x				IMBNOT
47	BIOUEBERTR								x		x				IMBNOT
48	BIOKONVHL								x		x				IMBNOT
49	BIOKONVLH								x		x				IMBNOT

X Always to be submitted
(X) To be submitted depending on allocation method applied

Figure 11: Overview of MAM-to-BGM data submissions

3 Basic processes underlying all energy balancing activities

3.1 Notification of valid BGs/BSGs

Daily list of BGs

The MAM maintain a list of all BGs/BSGs currently registered in its market area, including each BG/BSG's balancing group number, validity period (start and end date) and details of the relevant BGM (name, contact details, contact persons), which is updated daily and made available for download (xls, csv) on a portal that can be accessed by the NOs via the Internet. Additionally, the MAM also provides this information to the TSOs in its market area via an interface in a format that is suitable for further electronic processing.

If on reviewing the relevant contractual arrangements (e.g. creation of new supplier framework agreement) an NO notes that a BG/BSG is not on the MAM's list or invalid for the relevant delivery month, any supplier switch or balancing group transfer requested in relation to that BG/BSG may be rejected.

Termination of BGs/BSGs

BGMs may terminate their BGs and BSGs with effect from the end of any given month by giving 3 months' prior notice. If the MAM terminates or rescinds a balancing group contract, the MAM will notify the other MAM, the TSOs and the affected DSOs in the market area thereof without delay by e-mail, stating the balancing group number and the BGM. If the MAM terminates or rescinds a balancing group contract, all associated BSGs are automatically closed.

Assignment of entry/exit points to BGs/BSGs

Market locations are assigned to a BG/BSG by the relevant shipper at the time an exit point is registered with the relevant NO in the case of a new supply relationship or on creating a new BG/BSG, whereupon the shipper must provide this information to the relevant NO. Where a new exit agreement (possibly in the form of a supplier framework agreement) is entered into, the relevant shipper must provide notice to the NO in accordance with the provisions of the relevant contract but no later than 10 BD prior to submitting its corresponding new supply registration notice as required under the GeLi Gas rules to inform the NO of the BG/BSG numbers under which it wishes to register the market locations at which it supplies gas. This notice period of 10 BD must also be complied with when giving notice of any subsequent changes.

NOs may provide an electronic solution that shippers may use to submit binding notices. If and for such time as an NO does not provide an electronic solution, shippers must submit their notices by sending a modified version of Appendix 2 of the corresponding supplier framework agreement by email to the contact responsible for supplier framework agreements

indicated on the website of the relevant NO. All changes made in Appendix 2 must be indicated accordingly. If the supplier so wishes, the NO will also acknowledge receipt of this notice by email.

The above notification process for providing information on the BG/BSG to which a market location is to be assigned is a necessary prerequisite to ensure that the NO can configure the corresponding BGs/BSGs on its communications system prior to receiving any related UTILMD messages.

Each shipper warrants under its entry/exit agreement or supplier framework agreement that it has been authorised by the relevant BGM to assign exit/entry points to the BG(s)/BSG(s) used.

Where market locations are to be reassigned to a new BG/BSG that has not yet been registered by the relevant NO or where they are to be reassigned in the event that a BG/BSG has been terminated, the shipper must provide notice to the NO in the same way no later than 10 BD prior to submitting the corresponding master data changes as required under the GeLi Gas rules. If any notice submitted in the course of any GeLi Gas process states a BG/BSG as yet unknown to the relevant NO or a BG/BSG in relation to which the NO has not yet been notified that it will be used by the shipper in question, the notice will be rejected.

Changes to the assignment of exit points to an existing BG/BSG currently registered by an NO must be formally notified as a master data change in accordance with the deadlines and notice periods applicable to master data change processes as set out in the GeLi Gas ruling (GeLi Gas processes, UTILMD). If a point is to be reassigned to a new BG/BSG not previously registered by the NO, the transfer can only be effected if the new BG/BSG has been notified to the NO as described above.

In the case of a gas quality switchover from low CV to high CV quality, it must be ensured that the quantities delivered at the market locations affected can be correctly recorded for energy balancing purposes under the new gas quality as of the relevant dates. To this end, each affected shipper must provide notice to the relevant NO no later than 2 months before the date on which the switchover is to take effect for energy balancing purposes (the so-called “switchover balancing effective date”) to inform the NO of the high CV BGs/BSGs to which it wishes to transfer those of its exit points that are affected by the switchover by formally notifying the corresponding changes in the exit points' master data for energy balancing purposes (in accordance with the GeLi Gas rules). This will allow the NO to check this information for completeness and ensure that any necessary corrections can still be carried out within the applicable GeLi Gas deadlines. In the case of new BGs/BSGs or changes relating to such BGs/BSGs, the BG/BSG numbers must also be notified in advance, with the stated notice period of 10 BD prior to submission of the corresponding UTILMD messages applying accordingly.

The switchover balancing effective date in each case corresponds to the first day of the first month from which the gas quantities delivered at the exit points that have been switched over will be allocated to BGs/SBGs for high CV gas only.

The assignment of entry points to a balancing group is governed by the relevant entry agreement. This also applies with respect to biogas and hydrogen entry points.

Shippers who wish to deliver gas to a network at an entry point from a biogas plant, domestic production facility (other than a biogas plant), hydrogen production facility or storage facility must provide notice to the relevant NO prior to the planned start of delivery to inform the NO of the BG/BSG to which the entry point in question has been assigned. Gas delivery at the entry point in question cannot commence unless the shipper has provided this information to the NO in accordance with the applicable contractual arrangements or by submitting the corresponding entry data sheet (for biogas injections) at least 10 BD prior to the start of delivery. If information on the assigned BG/BSG has not been supplied to the NO by the time the NO reviews the case, the NO will not authorise gas delivery at the relevant point from the planned date.

If an NO has reasonable grounds for doubting a shipper's right to assign points to a BG/BSG, it may demand that the shipper provide an authorisation letter signed by the relevant BGM (granting authority to assign points to a BG/BSG). This document may be submitted electronically.

3.2 Allocation group switching

Each RLM market location may be assigned to either of two different allocation groups. This also applies to RLM market locations in relation to which entry flow arrangements other than the usual nomination process have been agreed (RLM market locations whose meter readings are transmitted online, with relevant inputs being controlled by means of a dedicated flexible supply source):

- RLMmT: RLM market locations with a flat allocation profile;
- RLMoT: RLM market locations with a structured allocation profile, i.e. RLM exit points for which the actual hourly gas flows are allocated.

The term “allocation group switching” refers to the re-assignment of market locations between these two RLM data series types. Allocation group switches may be effected by way of a formal change in an RLM market location's energy balancing master data or at the time an RLM market location is registered with an NO, with the allocation group switch in both cases to be effected by the relevant shipper in accordance with the processes and deadlines specified in the GeLi Gas ruling. Each allocation group switch may only be requested and declared in respect of an entire RLM market location; market locations cannot be assigned to several allocation groups at once.

Offtakes at RLM market locations are by default allocated using the allocation group “RLMmT”. BGMs may authorise the relevant shipper to declare to the relevant NO that one or more of the RLM market locations currently assigned to the BGM's balancing group is/are not to be assigned to the allocation group “RLMmT”. In this case the relevant RLM market locations are subject to the allocation rules which apply to the allocation group “RLMoT”. The declaration of the BGM as submitted by the shipper is binding on the MAM.

3.3 Preparation and submission of declaration lists and declaration notices

The term “declaration” refers to a binding notification which an NO submits to the MAM to inform the MAM that the NO will submit certain data series in the course of the daily allocation process (by indicating the applicable data series type(s) for each BG/BSG). Declarations are only submitted in relation to the data series types “SLPana”, “SLPsyn”, “RLMoT” and “RLMmT”. “RLMoT” and “RLMmT” declarations do not have to be submitted by TSOs, as on transmission networks exit capacity may also be allocated on a within-day basis.

The data format used by NOs to transmit declaration lists to the MAM and by the MAM to transmit declaration notices to a BGM is “TSIMSG”. In addition, the MAM may as an alternative offer the option to enter the relevant data on a portal.

NOs submit their declarations in the form of declaration lists. In their declaration lists the NOs specify all relevant BGs and/or BSGs for the delivery month in question and indicate the corresponding data series types. These “declaration lists”, which the NOs send to the MAM, must be distinguished from the so-called “declaration notices”, which the MAM sends to BGMs. These message types must both be produced in TSIMSG format and specify the required information for each day of the relevant period, which must be indicated by stating the corresponding start and end dates. Declarations are always made with respect to individual gas days, i.e. for at least one gas day. The MAM uses the declaration lists to run checks on the allocations received for the data series types “SLPana”, “SLPsyn”, “RLMoT” and “RLMmT”. If an NO fails to submit allocations to the MAM for any balancing group and/or data series type previously declared by the NO for the declaration period in question, the MAM will send an error message to the NO without undue delay, on the day D+1 at the latest.

BGMs can use the declaration notices to validate the data series types they expect to receive from each NO for each BG/BSG.

A further distinction is made between monthly declarations (which are submitted within the framework of the GeLi Gas processes) and intra-monthly declarations.

3.3.1 Preparation and submission of monthly declaration lists and declaration notices

The MAM has an obligation under section 46(5) of the Cooperation Agreement to create default allocations if an SLP allocation is missing. Whether any NO has failed to submit SLP allocations for any BG/BSG can be checked by the MAM based on the declaration lists received. Market locations are assigned to the relevant BG/BSG on the basis of the relevant exit agreements (where applicable, based on the current supply point register produced for each supplier) and this information is provided to the MAM in the form of a monthly declaration list.

In their monthly declaration lists the NOs specify for each active BG/BSG registered by the NO which DSTs will be submitted, with declarations only to be provided for DSTs for which declaration is mandatory. Exact dates (from-to) must be indicated for each DST for which allocations are to be submitted in the relevant month. The NOs must submit their complete declaration lists for each delivery month to the MAM by the 17th BD of the month preceding the delivery month. If due to calendar peculiarities (e.g. an accumulation of public holidays within a given month) the 18th BD of a month is also the last BD of the month preceding the delivery month or if the month preceding the delivery month has only 17 BDs, the NO will send the complete declaration list to the MAM by the 16th BD of the month preceding the delivery month, if so requested by the MAM. The MAM acknowledges receipt of each declaration list by sending a corresponding CONTRL message.

The MAM checks each declaration list to ensure that the balancing groups stated for the following month are valid. If any of the BGs indicated is found to be invalid, the MAM will send a rejection message in APERAK format to the relevant NO no later than 1 BD after receipt of the declaration list in question, stating the reasons for the rejection and specifying the BG/BSG rejected.

Based on the declaration lists received from the NOs, the MAM produces declaration notices specifying the declarations submitted for each BG/BSG by each NO and sends these declaration notices individually to the relevant BGMs 1 BD after the receipt of the declaration list (usually on the 18th BD) by 12:00 noon.

Unless any subsequent corrections need to be made, each declaration notice will be valid for the period starting at 06:00 hours on the 1st CD of the relevant month and ending at 06:00 hours on the 1st CD of the following month.

In addition, the MAM maintains an overview on a portal accessible to BGMs that shows all declarations submitted for each BG, including the associated BSGs and data series types, which is updated daily.

3.3.2 Preparation and submission of intra-monthly declaration lists and declaration notices

Under the GeLi Gas ruling, the supply start and end dates relevant for energy balancing purposes may fall on a day other than the first or last day of a month for RLM market locations, which must be reflected in the RLM exit point's assignment to the BGs/BSGs involved.

If this affects any data series type which requires declaration, the corresponding declarations must be revised by the NO without undue delay according to the following rules:

- The NO must send an intra-monthly declaration list to the MAM which only contains those declarations that need to be corrected or added and only for those BGs/BSGs that need to be corrected or added.
- The corresponding message must be sent to the MAM by the NO no later than 21:00 hours on the day D-1. The declarations must relate either to exact dates (e.g. 4 November to 7 November) or to the period remaining until the end of the current month (e.g. 15 to 30 November). The MAM will process these declarations and forward them to the relevant BGM by 23:00 hours on the day D-1.

The corresponding declaration notices are produced for each BG/BSG. These declaration notices are then sent to the relevant BGM by the MAM. In addition, the MAM maintains a general overview on a portal accessible to BGMs that shows all declarations submitted for each BG, including the associated BSGs and DSTs.

3.4 Declaration clearing

At any time on or following the 1st BD of each delivery month, declarations may also be changed or deleted with retrospective effect.

Missing or erroneous SLP declarations:

Declarations that relate to SLP allocations may only be changed for future periods as SLP quantities may not be allocated with retrospective effect. The corresponding SLP quantities previously submitted for past days will remain in the network balancing account of the relevant NO.

Missing RLM declarations:

If an NO has failed to declare a relevant RLM data series type, it may still do so even for past days of the current delivery month by the M+12 BD deadline for the submission of revised allocation data or within the allocation clearing time limits applicable to the data series type in question.

Erroneous RLM declarations:

Declarations that relate to a future period falling within the current delivery month may be withdrawn by 18:00 hours on the day D-1. Declarations that relate to RLM data series may also be withdrawn for past days of the current delivery month, provided no allocations have been submitted and the corresponding declarations are withdrawn by the M+12 BD deadline for the submission of revised allocation data or within the allocation clearing time limits applicable to the data series type in question. Where erroneous declarations have been made and allocations have already been submitted, only those declarations relating to future periods may be withdrawn – the allocations previously submitted must then be overwritten with zero allocations in the course of the M+12 processes. All declaration corrections must be approved by the BGM(s) affected.

If a BG is terminated for cause with immediate effect by the MAM, the declarations received for the terminated BG will become invalid from the effective date of the termination. The MAM will notify all NOs without undue delay of any such terminations.

The MAM will process the data series as follows:

- Declarations relating to SLP data series: must be received by the MAM by 21:00 hours on the day D-2. Where this is the case, the corresponding allocations generated by the NO on the day D-1 can be processed by the MAM. For example, if the declarations are available by 21:00 hours on a Monday night, allocations for Wednesday may be sent to the MAM on Tuesday, by 12:00 noon at the latest.
- Declarations relating to RLM data series: must be received by the MAM by 21:00 hours on the day D-1. For example, if the declarations are available by 21:00 hours on a Monday night, allocations for the gas day Tuesday may be sent to the MAM on Wednesday.
- The revised declaration notice will be sent to the relevant BGM by 23:00 hours on the day D-1, with this revised declaration notice only containing the changed BGs.

If an NO has failed to declare a BG/BSG or DST for any RLM market location or if the RLM declarations and allocations submitted by an NO have been assigned to the wrong BG/BSG, the corresponding RLM allocations must also be revised or cleared (if after M+12) in parallel. In any case it is important that the NO affected changes or withdraws its declarations without undue delay so as to ensure that the data period to be cleared can be kept as short as possible. If the delivery month in question has not started yet, the NO may re-submit its declarations to the MAM.

For declaration clearing processes relating to contract periods prior to 1 October 2021, the relevant balancing group numbers of the GASPOOL and NCG market areas must be used.

3.4.1 Declaration clearing by BGM

BGMs have an obligation to validate the declaration notices they receive from the MAM and to seek clarification with the NO affected without undue delay in the event of any inconsistency. Possible errors include:

- the BG(s)/BSG(s) listed by an NO may not be used by the shipper for that particular network or are no longer valid in the declaration period in question due to their having been terminated;
- one or more BGs/BSGs are missing;
- the BG(s)/BSG(s) listed by an NO are not used by the BGM;
- the data series types specified for a BG/BSG are incomplete or incorrect;
- the declarations of a particular NO are missing;
- too many declarations are listed;
- the start or end dates indicated are incorrect.

BGMs must validate the accuracy of each declaration notice without undue delay after receipt thereof. They may also authorise the relevant shipper to clarify the matter. Notice of erroneous declarations must be provided to the relevant NO by email, with the BGs/BSGs affected to be stated exactly and an explanation to be provided. The NO has an obligation to review the notice received from the BGM/shipper without undue delay and, where necessary, submit a revised declaration list to the MAM which only contains those BGs/BSGs to be corrected or to be added. If the declaration list is found to be correct, the NO must notify the BGM thereof.

3.4.2 Declaration clearing by MAM

The MAM validates the monthly and intra-monthly declarations it receives from NOs to ensure validity of the BGs listed. The MAM does not validate whether the declared DSTs are correct. If a declaration list is found to contain an invalid BG, the MAM will notify the relevant NO thereof no later than 1 BD after receipt of the declaration list affected. The NO must review the declaration list without undue delay and consult with the shipper and/or BGM affected where necessary. The correct declarations must be received by the MAM by the second-to-last BD of the month preceding the month of delivery, otherwise the SLP allocations for the 1st CD, for example, will not be accepted by the MAM. The following rules apply in this process:

If the declaration list is found to be correct, the NO must get in touch with the MAM. Otherwise, the NO must produce a revised declaration list which only lists the BGs/BSGs to be corrected and/or the BGs/BSGs to be added.

- Each new declaration received for a BG/BSG will overwrite the previous declaration received for the relevant month.

- Where an invalid BG is declared, the MAM will reject the declaration and notify the relevant NO thereof. The NO must then send a new declaration list specifying a valid BG.

4 Nomination process

Nominations must be submitted at the following points:

- Gas quantities to be transferred at a virtual trading point must be nominated to the MAM by the relevant BGM separately for each BG involved.
- Gas inputs to be delivered at entry points (CIPs, storage facilities, domestic production sites and LNG entry points) must be nominated to the relevant EnNO.
- Gas offtakes to be made at exit points (CIPs, storage facilities) must be nominated to the relevant ExNO.

NOs may decide not to require nominations at specified entry points.

Nominations to be submitted to an NO at an entry or exit point where nominations are required must be made by the relevant shipper. The shipper may also authorise a BGM or service provider to handle its nominations.

Nominations to be submitted to the MAM must always be made by a BGM or the BGM's authorised service provider, as required under the balancing group contract.

All nominations are processed in accordance with the rules set out in the EASEE Common Business Practice “Harmonisation of the Nomination and Matching Process” as modified from time to time. In relation to nominations to be made to an SSO the rules described in this best practice guideline document must be applied accordingly, with the SSO's individual terms to be duly taken into account. Where nominations are made for transports from a German network to a network in a foreign country, the rules of the adjacent NO operating the network connected to the relevant CIP must be complied with.

When making nominations for biogas BGs it should be noted that biogas may be transferred from a biogas BG to another biogas BG or to any BG for natural gas, whereas transfers of natural gas to be made from a natural gas BG to a biogas BG must be rejected by the relevant NO/SSO or MAM in the course of the nomination process. The aforementioned rules apply accordingly where gas quantities are to be transferred to a storage account held with an SSO.

Nominations for gas quantity transfers at the VTP must be submitted to the MAM separately for high CV gas BGs and low CV gas BGs. Gas quantities may not be transferred from a BG for high CV gas to a BG for low CV gas and vice versa. The relevant gas quality must be identifiable from the BG/BSG used in the nomination. Cross-quality gas quantity transfers, for example a transfer to be made from a BG for high CV gas to a BG for low CV gas, are effected by way of the gas quality conversion mechanism described in chapter 7.

All nominations must specify positive hourly quantities in kWh/h (expressed in whole numbers) and indicate the relevant point of delivery, the direction and the BG/BSG numbers or pair of shipper codes involved. Nomination quantities are first allocated to firm capacity

products and then to interruptible capacity products. Individual nominations must be submitted for each flow direction.

Nominations must be submitted by way of a valid Edig@s message using the applicable EDI@Energy subset. This is currently the NOMINT format. Each nomination must specify 24 hourly quantities, with the exception of the two days on which the clocks change from and to daylight saving time, respectively. Renominations may be made where and to the extent permitted under the provisions of the Cooperation Agreement as amended from time to time and/or under any administrative ruling issued by any regulatory authority in relation thereto or under any prevailing European provisions taking priority. NOs must acknowledge receipt of a nomination by means of an Edig@s message. The applicable format is CONTRL. Each nomination must further be confirmed by the relevant NO or MAM (as the case may be) by means of an Edig@s message. The applicable format is NOMRES.

At points where alternative flow management arrangements other than the usual nomination process have been agreed with an NO/SSO, the control data transmitted will be used as the relevant nomination.

4.1 Submission of nominations to an NO

BGMs may choose whether to make double-sided nominations or single-sided nominations. Nominations at storage connection points must always be made as double-sided nominations.

In the case of double-sided nominations, separate individual messages must be submitted to each of the NOs and/or SSOs involved.

Single-sided nominations are submitted to the active NO only. The adjacent NOs connected at each point agree which of the NOs is to perform the role of the active NO and publish this information, e.g. on their websites.

If an active NO receives a single-sided nomination, it will process the nomination and forward it to the passive NO no later than 15 minutes after expiry of the nomination deadline. The passive NO will then check during the authorisation process whether and to what extent the nominating BGM is authorised to make nominations on behalf of the BGM on the passive side of the point in question. On successful completion of the authorisation check and processing of the nomination, the matching process will begin.

On conclusion of the matching process, the BGMs involved will receive confirmation of their nominations from the relevant NO.

Each NO will check the following individual aspects when processing a nomination:

I. Is the nominating party authorised to make the nomination?
   The NO has the right to verify whether the nominating party has been authorised to

make nominations for the BG/BSG to be nominated. If this is not the case, the nomination will be rejected.

II. Are both balancing groups involved registered as a biogas BG?
If not, transfers may only take place from the biogas BG to the BG for natural gas. Transfers to be made from a BG for natural gas to a biogas BG will be rejected.

III. Are the two balancing groups involved registered for the same gas quality?
Quantity transfers from a BG for high CV gas to a BG for low CV gas and vice versa are not permitted and will be rejected by the NO.

IV. Do the quantities specified in the disposing and acquiring nominations match in each hour of the nominated period?
If the quantities match, both nominations will be confirmed. If the quantities do not match, the "lesser rule" will be applied, i.e. the lower of the two quantities nominated in each case will be confirmed to both nominating parties, provided both quantities have been nominated for the same flow direction. Where the relevant quantities have been nominated for opposite flow directions, they will both be reduced to zero in the course of the matching process.

V. Renominations for points where renomination restrictions apply (CIPs) will be accepted. The portion of the renomination quantity that falls outside the permitted upwards and downwards renomination range determined on the basis of the initial nomination will be treated as interruptible and will be the first to be interrupted, where necessary. If the renomination quantity is less than the permitted downwards limit, the quantity will be set to the required minimum in the event that the gas flow in the opposite direction is interrupted. If a nomination exceeds the contracted capacity, the NO may accept this nomination on an interruptible basis, provided the transportation request can be accommodated.

VI. The quantities nominated to an NO for a balancing group will be allocated to the corresponding capacity bookings as follows:

(1) allocation of quantities to firm capacity bookings;

(2) allocation of quantities to interruptible capacity bookings in chronological order of bookings (oldest first);

(3) allocation of quantities to capacity rights converted under renomination restrictions.

If an NO cannot accommodate the total flows as nominated at a system point, the nominations of all BGMs at that point will be processed as follows:

(1) quantities nominated for biogas BGs/BSGs using firm capacity;

(2) nominated quantities that have been allocated to firm capacity bookings will be interrupted in proportion to the amount of firm capacity contracted in each case;

(3) quantities nominated for biogas BGs/BSGs using interruptible capacity;

(4) nominated quantities that have been allocated to interruptible capacity bookings will be interrupted in chronological order of the dates of the relevant capacity contracts (most recent first);

(5) nominated quantities that have been allocated to the portion of a firm capacity booking that is subject to renomination restrictions will be interrupted on a pro-rata basis.

Below we provide some examples to illustrate how the curtailment mechanism described in paragraph VI operates in relation to nominations.

Preconditions: max. technical station capacity = 200, shippers book firm capacity (FAC) only

Example 1:
Contracted capacity: S1 = 100, S2 = 100
Nominated quantity: S1 = 100, S2 = 0
Reduced technical capacity: 100

Consequences: neither shipper faces any curtailments, transportation requirements can be fully met.

Example 2:
Contracted capacity: S1 = 100, S2 = 100
Nominated quantity: S1 = 100, S2 = 25
Reduced technical capacity: 100

Consequences: nomination of S1 is reduced to 75, S2 faces no curtailment and its nomination remains unchanged at 25 (individual capacity entitlements are first reduced to S1 = 50 and S2 = 50; the 25 units requested by S2 can be fully met and are thus accepted, with another 25 remaining unused, so “residual quantity” of 25 is allocated to S1), remaining 25 units requested by S1 cannot be met.

Example 3:
Contracted capacity: S1 = 100, S2 = 100
Nominated quantity: S1 = 100, S2 = 50
Reduced technical capacity: 100

Consequences: nomination of S1 is reduced to 50, S2 faces no curtailment and its nomination remains unchanged at 50 (individual capacity entitlements are first reduced to S1 = 50 and S2 = 50; in this case S2 uses up its entire entitlement, thus no residual quantity is available for allocation to other shippers), remaining 50 units requested by S1 cannot be met.

Example 4:
Contracted capacity: S1 = 100, S2 = 100
Nominated quantity: S1 = 100, S2 = 75
Reduced technical capacity: 100

Consequences: nominations of both S1 and S2 are reduced to 50 (no residual quantity is available for allocation to other shippers), remaining 50 units requested by S1 and remaining 25 units requested by S2 cannot be met.

Postconditions:

The curtailment mechanism for firm capacity is an iterative curtailment process which is reiterated until a) no transportation request remains unsatisfied or b) the station's capacity has been allocated as fully as possible.

4.1.1 Renomination restrictions at CIPs

In its decision BK7-10-001, the Federal Network Agency imposed restrictions on the rights of shippers to make renominations at CIPs.

The amount of firm capacity B that is subject to renomination restrictions as shown in Figure and the renomination limits to be derived on this basis are determined in each case by the relevant TSO at 14:00 hours based on the amount of capacity contracted under the relevant entry/exit agreement and registered for use with the relevant BG less the amount of capacity surrendered to the TSO by 14:00 hours and less the amount of capacity successfully transferred to other shippers on the capacity booking platform by 14:00 hours.

On this basis all parties affected must make their nominations for use of the restricted firm capacity B on the delivery day D by 14:00 hours on the day D-1. This so-called “initial nomination” may be revised until 14:00 hours. If no nomination is submitted, a quantity of “zero” will be deemed to have been nominated to the relevant TSO, save where otherwise agreed between the contracting parties.

At 14:00 hours on the day D-1, the applicable renomination restrictions are calculated once for all balancing (sub)groups and relevant points by the TSOs affected. Whether renomination restrictions apply in relation to a balancing (sub)group is determined according to the following criteria:

- Is the total amount of firm capacity held by the relevant shipper on the day D, less the amount of capacity surrendered and the amount of capacity transferred to other shippers on the secondary market, plus the amount of capacity acquired on the secondary market, equal to or greater than 10% of the technical yearly capacity available at the point in question?
- Is the total amount of capacity registered for use with the relevant balancing (sub)group at the relevant point and for the relevant flow direction equal to or greater than 10% of the technical yearly capacity available the system point in question?

If either of the two above points applies, the permitted renomination limits for the relevant point will be determined for all balancing (sub)groups at 14:00 hours on the day D-1 and locked in for each hour of the day in relation to which the above criterion is met.

All calculations to determine the restricted amount of capacity will be run on the basis of the relevant hourly quantities. The maximum amount of capacity that can be made available at a constant rate throughout the following gas day as determined on the basis of the capacity previously withdrawn from other shippers will then be re-offered to the market via PRISMA by the relevant TSOs.

From 14:00 hours onwards, renominations on the quantities initially nominated for the day D are only permitted within a certain renomination range, with renominations permitted down to 10% and up to 90% of the amount of capacity as contracted at 14:00 hours on the day D. Where the initial nomination was for a quantity equal to or greater than 80% of the contracted capacity, half of the non-nominated quantity may be renominated upwards. Where the initial nomination was for a quantity equal to or less than 20% of the contracted capacity, half of the nominated quantity may be renominated downwards. The permitted renomination quantity in each hour will be rounded to the nearest whole number of kilowatt-hours (half away from zero). These limits are illustrated in the chart below:

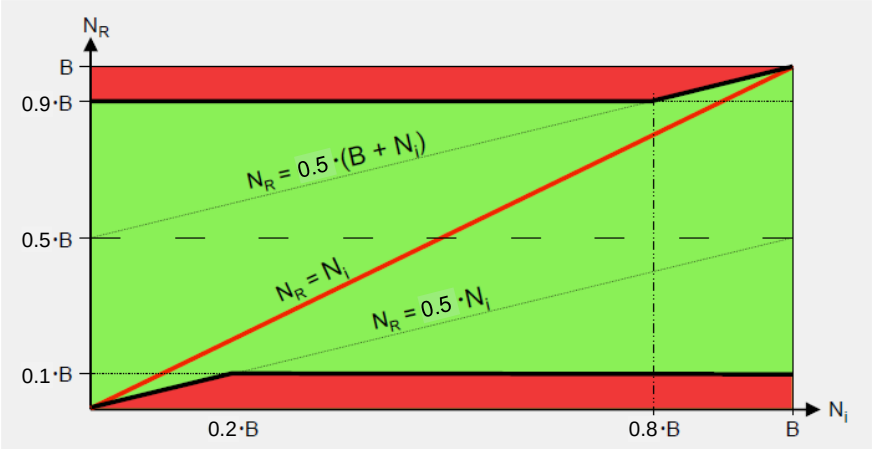

Figure 5: Renomination restrictions

If a renomination submitted for any point exceeds the permitted range (represented by the green area in the chart), the renomination for this point will be accepted. The portion of the renomination that exceeds the permitted upwards limit, however, will be treated as an interruptible nomination with the highest interruption priority and will be the first to be interrupted. If a renomination quantity is less than the permitted downwards limit, this will also be accepted. If this leads to an interruption of gas flows in the reverse direction, the renomination quantity will be raised to the permitted minimum.

If in the period between 14:00 hours and 18:00 hours the TSO is able to reallocate the capacity thus released to a third party, the corresponding capacity will be irrevocably withdrawn from the shipper. If the TSO cannot accommodate the total flows as nominated at the relevant point of delivery, it will adjust all nominations so as to ensure that firm capacity is served first, then all capacity that has been contracted on an interruptible basis, and ultimately, depending on availability, the capacity covered by the red areas in the chart above.

No renomination restrictions apply to shippers whose total firm capacity bookings at the relevant booking point amount to less than 10% of the technical yearly capacity as published for that booking point, unless several shippers have registered their transportation capacity contracted at the relevant booking point for use with the same BG. In the latter case application of the renomination restrictions will be based on the total amount of contracted capacity registered by these shippers for use with the BG in question at the relevant booking point. This can be avoided by creating individual BSGs for the capacity holdings of different shippers and assigning the corresponding capacity to the relevant BSG instead.

The technical yearly capacity available at each CIP (German side) is published once annually on the capacity booking platform by the relevant TSOs.

4.1.2 Daily capacity status notices and notification of renomination limits

By 18:30 hours each day, each TSO submits status notices to all relevant BGMs to inform them of the amount of capacity currently registered for them for the following day at the CIP in question. These status notices must specify the following information:

1. the name of the system point;
2. the ID number of the system point (if possible, the Energy Identification Code as issued by DVGW);
3. the flow direction (entry or exit);
4. the capacity product;
5. the total amount of firm capacity registered for use with the relevant BG (without any day-ahead capacity);
6. information on whether renomination restrictions apply and, if so, specification of the permitted upwards and downwards renomination limits;
7. the total amount of firm day-ahead capacity registered for use with the relevant BG;
8. the total amount of interruptible capacity registered for use with the relevant BG.

Each such status notice, which must be submitted in CHACAP format, can be split into up to two messages by the relevant TSO. The relevant information will be provided separately for each individual BG/BSG, CIP, system point and flow direction.

4.2 Submission of nominations to the MAM at the VTP

On receiving a nomination, the MAM will carry out the following checks:

1. Do the pairs of balancing group numbers specified in the disposing and acquiring nominations match?
   If any nomination made by a BGM specifies a balancing group number for which no corresponding counternomination has been received, no gas quantity transfers will be effected.
2. Do the quantities specified in the disposing and acquiring nominations match in each hour of the nominated period?
   If the quantities match, both nominations will be confirmed. If the quantities do not match, the “lesser rule” will be applied for each hour, i.e. the lower of the two quantities nominated in each case will be confirmed to both BGMs involved, provided both quantities have been nominated for the same direction. Where the relevant quantities have been nominated for opposite directions, they will both be reduced to zero in the course of the matching process.
3. Special validity check for biogas nominations involving biogas BGs or biogas BSGs:
   Are both balancing groups involved registered as a biogas BG?
   If not, transfers may only take place from the biogas BG to the BG for natural gas. Transfers to be made from a BG for natural gas to a biogas BG will be rejected.
4. Are the two balancing groups involved registered for the same gas quality?
   Quantity transfers from a BG for high CV gas to a BG for low CV gas and vice versa are not permitted and will be rejected by the MAM.

4.3 Alternative flow management arrangements

NOs may offer shippers the option to agree alternative flow management arrangements other than the usual nomination process. The operational rules governing such arrangements will be published in the relevant NO's supplementary terms and conditions. Alternative flow management arrangements may only be agreed in relation to the VTP if the NO offering the service transmits the relevant alternative data to the MAM.

4.4 Submission of technical delivery or offtake profile notices for individual entry or exit points

Where technical offtake profile notices within the meaning of section 8(5) of the Access Regulations need to be submitted in relation to an RLM exit point in order to ensure the safe and reliable operation of the network affected, the relevant NO will provide notice in text form to the relevant shipper in due time to inform the shipper of this requirement.

In relation to entry points, for example entry points from biogas plants, the parties involved may also agree for technical delivery profile notices to be submitted in accordance with the rules for technical offtake profile notices.

For each exit point previously designated, the shipper must then submit daily notifications specifying the relevant hourly quantities, with these notifications to be submitted to the relevant NO by 14:00 hours on the day D-1. The offtake profile notices thus submitted will not be used to determine allocations for the relevant BG but serve the sole purpose of enabling the NO to control the flows on its network in a safe manner. If there are any relevant changes in the offtake quantities previously submitted, the shipper must submit an updated notification on the day D-1 or on the day D. The recommended data format is NOMINT.

4.5 Management of inter-system flow nominations between adjacent network operators (flow profile notices)

Downstream NOs must provide flow profile notices to an upstream NO if so required by the upstream NO under section 28 of the Cooperation Agreement to meet technical transportation requirements, in which case the downstream NO must submit daily notifications to the requesting upstream NO setting out the expected gas flow for each hour of the next gas day and system interconnection point or exit zone (as the case may be). If the circumstances underlying a flow profile notice change significantly, the downstream NO must notify the affected NO of its revised flow profile notice without undue delay.

Flow profile notices must be submitted by 17:00 hours in SCHEDL format or in an alternative electronic format agreed between the NOs involved. Where a TSO requires flow profile notices to be submitted and it has several downstream NOs who are in turn interconnected in a cascading structure, these interconnected downstream NOs must consult with one another to ensure that the above deadline can be complied with. Flow profile notices are non-binding in nature but must be prepared with the degree of care that can be expected in gas industry matters.

5 Allocation process

The allocation process is run in order to apportion the relevant gas quantities to individual balancing (sub)groups and the corresponding energy balancing accounts. When determining allocations, rules for the treatment of days on which the clocks change from or to daylight saving time must be taken into account. The quantities of gas delivered or offtaken at bookable entry and exit points and/or zones are allocated according to different allocation rules, which are either prescribed by the Cooperation Agreement or required to be determined individually for certain points/zones in the relevant entry or exit agreement. Individual determinations are particularly necessary at points/zones where gas is received from or delivered to several shippers in aggregate and the corresponding quantities are thus not measured separately.

All relevant data is aggregated separately for each BG/BSG and DST, and allocated accordingly. After the end of each delivery month, the NOs will for some DSTs revise the relevant data to take account of erroneous or unavailable meter readings where necessary (which is usually referred to as the application of “default substitute values”) and/or recalculate the relevant quantities based on the applicable billing CV. These revised allocations are then resubmitted to the MAM by the date M+12 BD at the latest. All allocations are provided to the relevant BGMs separately for each BG/BSG, data series type and NO. In the case of new network companies, network mergers or network takeovers, the relevant NO will be required to carry out a communications test with the MAM prior to making its first allocations. The terms governing these communications tests are published by the MAM on its website.

5.1 Definition of allocation methods

Below we provide a description of the different methods that may be applied at an entry or exit point from or to the market area to determine allocations.

- **Allocation of gas quantities as nominated**

  Gas quantities transferred at the VTP are allocated on the basis of the nominations or renominations (as the case may be) submitted by the relevant BGM as confirmed by the MAM. Where renominations have been made, allocations will be based on the last renomination confirmed by the MAM prevailing at the time the allocation process is run.

  Gas quantities delivered to or offtaken from a network at an entry or exit point from or to a storage facility, at a CIP or at a domestic production facility are allocated on the basis of the corresponding nominations or renominations as confirmed by the relevant NO or on the basis of the relevant alternative data where alternative flow management arrangements have been agreed (as the case may be). Steering differences, i.e. the differences between the sum of all nominations and the actual gas flow recorded by measurement, will be allocated to the relevant operational balancing account (OBA) in accordance with the rules set out in EASEE-Gas CBP 2005-002/02. Each OBA is administered either by one or both of the adjacent NOs and reconciled monthly. Where gas is delivered to or offtaken from a network at a storage connection point, the OBA may also be administered by the relevant SSO.

  Where OFC-based (Online Flow Control) alternative flow management arrangements are in place, input allocations are based on the hourly control data transmitted by the relevant RLM exit point. The NO may also offer a default substitute value service for the RLM exit point in question in case of erroneous or unavailable meter readings so as to avoid that erroneous quantities are used.

- **Allocation of gas quantities based on standard load profiles**

Where gas quantities are allocated using this method, allocations must be determined in accordance with the rules set out in the BDEW/VKU/GEODE Best Practice Guidelines for the Use of Standard Load Profiles for Gas Demand Estimation Purposes (German only; "*Leitfaden Abwicklung von Standardlastprofilen Gas*").

- **Allocation of gas quantities as measured**

  The gas quantities delivered to or offtaken from a network at RLM exit points, biogas entry points and hydrogen entry points are allocated on the basis of the actual hourly gas flow recorded by measurement, with the corresponding energy quantities to be determined in accordance with DVGW Code of Practice G 685 on the basis of the applicable CV. NOs may provide that the gas quantities delivered at entry points from domestic production facilities (other than biogas plants) will also be allocated on the basis of the measured gas flow. In individual cases, the quantities offtaken at certain cross-border exit points approved by the Federal Network Agency will also be allocated according to the "allocated as measured" rule, in which case the relevant point will be treated as an RLM exit point.

- **Allocation of gas quantities on a pro-rata basis**

  In the case of pro-rata allocations, the gas flow measured at a point will be apportioned in proportion to the nominated quantities as confirmed for that point. Proportional allocations are permitted under Article 9(3) of the Network Code on Interoperability and Data Exchange if the defined limits of an operational balancing account agreed between two TSOs have been reached.

5.2 Determination of balancing CVs

A preliminary CV is needed to determine the energy quantities to be allocated in the course of the daily allocation processes run during each delivery month. The applicable CV used for energy balancing purposes (the so-called "balancing CV") must in each case be determined by the relevant NO. The method used to determine the balancing CV must be designed so as to ensure that the differences between the balancing CV and the final CV that is subsequently used for consumption and transportation billing purposes (the so-called "billing CV") are kept as small as possible. The balancing CV valid for the day D is provided to shippers on the day D+1 as part of the daily offtake data submissions. Balancing CVs may either be determined once for each month or re-determined each day.

Where balancing CVs are determined on a monthly basis, the CV valid for a delivery month is determined separately for each CV zone for the entire month in question and published on the second-last business day of the month preceding the delivery month. NOs should select a method that ensures that the differences between each balancing CV and the corresponding billing CV are kept as small as possible, for example one of the methods described below. Some possible methods are:

- 2-months-time-lag method: The balancing CV for a month corresponds to the billing CV determined for the second month preceding the relevant month, e.g. the monthly billing CV determined for September is used as the balancing CV for the month November.
- 12-month-average method: The balancing CV is calculated as the average of the 12 monthly billing CVs determined for a period of 12 months, starting with the second month preceding the relevant month. The CV is then updated monthly on a rolling basis.
- 72-month-average method: The balancing CV is calculated as the average of the 72 monthly billing CVs determined for a period of 72 months, starting with the second month preceding the relevant month. The CV is then updated monthly on a rolling basis.
- Seasonal method: The seasonal method can be a good option for CV zones where the monthly billing CVs fluctuate strongly but in recurring seasonal patterns due to predefined flow profiles. Under this method the applicable balancing CV is calculated as the mean of the monthly billing CVs determined for the same period in the previous year (for example using the mean of 1 April to 1 October for the summer period and using the mean of the monthly billing CVs determined for the period 1 October to 1 April for the winter period). The periods used may be individual months, quarters or half-years.
- Assigned-CV method: Under this method, a measured or reconstructed CV is assigned to those exit points on a network where no CV measurement is installed. An exception applies with respect to the balancing CV used for biogas injections to a network. In this case the balancing CV must always correspond to the billing CV as measured for the relevant day.

In the case of a gas quality switchover, the relevant NO must take account of the change in gas quality when determining the balancing CV applicable for the month from which the switchover takes effect for energy balancing purposes. The relevant TSO will give notice in writing to its directly connected downstream NO no later than 1 month prior to the switchover balancing effective date to provide the NO with a high-cal CV for each system interconnection point which the NO can use to calculate the applicable balancing CV. If the gas quality switchover in question also affects other, lower-level downstream NOs, the relevant information must then be passed on from NO to NO in compliance with the deadlines applicable to NO chains stated in chapter 5.3, with each NO passing on the relevant information after no more than 2 business days. Each NO then calculates its balancing CV on the basis of this data (for the month of the switchover, depending on the method used possibly also for relevant subsequent months). NOs who do not determine CVs on a daily basis may apply a – e.g. volume-weighted – composite low-cal/high-cal CV as their balancing CV, depending on the exact date on which the gas quality changes at the system interconnection point in question. The billing CVs applicable in each case are notified to the downstream NOs by their respective upstream NOs following the end of each month as part of the standard process for the provision of monthly gas composition data described in chapter 5.3.

5.3 Provision of monthly gas composition data

NOs must establish a billing CV for each month in order to be able to determine energy quantities in accordance with DVGW Code of Practice G 685 and to comply with certain transparency requirements. In view of the fact that each NO needs to know the billing CV for its upstream network(s) in order to determine the billing CV for its own network, the NOs have to work closely together to ensure that the requirements and deadlines set out in the Access Regulations as well as the GeLi Gas and GaBi Gas processes can be duly complied with. Other than the billing CV, information on the standard density, carbon dioxide mole fraction, and, where available, hydrogen mole fraction, oxygen and other carbon mole fractions (CH_4, C_2H_6, ...) of the gas must also be provided.

The following rules apply in this process:

- The first NO in each chain of interconnected NOs who is able to determine its billing CV (usually a TSO) determines this CV and provides it to its directly connected downstream NO by M+5 BD at the latest.
- Billing CVs are then passed on from NO to NO, with each higher-level NO providing its billing CV to its lower-level downstream NO(s) no later than 2 business days after receiving billing CV information from its own upstream NO.
- The NOs involved must ensure, however, that billing CV information is provided to the lowest-level NO no later than by M+9 BD.
- If a network chain encompasses more than 4 levels, the NOs affected must consult with one another with a view to adjusting the deadlines so as to ensure that the deadline of M+9 BD can be met for the lowest-level network.
- All gas composition data is transmitted electronically in MSCONS format.

Final gas composition data is also needed by shippers and end users, who may require this information to validate invoices or to determine their carbon emission factors, for example. If a shipper submits a request for submission of gas composition data to an NO, the NO must therefore provide this information to the shipper in electronic form for the RLM market locations agreed by M+10 BD each month from that point in time onwards. The primary point of contact for end users who require this information is their supplier, who is the NO's shipper counterparty at the relevant market location under the corresponding exit or supplier framework agreement (as the case may be). The shipper will then provide the gas composition data to the end user on M+10 BD or later. Alternatively, end users may also obtain this data on M+10 BD from the NO to whose network the end user is connected. In either case the relevant data is only provided on request and only for RLM market locations. No separate format has been defined for provision of this information to end users and must thus be agreed bilaterally.

5.4 Exchange of system interconnection point master data

In the course of the consultation process taking place between two adjacent NOs for the purpose of establishing the gas flow at the relevant SIP as described in chapter 5.5.5, the first step is for the NOs involved to exchange energy data series in MSCONS format. Prior to this exchange, both NOs will determine the relevant energy quantities in accordance with DVGW Codes of Practice G 685. Differences between the results obtained in this process by each NO may be due to:

(1) differing approaches to determining relevant mean values and differing calculation methodologies (e.g. daily vs. monthly determination of arithmetic vs. weighted mean pressure, temperature and gas composition [on the basis of measured vs. converted volume at actual vs. standard conditions vs. converted energy etc.]);

(2) differing approaches to applying default substitute values in the case of disturbances/revisions;

(3) use of differing technical master data for the measurement and transmission equipment installed at the relevant SIP (meter, converter, telemetry) when determining energy quantities.

While cases (1) and (2) can only be resolved by way of bilateral consultation between the NOs involved, the potential error source (3) can be eliminated if the NOs agree a common master data base. The NO responsible for operating the measurement equipment at the SIP must therefore notify its adjacent NO(s) without undue delay if there are any changes to any of the master data used for the measurement and transmission equipment installed at the SIP by submitting the relevant information using the data form provided in Appendix 1. The data to be submitted include master data information on the meter, converter and telemetry equipment as well as the current configuration of the relevant gas composition parameters.

Changes may occur where a device is replaced on expiry of its verification period, where a station is modified or where the gas analytical parameters used by a converter are adjusted, among other things.

5.5 Determination of allocations for different data series types

5.5.1 Determination of allocations for SLP exit points (data series types SLPsyn and SLPana)

5.5.1.1 Determination of allocations for SLP exit points under the synthetic SLP method (SLPsyn)

Allocations for the day D are determined on the day D-1 by the relevant NO, who calculates a daily quantity on the basis of the applicable standard load profile (SLP) and the

temperature forecast available for the following day (e.g. using a geometric series of temperatures). The date stamp used must always correspond to the date of the day D. For further details on how the daily SLP quantities are determined, please refer to the BDEW/VKU/GEODE Best Practice Guidelines for the Use of Standard Load Profiles for Gas Demand Estimation Purposes (German only; "*Leitfaden Abwicklung von Standardlastprofilen Gas*").

5.5.1.2 Determination of allocations for SLP exit points under the analytical SLP method (SLPana)

In order to be able to provide the data to BGMs on the day D-1, the NO determines the SLP quantity for the relevant day D based on the residual load determined for the day D-2, with allocations to be established separately for each balancing (sub)group. It should be noted that the date stamp used must always correspond to the date of the day D. For further details on how the daily SLP quantities are determined, please refer to the BDEW/VKU/GEODE Best Practice Guidelines for the Use of Standard Load Profiles for Gas Demand Estimation Purposes (German only; "*Leitfaden Abwicklung von Standardlastprofilen Gas*").

5.5.1.3 Daily data exchange process for SLP allocations

The NOs report their SLP quantities for each day either as a daily quantity or as individual hourly quantities, which may in turn take the form of a structured or flat allocation profile. The MAM then converts this data to a flat allocation profile. The actual allocations are established in a series of steps, which are described below:

- NO: determines offtake quantities in accordance with the SLP method chosen by the NO.
- NO to MAM: submits the aggregate daily quantities or hourly data series determined for each BG/BSG each day on the day D-1, by 12:00 noon at the latest.
- Optional at the BGM's request: NO to BGM: submits the aggregate daily quantities or hourly data series determined for the relevant BG/BSG each day on the day D-1, after successful data submission to MAM.
- MAM: determines the daily SLPsyn and SLPana quantities for each BG/BSG and NO on the basis of the SLPsyn and SLPana data series received.
- MAM: divides daily quantities by the number of hours in the relevant gas day to create a flat allocation profile comprising equal hourly quantities each rounded to the nearest whole number (half away from zero). On days when the clocks change to or from daylight saving time, the daily quantity is divided by 23 or 25 hours, respectively. This calculation method means that rounding differences may arise between the hourly quantities submitted by the NO and the allocations recorded by the MAM for energy balancing purposes, which are generally accepted. If the hourly quantities are very low (e.g. where standard load profiles for cooking applications are used), rounding may even result in zero allocations.

- MAM: allocates the hourly quantities as converted to a flat allocation profile to the relevant balancing group.
- MAM to BGM: submits the hourly quantities as converted to a flat allocation profile as determined for each BG/BSG, data series type and NO on the day D-1, by 13:00 hours at the latest.

The BGM can base its hourly input nominations on the quantities as submitted in the form of the flat allocation profile. Provided the BGM then profiles its gas deliveries to its balancing group accordingly, it will incur neither daily imbalance charges nor within-day flexibility charges.

5.5.1.4 Creation of default SLP allocations by the MAM

Section 46(5)(5) of the Cooperation Agreement requires the MAM to create auxiliary default allocations for SLP exit points in the event that an NO fails to fully submit its corresponding allocations. This is the case where the MAM has not received any SLP allocations at all from the relevant NO by 12:00 noon or where the SLP allocations received from the relevant NO by 12:00 noon are incomplete. In either case the MAM will then create default allocations for all hours of the relevant day D.

To determine these default allocations, the MAM divides the quantity recorded for the preceding gas day by the number of hours in that day and then multiplies the result by the number of hours in the gas day for which the default allocations are to be created. This approach ensures that differing numbers of hours are taken into account on days when the clocks change from or to daylight saving time.

The MAM offers the option for NOs to produce and submit preliminary advance allocations for the days D+1 and D+2 based on a multi-day temperature forecast in addition to its allocations for the day D ("3-day advance allocations"). Where such preliminary advance allocations are submitted, they may only be used as the primary data source in the event that the MAM has to create default allocations. Where an ExNO produces and submits preliminary advance allocations, this does not release the ExNO from its obligation to produce and submit its daily allocations. NOs who wish to submit allocations for several days must submit separate ALOCAT messages for each day. Should the NO make use of the "3-day advance allocation" and subsequently fail to comply with its obligation to determine and send the allocation data on a daily basis, the MAM will mark these allocations as default allocations.

Default allocations are established by the MAM in the following order:

- the allocation quantity available from a "3-day advance allocation" submitted by the NO (where the NO has made use of the option to submit preliminary advance allocations for multiple days to the MAM based on a multi-day temperature forecast);
- if no "3-day advance allocation" is available, the quantity recorded for the preceding day;

- if no data is available for the preceding day, the default allocation will be set to a value of 0 kWh.

Where default allocations are used, they will be provided to the relevant BGM by the MAM by 13:00 hours. The MAM will also provide the hourly default allocations allocated to the individual BGs/BSGs affected to the relevant NO on the day D-1. The allocations thus established must be used by the NO to run its quantity reconciliation processes and to monitor its network balancing account imbalances.

5.5.1.5 Provision of information on dynamic SLP parameters

If an NO applies dynamic SLP parameters, this information is submitted to the relevant shipper electronically on a daily basis by 12:00 noon on the day D-1 at the latest. Definitions of possible dynamic SLP parameters are provided in the BDEW/VKU/GEODE Best Practice Guidelines for the Use of Standard Load Profiles for Gas Demand Estimation Purposes (German only; "*Leitfaden Abwicklung von Standardlastprofilen Gas*").

The NO must also provide this information for days on which it does not actually use any dynamic SLP parameters. The relevant data will not be broken down to meter point level.

The NO provides the parameter(s) it applies in SLPASP format, stating either a daily sum or individual hourly values.

BGMs may enter into bilateral arrangements with the relevant shippers to have these parameters forwarded to them.

5.5.2 Determination of allocations for RLM exit points

Allocations for RLM exit points are submitted in ALOCAT format. Each NO collects the hourly offtakes measured at its RLM exit points on the delivery day D, aggregates them separately for each data series type and BG/BSG to obtain the corresponding aggregate hourly data series, and submits this data to the MAM. The MAM then submits these measured hourly RLM offtakes to the relevant BGMs, with each BGM receiving its data separately for each data series type, BG/BSG and NO.

In addition, the MAM calculates the daily quantities for the "RLMmT" data series based on the corresponding measured hourly offtakes received from the NOs and divides these daily quantities by the number of hours in the relevant gas day to create a flat allocation profile comprising equal hourly quantities each rounded to the nearest whole number (half away from zero). This calculation method means that rounding differences may arise between the hourly offtakes submitted by the NO and the allocations recorded by the MAM for energy balancing purposes, which are generally accepted.

The individual steps of the allocation process for the data series types “RLMmT” and “RLMoT” are as follows (please also see chapter 6.4.3 of part 2 of these Best Practice Guidelines on Gas Balancing Group Management):

- Each day on the day D, by 15:00 hours at the latest, the NOs submit their aggregate hourly data series as determined for the period 06:00 to 12:00 hours on D to the MAM, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D, by 16:00 hours at the latest, the MAM submits the aggregate hourly data series for the period 06:00 to 12:00 hours on D to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D, by 18:00 hours at the latest, the NOs submit their aggregate hourly data series as determined for the period 06:00 to 15:00 hours on D (as revised where necessary) to the MAM, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D, by 19:00 hours at the latest, the MAM submit the aggregate hourly data series for the period 06:00 to 15:00 hours on D (as revised where necessary) to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV.

For the daily and monthly allocation processes the steps are as follows:

- Each day on the day D+1, by 12:00 noon at the latest, the NOs submit their aggregate hourly data series as determined for the gas day D to the MAM, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D+1, by 13:00 hours at the latest, the MAM submits the aggregate hourly data series for the gas day D to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D+1, by 19:00 hours at the latest, the MAM submits the aggregate hourly data series for the gas day D as converted to a flat allocation profile to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV (RLMmT only).
  RLMmT allocations will always be divided by the total number of hours in the relevant gas day (i.e. usually by 24) even if the shipper had booked capacity with the relevant TSO on a within-day basis only.
- Each month by M+12BD at the latest, the NOs submit their aggregate hourly data series as determined for the delivery month M to the MAM, with all relevant quantities being based on the applicable balancing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.
- Each month by M+12BD at the latest, the NOs submit their aggregate hourly data series as determined for the delivery month M to the MAM, this time with all relevant quantities being based on the applicable billing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.

- Each month by M+14BD at the latest, the MAM submits the aggregate hourly data series for the delivery month M to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.
- Each month by M+14BD at the latest, the MAM submits the aggregate hourly data series for the delivery month M to the relevant BGMs, this time with all relevant quantities being based on the applicable billing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.
- Each month by M+14BD at the latest, the MAM submits the aggregate hourly data series for the delivery month M as converted to a flat allocation profile to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV (RLMmT only). Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.
- Each month by M+14BD at the latest, the MAM submits the aggregate hourly data series for the delivery month M as converted to a flat allocation profile to the relevant BGMs, this time with all relevant quantities being based on the applicable billing CV (RLMmT only). Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.

Where RLM exit points are allocated for contract periods before 1 October 2021, the relevant balancing group numbers of the GASPOOL and NCG market areas must be used.

In addition, the NOs also provide meter readings to shippers as required under the GeLi Gas rules; this process is described below for the sake of completeness:

- Each day on the day D+1 the NOs send an MSCONS message to each relevant shipper in accordance with the GeLi Gas rules. The measured volumes must be converted to energy quantities on the basis of the applicable balancing CV. This message is transmitted using the OBIS code 7-10:99.33.17 “preliminary”.
- Each month on the day M+10 BD the NOs send an MSCONS message to each relevant shipper in accordance with the GeLi Gas rules. Error/unavailability adjustments made by the NO in accordance with DVGW Code of Practice G 685 are permitted and must be indicated accordingly. The measured volumes must be converted to energy quantities on the basis of the applicable billing CV; where a volume-to-energy conversion device is installed, the measured energy quantity is used. This message is transmitted using the OBIS code 7-20:99.33.17 “final”. If error/unavailability adjustments have been made, the shipper also receives the revised offtake data on M+10 BD. The measured volumes must be converted to energy quantities on the basis of the applicable balancing CV. This message is transmitted using the OBIS code 7-10:99.33.17 “preliminary”.

If a cross-border interconnection point only serves end users, the relevant quantities may be allocated according to the allocation rule “allocated as measured”. In this case the point in question will initially be assigned to the allocation group “RLMmT”.

5.5.2.1 Hourly energy data provision from NOs to shippers

At the request of a shipper, NOs are required under the GeLi Gas rules (GeLi Gas process D.1, 1.2.5.1.1, No. 2, scheduled/ongoing meter data submissions) to provide meter readings to the shipper on an hourly basis after the relevant meter reading has been collected by submitting hourly MSCONS messages to the shipper without undue delay. The energy quantities in kWh are determined by the NO on the basis of the applicable balancing CV. The NO has no obligation to validate the meter readings or to apply any default substitute values to account for unavailable or erroneous meter readings. Data quality is indicated in each case by including meter data status information as described in the MSCONS user manual.

The data submissions for the first hour of each gas day start with the energy quantity determined for the first delivery hour of the relevant day. In each subsequent hour, the NO will then submit the energy quantity for the most recent delivery hour alongside the energy quantity determined thus far for the delivery day. If the relevant energy data cannot be sent from an NO's IT systems on an hourly basis due to errors, the corresponding offtake data must be submitted at the next possible time, specifying the data for all delivery hours available thus far.

The daily process for the submission of MSCONS messages on the day D+1 is not affected by this.

NOs who use reconstruction methods to determine hourly gas composition will not be able to provide information on volumetric correction factors and balancing CV in the hourly MSCONS messages.

5.5.3 Determination of allocations based on nominations

5.5.3.1 Determination of allocations based on nominations submitted to an NO

Where allocations for the data series types "Entryso" and "Exitso" are determined according to the allocation rule "allocated as nominated", allocations are based on the hourly quantities as nominated to and confirmed by the relevant NO.

The relevant hourly nomination quantities are aggregated by the NO for each BG/BSG and submitted to the MAM in ALOCAT format no later than 12:00 noon on the day D+1. The MAM collects the hourly nomination quantities submitted by all NOs, records them for the relevant BGs/BSGs and forwards them to the relevant BGMs in ALOCAT format by 13:00 hours on the day D+1, with the relevant data being provided to the BGMs separately for each NO. If renominations have been made, the corresponding allocations will be based on the last renomination confirmed by the NO prevailing at the time the allocation process is run.

5.5.3.2 Determination of allocations based on nominations submitted to the MAM

Allocations for the data series types “Entry VHP” and “Exit VHP” are based on the hourly quantities as nominated to and confirmed by the MAM.

The relevant hourly nomination quantities are aggregated by the MAM for each BG/BSG and submitted to the relevant BGM in ALOCAT format no later than 14:00 hours on the day D+1. In exceptional technical circumstances – to be agreed trilaterally between the MAM and the BGMs involved – these allocations may be subsequently revised, in which case the MAM must submit the revised allocations to the BGMs no later than on the day D+3 BD. The nomination data recorded at the VTP will not be affected by this and will remain unchanged.

5.5.4 Determination of allocations based on other measured data

This method is used to determine allocations for the data series type “Entryso” where the allocation rule “allocated as measured” applies, as well as to determine allocations for the data series types “Entry Biogas” and “Entry Wasserstoff”. The applicable data format is ALOCAT. Inputs of the type “Entry Biogas” and “Entry Wasserstoff” must be allocated on the basis of the CV measured at the relevant entry point; “Entryso” inputs may be allocated on the basis of a CV that has been measured locally.

- Each day on the day D+1, by 12:00 noon at the latest, the NOs submit their hourly quantities as measured for the gas day D to the MAM, with all relevant quantities being based on the applicable balancing CV.
- Each day on the day D+1, by 13:00 hours at the latest, the MAM submits the measured hourly quantities for the gas day D to the relevant BGMs, with all relevant quantities being based on the applicable balancing CV.
- Each month by M+12BD at the latest, the NOs submit their hourly quantities as measured for the delivery month M to the MAM, this time with all relevant quantities being based on the applicable billing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.
- Each month by M+14BD at the latest, the MAM submits the measured hourly quantities for the delivery month M to the relevant BGMs, with all relevant quantities being based on the applicable billing CV. Where applicable, these data series include error/unavailability adjustments in accordance with DVGW Code of Practice G 685.

Where RLM exit points are allocated for contract periods before 1 October 2021, the relevant balancing group numbers of the GASPOOL and NCG market areas must be used.

In relation to allocations for biogas injections to a network it should be noted that in most cases the entry measurements vary from the allocations to be determined for the data series type “Entry Biogas”, which is why the relevant NO has to derive these data series on the basis of calculations.

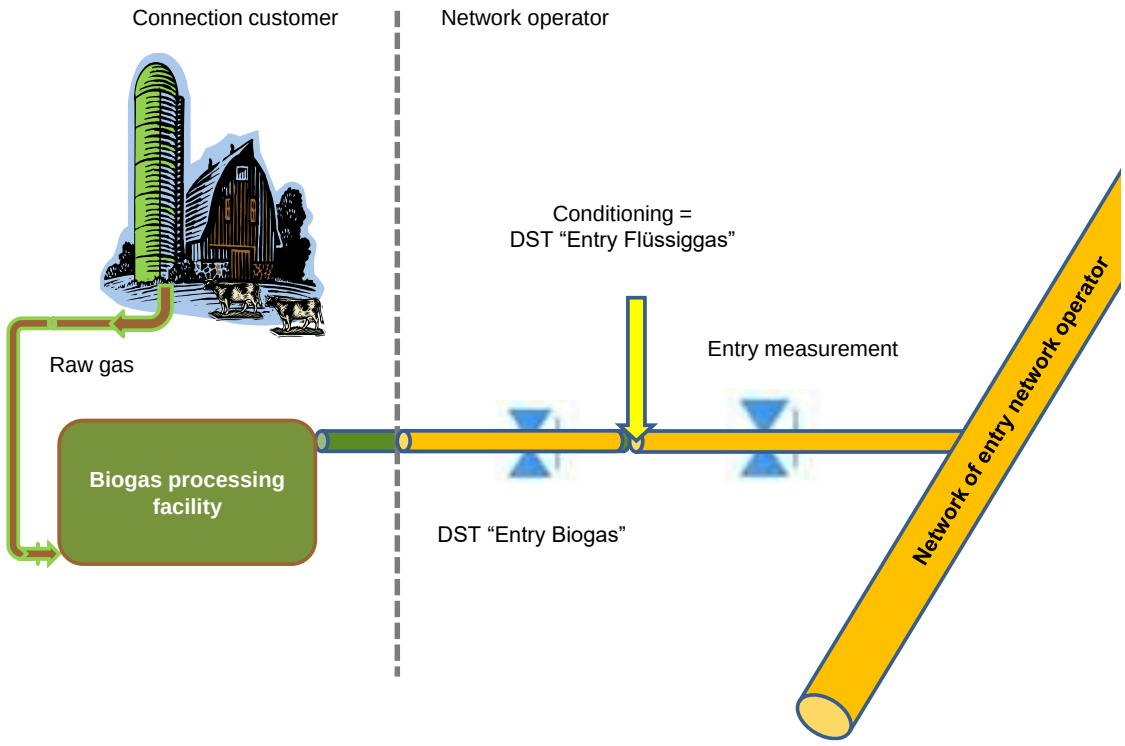

Figure 13: Sample illustration of various measurements taken at connections to biogas processing facilities

5.5.5 Determination of allocations for system interconnection points (data series type “Entry NKP”)

Each day on the day D+1, by 17:00 hours at the latest, each NO who has been assigned responsibility for submitting inter-system flow notifications pursuant to section 30 of the Cooperation Agreement must submit to the MAM as well as to its adjacent NO(s) the aggregate hourly gas flow at the system interconnection points by way of an electronic message in ALOCAT format for each network balancing account.

NOs who have not been designated as the responsible NO under section 30 of the Cooperation Agreement also have the right to submit daily inter-system flow data series to the MAM, and an obligation to make this data available to their respective adjacent NO as well. If both adjacent NOs have submitted aggregate inter-system flow data series, the allocations submitted by the flow reporting NO designated pursuant to section 30(1) of the Cooperation Agreement will prevail and be used to determine the balance of the respective network balancing accounts. Inter-system flow notifications must be submitted separately for each network balancing account and must specify the network balancing account number of

the relevant upstream NO, with the applicable data series type being “Entry NKP”. When submitting the messages to the MAM and to its adjacent NO(s), the relevant NO must comply with the addressing requirements for EDIFACT messages for each recipient. The allocations to be established on the day D+1 are determined on the basis of a preliminary network entry CV which corresponds to the balancing CV determined for energy balancing purposes pursuant to chapter 5.2. The data quality standard to be met in this process is the same as for the RLM allocations to be submitted on the day D+1.

After the end of each delivery month, the gas flow at each individual SIP is validated in accordance with DVGW Code of Practice G 685 and default substitute values are applied where necessary. Validation must always be carried out on the basis of the physical gas flow (also where a pipeline is jointly owned/operated). The corresponding energy quantities are then re-calculated for each individual SIP on the basis of the applicable final network entry CV.

Where biogas is injected to the network of a downstream NO, the need to flow gas back onto the network of the adjacent upstream NO may arise. All such reverse flows onto the network of the upstream NO will be allocated as an input to the network of the upstream NO using the data series type “Entry NKP” and reported by the downstream NO, except where the NOs affected have assigned responsibility for inter-system flow notifications to the upstream NO under section 30 of the Cooperation Agreement.

The downstream NO must notify the MAM one month prior to the start of reverse flows. Reverse flows will not be netted against the regular inputs received from the upstream NO. For hours during which no reverse flow takes place, a quantity of zero must be reported.

After the end of each delivery month, the two adjacent NOs connected at each system interconnection point enter a phase of mutual consultation to establish the relevant inter-system flow data series, which must be concluded by M+20 BD. As a general rule, all data to be provided in the course of this process must be provided separately for each individual system interconnection point. At the request of either of the NOs involved, the aforementioned energy data series must be agreed separately for each measuring rail. The gas flow at each system interconnection point must be determined in accordance with DVGW Code of Practice G 685.

The NO who is required to consult the inter-system flow data with its adjacent NO must provide the corresponding data series to its adjacent NO at the relevant system interconnection point in MSCONS format no later than by M+12 BD, with these data series to be based on the final gas composition data as determined for billing purposes for the relevant system interconnection point/measuring rail in accordance with DVGW Code of Practice G 685. If on validating the data the adjacent NO does not raise any legitimate

objections by M+16 BD, the gas flow data series provided will be deemed to have been agreed between the NOs. If an objection was raised on legitimate grounds, the NOs involved must consult with one another to reach agreement on the inter-system gas flow data that are to be relevant for billing purposes. The NOs involved must then base all subsequent processes on the gas flow data thus agreed without exception.

Each month by M+18 BD at the latest, the NO responsible for data submissions to the MAM must send the final gas flow data as determined for billing purposes for the relevant network balancing account to its adjacent NO in ALOCAT format so as to allow the adjacent NO to review the data in advance. If on validating the data the adjacent NO does not raise any legitimate objections by M+20 BD, the gas flow data series provided will be deemed to have been agreed between the NOs for billing purposes for the relevant network balancing account. If an objection was raised on legitimate grounds, the NOs involved must consult with one another to reach agreement on the inter-system gas flow data that are to be relevant for billing purposes for the relevant network balancing account.

Each month by M+21 BD at the latest, the agreed data series must be provided both to the MAM and to the respective adjacent NO in aggregated form for all SIPs assigned to the relevant network balancing account, with the general rule being that this data is submitted by the downstream NO.

The data submission to be made after the end of each delivery month must be transmitted in ALOCAT format and must contain the data series for the entire month in question. The SIP allocations submitted on the day D+1 may therefore only be revised in the course of the monthly data submission process.

Each day by 20:00 hours and/or each month by M+28 BD, the MAM will inform both affected NOs in the event that any data submissions are missing. Both NOs then have the right to report the quantities to be recorded as an offtake from their respective network balancing account to the MAM. Where the upstream NO has not been designated as the flow reporting NO, the downstream NO has an obligation to provide the relevant data to the upstream NO, including, where applicable, additional information on the allocations established for the market area.

Where network interconnection points are allocated for contract periods before 1 October 2021, the respective network balancing account numbers of the GASPOOL and NCG market areas must be used.

5.5.5.1 Determination of allocations for system interconnection points during maintenance measures carried out under section 24 of the Cooperation Agreement

Once an upstream NO becomes aware of any measure falling within the scope of section 24 of the Cooperation Agreement (maintenance as well as new construction, modification, expansion or reinforcement measures), it must provide the information listed below to its

downstream NO and, in the event that an auxiliary gas supply will be required, also to the MAM, with this notice to be submitted in text form.

a) Information the upstream NO must provide to the downstream NO:

- the system interconnection points affected,
- the amount of contracted capacity that will be unavailable,
- the start and expected duration of the measure,
- in the case of measures that will affect the allocations to be recorded in the network balancing account affected as well as in the case of an auxiliary gas supply, information that the MAM has been notified (where applicable).

b) Information the upstream NO must provide to the MAM:

- the start and expected duration of the measure and of the auxiliary gas supply,
- the number of the network balancing account affected.

The above information is necessary to allow the downstream NO to arrange all necessary modifications, such as temporary disconnections, construction or activation of station bypasses, and to implement all required changes to allocation rules as well as to consult with connection customers, shippers or other downstream NOs.

Where a measure pursuant to section 24 of the Cooperation Agreement is carried out, the gas flow quantities at the relevant system interconnection point(s) must be recorded for energy balancing purposes. Two basic scenarios can be distinguished in this context:

a) Recording of “Entry NKP” allocations in case of a (partial) supply via other system interconnection points

If a network is supplied via other system interconnection points than usual for the duration of a measure carried out under section 24 of the Cooperation Agreement, this will not result in an undersupply or oversupply of gas to the networks affected. The allocation data submissions for the relevant balancing groups and the “Entry NKP” allocations will not be affected by such measures. Other processes and calculations may be affected (e.g. determination of CV and processes relying on this information).

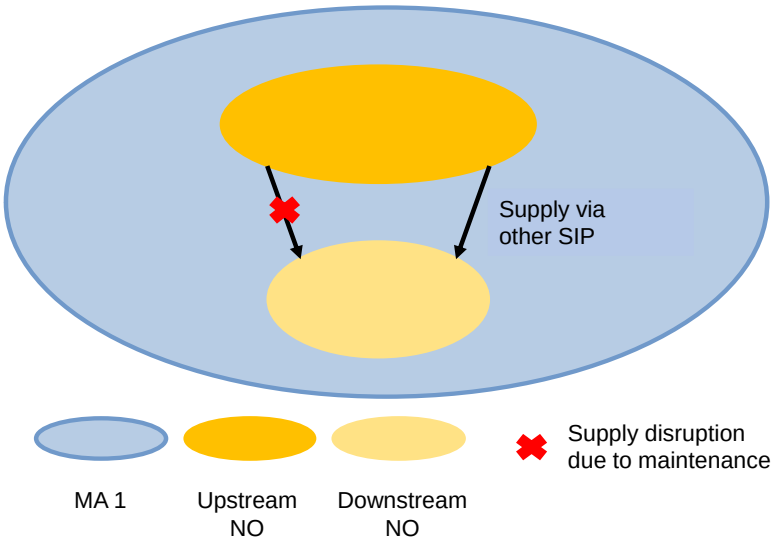

Figure 6: Gas supply via other system interconnection points

b) Recording of system interconnection point quantities in case of an auxiliary gas supply

Where a network is supplied by way of an auxiliary gas supply throughout the duration of a measure carried out under section 24 of the Cooperation Agreement, this will generally affect neither the nominations made by the relevant balancing group managers. Declarations and allocations for balancing groups made to the MAM and the “Entry NKP” allocations will not be affected (the measured quantities will be reported; if a measure results in a zero gas flow, the hourly quantities reported for the relevant point will equal zero). The gas quantities delivered by way of an auxiliary gas supply will be allocated to the network balancing account of the NO receiving those gas quantities using the data series type “Entry Flüssiggas”.

This ensures that the auxiliary gas supply as such does not lead to any imbalances in the network balancing accounts of the upstream and downstream NOs involved. It further ensures that all data series required for quantity reconciliation purposes are generally available.

Where due to any measure falling within the scope of section 24(1) of the Cooperation Agreement auxiliary supplies of gas are provided other than by pipeline, the MAM will reimburse the costs incurred for the auxiliary supply quantities delivered to the network of the relevant downstream NO at the daily price for RLM quantity differences for the duration of the auxiliary gas supply, with the reimbursements to be treated as costs for external system balancing actions and to be allocated to the SLP and RLM balancing neutrality accounts on a pro-rata basis using the applicable annual allocation key. In terms of network topological integration, the term "auxiliary supplies of gas other than by pipeline" according to section 24 of the Cooperation Agreement must be understood broadly, i.e. it is not necessary for the

auxiliary supplies to be connected only in the affected downstream network; what is relevant is that they are auxiliary supplies.

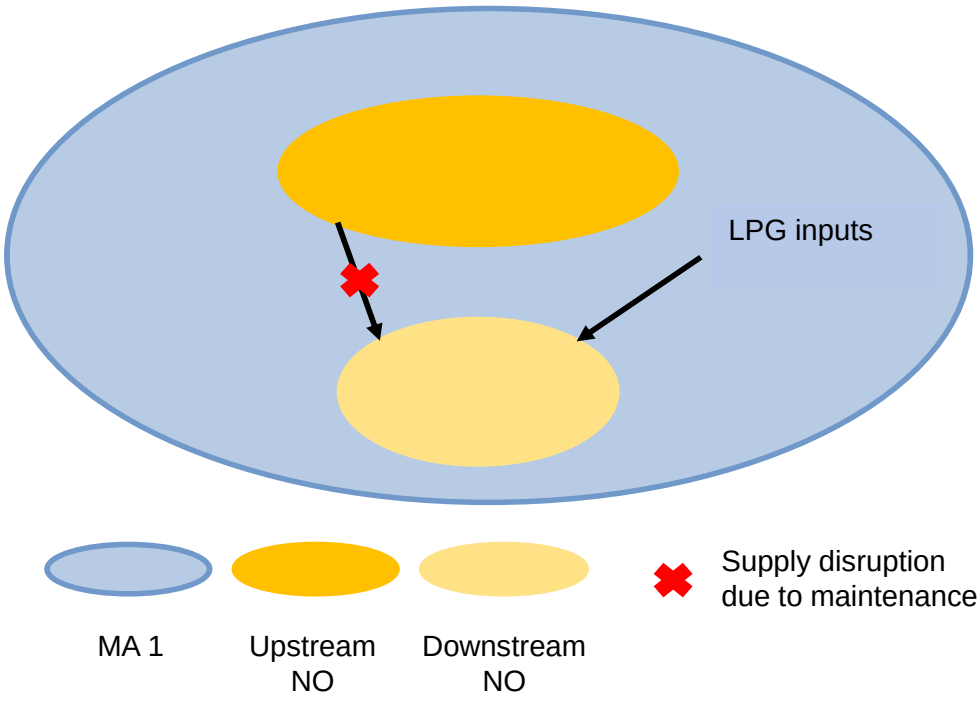

Figure 15: Auxiliary gas supply

5.5.6 Determination of allocations in the case of a switchover from low CV to high CV gas quality

5.5.6.1 Relevant dates and allocation example

Where a gas quality switchover is carried out, this has to be taken into account in determining allocations.

The relevant dates in this context are as follows:

1. Switchover balancing effective date:
   In the context of a gas quality switchover the “switchover balancing effective date” as defined in section 4 of the Cooperation Agreement means the first day of the first month from which all relevant gas quantities are allocated to BGs for high CV gas only.
2. Switchover supply effective date:
   The “switchover supply effective date” as used in relation to a gas quality switchover means the date from which high CV gas is actually delivered at the relevant end

users' exit points. This date is used by NOs in their internal processes (e.g. for scheduling of meter reads, for quantity allocation, for (interim) billing of energy quantities transported etc.).

Each NO will determine this date based on the date from which the relevant TSO starts supplying high CV gas at the system interconnection point(s) connecting the networks of the TSO and the downstream NO(s) directly connected to the TSO. The meter readings of all SLP market locations affected by the switchover need to be collected on or around the switchover supply effective date, i.e. within a period of no more than 45 days before or 31 days after that date.

The switchover balancing effective date will be determined by the switching NO based on the timing of the corresponding switchover plans to be the first calendar day of the month after the switchover supply effective date. If the switchover supply effective date falls on the first day of a month, the switchover supply effective date and the switchover balancing effective date can also be on the same day. The switchover balancing effective date should not differ from the switchover supply effective date by more than 4 weeks. The aspects below must be taken into account in this process:

- If the switching NO does not yet submit allocations for high CV gas BGs/BSGs and the MAM does not yet have a new network balancing account for high CV gas for the NO, a network balancing account for high CV gas needs to be applied for and set up for the NO in due time.
- Consideration must be given to the applicable deadlines for the assignment of the balancing group-relevant market locations to high CV gas BGs/BSGs (at least 2 months before the switchover balancing effective date, see chapter 3.1) and the related process implications.
- The system interconnection points relevant to the switchover area and how they need to be (re-)assigned to the NO's corresponding network balancing accounts (high/low CV gas) for the purpose of submitting inter-system flow allocations ("Entry NKP").
- The dates (switchover balancing effective date and date of change of gas quality at the system interconnection point) must be reported to the MAM at least three months before the switchover balancing effective date, see chapter 11.4.4.

The following example illustrates the allocation for the market area conversion case:

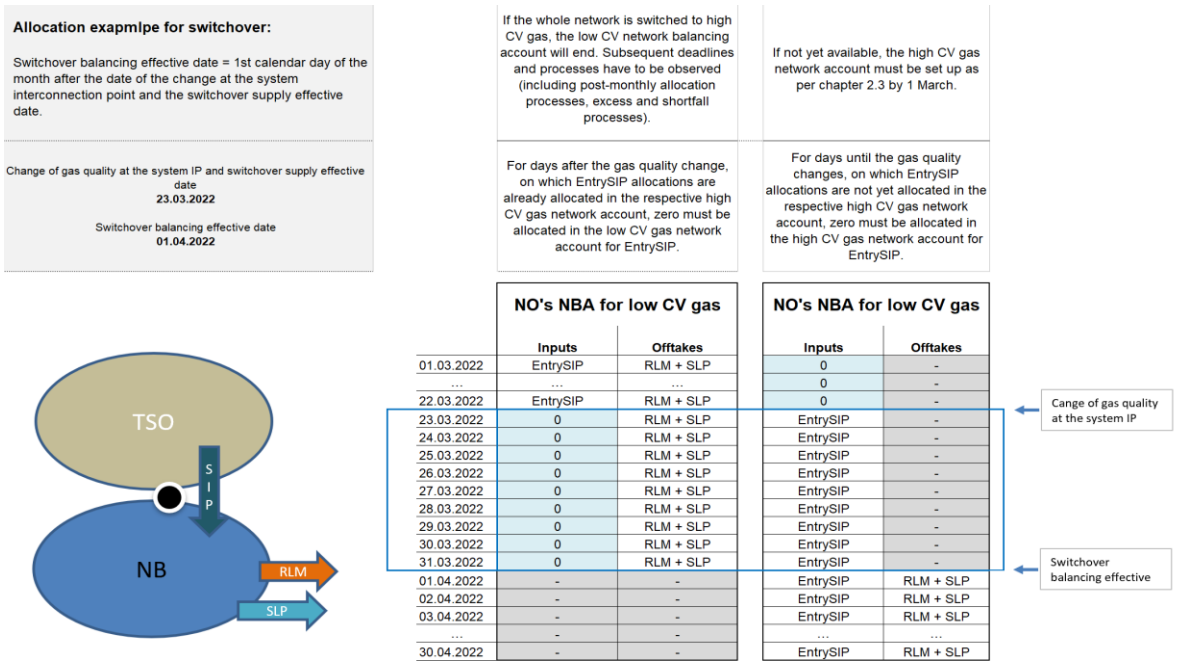

Figure 7: Allocation example for switchover from low CV to high CV gas

5.5.6.2 Individual NO switchover balance and financial settlement pursuant to section 9 (1) (f) of the Cooperation Agreement

In order to determine the costs that are incurred due to time differences between the switchover supply effective date and the switchover balancing effective date as required under section 9 (1) (f) of the Cooperation Agreement, the NO affected must submit the aggregate allocations for all exit points where the switchover supply effective date differs from the switchover balancing effective date to the MAM.

The relevant data must be provided on a daily basis and submitted once for the entire period falling between the switchover supply effective date and the switchover balancing effective date after expiry of the applicable clearing time limits but no later than by the date M+3M using the data form provided in Appendix 2.

The daily totals for the data series types “RLMmT” and “RLMoT” must be based on the corresponding final allocations as determined on the basis of the applicable billing CV.

SLP offtakes must be determined based on the final data, i.e. the NO’s allocations, the default allocations made by the MAM (if any) and/or the relevant post-clearing data (as the case may be).

Determination of allocations in the case of a switchover from low CV to high CV gas quality
Individual balance pursuant to section 9(1) (f) of the Cooperation Agreement
for the period between the switchover balncing effective date and the switchover supply effective date

Network operator: Sample network operator

Network balancing account: THE0NKH700666000

Switchover area: Sample area

Switchover balancing effective date: 1 April 2017

Switchover supply effective date: 7 April 2017

Allocation quantities - to be completed by network operator		System balancing costs - to be completed by MAM	
Sum of allocations as determined for the market location affected by the switchover Please note: - When entering your allocations below, please do not include inputs that have been deliverd to your network from upstream networks, from biogas plants or from hydrogen prodcution facilities or offtakes that have been delivered from your network to downstream networks; these quantities must not be taken into account here.		**Daily price spread betwen high CV and low CV quality products traded at rank 2 of the merit oder** Please note: - If the switchover balancing effective date is before the switchover supply effective,date, the price spread between high CV products (Sell) and low CV products (Buy) shall be used. - If the switchover balancing effective date is after the switchover supply effective,date, the price spread between low CV products (Sell) and high CV products (Buy) shall be used.	**Kosten externe Regelenergie** Pelase note: - If the costs incurred by the MAM exceed the revenues generated, the MAM will charge the relevant amount to the NO; - If the revenuse generated by the MAM exceed the costs incurred, the MAM will pay the relevant amount to the NO.
Period [Gas day]	**Total sum for the day [kWh/d]**	**Daily price spread [€/kWh]**	**Amount [€]**
1 April 2022	762,982	0.0056	€ 4,272.70
2 April 2022	737,046	No balancing actions taken	€ -
3 April 2022	735,699	0.0029	€ 2,133.53
4 April 2022	726,653	0.0018	€ 1,307.98
5 April 2022	729,904	0.0022	€ 1,605.79
6 April 2022	732,558	No balancing actions taken	€ -
7 April 2022	735,141	0.0019	€ 1,396.77
Total	**5159,983**		**€ 10,716.76**

Date: .....

Date: .....

Figure 8: Determination of allocations in the case of a gas quality switchover, allocations and system balancing costs

The MAM will take into account whether external system balancing actions had to be taken in the relevant period and will determine the monetary value of the daily quantities by applying the daily price spread (weighted average price of gas) between the quality-specific (“Quality”) balancing products for the delivery of high CV and low CV gas traded at rank 2 of the merit order applied by the MAM for the purpose of carrying out external system balancing actions.

The due date for payments is 10 working days from the receipt of the invoice. If the costs exceed the revenues, the MAM will issue an invoice to the NO (for payment by NO to MAM). If the revenues exceed the costs, the MAM will issue a self-billed invoice to the NO (for payment by MAM to NO). All such settlement payments will be taken into account by the switching NO when determining its recoverable switchover costs.

5.5.7 Determination of allocations for linepack changes and OBAs (data series types “Entryso” and “Exitso”)

NOs who are able to provide linepack flexibility manage the linepack on their networks in the course of their operational flow control activities with a view to reducing within-day load peaks at the system interconnection points and/or exit zones connecting their network with upstream networks, and thus with a view to minimising the maximum hourly volume of gas flowing onto their network. Where a storage facility and/or a CIP is connected to a distribution system, an OBA may have been agreed to record the steering differences arising in relation thereto. Both linepack changes and OBAs have an impact on the daily balances of the associated network balancing accounts. NOs therefore have the option to make separate allocations to a dedicated NBA balancing object (see chapter 2.4) using the data series types “Entryso” and “Exitso” to take account of linepack changes and OBA balances in their network balancing accounts.

The data series type “Exitso” is used to report hourly linepack increases, the data series type “Entryso” is used to report hourly linepack decreases (Figure).

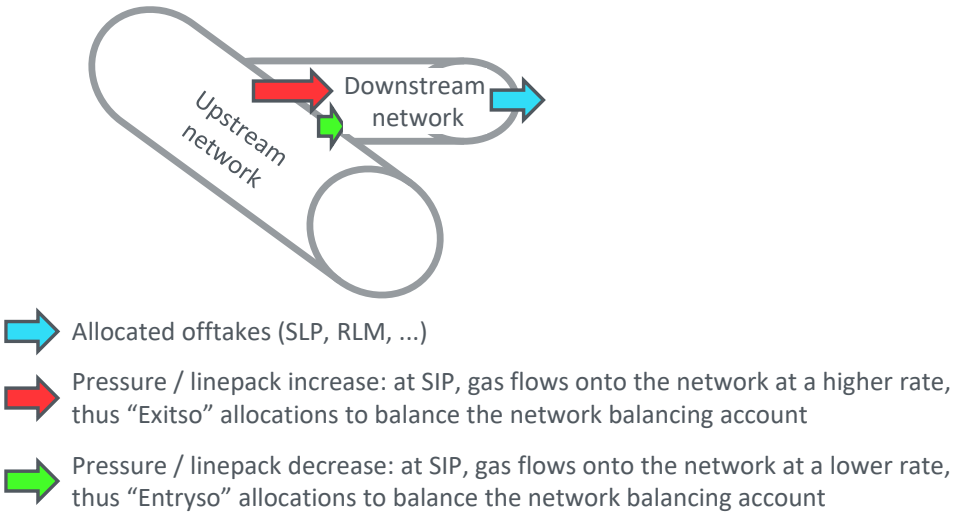

Figure 9: Allocation of gas quantities to NBA balancing object to take account of linepack changes

The way in which OBA movements are reported varies depending on the situation:

If the gas flow (onto the network) measured at the storage facility is lower than the “Entryso” allocation determined for the storage facility (see red arrows in Figure), the corresponding hourly quantities are reported using the data series type “Exitso”.

If the gas flow (onto the network) measured at the storage facility is higher than the “Entryso” allocation determined for the storage facility (see green arrows in Figure), the corresponding hourly quantities are reported using the data series type “Entryso”.

If the gas flow (from the network) measured at the storage facility is lower than the “Exitso” allocation determined for the storage facility (see green arrows in Figure), the corresponding hourly quantities are reported using the data series type “Entryso”.

If the gas flow (from the network) measured at the storage facility is higher than the “Exitso” allocation determined for the storage facility (see red arrows in Figure), the corresponding hourly quantities are reported using the data series type “Exitso”.

For hours with zero quantities the allocations must also specify a quantity of zero. The corresponding allocation messages must be submitted by the deadlines applicable to the data series types “Entryso” and “Exitso”, i.e. on D+1 and M+12BD. No clearing will be possible.

Where NBA balancing objects are allocated for contract periods prior to 1 October 2021, the respective NBA balancing object numbers of the GASPOOL and NCG market areas must be used.

At the request of the MAM, the NO must disclose information to the MAM on the way it has managed its linepack and provide the associated data to the MAM; where appropriate, the NO must also provide a statement to explain the situation and establish that the NO has not misused the option to submit linepack and OBA allocations. If the matter cannot be resolved bilaterally, the parties involved may commission an independent expert in accordance with section 50(12) of the Cooperation Agreement.

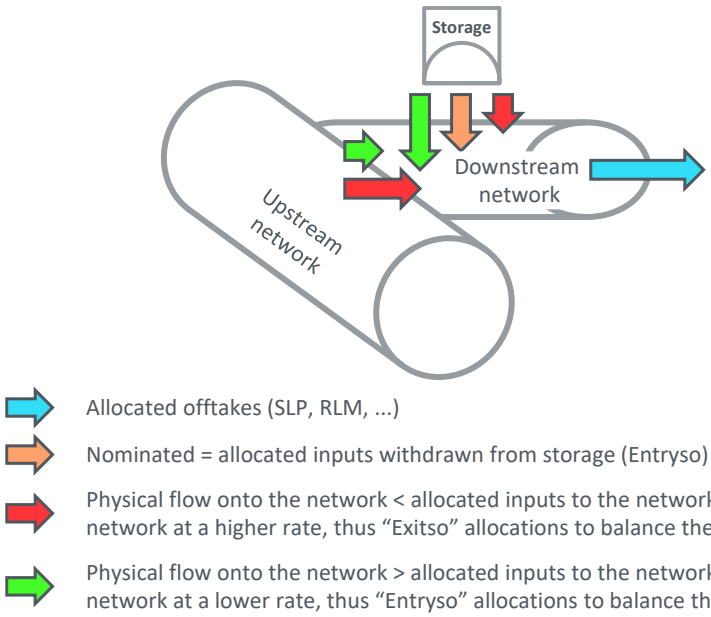

Figure 10: Allocation of gas quantities to NBA balancing object in case of OBA (storage withdrawals)

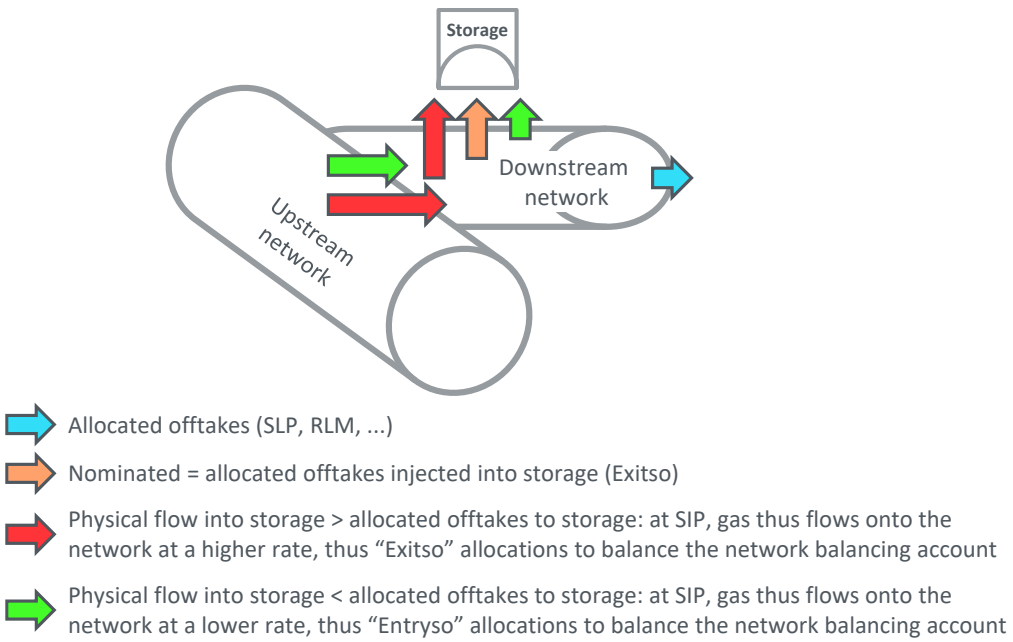

Figure 11: Allocation of gas quantities to NBA balancing object in case of OBA (storage injections)

5.6 Offtaking biogas for supply to end users

Where an end user receives biogas from its supplier, the supplier may either supply biogas only or make partial supplies of biogas, with four different variants to be distinguished in this context:

Variant 1: End user receives biogas only. End-user market locations can be assigned to a biogas balancing group in accordance with the GeLi Gas rules. All relevant quantities will then be allocated to the relevant biogas balancing group only (100%).

Variant 2: Partial supply of biogas is effected via three balancing groups. The relevant market locations – SLP or RLM – are registered with a balancing group for natural gas which can receive both natural gas and biogas quantities via transfers at the VTP.

The market locations and corresponding allocations (= offtakes) are assigned and allocated to this balancing group. The inputs to the balancing group are provided by way of nominations submitted from the biogas BG and the natural gas BG.

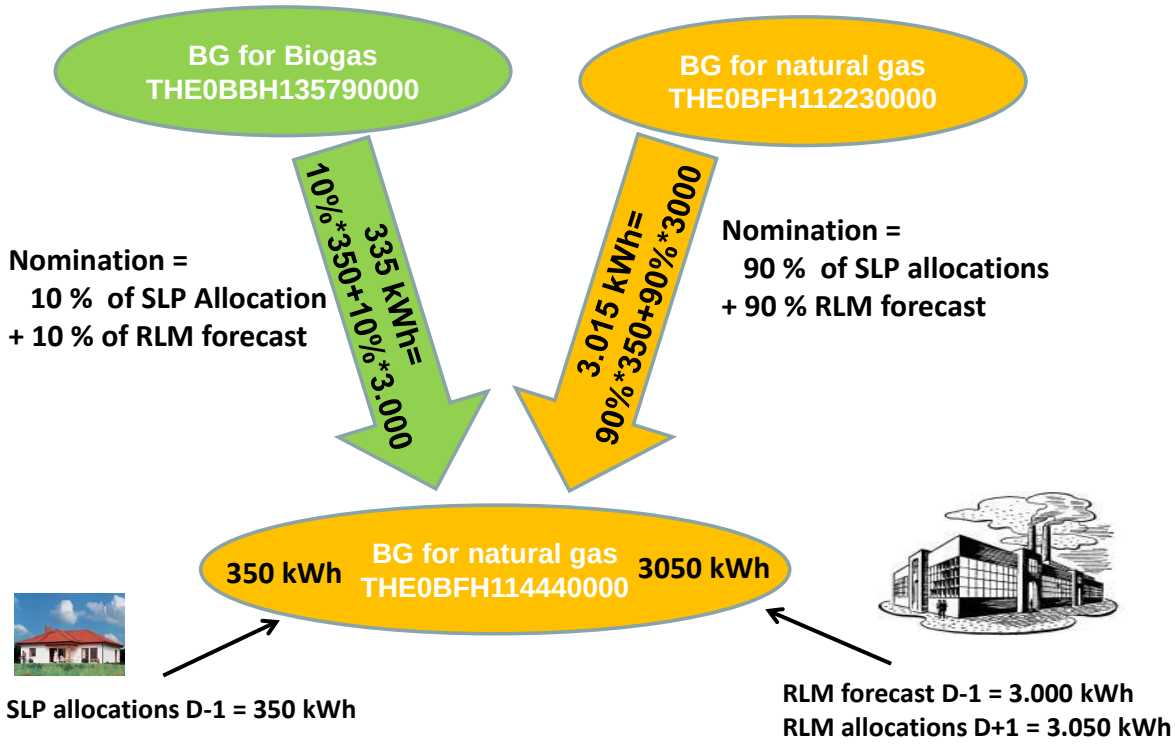

Figure 12: Partial supply of biogas via nominations from 2 balancing groups

No biogas flexibility is granted for this balancing group. If the balancing group is used exclusively to handle deliveries to SLP market locations, the BGM will incur no imbalance risks in relation to its nominations as the corresponding allocations are always known on the day D-1. The BGMs involved nominate the corresponding quantities according to the product

mix required by the end user. If several BGMs are involved, the BGM responsible for the balancing group which is to receive deliveries of both natural gas and biogas via transfers at the VTP must provide this information to the other BGMs so as to enable them to make the corresponding nominations.

Example:

A product with a 10% biogas component

+ SLP allocations 350 kWh

+ RLM demand forecast 3,000 kWh, RLM allocations 3,050 kWh

- Nominated transfer from biogas balancing group THE0BBH135790000 (D-1)
10% * 350 kWh + 10% * 3,000 kWh = 335 kWh

- Nominated transfer from natural gas balancing group THE0BFH112230000 (D-1)
90% * 350 kWh + 90% * 3,000 kWh = 3,015 kWh

= the daily balance of the natural gas balancing group that received both natural gas and biogas inputs is 50 kWh

Variant 3: Supply is effected via SBG

In this variant the required biogas quantity is nominated daily as in the previous case. No nominations are required for the natural gas portion that is to be delivered to the balancing group that is to receive deliveries of both natural gas and biogas via transfers at the VTP. The daily balances will be transferred to a linked balancing group for natural gas. The balancing group that is to receive deliveries of both natural gas and biogas via transfers at the VTP is linked with a balancing group for natural gas.

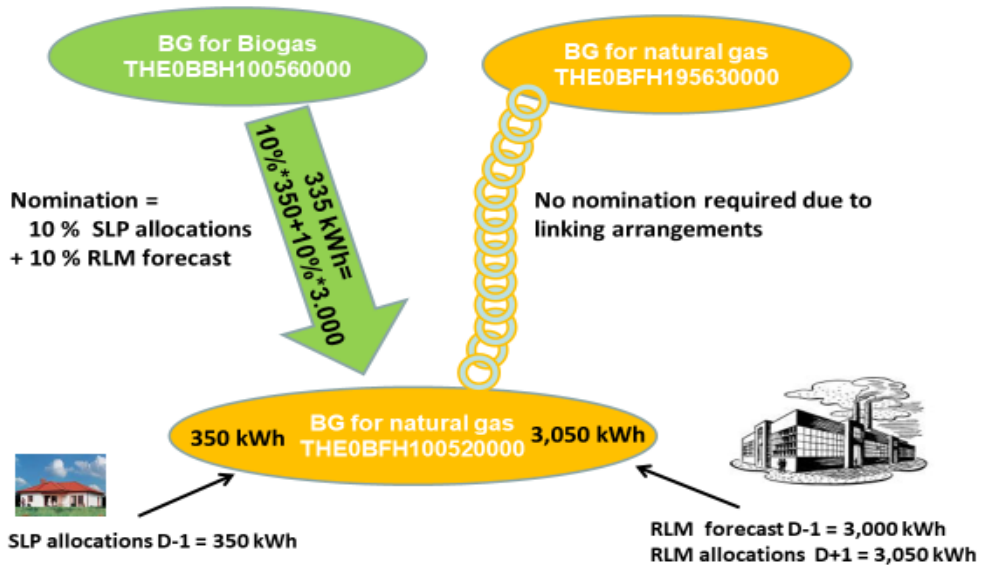

Figure 13: Partial supply of biogas via linking arrangements

Variant 4: Supply of both natural gas and biogas via a single market location.

Where the situation is such that gas is offtaken simultaneously both at a supply point for biogas as well as at a supply point for natural gas but via a single connection (e.g. biogas-fired CHP plant and natural gas-fired peak load boiler), the NO and end user involved may agree on the relevant physical gas flow being measured at a combined meter. In this case the combined meter constitutes the relevant market location. In this variant the biogas and natural gas quantities are supplied via a joint meter which is also deemed to constitute the relevant measurement and control equipment. Responsibility for the type, number, size and operation of any additional measurement and control devices installed downstream from the combined meter lies with the relevant end user.

The market location is assigned to a balancing group for natural gas and the corresponding allocations (= offtakes) are made accordingly. The inputs to the balancing group are provided by way of nominations submitted from the biogas BG and the natural gas BG.

The NO will treat the joint market location (combined meter) the same as any other SLP or RLM market location for energy balancing and transportation charging purposes (including quantity reconciliation). No biogas flexibility is granted for this balancing group.

In all other respects the descriptions provided for cases 2 and 3 apply.

6 Determination of balancing group status and incentive mechanism

The balancing group status for each BG will be determined by the MAM. The status of each BG is determined in four different areas:

- the BG's status in terms of its final allocations, which is calculated on the basis of the reported quantities as determined based on the applicable billing CV (“BKSALDABR”)
- the BG's status in terms of its daily imbalance quantities, which is calculated on the basis of the reported quantities as determined based on the applicable balancing CV (“BKSALD”)
- the BG's status in terms of its RLM quantity differences, which is calculated as the difference between the BG's final allocations as determined based on the applicable billing CV and the BG's final allocations as determined based on the applicable balancing CV (“BKRLMDIF”)
- the BG's status in terms of its hourly imbalance quantities as determined under the within-day obligation rules (“BKKUM”, “BKTOL”, “UETOL”, “BKFLEX”).

6.1 Determination of balancing group status

The MAM determines the hourly balancing group status for each BG registered in its market area on a daily basis for the preceding gas day as well as on a monthly basis for each day of the preceding delivery month. The daily calculations are based on the hourly inputs and offtakes available on the day D+1 as recorded for the relevant BG on the basis of the data series submitted pursuant to chapter 2.10, with the calculations for each BG being performed on the basis of the aggregate quantities recorded for the BG as such as well as for its associated BSGs. The monthly calculations are based on the hourly inputs and offtakes available on the day M+15 or after conclusion of relevant clearing processes (where applicable) as recorded for the relevant BG on the basis of the data series submitted pursuant to chapter 2.10, with the calculations for each BG being performed on the basis of the aggregate quantities recorded for the BG as such as well as for its associated BSGs.

The status is always determined by calculating inputs less offtakes, with positive and negative signs being used to indicate accordingly.

Preliminary BG status notices for each day (D) are submitted to the relevant BGMs by the MAM by 16:30 hours on the following day (D+1). On the day M+15 BD and again at the time of invoicing, the MAM submits the BG status notices for the entire preceding month, with these notices specifying not only the BG's final status in terms of the quantities recorded for the BG on the basis of the applicable billing CV but also the BG's daily imbalance quantities relevant for the calculation of daily imbalance charges, with the latter quantities being

calculated on the basis of the RLM quantities as determined based on the applicable balancing CV, as well as the BG's RLM quantity differences (i.e. the differences between the BG's RLM quantities as determined based on the applicable balancing CV, on the one hand, and as determined based on the applicable billing CV, on the other hand). For further details on the rules for the submission of the different DSTs and the applicable formats, please refer to chapter 2.10.

+ Σ INPUTS	High CV gas MBG Orange Gas		- Σ OFFTAKES
ENTRYSO	3765	2400	EXITSO
		960	SLPana
		410	RLMoT (BalCV)
		425	RLMoT (BillCV)
BKSALD	-5		
BKSALDABR	-20		

Figure 14: Sample calculation for the data series types "BKSALD" and "BKSALDABR"

The daily imbalance quantity relevant for the application of daily imbalance charges is determined for each individual balancing group by comparing the hourly inputs recorded for the balancing group with the total hourly offtakes recorded for the balancing group. With regard to offtakes made at RLMmT and RLMoT exit points these calculations are based on the corresponding quantities as determined on the basis of the applicable balancing CV. The daily imbalance charges will be applied on the basis of the cumulative quantity obtained by cumulating all hourly imbalances determined for the balancing group.

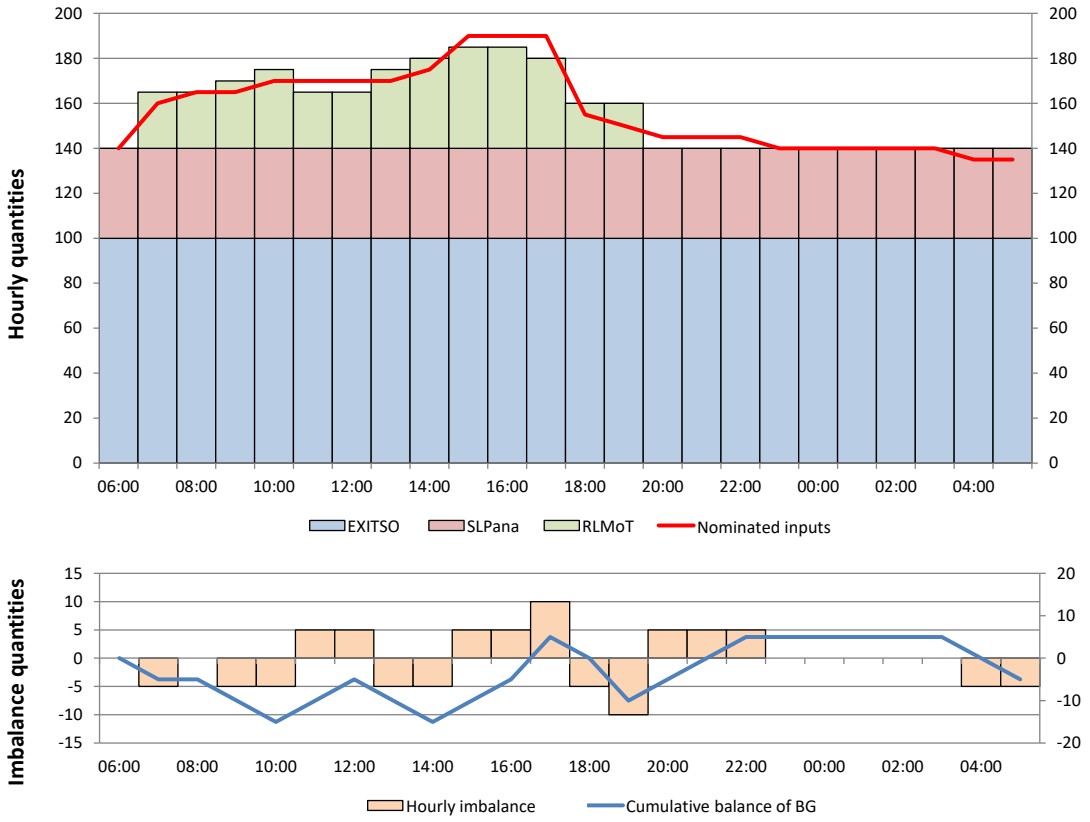

Figure 15: Schematic illustration of hourly quantities and imbalances

No separate balancing group status is determined for BSGs. When determining the daily imbalance quantities of master balancing groups, the balances of the subordinate balancing groups linked to the master balancing group will be taken into account as illustrated below.

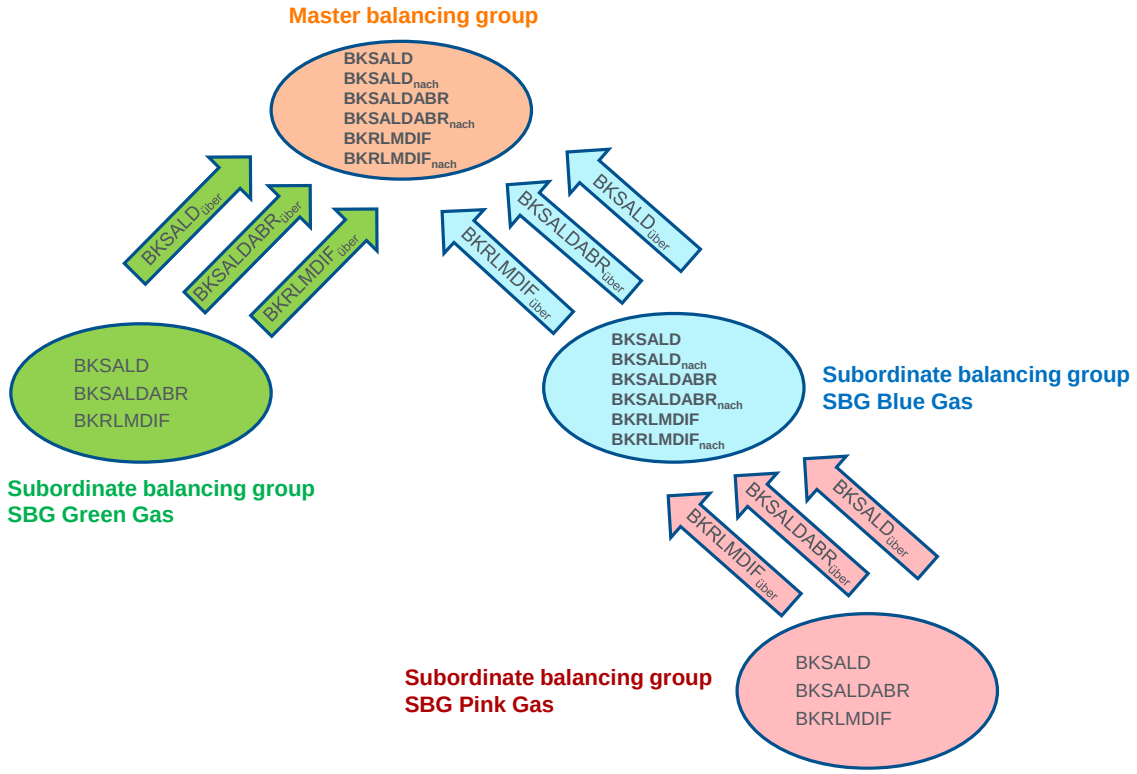

Figure 16: Balancing portfolio comprising several linked balancing groups arranged in cascading structure – data series relating to BG balances

For each higher-level BG/MBG that is linked to a lower-level SBG the relevant BGM will receive “über”-type data series in TRANOT format as well as “nach”-type data series specifying aggregate data in IMBNOT format:

BKSALDnach = BKSALD + BKSALDüber

BKSALDABRnach = BKSALDABR + BKSALDABRüber

BKRLMDIFnach = BKRLMDIF + BKRLMDIFüber

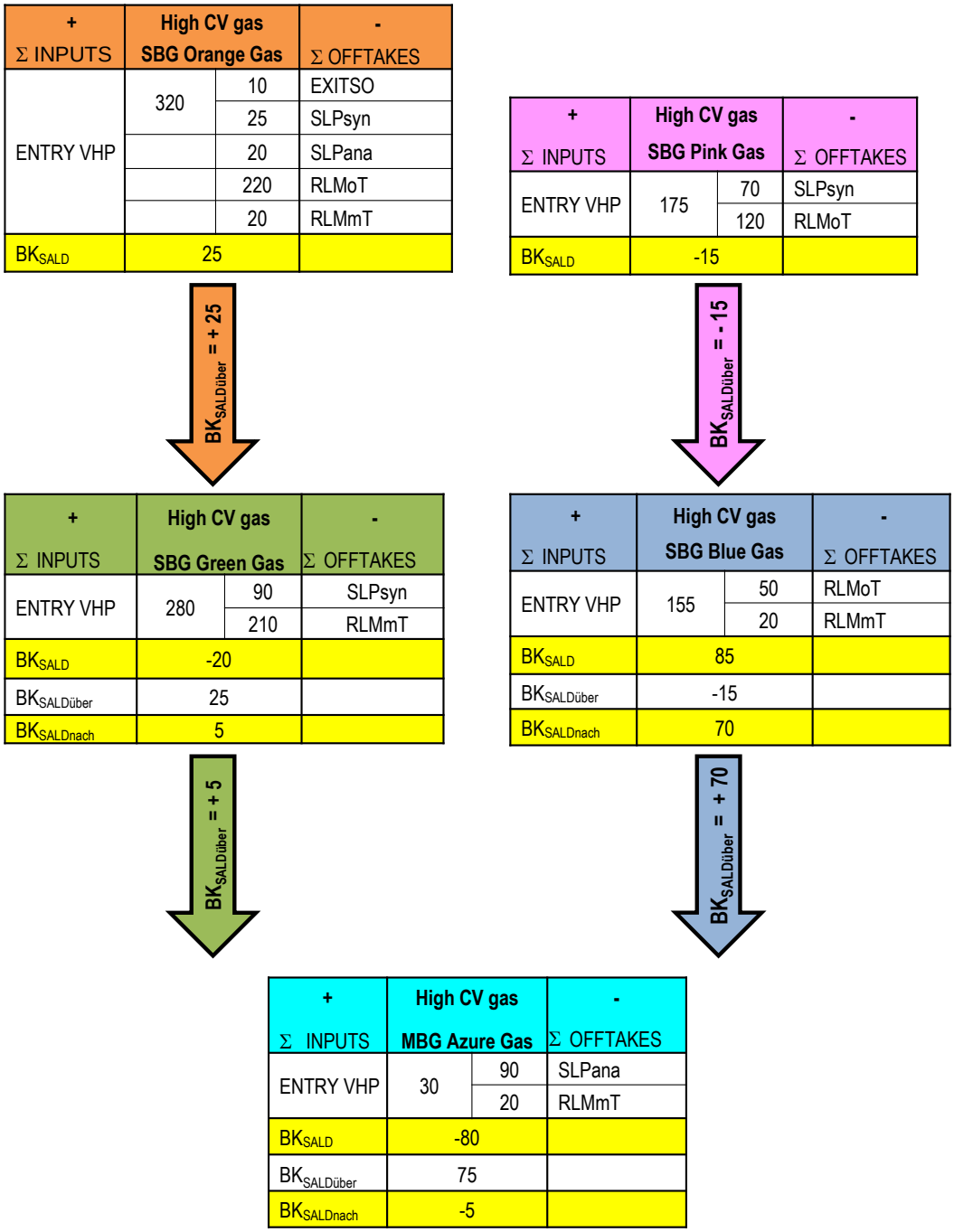

Figure 17: Sample balancing portfolio comprising several linked balancing groups registered for the same gas quality arranged in cascading structure

6.2 Within-day obligations for natural gas balancing groups

Under the within-day incentive mechanism the MAM determines the balance between allocated inputs and offtakes for each master balancing group for each hour. The imbalances, if any, thus determined (hourly differences between inputs and offtakes) are cumulated over each gas day. On this cumulative imbalance the MAM levies a within-day flexibility charge in €/MWh which is payable to the MAM by the relevant BGM after allowing for certain tolerances granted in relation to some DSTs. The applicable tolerance limits are calculated on the basis of the aggregate daily offtake quantity and apply equally to each hour of the relevant gas day. However, within-day flexibility charges are only invoiced to BGMs responsible for master balancing groups and only for days in relation to which the MAM incurred costs for taking system balancing actions in opposite directions in its market area, i.e. for effecting both system balancing buy and sell transactions on the same day. No within-day obligations apply with respect to biogas BGs.

The applicable tolerance limits and within-day flexibility charges are calculated at master balancing group level. To this end the cumulative hourly imbalances between inputs and offtakes as determined for all lower-level subordinate balancing groups linked to the master balancing group in question will be netted with the cumulative hourly imbalances between inputs and offtakes as determined for the master balancing group itself. In addition, the tolerance limits and cumulative hourly imbalance quantities determined for each lower-level subordinate balancing group will be reported to the BGM responsible for the respective higher-level balancing group.

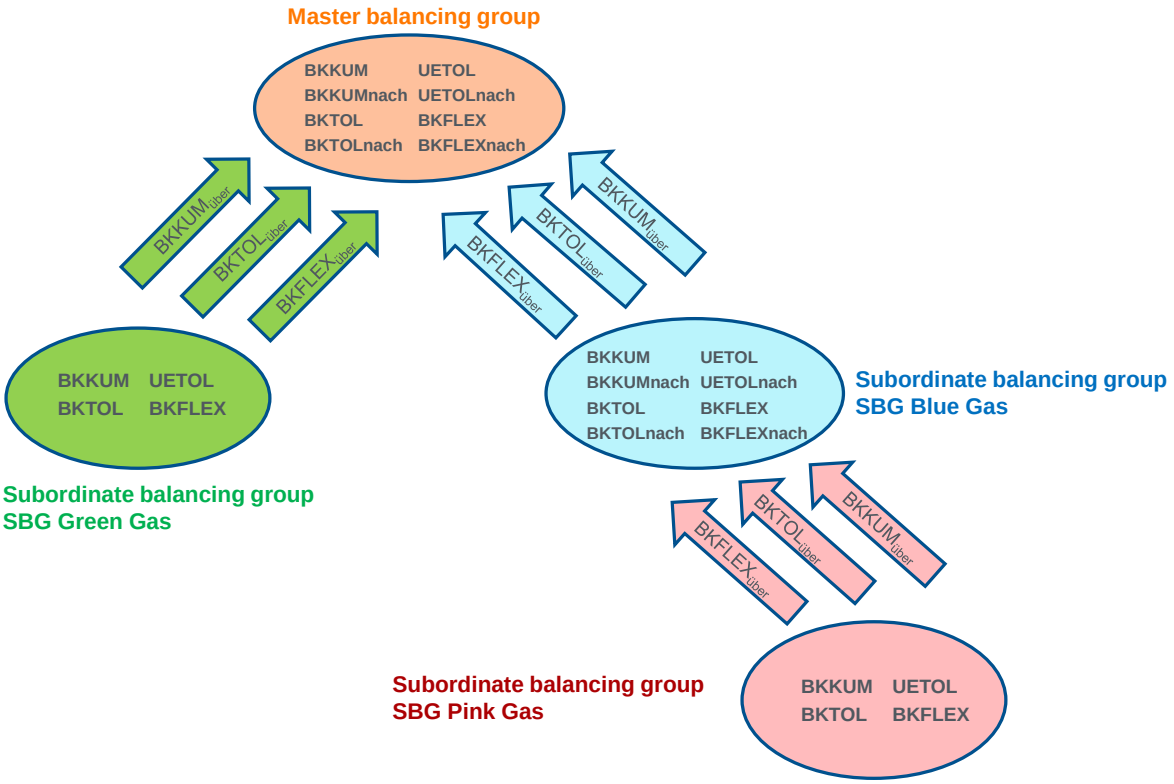

Figure 18: Balancing portfolio comprising several linked balancing groups arranged in cascading structure – data series relating to within-day obligations

6.2.1 Determination of tolerances for individual data series types

The applicable within-day tolerance limits are determined by the MAM on the basis of the quantities allocated to the relevant BG as reported using the RLM data series types "RLMmT" and "RLMoT". Only the offtake quantities allocated to the BG as revised to take account of erroneous or unavailable meter readings and as determined on the basis of the applicable balancing CV are relevant for this purpose.

For each BG a tolerance of +/-7.5% is granted in relation to all RLM market locations registered as belonging to the BG (RLMmT and RLMoT), with the applicable tolerance limits being calculated on the basis of the aggregate daily RLM offtake quantity recorded for the relevant BG and applying equally to each hour of the relevant gas day.

6.2.2 Calculation of within-day flexibility costs

The quantity on which the within-day flexibility charge is levied is referred to as the "within-day flexibility quantity". The within-day flexibility quantity is determined by adding together the relevant quantities regardless of their direction, i.e. the MAM calculates the sum of the

absolute values of all positive and negative hourly imbalances, after allowing for the corresponding tolerances where applicable.

- The within-day flexibility costs to be charged to each BGM are calculated by multiplying the applicable within-day flexibility charge by the corresponding within-day flexibility quantity.
- The applicable within-day flexibility charge is calculated by dividing the costs incurred in relation to within-day flexibility balancing actions (i.e. the costs incurred for those system balancing actions that are deemed to be related to the within-day flexibility mechanism; referred to below as the "within-day flexibility balancing costs") by the gas quantities supplied and received in the course of these within-day flexibility balancing actions (referred to below as the "within-day flexibility balancing quantity").
- The within-day flexibility balancing costs are determined as the price difference given by the weighted average price of all relevant system balancing buy transactions less the weighted average price of all relevant system balancing sell transactions multiplied by the lower of the gas quantities (as measured in terms of their absolute values) that were supplied and received in the course of system balancing actions that were taken in opposite directions, respectively.
- The within-day flexibility balancing quantity is calculated as the lower of the respective system balancing quantities supplied and received for the relevant day through products traded at rank 1 of the merit order multiplied by two to account for the fact that the same quantity was both sold and purchased on that day.

The MAM will only levy a within-day flexibility charge for days on which MOL 1 system balancing actions were taken in opposite directions in the market area (i.e. both system balancing buy and sell transactions were effected for products traded at rank 1 of the merit order) and only if the MAM incurred costs as a result. For gas days on which these two criteria are not met, no within-day flexibility charge will be applied.

6.2.3 Sample calculation for the determination of within-day flexibility costs

The example provided below illustrates the steps that are necessary to determine a BGM's within-day flexibility costs to be charged between the MAM and the BGM.

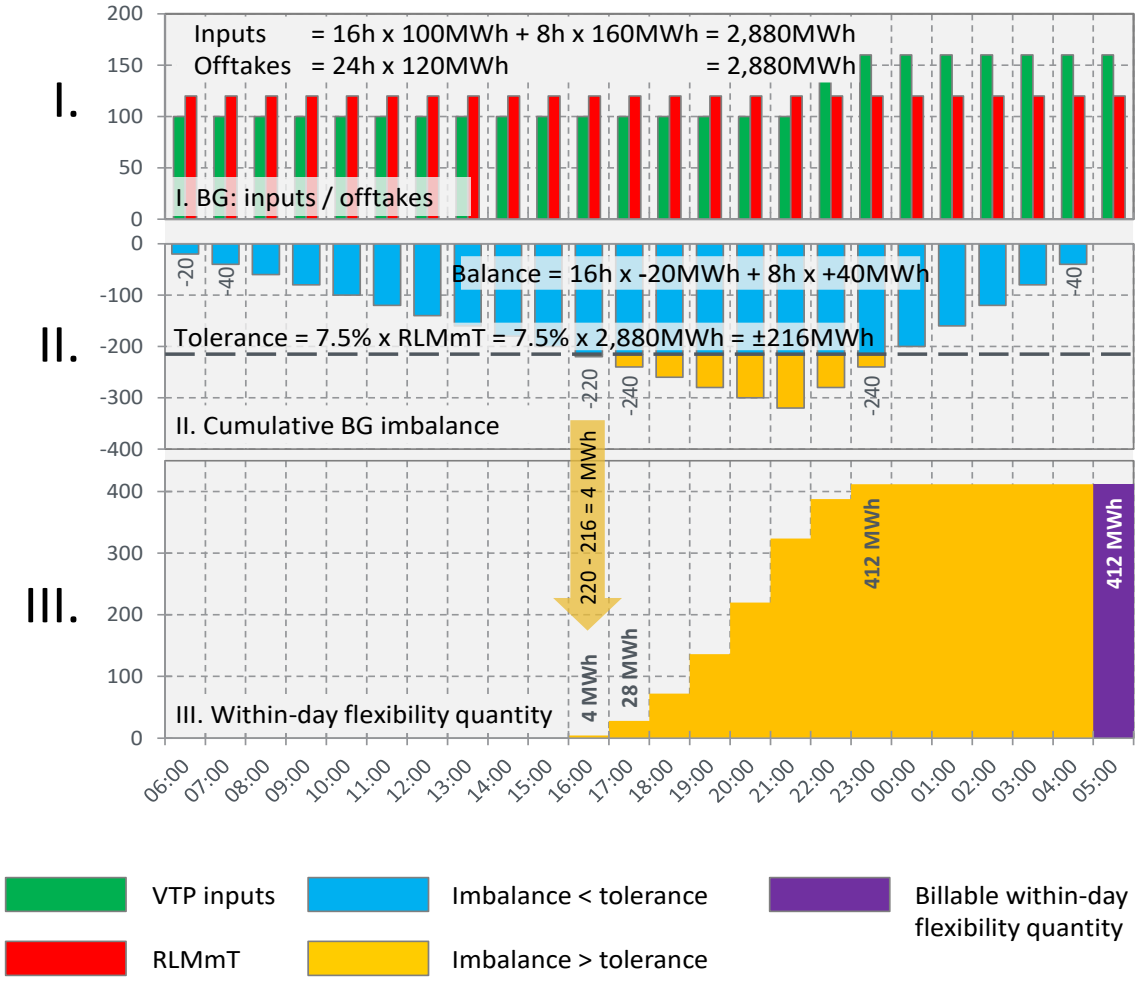

Figure shows the corresponding sample figures.

Step I. (determination of relevant inputs and offtakes):

- The MAM determines the daily sums of all inputs and offtakes recorded for energy balancing purposes for each BG (“BKSALD”).

Step II. (determination of cumulative balancing group imbalance):

- BGMs are granted an hourly tolerance of +/-7.5% as applied to their daily RLM offtakes (RLMmT and RLMoT).
- The same tolerance limit (“BKTOL”) thus applies to each hour of the gas day.

- For each hour of each gas day the MAM also calculates a balance between the inputs and offtakes recorded for each BG and cumulates these BG balances until the end of the gas day (“BKKUM”).

Step III. (within-day flexibility quantity):

- For each hour in which the cumulative imbalance determined for a BG exceeds the applicable tolerance limits (“UETOL”), the quantities outside the tolerance limits are recorded as the within-day flexibility quantity for this hour.
- The within-day flexibility quantities recorded for each hour are then cumulated until the end of the corresponding gas day (“BKFLEX”). Please note in this context that negative hourly imbalances exceeding the applicable tolerance limit will not have the effect of reducing the cumulative within-day flexibility quantity.

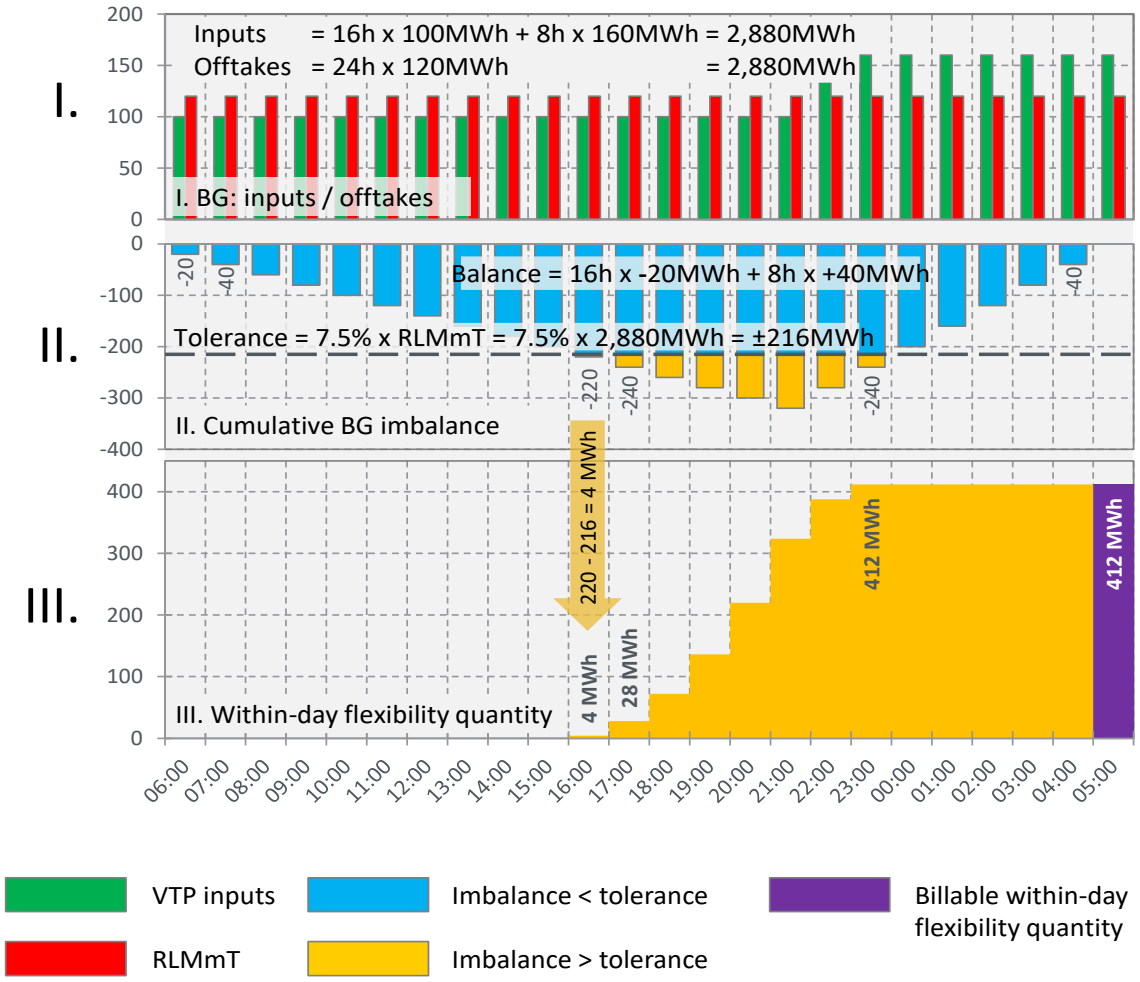

Figure 19: Determination of within-day flexibility quantity

Step IV. (calculation of within-day flexibility charge; see Figure)

- The MAM determines the lower of the buy and sell quantities received and supplied in the course of external MOL 1 system balancing actions on the relevant gas day and multiplies the result by two to obtain the within-day flexibility balancing quantity for that day.
- The lower of the buy and sell quantities is then multiplied by the weighted average price of the corresponding buy transactions, on the one hand, and by the weighted average price of the corresponding sell transactions, on the other hand, with the proportional system balancing revenues thus determined then being deducted from the proportional system balancing costs thus determined to obtain the within-day flexibility balancing costs.

- The applicable within-day flexibility charge is then calculated by dividing the net within-day flexibility balancing costs by the within-day flexibility balancing quantity.

Day D	Price	Balancing quantity	Costs (+) / Revenues (-)
Buy	€30	250 MWh	€7,500
Buy	€50	250 MWh	€12,500
Subtotal buy transactions		**500 MWh**	**€20,000**
Sell	€25	-60 MWh	€1,500
Sell	€12.5	-40 MWh	€500
Subtotal sell transactions		**-100 MWh**	**€2,000**

Quantity
Within-day flexibility balancing quantity: 2x minimum(500, -100) = 2x100 = 200 MWh
Costs
Within-day flexibility balancing costs: 100 x (20,000 / 500) - 100 x (2,000 / 100)
= 100 x (40) - 100 x (20) = 4,000 - 2,000 = €2,000
Within-day flexibility charge: costs / quantity = €2,000 / 200 MWh = **€10/MWh**

Figure 20: Calculation of within-day flexibility charge

Step V. (invoicing of within-day flexibility quantity):

- The cumulative within-day flexibility quantity determined for each master balancing group by the end of each gas day is charged to the relevant BGM by the MAM on the basis of the within-day flexibility charge applicable on the gas day in question.

6.3 Energy balancing rules for biogas

6.3.1 Balancing period for biogas balancing groups

The balancing period for biogas BGs has been defined as a period of up to twelve months. The balancing group invoice will thus be issued by the MAM after twelve months at the latest. Each biogas BG may, however, be used in several balancing periods and thus for a longer period of time.

Under balancing group contracts for biogas, BGMs have the option to determine a balancing period of less than twelve months for the first balancing period. To do so, the BGM must notify the MAM in writing in the month preceding the date of first biogas delivery or offtake to

inform the MAM of the end date of the balancing period or make the relevant arrangements with the MAM at the time of entering into the biogas balancing group contract in question.

Choosing the calendar year as the relevant biogas balancing period is a good way to ensure that the balancing period is in alignment with the provisions of the German Renewable Energy Sources Act (*EEG*).

6.3.2 Recording of RLM allocations for biogas balancing groups for energy balancing purposes

Allocations for RLM offtakes are sent to the MAM by the relevant NO each month by M+12 BD in the form of ALOCAT messages in accordance with chapter 5.5.2, once as determined on the basis of the applicable balancing CV and once as determined on the basis of the applicable billing CV.

Preliminary BG status notices for each day (D) are submitted to the relevant BGMs by the MAM by 16:30 hours on the following day (D+1). Each month on the day M+15 BD and again at the time of invoicing, the MAM submits BG status notices for the entire preceding month, with these notices specifying the BG's final status based on the quantities recorded for the BG on the basis of the applicable billing CV.

6.3.3 Transfer of biogas flexibility between biogas balancing groups

The flexibility granted for a biogas BG under section 35(3) of the Access Regulations, which represents a special tolerance for biogas imbalances, may be transferred from one biogas BG to another at the VTP. The main prerequisites for such flexibility transfers are the following:

- both balancing groups involved are registered as balancing groups for biogas;
- the balancing period agreed for both biogas balancing groups ends on the same date;
- the maximum permitted flexibility transfer quantity is not exceeded.

Biogas flexibility can only be transferred between master balancing groups for biogas (biogas MBGs). Flexibility transfers between biogas BSGs or biogas SBGs are not possible.

6.3.4 Calculation of the absolute flexibility quantity available for a biogas balancing group

On expiry of the balancing period of a biogas balancing group and availability of the final data relevant for billing purposes (end of balancing period +2M-10BD), the MAM will determine the absolute flexibility quantity available for each biogas MBG and notify the relevant BGMs thereof. When determining the absolute flexibility quantity for each biogas MBG the MAM will

only take those biogas and/or hydrogen gas input quantities into account that have been physically delivered to a network and allocated using the data series types “Entry Biogas” and/or “Entry Wasserstoff”. Input quantities delivered to the relevant BG at the VTP or from a storage facility will be disregarded in this process. The absolute flexibility quantity available for a biogas balancing group will be determined as 25% of the physical input quantity in kWh delivered to the biogas balancing group over the relevant balancing period. All biogas and/or hydrogen gas quantities physically delivered to a biogas BSG will be aggregated with the corresponding quantities delivered to the associated biogas BG itself. The same applies with respect to the aggregation of the quantities allocated to a biogas SBG with the quantities recorded for a biogas MBG. The absolute flexibility quantity will be calculated by the MAM based on the linking arrangements in place at the end of the balancing period. The absolute flexibility quantity in kWh determined by the MAM will be notified to the relevant BGM in IMBNOT format in the form of a “BIOFLEX” data series by the 6th BD after the end of the balancing period +2M-10BD.

6.3.5 Rules for flexibility transfers

After the end of each biogas balancing period, BGMs may either proceed to the invoicing of their BGs without effecting any flexibility transfers or make use of the option to transfer flexibility; in the latter case they must notify the MAM of the flexibility quantity they wish to transfer to other BGs within a period of 20 BD from the end of the balancing period +2M-4BD.

- The MAM sets up individual flexibility accounts for each BGM and biogas MBG in its market area for this purpose. In these accounts the MAM records the current flexibility quantity available for each biogas MBG on a daily basis. Each flexibility account's initial opening balance is equal to the absolute flexibility quantity previously calculated for the relevant biogas MBG by the MAM.

According to the BDEW Best Practice Guidelines for Biogas Balancing (*Leitfaden “Bilanzierung Biogas”*, available in German only), which provide the detailed rules fleshing out the provisions of section 35 of the Access Regulations, flexibility transfers between biogas BGs may not have the effect of increasing the flexibility range available.

On each day during the relevant 20-BD window, each BGM may effect flexibility transfers up to the current opening balance calculated for its flexibility account for the day in question. At the end of the 20-BD period, the MAM will notify all relevant BGMs of the closing balances of their flexibility accounts. On expiry of this deadline, the relevant BGs will be financially settled on the basis of these closing balances.

By 21:00 hours on each day of the 20-BD period, the MAM will notify each relevant BGM of its current flexibility account balance. This balance will then constitute the opening balance for the next day (“current opening balance”). For each flexibility transfer to be effected between a pair of disposing and acquiring BGs, the BGMs involved must submit separate

notifications by 17:00 hours on the relevant day, specifying the flexibility quantities they wish to transfer. For each such message received by the MAM the MAM will send an acknowledgement of receipt to the relevant BGM. Each day, the MAM will further run the following checks for all messages received on the relevant day (requirements 1-6).

1. The deadline for the notification of flexibility transfers has been met.
2. Both balancing groups involved are registered as master balancing groups for biogas.
3. The balancing period agreed for both biogas master balancing groups involved ends on the same date.
4. Both corresponding notifications specify the same balancing group numbers for the two biogas master balancing groups involved. If this requirement is not met, the relevant quantities will be set to zero.
5. The flexibility quantities notified for transfer between the pair of biogas balancing groups involved must match, i.e. the flexibility quantity notified for disposal must equal the flexibility quantity notified for receipt. If these quantities do not match, the higher of the two quantities will be reduced to equal the lower of the two quantities (“lesser rule”).
6. On each day during the 20-BD period, the sum of all flexibility quantities transferred from a biogas MBG to other biogas BGs must be less than or equal to the current opening balance of the transferring biogas MBG's flexibility account as determined for the relevant day.

If either of the first three requirements is not met, the relevant flexibility transfer will be rejected. If requirements 4, 5 and/or 6 are not met, the relevant quantities will be reduced.

If a message sent by a BGM fails to meet either (or more) of the first three requirements, the MAM will send a rejection notice to that BGM.

Compliance with requirements 1 to 3 will be checked directly on receipt of the relevant message(s). For each flexibility transfer to be effected between two MBGs, each of the BGMs involved must submit a separate message. Both messages must specify the relevant balancing period, balancing group codes and quantity to be transferred. Each message may only specify the transfer quantities for a single flexibility transfer to another balancing group.

If more than one message relating to the same pair of MBGs is received on any day, the message last received will overwrite all earlier messages. Messages relating to the same pair of MBGs but received on different days will be recorded as separate messages and will have an additive effect.

Compliance with requirements 4 to 6 will be verified by the MAM after 17:00 hours.. If the two messages specify differing transfer quantities, the MAM will reduce the relevant quantities in accordance with the lesser rule.

The MAM will process the relevant flexibility transfer message pairs successively in order of their receipt. This order will be determined by the time the corresponding counter-message is

received by the MAM. Where messages are overwritten in the course of a day, the relevant time of receipt is the time the overwriting message was received. If a flexibility transfer notification specifies a flexibility quantity for disposal which would result in the current opening balance determined for the disposing MBG being exceeded, it will be rejected.

If a notification is rejected, this will not mean a final stop to the transfer process for the relevant day.

If a flexibility transfer is successful, the MAM will send an answer message to the relevant BGM by 18:00 hours on the relevant day, specifying the flexibility quantity transferred; in the event that a transfer is rejected, the MAM will send a notification to the relevant BGM by the same time, in this case specifying a transfer quantity of zero. All transfers will be processed in the chronological order in which the two corresponding messages for each transfer have been received, with the latter message being relevant for this purpose.

Rejected transfers may be repeated on the following day, provided sufficient flexibility is available to carry out the transfer. Successful transfers carried out on the preceding day must not be repeated, or else the relevant flexibility quantity will be transferred twice. Notifications specifying a transfer quantity which exceeds the flexibility quantity available in the relevant account will be rejected but any subsequent notifications received at a later point in time which specify a transfer quantity that is below this limit will be accepted.

Each day's current opening balance of the flexibility account set up for each biogas MBG will be calculated on the basis of the flexibility quantities transferred to and received from other BGs on the preceding day.

6.4 Rules for the injection and withdrawal of biogas to or from a storage facility

It must be ensured that injections or withdrawals of biogas to or from a storage facility do not result in the relevant BG losing its special biogas status. In order to achieve this, BGMs must exercise utmost care – as described for quantity transfers in the previous chapters – to make sure that they only use biogas BGs when making nominations from or to special biogas storage accounts. Of course, it is also possible for biogas quantities to be transferred to a storage account for natural gas but in this case they will lose their special biogas flexibility on withdrawal and can no longer be transferred to a biogas BG. The corresponding allocations are reported using the data series types "Exitso" and "Entryso".

The following basic operational principles apply for the handling of injections into or withdrawals from storage facilities:

a. As a matter of principle, the biogas quantity withdrawn from a storage facility in any given hour cannot exceed the biogas quantity previously injected into that storage facility. The relevant storage system operator (SSO) will verify this to ensure that the balance of the

biogas storage account/biogas storage contract held with the SSO in question does not go into a negative balance.

b. For the operational handling of biogas storage injections and withdrawals storage customers must first enter into a storage agreement and the SSOs must create special biogas storage accounts for their customers. Biogas can then only be delivered from or to the relevant network under the relevant biogas balancing group number.
c. SSOs will only accept storage injections into a special biogas storage account if the disposing BG used to make the corresponding offtakes from the network of the relevant NO is registered as a biogas BG.
d. NOs will only accept inputs onto their networks from a storage facility that are to be allocated to a biogas BG if the disposing storage account is a special storage account for biogas.
e. Each biogas storage account set up by an SSO will be created for the same term as the corresponding biogas BG, provided the term of the relevant storage agreement entered into with the relevant SSO runs at least until the end of the term of the biogas BG. The storage customer must provide written notice to the SSO beforehand to inform the SSO of the term that has been agreed for the relevant biogas BG.
f. Depending on the term of the relevant storage agreement, biogas may also be held in storage beyond the end of a biogas balancing period, i.e. the relevant quantities can be transferred to the following calendar year or gas year. To do so, the storage customer must extend the term of the corresponding biogas storage account. On extension of its term, the biogas storage account will be assigned a new storage account number for energy balancing purposes.
g. Any biogas remaining in storage beyond the end of a biogas balancing period may be withdrawn again in the next balancing period and be delivered to a biogas BG. The storage customer must inform the relevant NO and SSO of the new biogas balancing group number to be used for this purpose.
h. Storage customers have the additional option of transferring the biogas quantity held in a biogas storage account to a storage account for natural gas. On being transferred, the biogas will lose its special biogas status and can no longer be delivered to a biogas BG. All such transfers will be governed by the applicable rules provided by the relevant SSO.
i. Biogas nominations for storage injections and withdrawals must be made using specially assigned shipper code pairs. The shipper code assigned on the network side will correspond to the balancing group number of the relevant biogas BG. The shipper code assigned on the storage side should be identical to the account number assigned to the relevant biogas storage account by the relevant SSO, provided the SSO offers the option of creating special biogas storage accounts.
j. All further operational provisions will be governed by the general terms and conditions of the relevant SSO.

7 Gas quality conversion and conversion neutrality charge

7.1 Conversion principles

According to the administrative rulings BK7-11-002 and BK7-16-050 handed down by the Federal Network Agency, BGMs have the option to use a cross-quality energy balancing service in the market area. In addition, the market area only has a single virtual trading point (VTP), where gas of both low CV and high CV quality is traded.

Each market location is assigned to a balancing group with the corresponding gas quality by the relevant NO. This depends on the gas quality prevailing on the NO's network. The same applies with respect to biogas entry points.

BGMs can make use of the cross-quality energy balancing service by creating a balancing portfolio comprising both master and subordinate balancing groups. BGMs who make use of the cross-quality energy balancing service are charged a conversion fee on the relevant gas quantities, which are deemed to have been converted between the relevant gas qualities and are for this purpose referred to as the “conversion quantity”.

The MAM also has the right to also levy a conversion neutrality charge on BGMs (in accordance with 7.6).

Market participants wishing to transfer gas quantities at the VTP should note that gas quantity transfers can only be effected between balancing groups that are registered for the same type of gas (high CV gas to high CV gas and low CV gas to low CV gas).

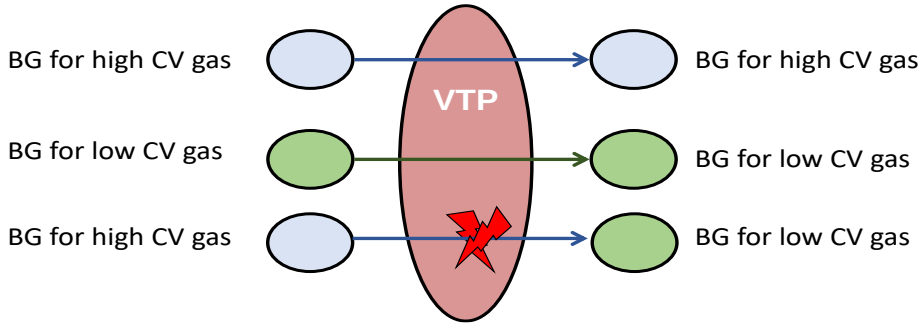

Figure 30: Gas quantity transfers via the VTP

7.2 Cross-quality energy balancing rules for natural gas

According to the Federal Network Agency’s administrative ruling BK7-16-050, BGMs who have registered balancing groups for freely combinable capacity with the status “FAC” for different gas qualities are required to link these balancing groups by setting up a joint master

balancing group. If a BGM has registered several balancing groups which are for gas of the same gas quality, these do not need to be linked. Balancing groups for restricted capacity with the status “CAR” may not be linked with other balancing groups.

Since 1 April 2017, a conversion fee may only be charged for the conversion of gas from high CV to low CV quality (H-to-L), according to the administrative ruling BK7-16-050. If the MAM charges a conversion fee, the conversion quantities attributable to each BGM who has registered a master balancing group will be determined by calculating separate high CV and low CV gas balances for each BGM, i.e. by netting the BGM’s inputs and offtakes as recorded for energy balancing purposes in the relevant balancing period for all relevant SBGs and the MBG registered by the BGM separately for each gas quality. Where these calculations show that the BGM responsible for the relevant master balancing group has an oversupply of high CV gas and an undersupply of low CV gas, the MAM will charge the BGM a conversion fee per MWh, which will be levied on the lower of the two quantities (as measured in terms of their absolute values). If the BGM has an oversupply of low CV gas and an undersupply of high CV gas, no conversion fee will be charged.

7.3 Within-day obligations and cross-quality energy balancing

As is the case under the general within-day obligation rules for natural gas balancing groups (chapter 6.2), the applicable tolerance limits granted for the individual SBGs (both for high CV and low CV gas) in relation to certain customer groups (RLMmT and RLMoT) under the within-day incentive mechanism are also considered in aggregate in the relevant MBG (registered for either high CV or low CV quality) where the cross-quality energy balancing service and gas quality conversion mechanism are used. This will be the case irrespective of the gas quality for which the balancing groups comprising the relevant customer groups have been registered. The total quantity falling outside the cumulative tolerance limits available will be charged to the relevant BGM on the basis of the applicable within-day flexibility charge.

7.4 Calculation and invoicing of conversion quantities for natural gas balancing groups

As is the case under the daily energy balancing regime, the relevant conversion quantities are determined for each gas day. To this end, the “BKSALDABR” balances are determined for each SBG and the “BKSALDABRnach” balance for each MBG. The relevant conversion quantity is determined by:

- aggregating the balances determined for all relevant SBGs for high CV gas as specified in the corresponding “BKSALDABR” data series,
- aggregating the balances determined for all relevant SBGs for low CV gas as specified in the corresponding “BKSALDABR” data series,

- adding (or deducting, as the case may be) the “BKSALDABR” balance determined for the MBG itself – i.e. prior to the transfer of BG balances from all relevant SBGs – to (from) either aggregate quantity 1 or 2, depending on the gas quality assigned to the relevant MBG.

If these calculations show an oversupply (= positive sign) of high CV gas and an undersupply (= negative sign) of low CV gas, the conversion fee will be levied on the lower of the two quantities (as measured in terms of their absolute values). The conversion quantity thus determined will then be charged to the relevant BGM on the basis of the applicable conversion fee (H-to-L). The conversion fee is charged for each day on which opposing net balances are determined for the two gas qualities, with no tolerances being applied. Where the net balances determined for each gas type are both positive or negative, no conversion will be deemed to have taken place.

Example 1: An MBG is linked to several lower-level SBGs that are registered for different gas qualities. No entry or exit points are assigned to the MBG itself, only SLP offtakes are allocated to the linked SBGs. The individual “BKSALDABR” balances are determined separately for each SBG. The sum of the individual high CV gas balances is -10, for low CV gas it is -30 -30 -10 = -70. As both aggregate balances have the same sign, no conversion is deemed to have taken place.

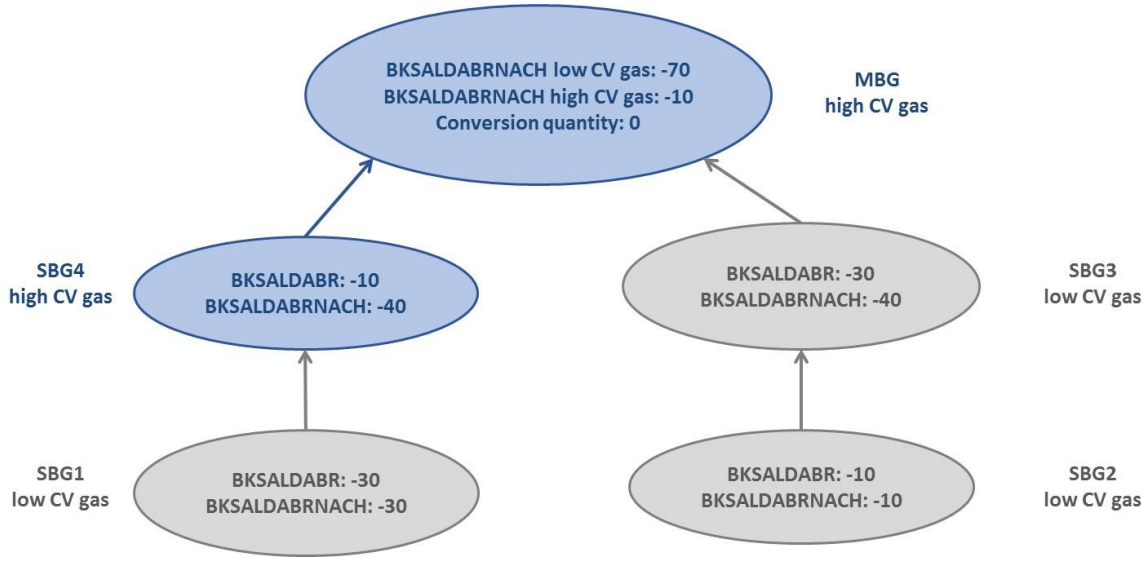

Figure 31: Calculation of conversion quantity example 1

Example 2: The high CV gas balance is +20, the low CV gas balance is -50 +10 +30 = -10. A conversion quantity of +10 is thus deemed to have been converted from low CV to high CV gas quality.

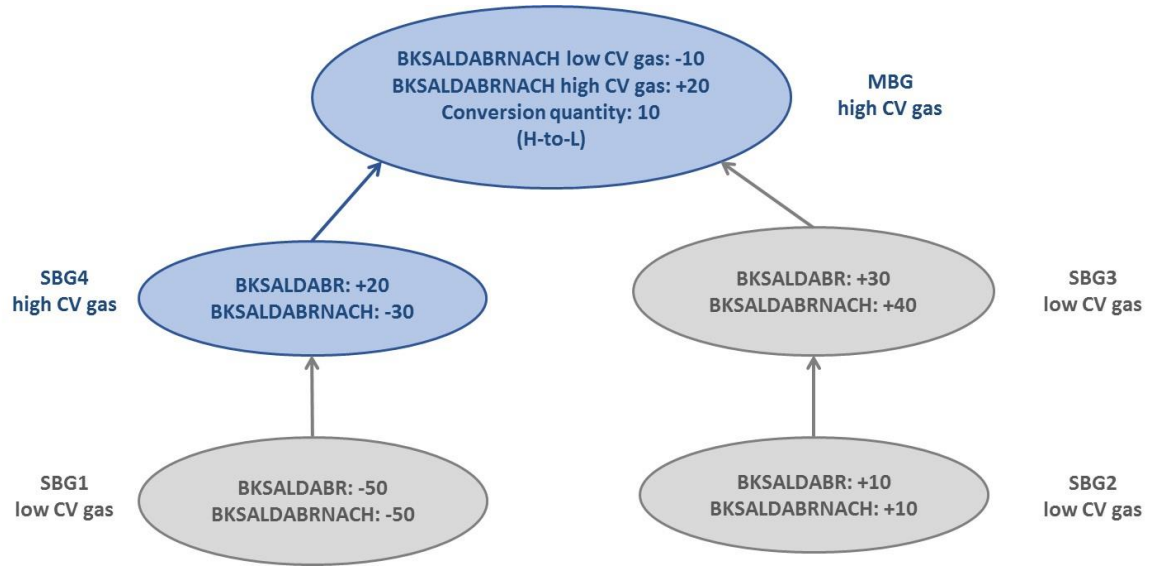

Figure 32: Calculation of conversion quantity example 2

The following example illustrates the functioning of the conversion mechanism for a balancing portfolio that encompasses an MBG which is also actively used itself and thus receives its own allocations. In the example it is assumed that there are two pairs of SBGs, each of which comprises two linked BGs, one for high CV gas and one for low CV gas. Both these pairs of SBGs are in turn linked to the same MBG, which is registered as a high CV gas BG itself.

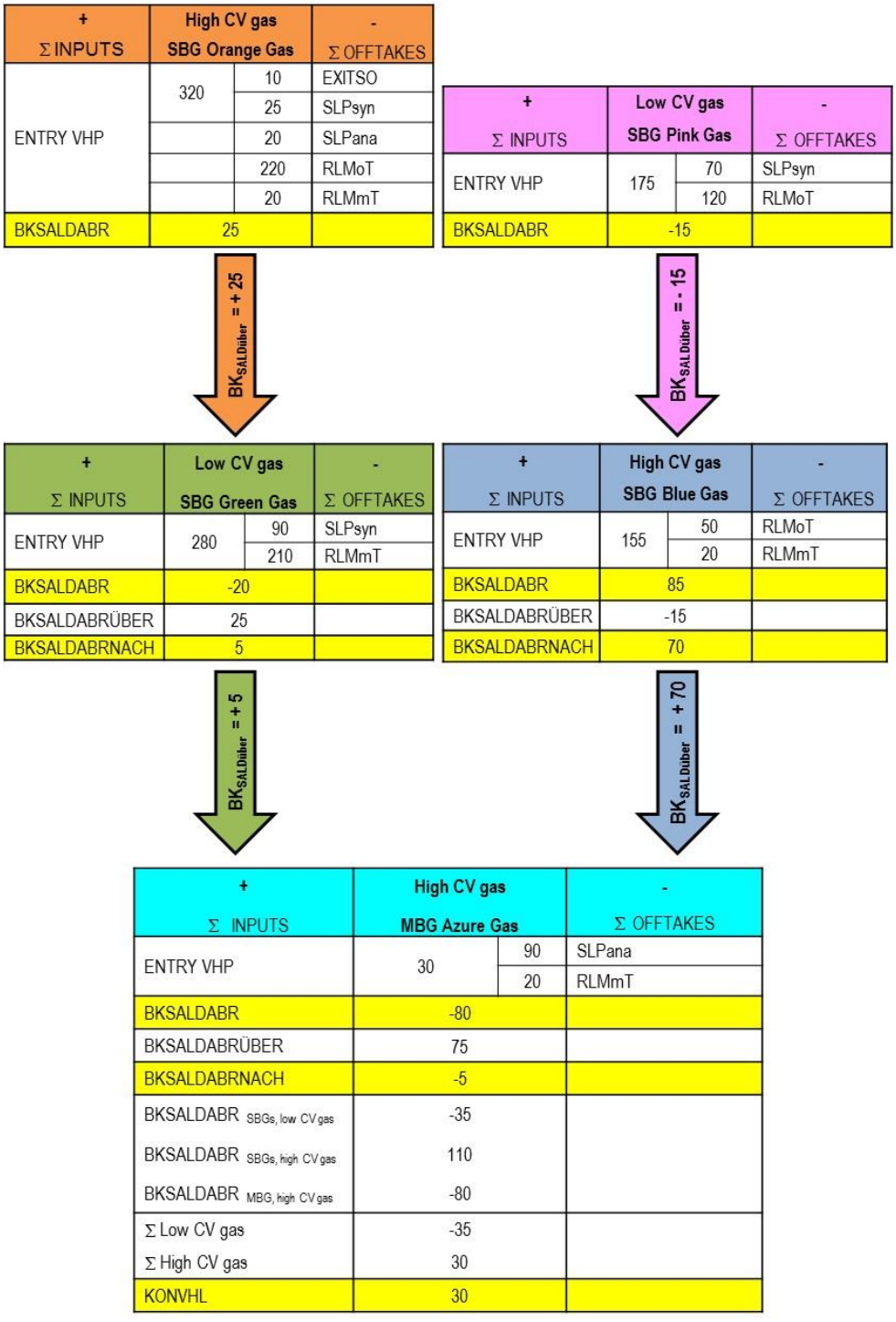

Figure 33: Calculation of conversion quantity

The following data is relevant for determining the conversion quantity:

- The sum of the high CV gas balances as determined on the basis of the “BKSALDABR”

data series recorded for the SBGs Orange Gas and Blue Gas is +110. The "BKSALDABR" balance determined for the high CV gas MBG is -80, the aggregate balance thus is +30.

- The sum of the low CV gas balances as determined on the basis of the "BKSALDABR" data series recorded for the SBGs Pink Gas and Green Gas is -35.
- The sum of the high CV gas balances is +30, compared with -35 for low CV gas. The two sums have opposing signs, a quantity of 30 is therefore deemed to have been converted from high CV to low CV quality (data series type "KONVHL").
- The daily imbalance quantity ("BKSALDABRnach") determined for the MBG is -5.

The BGM who has registered the relevant MBG receives "KONVHL" data series in IMBNOT format each day by 16:30 hours at the latest. This data is not submitted for biogas BGs. If the relevant quantities change due to changes in the underlying balancing group balances, these changes will be notified monthly by the date M+15 BD and/or at the time the invoice is raised.

For conversion billing purposes the conversion quantity is determined for each day and multiplied by the applicable conversion fee. The applicable conversion fees are published by the MAM on its websites for each conversion period. The conversion fees payable will be billed as part of the balancing group invoicing process after the end of each balancing period.

7.5 Application of conversion fees to biogas balancing groups

The rules for the linking of balancing groups and for the assignment of points to a BG described above apply accordingly to biogas BGs. If the MAM charges a conversion fee, the conversion fee payable in relation to biogas BGs will be determined by first calculating separate high CV and low CV gas balances for the relevant MBG and SBGs for the relevant balancing period. If these calculations show an oversupply (= positive sign) of high CV gas and an undersupply (= negative sign) of low CV gas, the conversion fee will be levied on the lower of the two quantities (as measured in terms of their absolute values). The conversion quantity thus determined will be billed as part of the balancing group invoicing process after the end of each balancing period.

For conversion billing purposes the conversion fee applied to biogas balancing groups will be calculated as the time-weighted arithmetic mean of the conversion fees applicable during the relevant biogas balancing period.

As part of the market area merger effective from 1 October 2021, a special situation may occur in which there are two market areas in individual months of a balancing period and only one market area at the end of the balancing period. If a biogas balancing group contract commences before 1 October 2021 and ends after 1 October 2021, the arithmetic mean of the conversion fees of both market areas is first calculated for the relevant period prior to 1 October 2021, and the amounts of the conversion fee of the individual days are then added for the duration of the balancing period and divided by the number of days in the relevant balancing period.

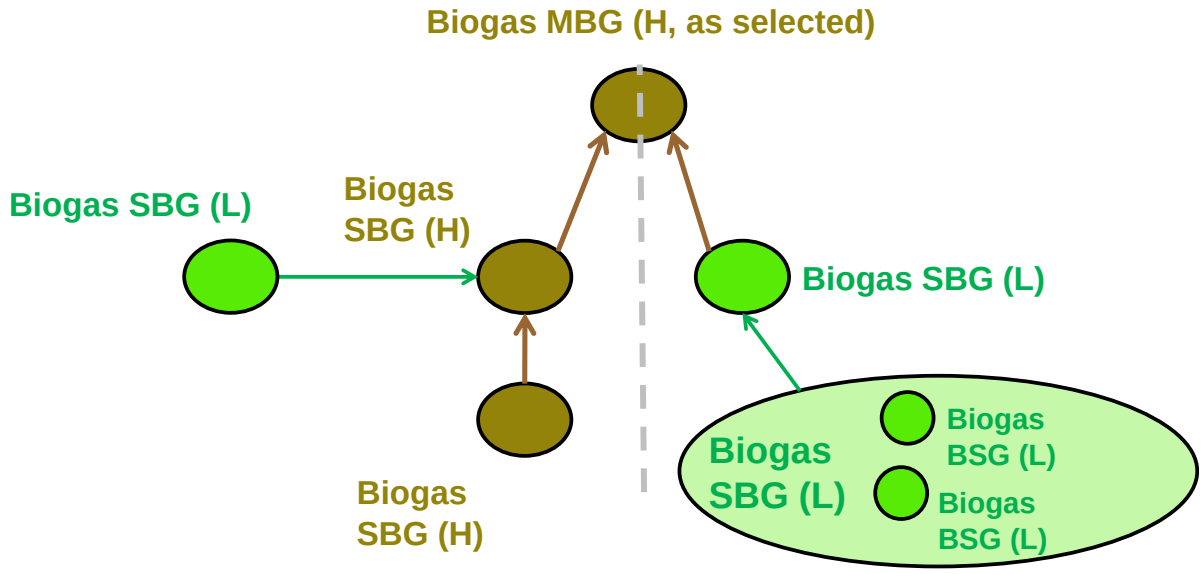

Figure 34: Sample biogas balancing portfolio in a conversion area

7.6 Conversion neutrality charge

The MAM may levy a conversion neutrality charge on BGMs in order to recover the costs it incurs for conversion measures. Where a conversion neutrality charge is applied, it is charged in EUR per MWh on the basis of all daily gas quantities physically delivered to each balancing group. It is also levied on inputs allocated to SBGs and BSGs. Conversion neutrality charges are applied on the basis of the data series type “KONVUMLnach”. The relevant physical inputs are calculated based on the daily allocations as determined with due regard to any renominations where applicable. Conversion neutrality charges are applied to the following data series types:

- data series type “Entryso” (inputs made at CIPs, and storage facilities and inputs from production facilities other than biogas plants),
- data series type “Entry Biogas”,
- data series type “Entry Wasserstoff”.

Allocated inputs that were made using capacity that has been registered for use with a balancing group that is subject to transportation route restrictions (status “CAR”) will be exempted from the conversion neutrality charge.

Conversion neutrality charges apply equally to natural gas and biogas balancing groups.

8 Allocation clearing

Allocation clearing processes may be initiated once a market participant notes on submission of the final allocations – for “SLP” data series this is 13:00 hours on the day D-1 and for data series of the types “RLM”, “Entryso”, “Exitso”, “Entry Biogas” and “Entry Wasserstoff” this is the date M+14 BD – that the data submitted differ from its own expectations. All market participants affected have an obligation to carry out clearing processes in a timely and efficient manner.

Balancing group invoices for natural gas balancing groups are raised monthly by the MAM by M+2 months and sent to the relevant BGMs. All clearing processes must therefore be completed by M+2 months less 10 BD so as to give the MAM sufficient time, in this case 10 business days, to process the results of all clearing processes, raise all balancing group invoices and send them to the relevant BGMs. If a BGM only submits its request for initiation of a clearing process to an NO on the last day of a clearing period, the NO is entitled to refuse to process the relevant clearing case if the NO can no longer be reasonably expected to process and submit the required clearing ALOCAT message to the MAM by the deadline M+2 months less 10 business days. As a matter of principle, no clearing processes are run after the balancing group invoices have been sent.

Balancing group invoices for biogas BGs are only raised after the end of the agreed biogas balancing period, which generally corresponds to a year but may also be a shorter period for the first balancing period of a biogas BG. In order to ensure that any discrepancies can be identified and resolved as soon as possible, clearing processes for natural gas and biogas BGs follow the same rules. Regardless of the clearing mechanism, errors in the offtake data that form the basis for transportation charging must always be corrected, as required under DVGW Code of Practice G 685. Following such corrections, revised MSCONS and INVOIC messages must be submitted to the relevant shipper(s) for each of the customers affected so as to enable the shipper to also adjust its energy bills issued to these customers.

Each clearing process may generally involve several market partners, i.e. MAM, shipper, BGM and NO.

Changes in the measured offtake data always entail subsequent processes with the other market partners involved.

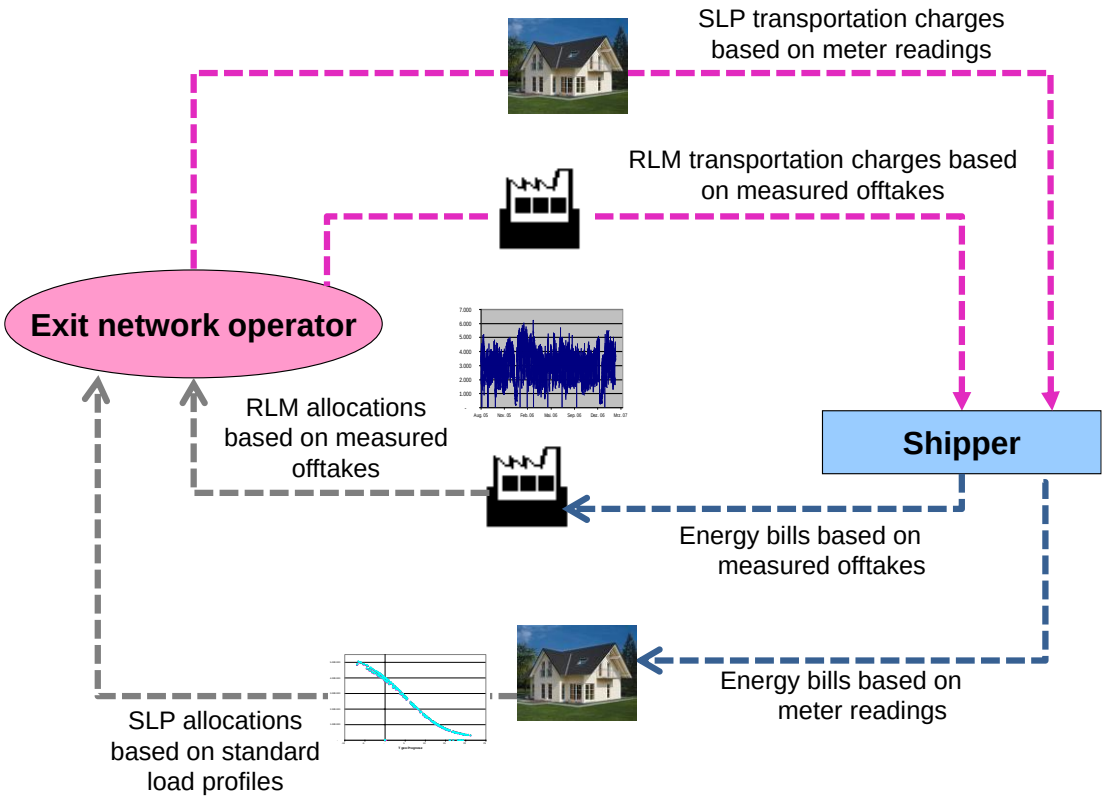

Figure 35: Metering and billing cycle

Whenever the underlying offtake data change, the corresponding transportation charges, and thus also the end-user energy bills issued on this basis, must also be adjusted. It is therefore important that all market partners involved work together during each clearing process.

8.1 Clearing of SLP allocations

An SLP clearing process may only be initiated if the allocations for the relevant data series type for the day D (A_D) as determined by an NO for a BG/BSG differ from the allocations determined for the day D-1 (A_{D-1}) in that they:

- exceed them by 100% or more ($A_D \geq 2x\ A_{D-1}$),
- are equal to or less than 50% thereof ($A_D \leq 0.5x\ A_{D-1}$),
- and differ therefrom by 25,000 kWh or more ($|A_D-A_{D-1}| \geq 25{,}000$ kWh).

The relevant NO will verify whether the thresholds are met in each case.

The following exceptions from the above thresholds apply:

1. Where SLP declarations have been submitted for a BG/BSG for the first time and the relevant NO has failed to submit the corresponding allocations, the MAM will not be able to use the quantity recorded for the preceding gas day to create default allocations and will therefore set the allocation to zero. For such data, clearing processes may always be run irrespective of whether the applicable thresholds are met.

2. Where in the course of any month an NO has erroneously submitted SLP allocations specifying a quantity of zero or where default SLP allocations have been created by the MAM, the relevant data may always be cleared irrespective of the applicable thresholds.

3. If the MAM is unable to forward an NO's SLP allocations to the relevant BGM(s) by the relevant deadline due to processing problems within its own sphere of responsibility, the MAM will submit default allocations. Such error days do not qualify as an error day for the purposes of the transparency list criteria and will not be taken into account in the financial settlement according to the daily network balancing account system as an incentive mechanism. Both the NO and BGM(s) affected have the right to run a clearing process with respect to this data irrespective of whether the applicable thresholds are met.

The SLP clearing mechanism provides a predefined standard process aimed at identifying allocation outliers and resolving them as soon as possible before they result in energy imbalances in the corresponding balancing groups or affect the physical system balance. This standard process defines a default alternative quantity BGMs can nominate without running any imbalance risks in the event that allocations submitted by an NO show large discrepancies and are thus manifestly erroneous. It is not the purpose of the clearing mechanism to achieve a general improvement of allocation data quality on an ex-post basis. As a general principle, the allocations submitted on the day D-1 are considered final and will only be revised in the above borderline cases. Normal differences between allocations and the quantities that form the basis for transportation charges are resolved as part of the SLP quantity reconciliation processes. The mechanism must further not be misused to "heal" inaccurate nominations by a BGM by means of ex-post adjustments to the corresponding allocations.

Responsibility for allocations always lies with the relevant NO. The NO has all relevant master data and necessary SLP information, such as temperatures and residual loads, and generates the corresponding allocations on the basis of confirmed individual notifications and/or on the basis of the supply point registers as produced for each supplier and submitted on the 16th BD of each month. All allocation data submissions should be subjected to a final review before being transmitted. Shippers must validate the information provided in the confirmations of their individual notifications or in the supply point registers submitted by the relevant NOs to verify whether all relevant customers are listed, whether the stated customer-specific scaling factors and/or normalised annual consumption values are correct and whether they have been assigned the correct SLP data series type.

Where after 12:00 noon a BGM and an NO have bilaterally agreed an alternative quantity to be used in the BGM's nomination, the NO may use this quantity when producing its clearing allocations. It must be noted, however, that the option of making such bilateral arrangements must be offered to all BGMs on a non-discriminatory basis and in compliance with unbundling rules. Bilaterally agreed alternative quantities may also only be used if the defined thresholds have been met.

For clearing processes relating to contract periods prior to 1 October 2021, the balancing group numbers of the GASPOOL and NCG market areas must be used.

8.1.1 Process for the clearing of SLP allocations

All processes run between BGMs and NOs before 12:00 noon are not considered clearing processes. The last ALOCAT message submitted by an NO by 12:00 noon will always prevail. In order to allow for corrections to be made before 12:00 noon, however, it is necessary that NOs also send allocations directly to BGMs. Each BGM may apply to the relevant NO(s) to request this process. The BGM will then receive its allocations from the NO each day after they have been submitted to the MAM. Due to the conversion of the relevant quantities to a flat allocation profile there may be minor differences, which are, however, accepted by all market partners. The BGM then has the possibility to alert the NO to any discrepancies that have been identified with respect to the NO's allocations. If sufficient time remains until 12:00 noon, the NO may generate revised allocations and re-submit them to the MAM.

The contact person(s) for queries relating to allocations are published for each BGM and NO by the MAM on its portal.

The clearing process can be divided into several phases:

- Each BGM receives its SLP allocations from the MAM by 13:00 hours at the latest. The BGMs then validate these allocations. If a BGM notes that the allocations differ from its expectations, it will verify whether the applicable clearing thresholds are met. Particular care must be exercised when reviewing the data provided for the first day of each month, as on these days large changes may also occur as part of regular processes due to the registration of new customers or the loss of existing customers.
- If the applicable criteria are met, the BGM may base its nominations on the quantities submitted for the day D-1 (i.e. the quantity recorded for the preceding day). The BGM has the right to demand that the relevant NO and MAM accept this quantity as the cleared quantity. If the BGM nominates a different quantity, it will incur daily imbalance charges. The only exception to this is if the BGM and NO have bilaterally agreed a more accurate alternative quantity. Where an alternative quantity is agreed bilaterally, the basis for its determination must be documented in a clear and transparent manner that is comprehensible to a third party (e.g. a certified public accountant).

- The BGM must apply to the MAM to request a clearing number and initiate the corresponding clearing process with the NO. Once a BGM has requested a clearing number, the MAM will notify the relevant NO thereof. The MAM will provide all details relevant for the clearing process to the NO, i.e. the BG/BSG number, the relevant period and the data series type affected, except the clearing number. The clearing number will be provided to the NO by the BGM, but only after the clearing case has been resolved. To this end, the BGM will submit all details relevant for the clearing process, among them the BG/BSG number, the relevant date(s), the data series type affected and the relevant quantity. The NO must review the relevant allocation without undue delay. If the allocation is found to be incorrect, the NO must create a new allocation based on the quantity recorded for the preceding day or based on the relevant agreed quantity and submit this new allocation to the MAM in a clearing ALOCAT message. The MAM will then re-convert these quantities to a flat allocation profile and use the converted quantities for balancing group invoicing purposes.
- If the NO determines that its original allocation was correct, it must notify the BGM without undue delay and provide evidence of the accuracy of its allocation to the BGM. In this case the BGM will bear the imbalance risk arising from the difference between the default alternative quantity (quantity recorded for the day D-1) and the allocations submitted by the NO. In cases like this it can be assumed that the parties involved have assigned customers to BGs/BSGs differently. The relevant shipper and BGM must then clarify the matter, e.g. by reviewing the corresponding supply point registers.
- Clearing processes may be started immediately after 13:00 hours on the day D-1. The clearing window will remain open until M+2 months less 10 BD. The MAM only accepts clearing allocations during this window. BGMs should therefore initiate the required clearing process as soon as possible after the day to be cleared in each case. If a BGM only submits its request for initiation of a clearing process to an NO on the last day of a clearing period, the NO is entitled to refuse to process the relevant clearing case if the NO can no longer be reasonably expected to process and submit the required clearing ALOCAT message to the MAM by the deadline M+2 months less 10 business days.
- If the relevant BG/BSG had not previously been declared, a declaration clearing process must first be run and completed before the corresponding clearing ALOCAT message can be submitted.
- The cleared data series will be displayed to the NO and BGM involved on the MAM's portal within 24 hours of receipt of the corresponding clearing ALOCAT message.

Again, it should be noted that the MAM does not have an obligation to run any further checks based on any clearing number. Clearing numbers are only issued to identify the corresponding clearing ALOCAT messages. The BGM, shipper and NO involved in each case are each required to verify and ensure that the applicable rules and thresholds are met and complied with. If it is found by the MAM that a clearing process has been run in violation

of the applicable thresholds and/or against better knowledge (e.g. in the case of a normal SLP quantity difference due to new customers), the MAM has the right to reverse the corresponding changes, even after the relevant balancing group invoice has been issued.

8.1.2 SLP allocation sum checks

In order to further improve quality, the MAM checks all SLP allocations received from NOs for outliers. If the sum of the SLP allocations recorded for the day D (as sent on the day D-1) exceeds the quantity recorded for the preceding day by 100% or more, or if it is equal to or less than 50% of the quantity recorded for the preceding day, the MAM will notify the relevant NO and all BGMs affected thereof by way of a plain text message/via email by 15:00 hours on the day D-1, indicating the relevant percentage. Default allocations created by the MAM are taken into account by the MAM when calculating the relevant sums.

It should be noted that the allocation sum checks provide an indication of the degree of care exercised by an NO on an aggregate basis only. In order to establish a clearing case, the relevant BGM or NO must also consider each individual balancing group separately on a case-by-case basis.

8.2 Clearing of allocations for physical data series types other than SLP

The process described below applies to the following data series types:

- “Entryso”, “Entry Biogas”, “Entry Wasserstoff”,
- “RLMmT”, “RLMoT”, “Exitso”.

8.2.1 Principles for the clearing of allocations for physical data series types other than SLP

The following principles apply:

1. NOs invoice transportation charges to shippers in accordance with the GeLi Gas rules and the provisions of the Cooperation Agreement based on the relevant offtakes as recorded for each individual RLM exit point by measurement and converted to energy terms on the basis of the applicable billing CV. Balancing group invoices issued to BGMs by MAMs are based on the aggregate allocations recorded for the relevant BG.
2. BGMs invoice the delivery quantities supplied to a shipper on the basis of the agreed contractual arrangements, which are not governed by the Cooperation Agreement. A shipper may either purchase its entire supplies or only a part thereof from the relevant BGM. Depending on the specific arrangements agreed in each case, the BGM may base

its charges on the aggregate allocations as submitted for the relevant RLM market locations, on agreed nominations or on pre-agreed flat gas deliveries, for example.

3. Energy bills issued to end users by shippers are based on their individual measured offtakes as converted to energy terms on the basis of the applicable billing CV as submitted to the shipper by the relevant NO pursuant to paragraph 1 above.
4. In order to reduce the time and expenditure spent on clearing processes, a minimum threshold of 500 kWh applies to clearing processes relating to RLM allocations. Differences of less than 500 kWh per month and BG/BSG will not be cleared.
5. If a clearing process involves changes to the RLM offtake data underlying the relevant allocations, the cleared RLM offtakes must be submitted to the relevant shipper in MSCONS format.

8.2.2 Possible causes for the clearing of allocations for physical data series types other than SLP

Clearing cases arise whenever a market partner – BGM, NO or shipper – notes a discrepancy and this discrepancy is to be resolved. Among other factors, discrepancies may be due to the following effects:

Case 1: The aggregate offtakes as determined for energy balancing purposes (balancing CV) and submitted to a shipper by the relevant NO differ from the corresponding allocations received by the relevant BGM.

In this case the relevant NO, MAM, shipper and BGM will be involved in the clearing process. In order to be able to verify whether there is such a discrepancy, the BGM requires the offtake data as submitted by the NO in aggregated form for the relevant BG/BSG number from the relevant shipper(s). If a balancing group registered by a BGM encompasses RLM market locations that are supplied by several shippers, the BGM will require this information from several shippers.

Example: The RLM market locations supplied by $shipper_{Blue\ Gas}$ and $shipper_{Red\ Gas}$ have been assigned to the balancing group registered by $BGM_{Fine\ Gas}$. In order to be able to apportion the allocations received for these RLM market locations from the relevant NO between $shipper_{Blue\ Gas}$ and $shipper_{Red\ Gas}$ for the purpose of billing the corresponding deliveries, $BGM_{Fine\ Gas}$ has created several balancing subgroups, BSG1 and BSG2. The NO to whose network the RLM market locations are connected allocates the corresponding RLM quantities to BSG1 and BSG2 based on the BG/BSG assignment notifications received as part of the GeLi Gas new supply registration process.

$Shipper_{Blue\ Gas}$: The sum of the offtakes for the month January as determined by the NO for energy balancing purposes (balancing CV) for the RLM market locations supplied by $shipper_{Blue\ Gas}$ and for the relevant RLM data series type is 1,020,000 kWh. The sum of the

corresponding allocations submitted for BSG1 for the relevant RLM data series type is 1,000,000 kWh. The difference of 20,000 kWh determined for BSG1 is greater than the applicable clearing threshold of 500 kWh, hence $shipper_{Blue\ Gas}$ has the right to initiate a clearing process.

$Shipper_{Red\ Gas}$: The sum of the offtakes for the month January as determined by the NO for energy balancing purposes (balancing CV) for the RLM market locations supplied by $shipper_{Red\ Gas}$ and for the relevant RLM data series type is 449,800 kWh. The sum of the corresponding allocations submitted for BSG1 for the relevant RLM data series type is 450,000 kWh. The difference of 200 kWh is below the applicable clearing threshold of 500 kWh, hence $shipper_{Red\ Gas}$ does not have the right to initiate a clearing process.

Case 2: An NO has assigned and allocated one or several RLM market locations to an incorrect balancing group and/or shipper. In this case the relevant NO and the MAM, the shipper and the BGM will be involved in the clearing process.

Example: The NO has assigned a customer supplied by $shipper_{Blue\ Gas}$ to the balancing group used by $shipper_{Red\ Gas}$. In addition, a customer of $shipper_{Green\ Gas}$ has been assigned to the balancing group used by $shipper_{Blue\ Gas}$, and vice versa.

In exceptional cases, i.e. if the network can transport gas in two different gas qualities, it may even be the case that a market location has been assigned to a balancing group registered for the wrong gas quality.

Case 3: No allocations have been submitted for certain RLM market locations. In this case the NO, the MAM as well as the shipper and the BGM will be involved in the clearing process.

Example: The relevant NO has failed to submit allocations for a customer supplied by $shipper_{Red\ Gas}$. This may be due to a failure of the relevant metering station or an oversight on the part of the NO, among other things.

Case 4: Declarations are missing or incorrect.

The process required to add declarations in the case of missing declarations or to correct declarations in the case of erroneous declarations is described in chapter 3.4. Declarations that relate to RLM market locations may also be submitted for past days of the current delivery month. The clearing mechanism is used to submit the missing allocations or correct incorrect allocations, e.g. where gas quantities have been allocated to the wrong data series type.

8.2.3 Possible causes for the clearing of allocations for nominated physical entry or exit points

As a general rule, physical entry and exit points where the gas flow is managed on the basis of nominations are assigned the data series types “Entryso” and “Exitso”, respectively. At these points, the allocation rule “allocated as nominated” usually applies.

BGMs can compare the nomination confirmations received from the relevant NO (NOMRES) against the allocations received on the date M+14 BD. If there are any discrepancies between the confirmed nominations and the allocations received or if either confirmed nominations or allocations are not available, this may be due to the following reason:

- The NO received the nomination (NOMINT), ran the matching process without finding a mismatch, sent confirmation of the nomination to the BGM (NOMRES) but submitted incorrect allocations or failed to submit allocations (ALOCAT) to the MAM.

If the above should necessitate a clearing of the data affected, no thresholds apply for the initiation of the related clearing process.

8.2.4 Process for the clearing of allocations for physical data series types other than SLP

A clearing process may be initiated by the relevant NO, BGM or shipper. In order to provide a unique reference for the clearing process, clearing numbers are issued. It must always be ensured that the relevant BGM is involved in each clearing process, irrespective of who actually initiated the clearing. Each clearing number may only be used in relation to its validity period (the period to be cleared) and only once for the relevant BG/BSG, data series type and NO. If a clearing process relates to RLM data series, the corresponding clearing number will be used twice, i.e. both for the data submission containing the cleared RLM offtakes as determined on the basis of the applicable balancing CV as well as for the data submission containing the cleared RLM offtakes as determined on the basis of the applicable billing CV. Revised allocations corrected in the course of a clearing process must be submitted for the exact period to be cleared, in relation to which the original allocations will then be recorded as updated.

Different rules apply depending on whether an allocation clearing process is run under a BGM clearing number or under an NO clearing number. All clearing numbers become invalid either on submission of the cleared allocations or on expiry of the relevant clearing period. If a clearing process is initiated by an NO, the NO must notify the relevant BGM of the clearing case so as to allow the BGM to request a BGM clearing number from the MAM and provide this to the NO.

The contact person(s) for queries relating to allocations are published for each BGM and NO by the MAM on its portal. Following consultation between the parties involved and data review by the relevant NO, the source of the error will have been identified. The NO must

then either correct the relevant allocation as such and/or (as the case may be) the individual offtakes (based on the applicable preliminary and billing CVs) underlying the relevant allocation. Following this, the NO must consult the revised data with the other market partners involved (BGM, shipper) without undue delay. Where the revisions require adjustments to transportation charges only, approval by the relevant BGM is not required. Where only the allocations as such are incorrect and need to be revised, approval by the relevant shipper is not required. Approval by the NO is required in both cases. If several shippers and/or BGMs are affected, approval must always be obtained from the relevant shipper and/or BGM. Participation in a clearing process may only be refused in justified cases.

If it is subsequently found by the MAM that a clearing process has been run in violation of the applicable thresholds, the MAM has the right to reverse the corresponding changes, even after the relevant balancing group invoice has been issued.

All necessary information is recorded under the relevant clearing number; each clearing process is deemed to be concluded once the relevant data has been submitted to the MAM.

The cleared data series will be displayed to the NO and BGM involved on the MAM's portal within 6 hours of receipt of the corresponding clearing ALOCAT message, with the data being shown using either a structured or flat allocation profile.

For clearing processes relating to contact periods prior to 1 October 2021, the respective relevant group numbers of the GASPOOL and NCG market areas must be used.

8.2.4.1 Process for clearing processes run under a BGM clearing number (for "RLM" data series, "Entry" data series and "Exitso" data series)

The MAM issues BGM clearing numbers to BGMs only. This ensures that the relevant data has been agreed between the NO and BGM involved. Once a BGM has requested a clearing number, the MAM will notify the relevant NO thereof. The MAM will then provide all details relevant for the clearing process to the NO, i.e. the BG/BSG number, the relevant period and the data series type affected, except the BGM clearing number. The clearing number will be provided to the NO by the BGM, but only after the clearing case has been resolved.

After, and only after, the relevant data has been consulted with the market participants affected by the clearing process and their approval has been obtained where required, the NO must submit a clearing ALOCAT message to the MAM, stating the clearing number previously provided by the BGM. If the clearing process in question relates to RLM allocations, the NO must submit two clearing ALOCAT messages to the MAM under the clearing number provided, both of which must contain the data series for the cleared RLM offtakes, once as determined based on the applicable balancing CV and once as determined based on the applicable billing CV. The MAM will only process these ALOCAT messages if both ALOCAT messages have been received. If the MAM has only received one of the two

messages (balancing CV and billing CV), the relevant RLM allocations will not be cleared. Allocation messages for RLM exit points which are submitted before M+12 BD must not state a clearing number, or else they will be rejected by the MAM. All allocation messages stating a clearing number will be rejected by the MAM if they are received before M+14 BD.

On receiving a clearing ALOCAT message the MAM knows that the clearing process in question has been concluded by mutual agreement between the market partners involved. The MAM will then re-calculate the corresponding hourly allocations based on the data received and submit them to the relevant BGM no later than 24 hours after receipt of the relevant clearing ALOCAT message, stating the relevant BGM clearing number. The hourly allocations thus determined may be submitted to the BGM by the MAM either using a structured or a flat allocation profile.

If the relevant BG/BSG had not previously been declared, this must be effected no later than 2 BD prior to the submission of the cleared allocations.

The MAM does not have an obligation to run any further checks based on any clearing number. The BGM, shipper and NO involved in each case are each required to verify and ensure that the applicable rules and thresholds are met and complied with. BGMs and shippers must be in direct contact with each other so as to be able to identify any discrepancies. Also, the process must be initiated very soon after the relevant data is received to ensure that it can be concluded within the available clearing window. If a BGM only submits its request for initiation of a clearing process to an NO on the last day of a clearing period, the NO is entitled to refuse to process the relevant clearing case if the NO can no longer be reasonably expected to process and submit the required clearing ALOCAT message to the MAM by the deadline M+2 months less 10 business days.

8.2.4.2 Process for clearing processes run under an NO clearing number (for “RLM” data series)

If a BGM fails to provide a clearing number to an NO for the clearing of an RLM data series, the NO may apply to the MAM to request a clearing number for network operators (“NO clearing number”). Once an NO has requested a clearing number, the MAM will notify the relevant BGM thereof. The MAM will provide the network balancing account and balancing group numbers affected, the relevant period and the data series type affected to the BGM. The NO must then submit two clearing ALOCAT messages to the MAM under the clearing number provided, both of which must contain the data series for the cleared RLM offtakes, once as determined based on the applicable balancing CV and once as determined based on the applicable billing CV. The MAM will only process these ALOCAT messages if both ALOCAT messages have been received. If the MAM has only received one of the two messages (balancing CV and billing CV), the relevant RLM allocations will not be cleared. For energy balancing purposes the MAM will only use the clearing ALOCAT message received under the relevant NO clearing number which contains the quantities that have

been determined based on the applicable billing CV, and will send only this message to the relevant BGM.

If a clearing process has been run under an NO clearing number only, the MAM will use the quantity based on the applicable balancing CV it received previously (D+1 or M+12 BD) and the quantity based on the applicable billing CV as contained in the message last submitted.

If a clearing process has been run under at least one BGM clearing number as well as under at least one NO clearing number, the MAM will use the quantity based on the applicable balancing CV as contained in the last message submitted under a BGM clearing number and the quantity based on the applicable billing CV as contained in the message last submitted.

8.3 Ex-post correction of allocations

If neither the relevant BGM nor NO raise any objections to an allocation by the clearing deadline (M+2M-10BD), the allocation will be deemed to form the agreed basis for the invoice later to be issued by the MAM.

If an NO has submitted incorrect allocations for an RLM exit point, these allocations may still be corrected on an ex-post basis even after expiry of this deadline, provided the NO notifies the MAM without undue delay after becoming aware that any relevant technical metering equipment produces systematic errors.

Any such ex-post correction is conditional on the NO submitting to the MAM clear and transparent documentation in compliance with the applicable provisions set out in DVGW Technical Rule G 685.

All relevant meter readings registered by the meter's index and recording device must be documented in a report when examining the relevant meter point. The documentation to be submitted by the NO should include a test report confirming that the meter has been repaired by the relevant equipment manufacturer but must include a meter accuracy test report issued by the local measurement office (*Eichamt*) or any other accredited gas meter examiner (*staatlich anerkannte Prüfstelle für Messgeräte für Gas*) verifying that the meter has been recalibrated. The MAM will forward this documentation to the relevant BGM. Within 10 BD from the date of receipt of the documentation, the MAM will issue an NO clearing number to the NO in this matter. Within 5 BD, the NO must then submit two clearing ALOCAT messages to the MAM under the NO clearing number provided, both of which must contain the data series for the relevant RLM offtakes as corrected, once as determined based on the applicable balancing CV and once as determined based on the applicable billing CV. The MAM will only process these ALOCAT messages if both ALOCAT messages have been received. For energy balancing purposes the MAM will only use the clearing ALOCAT message received under the relevant NO clearing number which contains the quantities that have been determined based on the applicable billing CV. The MAM will then cancel the corresponding balancing group invoice and re-issue a new balancing group invoice to the

BGM. The relevant NO's network balancing account and the corresponding allocation data reports, NBA statements and balances in IMBNOT format will be adjusted to take account of the cleared RLM data series. Financial settlements according to the daily network balancing account system as an incentive mechanism, which have already executed, will not be adjusted.

8.4 Clearing of allocations for the data series types “Entry NKP” and “Entry Flüssiggas”

Chapter 11.4.2 describes the data review process run between MAMs and NOs to establish the agreed data basis for each network balancing account. By the time the NBA statements are produced on the day M+2M-5BD, any remaining discrepancies can only relate to the data series submitted for inter-system gas flows and LPG inputs as all clearing processes relating to balancing group data will have been concluded at this point. Once the NBA statements have been made available by the MAM (M+2 months -5 BD), each NO must validate the data provided by the deadline described in chapter 11.4.2. The clearing period for data series relating to inter-system gas flows or inputs of LPG opens at M+2M-8 BD and closes at M+2M+10BD. No clearing numbers are required to process these clearing cases.

Where inter-system flow data series are to be cleared, the NOs involved must consult with one another to establish the final inter-system flow data.

During each clearing period, both NOs have the right to submit revised inter-system flow data series to the MAM but also an obligation to make these data series available to their respective adjacent NO as well. All data submissions made during the clearing window must be transmitted in ALOCAT format and must contain the data series for the entire month in question. The data quality standard to be met in this process is the same as for the RLM allocations to be submitted on the day M+12BD. All data series relating to aggregate inter-system flows submitted during the clearing period will be recorded by the MAM for the network balancing accounts affected using a separate data track reserved for clearing purposes. The network balancing account data provided by the MAM (see chapter 11.4.3) allow the NOs to monitor the clearing process and current processing status for the revised inter-system flow data series in a transparent manner.

If both adjacent NOs have submitted revised aggregate inter-system flow data, the allocations submitted by the NO responsible for inter-system flow notifications as designated pursuant to section 30 of the Cooperation Agreement will prevail and be used to determine the final balances of the respective network balancing accounts.

Where LPG data series are to be cleared, the relevant NO must submit the revised LPG allocations to the MAM by the applicable deadline, i.e. no later than by M+2M+10BD.

For clearing processes relating to contact periods prior to 1 October 2021, the relevant balancing group numbers of the GASPOOL and NCG market areas must be used.

On expiry of the clearing period at M+2M+10BD, the MAM updates all NBA statements and provide these updated NBA statements to the NOs by the date M+2M+15BD as described in chapter 11.4.3.

In addition, the MAM also sends the updated NBA balances in IMBNOT format.

9 Financial settlement of balancing group contracts

9.1 General principles for balancing group invoicing

In order to ensure that the final financial settlement of all balancing group contracts can be based on reliable data, market participants have the option of running allocation clearing processes. Each month on the day M+15BD, the MAM provides preliminary and non-binding information on the anticipated BG invoice amounts for the preceding delivery month for each master balancing group to the relevant BGMs. Until a dedicated format is available, this information will be displayed on the portal operated by the MAM at least for such time until the invoices for the relevant delivery month are issued.

Final balancing group invoices (self-billed invoices where applicable) will be issued 2 months after the end of the relevant delivery month at the latest (whenever the term “invoice” is used in the text below, this also includes self-billed invoices unless the context requires otherwise).

Where an invoice needs to be corrected by the MAM in whole or in part, the MAM will either cancel the entire invoice affected and re-issue a new invoice or issue a corrective invoice. Cancellation documents must specify the invoice number of the erroneous invoice as a reference.

Each invoice document must specify the minimum information required under section 14(4) of the German Value Added Tax Act (*UStG*) so as to comply with the applicable value added tax (VAT) requirements. Guidance on the main items to be included is provided below.

The MAM will issue the invoices as electronic invoices in accordance with to Section 14 (1) sentence 8 of the German Value Added Tax Act (*UStG*) exclusively to the BGM of the balancing group to be settled.

No invoice documents will be provided to BGMs who have only registered subordinate balancing groups.

Each commercial invoice document will relate to an entire billing month and a single balancing group.

MAM invoices sent to a BGM cover the following items:

- daily imbalance charges for the relevant month;
- within-day flexibility charges for the relevant month;
- SLP balancing neutrality charges for the relevant month;
- RLM balancing neutrality charges for the relevant month;
- charges for RLM quantity differences for the relevant month;
- conversion fees for the relevant month;
- conversion neutrality charges for the relevant month;

- natural gas tax (where applicable).

The MAM has the right to require BGMs to make advance payments on account of SLP and RLM balancing neutrality charges payable by BGMs. No advance payments may be requested for daily imbalance charges and/or charges payable under the within-day obligation rules. Invoices for advance payments will be issued after the end of a delivery month; in any case, however, they must be issued before the date on which the deadline for the issuance of final balancing group invoices expires. The amount in euros billed in an advance payment invoice must be displayed and deducted in the final balancing group invoice.

9.1.1 Minimum content of balancing group invoices and advance payment invoices for SLP and RLM neutrality charges

A) Formal requirements:

the full name and full address of the supplier (MAM),

the full name and full address of the recipient of the supply (BGM),

the VAT registration number or, in the absence of one, the general tax registration number of the supplier (in the case of an invoice for payment by the BGM to the MAM: supplier = MAM, in the case of a self-billed invoice for payment by the MAM to the BGM: supplier = BGM),

on all self-billed invoices issued by the MAM: the VAT registration number or, in the absence of one, the general tax registration number of the person receiving the self-billed invoice (BGM) (in this case BGM = supplier); this information may also be provided on invoices for payment by the BGM to the MAM;

the date of issue;

the contract number and (where applicable) balancing group number of the balancing group to which the invoice relates;

the customer number of the recipient of the supply (where applicable);

identification of the type of document using the words “invoice” (invoices for payment by the BGM to the MAM) or “self-billing” (self-billed invoices for payment by the MAM to the BGM);

a unique sequential invoice number;

for invoices issued to persons belonging in a member state of the EU other than Germany: application of the reverse charge procedure (i.e. no charging of VAT) and mention of the VAT registration number or, in the absence of one, the general tax

registration number of the MAM and the BGM involved; a mention that this is a reverse charge;

for invoices issued to persons belonging in a third country (non-EU): as required under the applicable local VAT law (to be determined on a case-by-case basis).

B) Subject line/reference information:

"Balancing group invoice" or "Cancellation of balancing group invoice No. xxx" (as the case may be);

"Advance payment invoice for SLP and RLM balancing neutrality charges";

specification of the billing month in the format MM/YYYY;

specification of the balancing group number of the balancing group to which the invoice relates.

C) Monthly sums/amounts relevant for billing purposes:

identification of positive imbalances (inputs > offtakes) determined for a balancing group using the words "positive imbalance";

identification of negative imbalances (offtakes > inputs) determined for a balancing group using the words "negative imbalance";

the relevant amounts payable, expressed in the legal currency (currently: EUR (€)) and shown to two decimal places;

the applicable prices in cents/kWh, shown to four decimal places;

the applicable VAT rate and the amount of VAT charged on the total value of the supply (amounts payable excluding VAT);

the total amount payable including VAT;

the due date/value date;

the rate of energy tax charged (where applicable);

the negative daily imbalance quantities in kWh determined for the relevant month and the corresponding amount payable (excluding VAT);

the positive daily imbalance quantities in kWh determined for the relevant month and the corresponding amount payable (excluding VAT);

the within-day flexibility quantity in kWh determined for the relevant month under the within-day obligation rules and the corresponding amount payable (excluding VAT);

the quantity in kWh that is subject to SLP balancing neutrality charges as determined for the relevant month, the applicable neutrality charge (price per unit) and the corresponding amount payable (excluding VAT);

the quantity in kWh that is subject to RLM balancing neutrality charges as determined for the relevant month, the applicable neutrality charge (price per unit) and the corresponding amount payable (excluding VAT);

the conversion quantity in kWh determined for the relevant month, the applicable conversion fee (price per unit) and the corresponding amount payable (excluding VAT);

the quantity in kWh that is subject to conversion neutrality charges as determined for the relevant month, the applicable neutrality charge (price per unit) and the corresponding amount payable (excluding VAT);

the RLM quantity differences in kWh determined for the relevant month and the corresponding amount payable (excluding VAT);

a breakdown of the value of the supply (amount payable excluding VAT) by VAT rate (where applicable) and by energy balancing status (inputs > offtakes, offtakes > inputs), provided this is permitted under the applicable statutory provisions as interpreted by the competent state tax authority responsible for the MAM (where appropriate), particularly, without limitation, VAT requirements. If it is not permitted to show these items in this way, they must be presented in the manner required under the applicable legal provisions as interpreted by the aforementioned state tax authorities, particularly, without limitation, as mandated under the applicable VAT requirements.

Along with each invoice BGMs will receive an appendix in which the positive daily imbalance quantities, negative daily imbalance quantities, within-day flexibility quantities, RLM quantity differences and conversion quantities determined for the relevant BG will be listed separately for each day.

9.1.2 Minimum content of invoices for fees for use of the virtual trading point

According to a decision handed down by the Federal Network Agency on 23 August 2011 (ref: BK7-11-003), the MAM is entitled to charge the VTP fee to all balancing group managers who trade gas on the VTP in its market area. The VTP fee is determined on the basis of the relevant costs and applies for a validity period of 12 months, starting on 1 October in any calendar year. The applicable VTP fee is published by the MAM (in cents/MWh) on its website one month prior to the start of each validity period.

VTP fees are applied to each gas quantity transfer effected between BGMs; they are charged both to the disposing as well as the acquiring balancing groups involved in each case and invoiced accordingly. This also applies to gas quantity transfers between SBGs, provided these transfers have been nominated separately at the VTP.

The MAM will issue the invoices as electronic invoices in accordance with to Section 14 (1) sentence 8 of the German Value Added Tax Act (*UStG*).

Invoices for use of the VTP are issued monthly to each relevant BGM on the basis of the buy and sell gas quantities nominated by the BGM for transfer at the VTP. The main items to be shown in these invoices are:

- the billing period,
- the total amount payable,
- the due date,
- the balancing group number,
- the applicable VTP fee in cents/MWh or EUR/kWh,
- the total gas quantity (in kWh) nominated in buy and sell nominations and allocated as a VTP input and VTP output, respectively,
- the invoice amount in EUR corresponding to the total buy/sell nominations and VTP input/VTP output quantities, respectively,
- the total amount payable excluding VAT,
- the total amount of VAT charged,
- the total amount payable including VAT.

9.2 Financial settlement of RLM quantity differences

The RLM quantity differences determined for a balancing group will be financially settled between the MAM and BGM on a monthly basis as part of the balancing group invoicing process. RLM quantity differences may comprise:

- quantity differences resulting from variations between the balancing and billing CVs that are used to calculate the RLM allocations for a balancing group as described in chapter 5.5,
- quantity differences at individual RLM exit points resulting from a clearing process run under an NO clearing number as described in chapter 8.2,
- quantity differences resulting from ex-post corrections of allocations as described in chapter 8.3.

For days for which an NO has failed to submit allocations based on the applicable billing CV as part of the M+12BD data submission process, the MAM will use the allocations based on the applicable balancing CV it has received and also record them as the allocations based on the applicable billing CV. The RLM quantity difference for such days will be zero. In such cases the MAM will notify the relevant NO to inform the NO that the RLM allocations based on the applicable billing CV are missing.

Financial settlement will be based on the applicable daily prices for RLM quantity differences, which will be applied equally to both positive and negative RLM quantity differences.

No charges for RLM quantity differences will be applied to RLM exit points that have been assigned to a biogas balancing group or biogas balancing subgroup.

9.3 Financial settlement of biogas balancing groups

9.3.1 Charges for actual use of the available biogas flexibility

The portion of flexibility actually used by a BGM during a biogas balancing period will be determined – on completion of all flexibility transfers – as the highest positive or negative cumulative daily imbalance between the offtakes and inputs recorded for the relevant biogas BG during the balancing period in question and charged accordingly. Biogas imbalances falling outside the flexibility limits previously determined must not be taken into account in this analysis. BGMs must pay a fee of EUR 0.001 for each kWh of flexibility actually used, i.e. based on the highest biogas imbalance falling within the flexibility range available.

The relevant (im)balances of each biogas BG will be determined on the basis of the aggregate inputs and offtakes recorded for the biogas BG itself as well as for all biogas BSGs registered in relation thereto. The same applies with respect to the inputs and offtakes recorded for biogas MBGs and their linked SBGs.

The BG invoice amounts will be calculated by the MAM based on the linking arrangements in place at the end of each balancing period.

The fees payable for actual use of the flexibility granted can only be calculated once all flexibility transfer processes have been completed. This is the case on the date 2M+17 BD after the end of the relevant biogas balancing period at the latest.

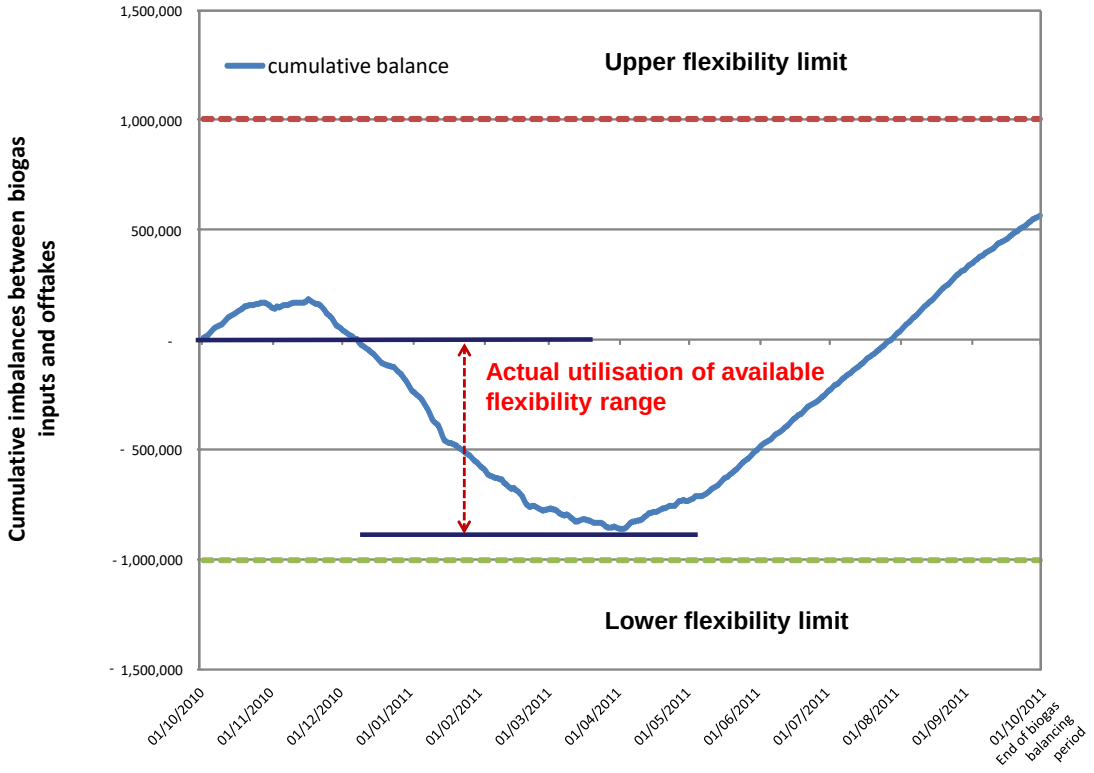

Figure 36: Charging rules for actual use of biogas flexibility

9.3.2 Imbalance charges for biogas imbalances exceeding the available biogas flexibility

If the available flexibility range is exceeded at any time during any biogas balancing period, imbalance charges will be applied to the biogas imbalance quantities falling outside the applicable flexibility limits separately for each relevant day. Until such time as market prices are published for biogas and accepted by the Federal Network Agency, the daily imbalance charges applied to natural gas imbalances will also apply to biogas. As part of the market area merger effective from 1 October 2021, a special situation may arise in which there are two market areas in individual months of a balancing period and only one at the end of the balancing period. If the balancing period of a biogas balancing group commences prior to 1 October 2021 and ends after 1 October 2021, the respective arithmetic mean of the daily imbalance prices for the purchase or sale of the two market areas shall apply as the imbalance price for periods prior to 1 October 2021. The relevant imbalance price in each case will be the imbalance price valid for the day on which the flexibility range was exceeded. Whether the positive or negative imbalance price applies will depend on the sign (positive/negative) of the imbalance quantity to be settled in each case. Flexibility violations

during a biogas balancing period do not affect a balancing group's status as a biogas balancing group.

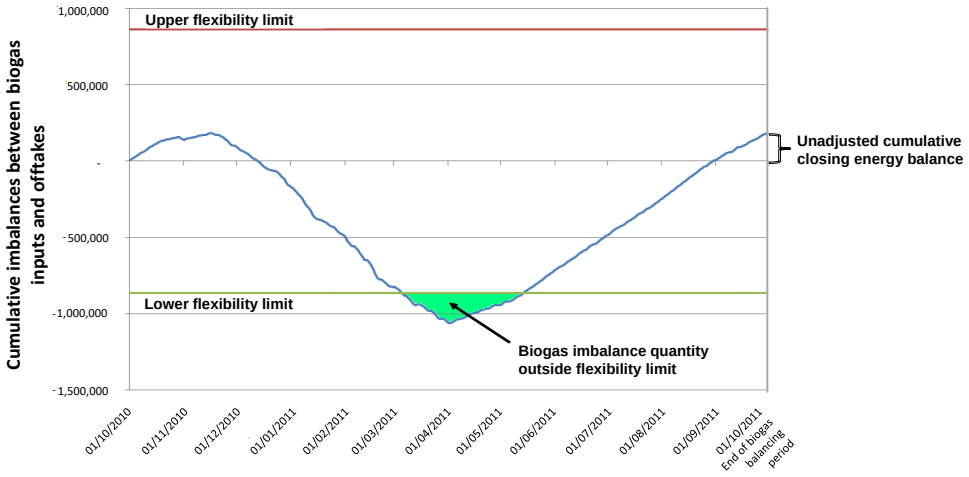

Figure 37: Biogas imbalances exceeding the available flexibility range

The green area shown in Figure is not billed as such in actual practice. The quantities relevant for billing purposes are determined by considering the individual days on a successive basis.

	Unadjusted cumulative balance	Daily biogas imbalance	Adjusted cumulative balance (before clearing of daily biogas imbalance)	Daily biogas imbalance subject to imbalance charges	Adjusted cumulative balance (after clearing of daily biogas imbalance)	Flexibility limit
04/03/2010	-849,924				-849,924	-866,875
05/03/2010	-862,587	no charges applied	no charges applied	no charges applied	-862,587	-866,875
06/03/2010	-875,984	-13,397	-875,984	-9,109	-866,875	-866,875
07/03/2010	-884,190	-8,206	-875,081	-8,206	-866,875	-866,875
08/03/2010	-884,269	-79	-866,954	-79	-866,875	-866,875
09/03/2010	-896,315	-12,046	-878,921	-12,046	-866,875	-866,875

10/03/2010	-909,819	-13,504	-880,379	-13,504	-866,875	-866,875
11/03/2010	-925,079	-15,260	-882,135	-15,260	-866,875	-866,875
12/03/2010	-938,726	-13,647	-880,522	-13,647	-866,875	-866,875
13/03/2010	-944,579	-5,853	-872,728	-5,853	-866,875	-866,875
14/03/2010	-940,238	4,341	-862,534	0	-862,534	-866,875
15/03/2010	-936,726	3,512	-859,022	0	-859,022	-866,875

Figure 38: Sample calculation for biogas imbalances exceeding the available flexibility range

Until 6 March, the cumulative biogas imbalance determined for the BG remains inside the lower flexibility limit of 866,875 kWh. On 6 March, this limit is exceeded by 9,109 kWh. This flexibility overrun quantity is then charged to the relevant BGM for that day and the cumulative quantity re-set to equal the lower flexibility limit. On 7 March, a negative daily imbalance is again determined for the BG, as a result of which the cumulative biogas imbalance again falls below the lower flexibility limit. This time, a quantity of 8,206 kWh is charged to the BGM. This continues until 13 March. On 14 March, a positive daily imbalance is determined for the BG, as a result of which the cumulative biogas imbalance rises to -862,534 kWh, which means that no flexibility overrun must be charged. The same is true for 15 March. The curve describing the biogas imbalance quantities that are subject to imbalance charges is shown together with the cumulative biogas imbalance in Figure . Only the dotted blue line is actually invoiced. As each daily biogas imbalance exceeding the flexibility limits is cleared right away, the cumulative biogas imbalance quantity represented by the green curve is not actually reached.

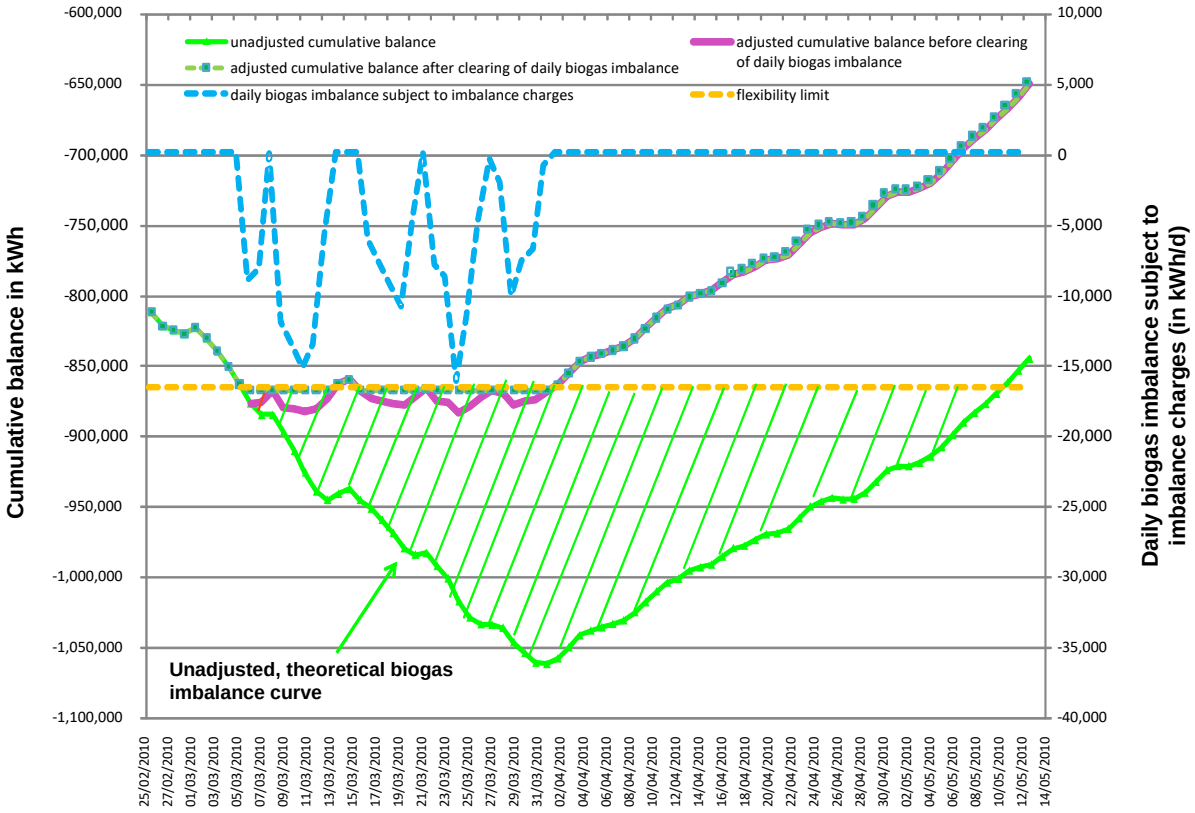

Figure 39: Biogas imbalances exceeding the available flexibility range

The first step performed for each individual day is to determine the cumulative balance as it stands at the end of the day. Where this balance falls below the lower flexibility limit – by 9,109 kWh in the example below – imbalance charges will be applied to this difference.

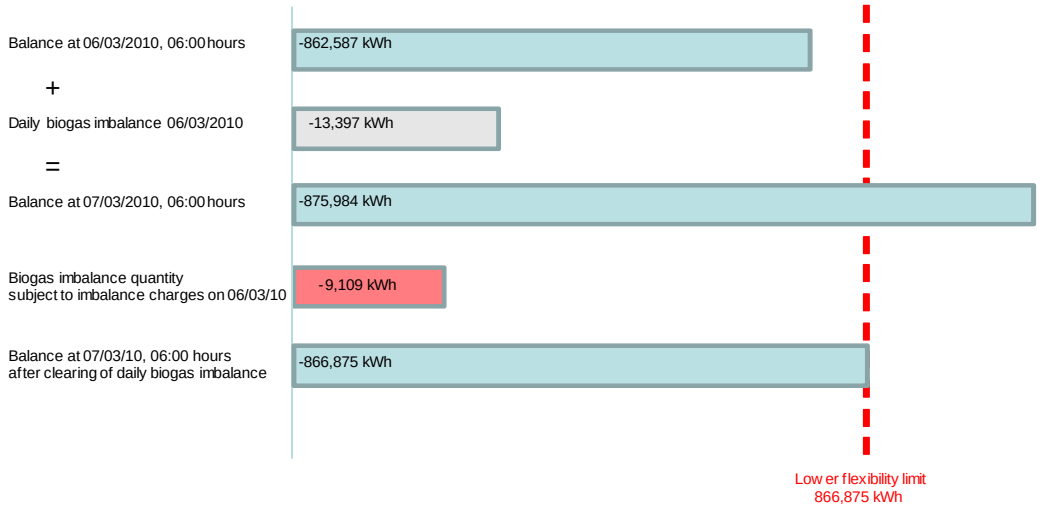

Figure 40: Sample calculation for a biogas imbalance exceeding the available flexibility range for 6 March 2010

9.3.3 Carry-over or financial settlement of closing energy balances determined for a biogas balancing group at the end of a balancing period

A positive or negative closing energy balance may occur at the end of each biogas balancing period. Each such closing energy balance corresponds to the adjusted cumulative annual balance determined for the relevant BG.

Under the energy balancing rules for biogas, BGMs may carry over a positive closing energy balance to the next balancing period up to the quantity of the applicable flexibility limit. Carry-overs will be effected automatically unless the relevant BGM objects to this in good time ahead of the end of the relevant biogas balancing period. Where a positive closing energy balance has been carried over to the next balancing period, this quantity will not be taken into account when the used portion of the flexibility range is determined for the next balancing period; instead it will be offset against the closing energy balance determined at the end of the next balancing period. Closing energy balances cannot be transferred to other biogas BGs.

If a BGM prefers to have a positive closing energy balance paid out instead of carrying it over to the next balancing period, it must notify the MAM thereof. Negative closing energy balances must always be financially settled to a position of zero. Financial settlement will be based on the arithmetic mean of all positive and negative imbalance prices applicable during the relevant biogas balancing period. The price to be applied for a balancing period is

dependent on the exact start and end dates agreed for the balancing group in question and may thus vary for each biogas balancing group.

9.3.4 Invoicing of biogas imbalances

The MAM will submit the invoices as electronic invoices in accordance with Section 14 (1) sentence 8 of the German VAT Act (UStG) only to the balancing group manager of the balancing group to be invoiced. The following information must be specified:

- the balancing group number of the relevant biogas balancing group;
- the relevant biogas balancing period;
- the amount charged for actual use of the available flexibility range based on the highest biogas imbalance (as measured in absolute terms) falling inside the applicable flexibility limits multiplied by the fee of €0.001/kWh payable for the flexible energy balancing service;
- the amount remunerated for positive daily biogas imbalances (inputs > offtakes) calculated as the sum of the positive daily biogas imbalances falling outside the available flexibility range each as multiplied by the applicable daily price for positive imbalances;
- the amount charged for negative daily biogas imbalances (offtakes > inputs) calculated as the sum of the negative daily biogas imbalances falling outside the available flexibility range each as multiplied by the applicable daily price for negative imbalances;
- the quantity in kWh corresponding to a positive closing energy balance falling within the available flexibility range as determined at the end of the relevant biogas balancing period that will be carried over to the next biogas balancing period;
- the amount in EUR charged for the cumulative positive or negative closing energy balance (in absolute terms) in kWh falling within the available flexibility range as determined for the relevant biogas BG at the end of the relevant biogas balancing period and as multiplied by the arithmetic mean of the positive and negative daily imbalance prices applicable during the relevant biogas balancing period;
- the amount in EUR charged for SLP and RLM balancing neutrality charges.

Along with each invoice an appendix will be submitted detailing the balances determined for the inputs and offtakes, the biogas imbalances falling outside the applicable flexibility limits, the average imbalance price valid for the biogas balancing period to which the invoice relates and the total imbalance charges payable by or to the BGM.

A second appendix submitted for each invoice will list the biogas inputs physically delivered to the relevant biogas BG, the biogas quantities offtaken, the hydrogen gas inputs physically delivered and the applicable positive and negative flexibility limits. This appendix can be

used as confirmation of the relevant biogas quantities where proof must be provided to the entry network operator under the German Renewable Energy Sources Act.

9.4 Process following the termination of a balancing group in case of a termination for cause

In the event that the MAM terminates or rescinds a balancing group contract for cause, the MAM will notify the TSOs and the affected DSOs thereof without undue delay by e-mail, stating the balancing group number and the BGM. In the event of a balancing group contract termination or rescission, all associated BSGs are automatically closed.

If by the time the termination of the balancing group contract takes effect any of the shippers affected has failed to provide an NO with a new balancing group that the NO can use to submit the shipper's allocations, the NO may change all relevant declarations to be made to the MAM to the balancing group of the applicable default supplier/supplier of last resort or to the balancing group of another alternative supplier where an end user has notified such an alternative supplier to the NO in accordance with the GeLi Gas rules.

All corresponding allocation data submissions must then also be changed to the new balancing group by the NO. If an NO was unable to implement the allocation data changes in time before the date on which the termination of the balancing group contract in question took effect, the NO may run an allocation clearing process in consultation with the MAM without regard to the applicable thresholds. To this end, the NO affected must submit a statement to the MAM in text form, stating the reasons why a clearing process is necessary. A clearing process is deemed to be necessary where the notice periods and deadlines set out for the start of a supply by the default supplier/supplier of last resort as described in the GeLi Gas processes have been complied with.

Allocation and/or nomination data already submitted for the relevant balancing group for periods falling after the termination effective date will not be processed further by the MAM and/or deleted. Existing SLP allocations will be set to zero by the MAM and returned to the NO as a default value.

10 Quantity reconciliation

10.1 Preliminary remarks

The processes and contents described in this chapter are based on the process description for quantity reconciliation processes in the electricity and gas sectors ("*Prozesse zur Ermittlung und Abrechnung von Mehr-/Mindermengen Strom und Gas*"; available in German only) which was published by the Federal Network Agency on 22 January 2015 (notification No. 46 on implementation of the GeLi Gas and GPKE rulings, ref: BK7-07-067) and which is supplemented here by the additional information typically provided in these Best Practice Guidelines on Gas Balancing Group Management.

If there should be any discrepancy between the above-referenced process description for quantity reconciliation processes in the electricity and gas sectors (as amended from time to time) and the contents of this chapter, the process description will apply as amended.

In order to ensure that this chapter corresponds as closely to the process description as possible, the market roles used are those described in chapter 10.2 "Market participants involved and definitions" and the terms for relevant objects are used as defined in the process description. This especially means that shippers are only involved in the quantity reconciliation process in their capacity as suppliers.

The data formats required to implement the quantity reconciliation processes as applicable from time to time are published on the EDI@Energy platform. On this platform you can also find information on the required content to be provided in each data submission.

10.2 Market participants involved and definitions

Roles involved

- Suppliers
- Market area managers (MAM)
- Network operators (NO)

Reconciliation month

The "reconciliation month" means the month in which a reconciliation period ends.

Apportioned gas quantity

The actual gas quantity as it has been apportioned to the relevant balancing group or balancing subgroup after completion of all relevant clearing processes. The apportioned gas quantity corresponds to the allocation quantity as defined in the Access Regulations.

Balancing period

The "balancing period" means the time period to which the apportioned gas quantity relates.

Offtake quantity

The “offtake quantity” means the quantity of energy that was directly or indirectly offtaken from a network during a specified time period (= transportation period).

Calculation month

The “calculation month” means the month in which the reconciliation price for a reconciliation month is determined and published. The calculation month for each reconciliation month is the month preceding the reconciliation month.

Reconciliation period

The “reconciliation period” always encompasses both the transportation period and the balancing period. The reconciliation period in each case commences on the earlier of the start date of the relevant transportation period and the start date of the relevant balancing period, and ends on the later of the end date of the relevant transportation period and the end date of the relevant balancing period.

Example:

Transportation period:	7 January 2017 to 14 December 2017
Balancing period:	1 February 2017 to 31 December 2017
Reconciliation period:	7 January 2017 to 31 December 2017

Transportation period

The “transportation period” as used in relation to a quantity of energy means the time period during which the energy quantity was directly or indirectly offtaken from a network at a market location.

10.3 General framework and prerequisites

- Whenever the term “balancing group” is used in this chapter, this also includes “balancing subgroups”.
- All reconciliation quantities must be financially settled with the relevant supplier, even if an end user pays its transportation charges directly to the NO.
- The quantity reconciliation process must be run for each market location. This also applies where a market location has been assigned to a biogas balancing group.
- The quantity reconciliation process is always the same, irrespective of the meter reading arrangements applied by the NO (fixed reference date or rolling basis).
- At any given moment, each market location is assigned to exactly one supplier for transportation charging purposes and exactly one supplier for energy balancing purposes. The transportation and energy balancing periods relevant for a supplier in a reconciliation period do not have to coincide.

- Each market location has been assigned all relevant master data, for example information on the applicable standard load profile (including the relevant temperature recording station and anticipated annual consumption/customer-specific scaling factor where appropriate), which has been duly exchanged and agreed with the relevant supplier in accordance with the GeLi Gas rules and timescales (as set out in administrative ruling BK7-06-67 handed down by the Federal Network Agency).
- All changes in anticipated annual consumption or comparable parameters, such as a customer's scaling factor, must be notified in the same way as any other master data changes by means of electronic master data change notifications (for more information on this, please refer to the above-mentioned administrative ruling by the Federal Network Agency).
- Whenever the term “invoice” is used in this chapter, this also includes cases where the invoice is a “self-billed” invoice within the meaning of the applicable tax legislation.

10.4 Basic principles of the quantity reconciliation process

The statutory basis for the quantity reconciliation process is set out in the Access Regulations.

Reconciliation quantities represent the difference between the apportioned gas quantity as it has been apportioned to a market location during a specified time period and the actual consumption at that market location during that period.

For the purposes of the quantity reconciliation process, it must be distinguished whether the reconciliation quantity is a “positive reconciliation quantity” or a “negative reconciliation quantity”:

- The reconciliation quantity determined for a market location is a “positive reconciliation quantity” where the energy quantity offtaken at the delivery point during the relevant reconciliation period is less than the corresponding energy quantity allocated to the relevant balancing group for the delivery point by the relevant NO. In this case the reconciliation quantity is a positive number.
- The reconciliation quantity determined for a delivery point is a “negative reconciliation quantity” where the energy quantity offtaken at the market location during the relevant reconciliation period is greater than the corresponding energy quantity allocated to the relevant balancing group for the delivery point by the relevant NO. In this case the reconciliation quantity is a negative number.

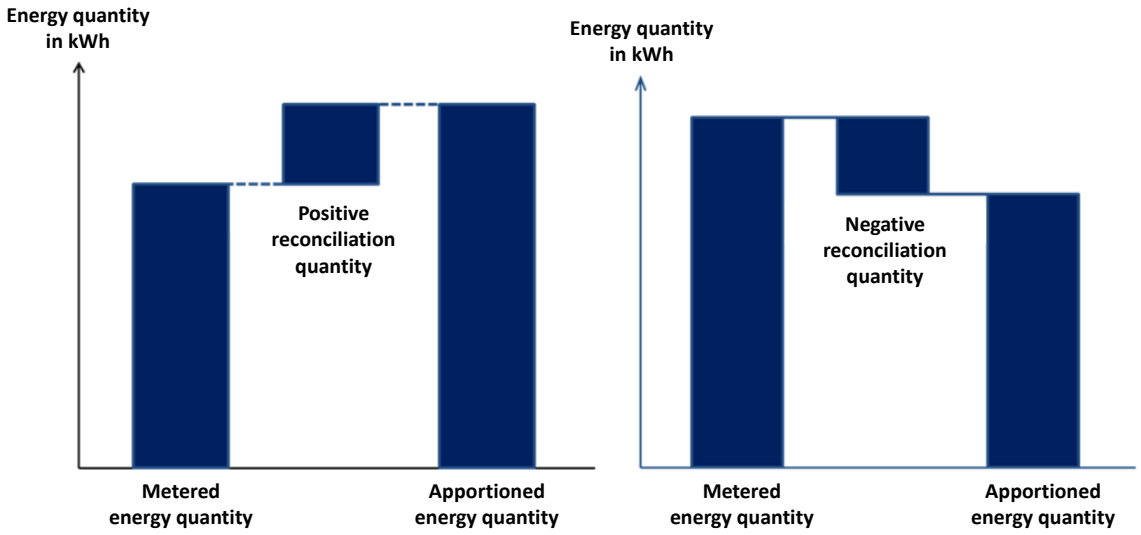

Figure 41: Illustration of the term "reconciliation quantity"

The magnitude of a reconciliation quantity cannot be projected as it is dependent on the consumption pattern of the customer in question, the fit of the assigned standard load profile and the accuracy of the temperature forecasts provided by the relevant service providers. The reconciliation quantity for a market location can only be determined once the customer's consumption at the delivery point is known.

10.5 Determination of relevant quantities

10.5.1 Rounding differences

NOs have the option of stating either daily quantities or hourly quantities in their allocation data submissions to the MAMs, with the additional option of stating hourly quantities either using a structured or a flat allocation profile. If an NO submits a daily quantity to the MAM, the MAM will divide this daily quantity by 24 (by 23 or 25 on days when the clocks change to or from daylight saving time) to create a flat allocation profile for the day. If an NO submits hourly quantities to the MAM, the MAM will add these 24 (or 23 or 25 on days when the clocks change to or from daylight saving time) hourly quantities together and divide the result by 24 (or 23 or 25 on days when the clocks change to or from daylight saving time) to create the flat allocation profile. This calculation method means that rounding differences may arise, which are generally accepted. NOs do not have an obligation to record the exact same allocation data on their systems as the MAM. The only exception is where default allocations have been created by the MAM, in which case the NO will have to record the relevant data for the day D on its system as submitted by the MAM on D-1.

10.5.2 Treatment of default allocations created by the MAM

Below is a description of the rules for the treatment of differences between allocations.

Where the MAM creates default allocations for a balancing group for a day D, the default allocations created by the MAM for the relevant balancing group for the day D will inevitably differ from the allocations as they have been determined for this balancing group for the day D by the relevant NO, whose allocations were in this case not taken into account by the MAM as described in chapter 5.5.1.4.

The NO must then enter the default allocations created by the MAM for the relevant balancing group for the day D on its own system and apportion them between the individual market locations assigned to this balancing group on the day D in a transparent and plausible manner. This means that the NO will have to apply a volume-weighted adjustment to the apportioned gas quantities it has determined for each market location.

This apportionment of the default allocations between the individual market locations to which the allocations relate must be carried out using the allocation adjustment factor defined below.

Definition of allocation adjustment factor

The allocation adjustment factor to be applied to a balancing group ("BG") for a day ("D") must be determined by dividing the default allocation quantity provided by the MAM for the balancing group BG for the day D ($default\ allocation\ MAM_{BG,D}$) by the allocation quantity as it has been determined for the balancing group BG for the day D by the NO ($allocation\ NO_{BG,D}$):

$$allocation\ adjustment\ factor_{BG,D} = \frac{default\ allocation\ MAM_{BG,D}}{allocation\ NO_{BG,D}}$$

The allocation adjustment factor thus determined must be applied to each market location that was assigned to the balancing group BG on the day D to re-calculate the apportioned gas quantity ($apportioned\ gas\ quantity_{new,DPx(BG),D}$) for the day D for each d market location (DP) affected:

$$apportioned\ gas\ quantity_{new,DPx(BG),D} = allocation\ adjustment\ factor_{BG,D}\ x\ apportioned\ gas\ quantity_{old,DPx(BG),D}$$

The sum of the individual re-calculated apportioned gas quantities determined for the market locations assigned to balancing group BG for the day D ($apportioned\ gas\ quantity_{new,DPx(BG),D}$) must equal the default allocation quantity provided by the MAM for this balancing group for the day D ($default\ allocation\ MAM_{BG,D}$).

$$\sum_{x=1}^{n} apportioned\ gas\ quantity_{new,DPx(BG),D} = default\ allocation\ MAM_{BG,D}$$

where:

n = the number of market locations assigned to the balancing group BG on the day D.

The above procedure cannot be applied where an NO has submitted an allocation quantity of zero to the MAM for the day D but the MAM has created a default allocation other than zero. In this case the NO must seek clarification with all market partners involved.

10.5.3 Determination of reconciliation quantities at market location level

Reconciliation quantities can only be determined for an individual market location if:

- the offtake quantity at the market location during the relevant transportation period has been determined either on the basis of a meter reading or on the basis of default substitute values applied in accordance with the rules set out in DVGW Code of Practice G 685; and
- the quantities the NO has allocated to the relevant balancing groups, including default allocations created by the MAM as apportioned by the NO where applicable, are available at market location level for the relevant balancing period.

Where any data has been revised as part of an allocation clearing process, this must be taken into account when determining the corresponding reconciliation quantity.

Reconciliation quantities for individual market locations must be determined in accordance with the following specific rules:

- Both the apportioned gas quantity and the offtake quantity (both in kWh) must be rounded to three decimal places (half away from zero).
- The reconciliation quantity determined must be rounded to the nearest whole number in kWh (half away from zero).

The calculation rule is: apportioned gas quantity - offtake quantity = reconciliation quantity

The reconciliation quantity is a “positive reconciliation quantity” where this calculation yields a positive number and a “negative reconciliation quantity” where this calculation yields a negative number.

The offtake quantity must be determined for the transportation billing period relevant in each case.

The apportioned gas quantity must be determined for the balancing period corresponding to the relevant transportation billing period, duly taking into account situations where the transportation and balancing periods are asynchronous.

The reconciliation period to be considered in each case is defined by the earlier of the start dates and the later of the end dates of the two periods “balancing period” and “transportation period”. This results in the following cases:

Case 1: Transportation period and balancing period have the same start and end dates (they are synchronous):

Reconciliation quantities are determined for each transportation billing period (according to billing cycle). Save where the balancing and transportation periods cannot be aligned for particular reasons, the balancing period must be chosen so that it corresponds to the relevant transportation period.

The quantity reconciliation process will in this case be triggered by the transportation billing process.

Example:

Transportation period: 7 April 2016 to 7 April 2017
Offtake quantity: 10,000 kWh
Balancing period: 7 April 2016 to 7 April 2017
Apportioned gas quantity: 12,000 kWh
Reconciliation period: 7 April 2016 to 7 April 2017
Determination of reconciliation quantity:
12,000 kWh - 10,000 kWh = 2,000 kWh (positive reconciliation quantity)
Reconciliation month: April 2017

Case 2: Transportation period and balancing period have differing start and end dates (they are asynchronous):

This case can be sub-divided as follows:

2a: Both transportation period and balancing period are available but not identical

The quantity reconciliation process will in this case be triggered by the transportation billing process.

Example:

On a day falling before the 15th business day in January 2016, a supplier registers an exit point with an NO (customer moving in), with the supply commencing on 7 January 2016; later in the year, on a day falling before the 15th business day in December 2016, the supplier deregisters the exit point (customer moving out), with the supply ending on 14 December 2016.

Transportation period: 7 January 2016 to 14 December 2016
Offtake quantity: 11,000 kWh
Balancing period: 1 February 2016 to 31 December 2016

Apportioned gas quantity: 9,000 kWh
Reconciliation period: 7 January 2016 to 31 December 2016
Determination of reconciliation quantity:
9,000 kWh - 11,000 kWh = -2,000 kWh (negative reconciliation quantity)
Reconciliation month: December 2016

On a day falling before the 15th business day in January 2016, a supplier registers an exit point with an NO (customer moving in), with the supply commencing on 7 January 2016; later in the year, on a day falling after the 15th business day in December 2016, the supplier deregisters the exit point (customer moving out), with the supply ending on 14 December 2016.

Transportation period: 7 January 2016 to 14 December 2016
Offtake quantity: 11,000 kWh
Balancing period: 1 February 2016 to 31 January 2017
Apportioned gas quantity: 9,000 kWh
Reconciliation period: 7 January 2016 to 31 January 2017
Determination of reconciliation quantity:
9,000 kWh - 11,000 kWh = -2,000 kWh (negative reconciliation quantity)
Reconciliation month: January 2017

2b: Delivery point is registered for transportation purposes but not for energy balancing purposes

Where no balancing period is available (this is not the same as where the balancing and transportation periods are asynchronous), the reconciliation period will correspond to the relevant transportation period.

The quantity reconciliation process will in this case be triggered by the transportation billing process at the end of the transportation period.

Example:

On a day falling before the 15th business day in May 2016, a supplier registers an exit point with an NO (customer moving in) with retrospective effect, with the supply commencing on 1 April 2016; also on a day falling before the 15th business day in May 2016, the supplier deregisters the exit point (customer moving out), with the supply ending on 30 April 2016.

Transportation period: 1 April 2016 to 30 April 2016
Offtake quantity: 1,000 kWh
No balancing period
No gas quantity apportioned
Reconciliation period: 1 April 2016 to 30 April 2016
Determination of reconciliation quantity:

0 kWh - 1,000 kWh = -1,000 kWh (negative reconciliation quantity)
Reconciliation month: April 2016

Please note: As neither a balancing period nor an apportioned gas quantity can be specified in this case, the NO will not submit this data to the supplier, either.

2c: Delivery point is registered for energy balancing purposes but not for transportation purposes

Where no transportation period is available (this is not the same as where the balancing and transportation periods are asynchronous), the reconciliation period will correspond to the relevant balancing period.

The quantity reconciliation process will in this case be triggered by the expiry of the balancing period.

Example:

Supplier “A” registers an exit point with an NO in compliance with the applicable deadlines, with the supply to commence on 1 April 2016. On a day falling after the 16th business day in March, supplier “B” registers the same exit point with the NO (customer moving in), with the supply to commence on 1 April 2016, and supplier “A” confirms the NO's deregistration request.

Supplier “A”:
No transportation period
No offtake quantity
Balancing period: 1 April 2016 to 30 April 2016
Apportioned gas quantity: 1,000 kWh
Reconciliation period: 1 April 2016 to 30 April 2016
Determination of reconciliation quantity:
1,000 kWh - 0 kWh = 1,000 kWh (positive reconciliation quantity)
Reconciliation month: April 2016

Please note: As neither transportation period nor offtake quantity can be specified in this case, the NO will not submit any meter readings to the supplier, either, which would otherwise be the usual procedure under the GeLi Gas rules.

10.5.4 Breakdown of quantities across billing period

Determining the exact distribution of the relevant quantities across a billing period will only be necessary in exceptional cases, e.g. to take account of changes in the applicable taxes,

standard load profiles or SLP method; whenever this is required, the relevant quantities must be distributed in accordance with the rules described in DVGW Code of Practice G 685.

10.5.5 Breakdown of the reconciliation quantities for a gas quality switchover from low CV to high CV gas

If the gas quality in the market area is switched from low CV to high CV gas during the transportation period, the gas quality will change in that period. In this case, the following shall be taken into consideration when determining and invoicing reconciliation quantities.

The technical switchover date for the gas quality conversion from low CV to high CV quality can be any date. For balancing purposes, the switchover always takes effect on the first day of the month following the technical switchover date (switchover balancing effective date – as of this date, allocation values may only be reported in high CV gas balancing groups). Both switchover dates are defined in the planning process for the gas quality switchover from low CV to high CV quality and communicated to the parties involved. Between the technical switchover date and the switchover balancing effective date there is usually a time lag resulting in an asynchronous period between gas transportation and gas balancing:

- Due to the change in gas quality, the calorific value relevant for invoicing changes for the market location. Hence, the transportation quantities must be determined including the switchover supply effective date. The switchover supply effective date in connection with the gas quality switchover from low CV to high CV gas is the point in time from which the high CV gas is actually available to the end user. This date is used by the NO for internal processes (e.g. for scheduling of meter readings, for quantity allocation, for (interim) invoicing of energy quantities transported), see Guidelines for the Market Area Switchover (*Leitfaden Marktraumumstellung*).
- A meter reading must be recorded on the switchover supply effective date. This reading still has to be allocated to the transportation period for low CV gas. The transportation period for high CV gas commences on the day following the switchover supply effective date.
- Due to the change in gas quality, the allocation for the market location is changed from the low CV gas BG/BSG to the high CV gas BG/BSG and thus from the low CV gas network balancing account to the high CV gas network balancing account of the MAM. Therefore, the apportioned gas quantities have to be determined up until the switchover balancing effective date.

For the periods before and after the quality switchover from low CV to high CV gas, two corresponding reconciliation quantities must be invoiced to the MAM. Both partial periods may result in reconciliations quantities.

As a basis for determining the reconciliation quantities for each market location, the NO may apportion transported quantities or invoice transported quantities (interim invoice) on the basis of the meter reading on the switchover supply effective date (see Guidelines for the Market Area Switchover (*Leitfaden Marktraumumstellung*)).

Both variants are described below as examples:

Quantity allocation example:

Periodic invoicing from 10.01.2018 to 10.01.2019.

The switchover supply effective date is 08.05.2018. The switchover balancing effective date is 01.06.2018.

- From 10.01.2018 to 31.05.2018, the market location is assigned to the low CV gas balancing group/balancing sub-group and thus to the low CV network balancing account .
- From 01.06.2018 to 10.01.2019, the market location is assigned to the high CV gas balancing group/balancing sub-group and thus to the high CV network balancing account.

Only reconciliation quantities are invoiced to the supplier in accordance with the transportation charges at the following intervals:

Transportation period:	10.01.2018 - 10.01.2019	20.000 kWh transportation quantity	
Balancing period: gas quantity	10.01.2018 - 10.01.2019	20.100 kWh	apportioned
Reconciliation quantity period: reconciliation quantity	10.01.2018 - 10.01.2019	100 kWh	negative

Relevant application month: January 2019

Towards the MAM, the negative reconciliation quantity of 100 kWh is divided according to the allocation of the corresponding transportation quantities and apportioned quantities:

Period for the allocation: CV gas reconciliation quantity	10.01.2018 - 31.05.2018	50 kWh	positive low
Period for the allocation: CV gas reconciliation quantity H	09.05.2018 - 10.01.2019	150 kWh	negative high

Relevant month of application for both invoices: January 2019

Example of an (interim) invoice:

Periodic invoicing from 10.01.2018 to 10.01.2019.

The switchover supply effective date is 08.05.2018. The switchover balancing effective date is 01.06.2018.

- From 10.01.2018 to 31.05.2018, the market location is assigned to the low CV gas balancing group/balancing sub-group and thus to the low CV network balancing account.
- From 01.06.2018 to 10.01.2019, the market location is assigned to the high CV gas balancing group/balancing sub-group and thus to the high CV network balancing account.

The transportation quantities are invoiced on the switchover supply effective date 08.05.2018 and the corresponding reconciled quantities are allocated on 31.05.2018. The reconciled quantities are invoiced to the supplier and the MAM:

<u>Low CV gas:</u>

Transportation period:	10.01.2018 – 08.05.2018 transportation quantity	9.500 kWh	
Balancing period : gas quantity	10.01.2018 – 31.05.2018	9.550 kWh	apportioned
Reconciliation quantity period: CV gas reconciliation quantity	10.01.2018 – 31.05.2018	50 kWh	positive low

Relevant application month: May 2018

<u>High CV gas:</u>

Transportation period:	09.05.2018 – 09.01.2019 transportation quantity	10.500 kWh	
Balancing period: gas quantity	01.06.2018 – 09.01.2019	10.350 kWh	apportioned
Reconciliation quantity period: CV gas reconciliation quantity	09.05.2018 – 09.01.2019	150 kWh	negative high

Relevant application month: January 2019

Following the switchover of the last subnetwork to high CV, the MAM expects only reconciliation quantities to be invoiced for the high CV gas network balancing account. After the switchover from low CV to high CV gas and the settlement of reconciliation quantities for all low CV gas customers in the network, the MAM does not expect any reconciliation quantity invoices for the low CV gas network balancing account, and this account will be closed.

10.6 Determination and publication of prices

Each month (the so-called “calculation month”), the MAM will determine a reconciliation price for the following reconciliation month that is applied uniformly throughout Germany and publish this national reconciliation price by the 15th business day of each calculation month (M+15BD) at the latest. Whenever a new price is published, the MAM will indicate the reconciliation month to which it applies. All published prices will be considered final from M+15BD; changes in the fundamental price data, e.g. price corrections published by the relevant wholesale trading hubs, will be taken into account by the MAM until M+10BD.

In order to determine the reconciliation price to be applied in a reconciliation month, the MAM will first calculate a monthly average gas price based on the daily prices for RLM quantity differences applicable in the market area.

To this end, the MAM will calculate the arithmetic mean of the published prices for RLM quantity differences in cents/kWh and round this to four decimal places (half away from zero). The price thus determined is referred to as the “market area monthly average price”.

Note: For months in which there was more than one market area in Germany, the individual market area monthly average prices are, in a first step, calculated to form the monthly average price. In this case, the monthly average price for the nationwide market area represents the arithmetic mean of the monthly average prices of the market areas.

Date	**Price for RLM quantity differences (cents/kWh)**
01/04/2022	2.4576
02/04/2022	2.4924
…	…
30/04/2022	2.9604
Monthly average price (cents/kWh)	**2.6708**

Figure 42: Monthly average price calculation example

In a final step, the reconciliation price will be calculated as the arithmetic mean of the national monthly average prices determined for the preceding 12 months, whereupon it will be published for the relevant reconciliation month (i.e. the reconciliation month following the calculation month) on M+15BD in the calculation month.

Month	**National monthly average price (cents/kWh)**
Apr 2022	22.6708
May 2022	2.8002
…	…
Mar 2023	2.8616
Reconciliation price for the reconciliation month May 2023	2.7153

Figure 43: Reconciliation price calculation example

All reconciliation prices will be calculated in cents/kWh, rounded to 4 decimal places (half away from zero) and published to 6 decimal places in EUR/kWh in an electronic format (download file in .csv format).

All reconciliation prices are symmetrical prices and as such will be applied equally to positive and negative reconciliation quantities.

Example:

The reconciliation price for the reconciliation month May 2023 (green) will be calculated in the calculation month April 2023 (yellow) as the 12-month average of the prices determined for the months April 2022 up to and including March 2023 (orange) and published on the 15th business day in April 2023 as the reconciliation price for the reconciliation month May 2023.

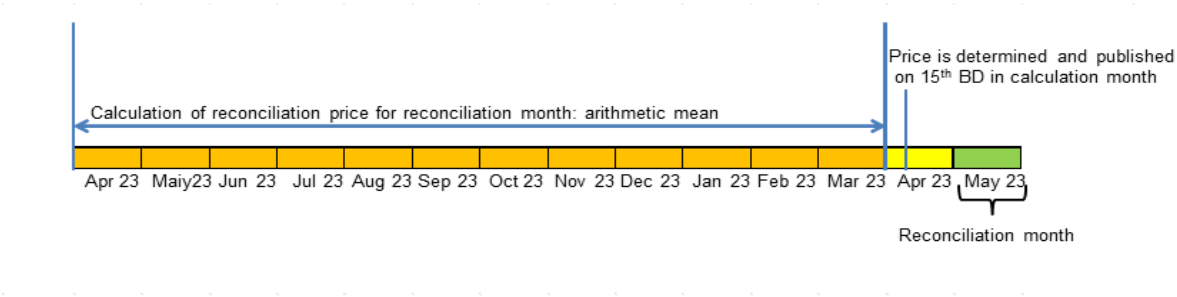

Figure 44: Calculation of reconciliation price for the reconciliation month of May 2017

10.7 Processes between NOs and suppliers

10.7.1 Provision of allocation lists at market location level

Each supplier may apply to its NO to register for a subscription service with effect for the future, from the current delivery month at the earliest, under which the NO provides a monthly overview listing all relevant allocations separately for each day and market location ("allocation list").

The NO will submit the requested allocation list for all market locations that are registered to the supplier for energy balancing purposes in the relevant delivery month. Allocation lists will then be provided on a monthly basis, starting with the month for which an allocation list was requested, with each allocation list being submitted by the NO in the third month following the end of the relevant delivery month and prior to issuing the first reconciliation invoice for a reconciliation period that encompasses the month in question. No allocation lists will be submitted for months in which no market locations were registered to the supplier for energy balancing purposes. The supplier may terminate its subscription at any time, stating the month for which it wishes to receive an allocation list for the last time.

The apportioned gas quantities to be stated for each market location in an allocation list must be rounded to three decimal places (half away from zero) and stated in kWh. Due to rounding differences, the apportioned gas quantity submitted by the NO for a de market location for a reconciliation period may differ by up to 1 kWh from the sum of the relevant daily quantities as stated for the market location in the corresponding allocation lists.

Rounding differences of up to 744 kWh per balancing group and month may occur when an allocation list provided at market location level is subsequently compared against the results for the relevant balancing group. If the difference determined for a balancing group is greater than 744 kWh, the supplier may require the NO to substantiate this difference.

Time	ExNO - System (hourly)	ExNO - MSCONS (daily)		ExNO - ALOCAT (hourly)	MAM - Allocation recorded for BG (hourly)
07:00	13.500100			14	26
08:00	14.500100			15	26
09:00	15.500100			16	26
10:00	16.500100			17	26
11:00	17.500100			18	26
12:00	18.500100			19	26
13:00	19.500100			20	26
14:00	20.500100			21	26
15:00	21.500100			22	26
16:00	22.500100			23	26
17:00	23.500100			24	26
18:00	24.500100			25	26
19:00	25.500100			26	26
20:00	26.500100			27	26
21:00	27.500100			28	26
22:00	28.500100			29	26
23:00	29.500100			30	26
00:00	30.500100			31	26
01:00	31.500100			32	26
02:00	32.500100			33	26
03:00	33.500100			34	26
04:00	34.500100			35	26
05:00	35.500100			36	26
06:00	36.500100	600.002		37	26
Total	**600.002400**	**600.002**		**612**	**624**
				-12	**-24**

A rounding difference of 744 kWh may occur where an NO who submits hourly quantities in its ALOCAT messages first rounds each hourly quantity in order to obtain a daily allocation quantity in whole numbers and the MAM then rounds a second time to derive the flat allocation profile to be recorded for energy balancing purposes.
Each instance of rounding may result in a rounding difference of 12 kWh. Accordingly, the maximum rounding difference for each day is 24 kWh, and for each month, 744 kWh.

10.7.2 Invoicing of reconciliation quantities

Reconciliation invoices will be provided to a supplier by the NO in the third month following the end of the month in which a reconciliation period ends. At the earliest, the reconciliation invoice will be issued after the end of the second month following the end of the month in which the relevant reconciliation period ended (M+2M). At the latest, the reconciliation invoice will be issued by the end of the third month following the end of the month in which the reconciliation period ended (M+3M).

Example:

End of reconciliation period	April 2022
Issuance of reconciliation invoice (earliest invoicing date)	1 July 2022
Issuance of reconciliation invoice (latest invoicing date)	31 July 2022

NOs are not required to wait until the “latest invoicing date”. Invoices must be provided without undue delay after the “earliest invoicing date” once valid data is available.

Prior to issuing a reconciliation invoice the NO will submit the relevant apportioned gas quantity (shown to three decimal places in kWh) to the relevant supplier, provided any quantities have been recorded for the supplier for energy balancing purposes. Based on the quantities determined and exchanged (as corrected in the meantime where applicable), the NO must produce the relevant reconciliation invoices at market location level in compliance with the applicable deadlines, applying the reconciliation price published for the relevant reconciliation month. Each invoice to be provided to a supplier must be submitted without undue delay but no later than by the end of the 10th business day following submission of the apportioned gas quantity to the supplier. An invoice must also be produced where the relevant reconciliation quantity equals zero.

Positive reconciliation quantities will be credited to the supplier by the NO.

Negative reconciliation quantities will be charged to the supplier by the NO.

Depending on the outcome of its validation of the reconciliation invoice received, the supplier must send either a remittance advice or an advice of non-payment. In the case of an advice of non-payment, the NO will seek bilateral clarification where necessary. Especially where the relevant offtake quantity has changed, the corresponding reconciliation invoice will be cancelled and re-submitted.

The due date stated in a reconciliation invoice must not be less than 10 business days from the date on which the reconciliation invoice was received by the supplier. On receipt of a reconciliation invoice from an NO, the relevant supplier must send a remittance advice to the NO within 10 business days of receiving the invoice. Advice of non-payment must be sent

without undue delay but in any event no later than 10 business days after receipt of the corresponding reconciliation invoice.

In asynchronous cases like the case described in chapter 10.5.3 2b) (“Delivery point is registered for transportation purposes but not for energy balancing purposes”), no gas quantity will be specified as the apportioned gas quantity. In asynchronous cases like the case described in chapter 10.5.3 2c) (“Delivery point is registered for energy balancing purposes but not for transportation purposes”), no transportation period will be stated in the invoice.

10.7.3 Validation of reconciliation invoices

Suppliers can validate their reconciliation invoices using the following information.

Offtake quantities:

Information on the offtake quantities at each relevant market location is submitted to the supplier by the NO as part of the data submissions (meter readings, volumetric correction factor, CV) that form the basis for transportation billing.

Apportioned gas quantities:

Information on the gas quantities the NO has apportioned to each market location is submitted to the supplier by the NO. In addition, the supplier has the option to request allocation lists at market location level from the NO in accordance with chapter 10.7.1, for example to be able to validate the apportioned gas quantities.

Reconciliation prices:

The price applied by the NO can be validated by comparing it against the reconciliation prices published by the MAM on its website.

10.8 Processes between NOs and MAMs

10.8.1 Provision of information on meter reading arrangements

Each NO must provide written notice to the MAM to inform the MAM of the meter reading arrangements in place for the NO's SLP exit points (fixed reference date or rolling basis). Where an NO takes all meter readings around a fixed reference date, the NO must also inform the MAM of the applicable reference date.

Under the provisions of the Access Regulations NOs have a choice whether to determine reconciliation quantities once annually for all customers as of a fixed reference date or on a rolling basis throughout the year.

NOs who take meter readings on a rolling basis determine the consumption quantities for the relevant individual exit points based on the corresponding meter readings. Whenever a meter reading has been obtained, the NO determines the applicable billing CV, volumetric correction factor etc. in accordance with the rules set out in DVGW Code of Practice G 685 in order to calculate the consumption in kWh for the relevant meter reading period. This process is operated continuously over the course of the year, which means that the NO's market locations are read in monthly batches. Meter readings are also taken at other occasions, for example in the event of a supplier switch or when a customer moves into or out of a property.

NOs with meter reading arrangements organised around a fixed reference date determine the energy quantity offtaken at the individual market locations located on their network at or around a fixed reference date for all market locations on their network.

Information on the meter reading arrangements in place must be provided to the MAM so that the MAM can prepare for the receipt of the corresponding reconciliation notices. Monthly reconciliation notices will be expected by the MAM in both cases.

In the case of mergers between NOs with differing meter reading arrangements, changes in the meter reading arrangements or the formation of new network companies, the NO must notify the MAM without undue delay to inform the MAM of the new meter reading arrangements and the applicable reference date (where relevant).

10.8.2 Notification of reconciliation quantities

The reconciliation quantities determined by an NO in accordance with chapter 10.5.3 must be aggregated by the NO (across all suppliers) and submitted to the MAM so as to allow the MAM to record the reconciliation quantities in the NO's network balancing account.

Irrespective of the meter reading arrangements in place, each NO must produce monthly reconciliation notices for each network balancing account and submit these to the MAM. To this end, the NO must aggregate all reconciliation quantities it has invoiced to suppliers for reconciliation periods that ended in the relevant reconciliation month. The relevant quantities must always be submitted as positive numbers.

If in any month no quantity reconciliation has taken place between an NO and the suppliers using its network, the NO must report a reconciliation quantity of zero to the MAM in its corresponding reconciliation notice.

Each NO must submit its reconciliation notices to the MAM in the third month following the end of the month in which a reconciliation period ends. At the earliest, the reconciliation notice may be submitted after the end of the second month following the end of the month in which the relevant reconciliation period ended (M+2M). At the latest, the reconciliation notice must be submitted by the end of the third month following the end of the month in which the relevant reconciliation period ended (M+3M).

Example:

End of reconciliation period	April 2022
Submission of reconciliation notice (earliest submission date)	1 July 2022
Submission of reconciliation notice (latest submission date)	31 July 2022

All reconciliation notices must be submitted in SSQNOT format. The dates to be specified in each SSQNOT message must correspond to the first and last gas day of the reconciliation month to which the message relates.

The MAM will either acknowledge receipt of an SSQNOT message by sending a CONTRL message or, in the case of syntax errors, reject the SSQNOT message, again by sending a CONTRL message. SSQNOT messages that are found to be free of syntax errors will then be checked for application errors by the MAM; if any errors are detected, the errors will be reported by means of an APERAK message.

The MAM may also offer the option for NOs to enter a reconciliation notice on a portal or submit them using an Excel-based template.

From 1 October 2021, the network balancing account numbers published by the MAM as valid network balancing accounts for the contract month of October 2021 must be specified when submitting the reconciliation notices for contract periods prior to 1 October 2021. For network operators who had two separate network balancing accounts for the same gas quality in both market areas or were in the market area overlap prior to 1 October 2021, only one aggregated reconciliation notice has to be submitted.

10.8.3 Invoicing of reconciliation quantities

Each NO must financially settle its reconciliation quantities with the MAM on the basis of the reconciliation notices submitted.

From 1 October 2021, the network balancing account numbers published by the MAM as valid network balancing accounts for the contract month of October 2021 must be specified when submitting the reconciliation invoices for contract periods prior to 1 October 2021. For network operators who had two separate network balancing accounts for the same gas quality in both market areas or were in the market area overlap prior to 1 October 2021, only one aggregated reconciliation invoice has to be submitted.

For each reconciliation notice NOs must issue exactly one reconciliation invoice to the MAM (a self-billed invoice where applicable). NOs must also produce an electronic EDIFACT invoice in INVOIC format where the quantity specified in a reconciliation notice equals zero.

Where the relevant reconciliation quantity is a positive reconciliation quantity, the NO must issue a reconciliation invoice to the MAM for payment by the MAM to the NO, which must be submitted by way of an electronic EDIFACT message in INVOIC format. The data to be submitted from the NO to the MAM must include at least the following information:

Invoice for positive SLP reconciliation quantity (issued from NO to MAM)

Sent by	NO, as identified by market participant ID
Sent to	MAM, as identified by market participant ID
Reference object	Number of NO's network balancing account
Reference period	from start date of reconciliation month (DD.MM.YYYY) to end date of reconciliation month (DD.MM.YYYY)
Positive reconciliation quantity	quantity in kWh
Positive reconciliation amount	amount in EUR
Positive reconciliation price	in EUR/kWh

Where the relevant reconciliation quantity is a negative reconciliation quantity, the NO must issue a reconciliation invoice to the MAM for payment by the NO to the MAM (self-billing), which must be submitted by way of an electronic EDIFACT message in INVOIC format. The data to be submitted from the NO to the MAM must include at least the following information:

Invoice for negative SLP reconciliation quantity (issued from NO to MAM; self-billing)

Sent by	NO, as identified by market participant ID
Sent to	MAM, as identified by market participant ID
Reference object	Number of NO's network balancing account
Reference period	from start date of reconciliation month (DD.MM.YYYY) to end date of reconciliation month (DD.MM.YYYY)
Negative reconciliation quantity	quantity in kWh
Negative reconciliation amount	amount in EUR
Negative reconciliation price	in EUR/kWh

In all reconciliation invoices, NOs must apply the reconciliation price published by the MAM for the reconciliation month in question.

Each reconciliation invoice must be submitted to the MAM by the NO no later than on the 10th business day following submission of the corresponding reconciliation notice. Payment of all invoices must be effected by the NO or MAM (as the case may be) within 10 business days

of receipt of the invoice. The MAM must either submit a remittance advice or seek bilateral clarification with the NO.

If any detail stated on a reconciliation invoice is incorrect or any required detail is missing, the MAM may reject the reconciliation invoice in question (please also see chapter 10.8.5). Whenever a reconciliation invoice is rejected by the MAM, the MAM must state its reasons for doing so.

For all bank transfers, the message reference number generated with REMADV must be specified in the reference field. One bank transfer must be made for each reconciliation invoice, collective transfers will not be made.

Invoiced reconciliation amounts relating to supply periods before 1 October 2015 will be allocated between the SLP and RLM balancing neutrality accounts using a ratio of 40:60. SLP reconciliation invoices relating to supply periods starting on or after 1 October 2015 will be recorded in the SLP balancing neutrality account only.

All invoices must be submitted by way of an electronic EDIFACT message in INVOIC format.

10.8.4 Validation of reconciliation invoices

Like the suppliers, the MAM also needs to be able to validate the reconciliation quantities reported by each NO and it has an obligation to validate these based on the data recorded in the relevant NO's network balancing account. If on validation it is found that a quantity cannot be validated either in part or in full, or if an incorrect price has been applied, the MAM must consult with the relevant NO to seek clarification. No reconciliation invoice must be issued for the reconciliation quantity in question until the matter is resolved; where an invoice has already been issued, the due date of this invoice will be postponed for all parties involved.

The MAM must validate the reconciliation quantities reported by NOs without undue delay after receipt of a reconciliation notice.

The reconciliation quantity will be validated by the MAM immediately after receipt of the reconciliation notice and on the basis of the NBA balance 2.

The following check routine will be run by the MAM when validating reconciliation notices:

- check whether all SLP reconciliation notices for past periods have been submitted;
- check whether all relevant data is available (inter-system flow notifications etc.);
- check whether clearing window has closed.

After running these checks, the MAM will calculate the following validation ratio:

$$\text{validation ratio} = \frac{\text{NBA balance 2 (cumulative)}}{\text{input allocations (cumulative) - offtakes at SIP (cumulative)}} x\ 100\%$$

The validation ratio is determined by dividing the cumulative NBA balance 2 (as determined for the last 12 months) by the quantity equal to the cumulative input allocations less the cumulative offtakes at the network's system interconnection points with other networks as determined for the same period. Where the unrounded absolute amount of this validation ratio is equal to or greater than 3%, the MAM will for the time being deem the corresponding SLP reconciliation notice submitted by the NO to be implausible and seek clarification.

> *Example: Where a reconciliation notice submitted to the MAM by an NO relates to January 2017, the cumulative NBA balance 2 will be related to the period from February 2016 up to and including January 2017. The cumulative input allocations and the cumulative offtakes at the NO's system interconnection point(s) will be determined for the same period.*

At the request of the MAM, the NO must provide an overview of the allocation and consumption data that formed the basis for the reconciliation invoice in question, at supplier or market location level where necessary.

Please note: From a gas industry viewpoint the NBA balance 2 can never fully go down to zero, not even after the validated reconciliation notices are taken into account, due to CV variations, unaccounted for gas etc.

10.8.5 Correction of reconciliation invoices

Reconciliation invoices must be corrected where the quantities or prices stated in a reconciliation invoice have been incorrectly determined or applied, or where there are changes in the relevant quantities after the invoice was issued.

Where an NO has to correct a reconciliation quantity invoiced to a supplier and where as a result of this correction the reconciliation quantities reported to the MAM need to be revised, the NO must submit a revised reconciliation notice to the MAM (with separate revised reconciliation notices to be submitted for each reconciliation month affected). The revised reconciliation notice(s) will then replace the prevailing reconciliation notice(s) previously submitted for the relevant month(s).

Any reconciliation invoice(s) already issued which is (are) affected by the changes will be cancelled, re-issued and settled on the basis of the revised reconciliation quantity.

The reconciliation notices previously submitted to the MAM may either be revised in a timely manner on a rolling basis whenever a reconciliation quantity determined for a supplier has been corrected between the NO and the supplier or alternatively the NO may collect all corrections first and then settle them in aggregate.

Example of aggregate settlement of corrections:

Initial reconciliation notice for April 2021 submitted to MAM = 100 kWh (negative reconciliation quantity)

- Reconciliation quantity determined for supplier A for the month April 2021 is corrected on 1 October 2021 → reconciliation quantity to be reported to MAM changes to 90 kWh (negative reconciliation quantity). Reconciliation quantity reported to MAM is not yet corrected at this point in time as additional corrections to suppliers' reconciliation quantities may still be necessary.
- Reconciliation quantity determined for supplier B for the month April 2021 is corrected on 16 October 2021 → reconciliation quantity to be reported to MAM changes to 85 kWh (negative reconciliation quantity). Reconciliation quantity reported to MAM is not yet corrected at this point in time as additional corrections to suppliers' reconciliation quantities may still be necessary.
- Reconciliation quantity determined for supplier C for the month April 2021 is corrected on 15 December 2021 → reconciliation quantity to be reported to MAM changes to 100 kWh (negative reconciliation quantity). Following the correction of the reconciliation quantity of supplier C, at 15 December 2021 the NO no longer has to correct the reconciliation quantity it has reported to the MAM.
- Reconciliation quantity determined for supplier D for the month April 2021 is corrected on 22 February 2022 → reconciliation quantity to be reported to MAM changes to 110 kWh (negative reconciliation quantity). The new negative reconciliation quantity is settled between the NO and the MAM as follows:
    - new reconciliation notice is submitted to MAM for April 2021 = 110 kWh (negative reconciliation quantity),
    - initial self-billed reconciliation invoice for payment by NO to MAM is cancelled,
    - new self-billed reconciliation invoice for payment by NO to MAM is raised,
    - additional negative reconciliation quantity is settled.

Reconciliation invoices may also need to be cancelled due to formal errors made in producing the invoice in question (e.g. wrong invoice address) or where an incorrect quantity is stated (as a result of data input errors). In these cases, re-submission of the corresponding reconciliation notice will not be necessary. It is sufficient that the reconciliation invoice in question is cancelled and re-issued.

Where reconciliation invoices between the NO and the MAM need to be corrected after 1 October 2021 for contract periods prior to 1 October 2021, the following must be observed:

The reconciliation invoices will first have to be cancelled quoting the original invoice reference. Next, the quantities for the THE network balancing account have to be re-aggregated and submitted to the MAM by means of a reconciliation notice which must specify the THE network balancing account number and include a reference to the reconciliation invoice referring to reconciliation notice.

Example:

Reconciliation quantities invoiced to date for the month of June 2020:

Original NCG-H invoice	100 kWh (negative reconciliation quantity)
Original GASPOOL-H invoice	200 kWh (positive reconciliation quantity)

Cancellation of both invoices must contain a reference to the original invoices.

Corrections incurred vis-à-vis supplier:

Correction requirement, NCG-H	20 kWh (positive reconciliation quantity)
Correction requirement, GASPOOL-H	50 kWh (negative reconciliation quantity)

Aggregation and corrected invoice for THE network balancing account:

New notice and THE-H invoice	70 kWh (positive reconciliation quantity)

10.8.6 Incentive mechanism for quantity reconciliation for supply periods until 30 September 2020

If an NO fails to submit a required SSQNOT message for supply periods until 30 September 2020, the MAM will issue an invoice to the NO on expiry of a defined time period. The amount thus invoiced constitutes a penalty payment which is charged irrespective of whether the relevant reconciliation quantity is a positive or a negative reconciliation quantity.

The amount of the penalty charged in each case will vary according to:

- the size of the NO affected (as measured in terms of its SLP offtake allocations),
- and the length of time that has passed since the NO first failed to make its data submission by the applicable deadline.

In order to be able to take account of an NO's size each NO will be assigned to a size class on the basis of the offtakes it has allocated to SLP exit points for the previous calendar year, with the following size classes being distinguished:

- small = allocated offtakes < 200 million kWh
- medium = allocated offtakes ≥ 200 million kWh to < 5,000 million kWh
- large = allocated offtakes ≥= 5,000 million kWh

Where no offtake data is available for the previous year (e.g. in the case of a new network company), the MAM will estimate or extrapolate the yearly allocated offtakes on the basis of the data available. The penalty amounts payable in each size group have been determined by applying a factor of 0.0002 and a price of 3 cents/kWh to the relevant offtake allocation quantity allocated in the previous year. The applicable penalty amounts are listed in section 49(9) of the main part of the Cooperation Agreement.

The first penalty invoice will be issued by the MAM at M+5M+1BD. Where necessary, additional penalties will be charged in 6-month intervals until the relevant SSQNOT message is received by the MAM. The due date for payments is 10 working days from the receipt of the invoice. The MAM will send the invoice as an electronic document in accordance with Section 14 (1) sentence 8 of the German VAT Act (*UstG*).

10.8.7 Incentive mechanism for quantity reconciliation for supply periods form October 2020

If reconciliation quantities have not been invoiced (INVOIC) for supply periods from October 2020, the MAM will issue an invoice to the NO on expiry of a defined time period. The amount thus invoiced constitutes a penalty payment which is charged irrespective of whether the relevant reconciliation quantity is a positive or a negative reconciliation quantity.

The amount of the penalty charged in each case will vary according to:

- the size of the NO affected (as measured in terms of its SLP offtake allocations),
- and the length of time that has passed since the NO first failed to make its data submission by the applicable deadline.

In order to be able to take account of an NO's size each NO will be assigned to a size class on the basis of the offtakes it has allocated to SLP exit points for the previous calendar year, with the following size classes being distinguished:

- small = allocated offtakes < 200 million kWh
- medium = allocated offtakes ≥ 200 million kWh to < 5,000 million kWh
- large = allocated offtakes ≥= 5,000 million kWh

Where no offtake data is available for the previous year (e.g. in the case of a new network company), the MAM will estimate or extrapolate the yearly allocated offtakes on the basis of the data available. The penalty amounts payable in each size group have been determined by applying a factor of 0.0002 and a price of 3 cents/kWh to the relevant offtake allocation quantity allocated in the previous year. The applicable penalty amounts are listed in section 49(10) of the main part of the Cooperation Agreement.

The first penalty invoice will be issued by the MAM at M+5M+1BD. Where necessary, additional penalties will be charged in 6-month intervals until the relevant reconciliation quantity invoice (INVOIC) is received by the MAM. The due date for payments is 10 working days from the receipt of the invoice. The MAM will send the invoice as an electronic document in accordance with Section 14 (1) sentence 8 of the German VAT Act (*UstG*).

11 Network balancing account system

11.1 Basic principles of the network balancing account system

The process required to set up network balancing accounts or NBA balancing objects and the respective codes used by the MAM are described in chapters 2.3 and 2.4. Each network balancing account is administered by the MAM, who records all allocations submitted by the relevant NO as well as (where applicable) all default allocations created by the MAM itself.

In each network balancing account, all inputs that have been delivered to the network of the relevant NO are compared against all offtakes allocated to BGs/BSGs as well as all offtakes delivered from that network to downstream networks, storage facilities etc.

For more information on how linepack changes and OBAs at storage facilities are allocated and taken into account, please refer to chapters 2.4 and 5.5.7.

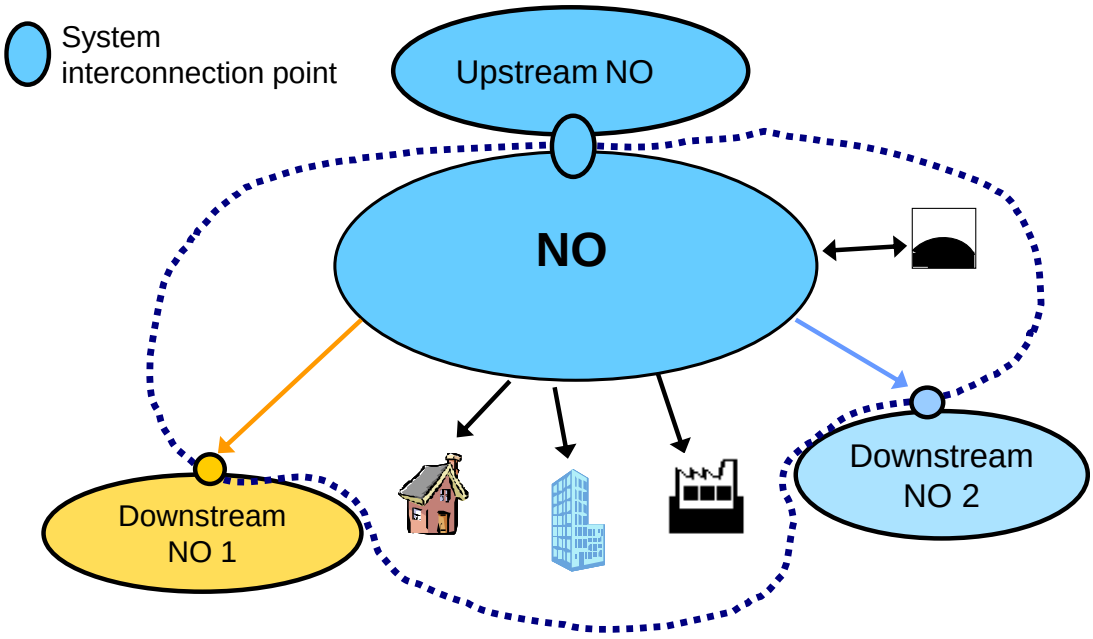

Figure 45: Illustration of network balancing account boundaries

The following types of data series (please also see chapter 2.10) may be recorded in a network balancing account:

- the gas quantities received from the upstream NO (“Entry NKP”), with the data being recorded in aggregate across all relevant system interconnection points

- inputs of liquefied petroleum gas made at entry points from biogas plants (“Entry Flüssiggas”)
- the gas quantities delivered back onto the network of the upstream NO (“Entry NKP”), with the data being recorded in aggregate across all relevant system interconnection points and separately for each downstream NO
- the gas quantities delivered to the networks of downstream NOs (“Entry NKP”), with the data being recorded in aggregate across all relevant system interconnection points and separately for each downstream NO
- all allocations submitted by the NO for balancing groups as determined for energy balancing purposes for the relevant data series types
- hourly linepack changes (“Entryso” and/or “Exitso”, as the case may be) and OBA movements (where applicable)

Inputs	Offtakes
recorded in NBA only - total inter-system gas flow received from upstream NOs - linepack reductions (if applicable and only if specifically agreed) - total inter-system reverse gas flow received from downstream NOs - LPG inputs made at entry points from biogas plants	**recorded in NBA only** - total inter-system gas flow delivered to downstream NOs - linepack additions (if applicable and only if specifically agreed) - total inter-system reverse gas flow delivered to upstream NOs
recorded in NBA as well as for relevant BGs - gas withdrawals from storage facilities - inputs made at Mini-MüT transfer points, MIPs and CIPs - inputs of biogas	**recorded in NBA as well as for relevant BGs** - gas injections into storage facilities - offtakes made at Mini-MüT transfer points, MIPs and CIPs - SLP - RLM
NBA balance 0 = total inputs - total offtakes	
This balance includes the following quantity differences: - SLP reconciliation quantities - RLM quantity differences due to variations between the applicable balancing CV used for energy balancing purposes and the applicable final billing CV used for consumption and transportation billing purposes (both in natural gas BGs and in biogas BGs) - unaccounted for gas - measurement inaccuracies - linepack movements - quantity differences due to CV variations where CV of mixed gas is determined on a volume-weighted basis in accordance with DVGW Code of Practice G685	
NBA balance 1 = NBA balance 0 +/- RLM quantity differences	
This balance includes the following quantity differences: - SLP reconciliation quantities - unaccounted for gas - measurement inaccuracies - linepack movements - quantity differences due to CV variations where CV of mixed gas is determined on a volume-weighted basis in accordance with DVGW Code of Practice G685	
NBA balance 2 = NBA balance 1 +/- SLP reconciliation quantities	
This balance includes the following quantity differences: - unaccounted for gas - measurement inaccuracies - linepack movements - quantity differences due to CV variations where CV of mixed gas is determined on a volume-weighted basis in accordance with DVGW Code of Practice G685	

Figure 46: Calculation of network balancing account balances

11.2 Definition of network balancing account balances

Positive NBA balance (under-allocation):
If the input quantity for an NBA is larger than the exit quantity (allocation), there is a positive network account balance.

Negative NBA balance (over-allocation):
If the input quantity for an NBA is smaller than the exit quantity (allocation), there is a negative network account balance .

The “NBA balance 0” is determined on a daily basis for each gas day and submitted to the relevant NO by the MAM daily on the day D+1 (by 20:00 hours) as well as monthly at M+2M-5BD and M+2M+15BD.

The “NBA balance 1” is derived on the basis of the “NBA balance 0” by adding/deducting the corresponding RLM quantity differences. The “NBA balance 1” is determined on a daily basis and submitted to the relevant NO by the MAM at M+2M-5BD and M+2M+15BD.

The “NBA balance 2” is derived on the basis of the “NBA balance 1” by adding/deducting the corresponding SLP reconciliation quantities. The “NBA balance 2” is determined on a monthly basis once an SSQNOT message has been processed by the MAM and is displayed to the NO on the relevant portal.

11.3 Calculation of the daily percentage network balancing account imbalance

The basis for the analysis of all network balancing accounts is the daily NBA balance 1, which is calculated for each day based on the relevant daily quantities.

The financial settlement according to the daily network balancing account system as an incentive mechanism is based on the so-called “daily NBA imbalance ratio”. The daily NBA imbalance ratio for a day is calculated as the ratio of the daily NBA balance 1 calculated for the day in question to the SLP allocations recorded for that day.

$$\text{daily NBA imbalance ratio} = \frac{\text{daily NBA balance 1 in kWh}}{\text{daily SLP allocations in kWh}}\ x\ 100\%$$

11.4 Financial settlement, notification and publication according to the daily network balancing account system as an incentive mechanism

11.4.1 General framework

One prerequisite for the financial settlement according to the daily network balancing account system as an incentive mechanism, which is carried out by the MAM, is that the relevant final data has been established through the network balancing account data review process (see chapter 11.4.2).

The financial settlement according to the daily network balancing account system as an incentive mechanism of each network balancing account is based on the daily NBA imbalance ratio determined for the network balancing account in question (see chapter 11.3). Under the financial settlement mechanism, the MAM levies charges on under-allocations where the daily percentage NBA imbalance is greater than 35% and this threshold is exceeded on more than 6 days in a month (M), which is the number of error days allowed. In contrast, for daily percentage NBA imbalances of less than 0% but not less than -3%, NOs receive a payment from the MAM (see chapter 0).

The individual daily under-allocations and over-allocations determined for an NO for a month (M) are invoiced together by the MAM in a monthly invoice (a self-billed invoice where applicable). All payments made in this context by an NO to the MAM or by the MAM to an NO are treated as payments for the financial settlement according to the daily network balancing account system as an incentive mechanism ("NBA payment"). They are not a penalty payment. Each NO may waive its right to receive payment for its over-allocations for the duration of an entire gas year by giving written notice to this effect to the MAM by 1 October of the relevant year. For this purpose, the MAM will provide an option for submitting such notices via the portal.

The financial settlement according to the daily network balancing account system as an incentive mechanism (if any) will later be reversed in conjunction with the SLP quantity reconciliation process, with the process varying according to the meter reading arrangements the NO has chosen to apply in respect of its SLP market locations. However, payments on NBA invoices, on the one hand, and on SLP reconciliation invoices, on the other hand, will not necessarily be offset against each other. Pursuant to section 8 of the operative part of the GaBi Gas ruling, the daily financial settlement according to the daily network balancing account system as an incentive mechanism does not apply to TSOs.

11.4.2 Network balancing account data review

All inter-system flow data required to determine the NBA balances for each network balancing account is submitted to the MAM before M+2M-8 BD. The final allocation data relevant for energy balancing purposes is available for all BGs by M+2M-10 BD.

On availability of the above data, the MAM calculates the daily NBA balances for each network balancing account and produce NBA statements in accordance with chapter 11.4.3 based on the inter-system flow data available by M+2M-8 BD and the balancing group allocations relevant for energy balancing purposes as available at M+2M-10 BD; these NBA statements are provided to the NOs by M+2M-5 BD.

The MAM makes the NBA statements for a month (M) available on the portal and as a subscription.

In the event of a discrepancy, the NO affected must file an objection with the MAM within a validation period of 10 BD and specify the dates on which the data recorded in its network balancing account differ from the data submitted by the NO or from the data the NO has agreed with its adjacent NO(s) or on which any balance determined by the MAM has been found to be incorrect. Where an NO raises objections, the relevant data must be clarified with the MAM without undue delay. Only verifiable errors made in producing the NBA statement in question will be resolved in this process. Revisions to the underlying allocation data will no longer be possible as all related clearing processes will have been concluded at this point. Data series of the types “Entry NKP” and “Entry Flüssiggas” can be cleared in accordance with the rules described in chapter 8.4. In the justified cases pursuant to the provisions in chapter 8.3, the allocation may be corrected subsequently.

Where an NO has registered an NBA balancing object with the MAM as described in chapter 2.4 in order to be able to take account of linepack changes and/or OBAs, the MAM has the right to demand an explanation from the NO if the NBA balances determined for the NO's network balancing account are found to be implausible.

The final NBA statements, which form the basis for the financial settlement according to the daily network balancing account system as an incentive mechanism in accordance with chapter 0 (where applicable), are determined by the MAM by M+2M+15 BD and provided to the NOs in accordance with chapter 11.4.3.

11.4.3 Provision of network balancing account data by the MAMs

The MAM operates a web portal that can be accessed by the NOs to download the allocation data (including data series submitted as part of clearing processes) and inter-system flow data series processed for each NO .

The MAM may limit data retrieval in the portal to a maximum of four past calendar years.

Where the MAM has created default SLP allocations in accordance with section 46(5)(5) of the Cooperation Agreement, these will be displayed on the portal as a separate data track and identified as such.

All NBA statements and allocation data reports are provided by the MAM in CSV format as a download file as well as through a subscription service using the structure described below.

Element	Field	Description	Example
Data current as at	Line "Zeitreihen-Stand"	Time stamp (date and hour) of NBA statement in the format DD.MM.YYYY HH:MM	29.12.2016 10:18
Balancing group	Column "Bilanzkreis/Netzkonto/NK-Bilanzierungsobjekt", element used for data series that are allocated to BGs/BSGs	Code of balancing object	NCHB123456789000
Network balancing account	Column "Bilanzkreis/Netzkonto/NK-Bilanzierungsobjekt", element used for data series of the type "EntryFLG" (LPG)	Code of network balancing account	NCHN007001230000
NBA balancing object	Column "Bilanzkreis/Netzkonto/NK-Bilanzierungsobjekt", element used for data series of the type "Entryso"/"Exitso"	Code of NBA balancing object	NCHBNKBO70012300
Network balancing account (Upstream and downstream network balancing accounts)	Column "Bilanzkreis/Netzkonto", element used for data series of the type "EntryNKP"	For network balancing account as balancing object (DST "EntryNKP"), codes of network balancing accounts of upstream and downstream NOs, respectively, separated by underscore	NCHN007123456000_NCHN007001230000
Network operator	Column "Netzbetreiber", element used for data series that are allocated to BGs/BSGs	ID of network operator	9871234560000
Network operator (Upstream and downstream network operator)	Column "Netzbetreiber", element used for data series of the type "EntryNKP"	For network balancing account as balancing object (DST "EntryNKP"), IDs of upstream and downstream NOs, respectively, separated by underscore	9871234560000_9870012300001
Network operator name	Column "Bezeichnung Netzbetreiber", element used for data series that are allocated to BGs/BSGs	Name of network operator in plain text	Netz GmbH
Network operator name (Upstream and downstream network operator)	Column "Bezeichnung Netzbetreiber", element used for data series of the type "EntryNKP"	For network balancing account as balancing object (DST "EntryNKP"), names of upstream and downstream NOs, respectively, in plain text, separated by underscore	Netz GmbH_downstream Netz GmbH
Date month	Column "Datum Monat", element used in daily NBA statements	In daily NBA statements, month to which data series relates (in the example: "October 2016")	Oktober 2016
Date day	Column "Datum Tag", element used in hourly NBA statements	In hourly NBA statements, day to which data series relates (in the format: DD.MM.YYYY)	01.10.2016

Figure 47: Structure of data elements in NBA statements and allocation data reports

Data track used for data series type	Data quality	Description	
RLMMT	BestOf BBW	BestOf data based on balancing CV	
RLMMT	BestOf ABW	BestOf data based on billing CV	
RLMMT	Vorläufig	Preliminary within-day data as submitted on D, 6 hourly quantities in first data submission, updated by second data submission (9 hourly quantities)	
RLMMT	Endgültig	Final data as submitted on D+1	
RLMMT	Korrigiert BBW	Revised daily data as submitted on M+12, based on balancing CV	
RLMMT	Korrigiert ABW	Revised daily data as submitted on M+12, based on billing CV	
RLMMT	Clearing BBW	Cleared data as available on M+2M-10BD-1CD, based on balancing CV	
RLMMT	Clearing ABW	Cleared data as available on M+2M-10BD-1CD, based on billing CV	
RLMOT	BestOf BBW	BestOf data based on balancing CV	
RLMOT	BestOf ABW	BestOf data based on billing CV	
RLMOT	Vorläufig	Preliminary within-day data as submitted on D, 6 hourly quantities in first data submission, updated by second data submission (9 hourly quantities)	
RLMOT	Endgültig	Final data as submitted on D+1	
RLMOT	Korrigiert BBW	Revised daily data as submitted on M+12, based on balancing CV	
RLMOT	Korrigiert ABW	Revised daily data as submitted on M+12, based on billing CV	
RLMOT	Clearing BBW	Cleared data as available on M+2M-10BD-1CD, based on balancing CV	
RLMOT	Clearing ABW	Cleared data as available on M+2M-10BD-1CD, based on billing CV	
SLPSYN	Ersatzwert	Default SLP allocations as created by MAM on D-1	
SLPSYN	BestOf	BestOf data	
SLPSYN	Endgültig	Final data as submitted on D-1	
SLPSYN	Clearing	Cleared data as available on M+2M-10BD-1CD	
SLPANA	Ersatzwert	Default SLP allocations as created by MAM on D-1	
SLPANA	BestOf	BestOf data	
SLPANA	Endgültig	Final data as submitted on D-1	
SLPANA	Clearing	Cleared data as available on M+2M-10BD-1CD	
NKPENTRY	BestOf	BestOf data available on data tracks submitted by NO with primary data responsibility and NO with secondary data responsibility, as determined according to ranking. Where both NOs have submitted data, BestOf data is taken from individual data tracks according to the following ranking: 1 = highest, 6 = lowest	Ranking of data tracks for determination of BestOf:
NKPENTRYPRI	Endgültig	Final data as submitted on D+1 by NO with primary data responsibility	5
NKPENTRYPRI	Korrigiert	Revised data as submitted by M+21/26BD or before M+2M-8BD by NO with primary data responsibility	3
NKPENTRYPRI	Clearing	Cleared data as submitted between M+2M-8BD and M+2M+10BD by NO with primary data responsibility. (Data submitted by NO in applicable message format using code X2G=corrected will be recorded on data track “Clearing”)	1
NKPENTRYSEK	Endgültig	Final data as submitted on D+1 by NO with secondary data responsibility	6
NKPENTRYSEK	Korrigiert	Revised data as submitted by M+21/26BD or before M+2M-8BD by NO with secondary data responsibility	4
NKPENTRYSEK	Clearing	Cleared data as submitted between M+2M-8BD and M+2M+10BD by NO with secondary data responsibility. (Data submitted by NO in applicable message format using code X2G=corrected will be recorded on data track “Clearing”)	2
ENTRYSO	BestOf	BestOf data	
ENTRYSO	Endgültig	Final data as submitted on D+1	
ENTRYSO	Korrigiert	Revised data as submitted on M+12 BD	
ENTRYSO	Clearing	Cleared data as available on M+2M-10BD-1CD	
EXITSO	BestOf	BestOf data	
EXITSO	Endgültig	Final data as submitted on D+1	
EXITSO	Korrigiert	Revised data as submitted on M+12 BD	
EXITSO	Clearing	Cleared data as available on M+2M-10BD-1CD	
ENTRYBIO	BestOf	BestOf data	
ENTRYBIO	Endgültig	Final data as submitted on D+1	
ENTRYBIO	Korrigiert	Revised data as submitted on M+12 BD	
ENTRYBIO	Clearing	Cleared data as available on M+2M-10BD-1CD	
ENTRYH2	BestOf	BestOf data	
ENTRYH2	Endgültig	Final data as submitted on D+1	
ENTRYH2	Korrigiert	Revised data as submitted on M+12 BD	
ENTRYFLG	BestOf	BestOf data	
ENTRYFLG	Korrigiert	Revised data as submitted on M+12 BD	

Figure 48: Data tracks included in NBA statements and allocation data reports

11.4.3.1 Network balancing account statements

The MAM provides network balancing account statements (“NBA statements”) to the NOs by M+2M-5BD to provide a basis for the network balancing account data review process described in chapter 11.4.2 and again on M+2M+15BD to provide a final data basis for the financial settlement according to the daily network balancing account system as an incentive mechanism in accordance with chapter 11.4.4. Once they have been made available for a month (M), the NBA statements will no longer be subject to changes, except where allocations are subsequently cleared according to the principles described in chapter 8.3.

Each NBA statement consists of a data part and an analytical part. Each of these parts must be considered separately.

The data part lists all recorded data series types defined in chapters 2.10.1, 2.10.2 and 2.10.3 for each day of the relevant month, with all data being provided separately for each relevant balancing group or network balancing account (as the case may be).

Zeitreihen-Stand *Data current as at* 29.12.2016 10:18

Bilanzkreis/Netzkonto/NK-Bilanzierungsobjekt *Balancing group/NBA/NBA balancing object*	**Netzbetreiber** *Network operator ID*	**Bezeichnung Netzbetreiber** *Network operator name*	**Datum Monat** *Date month*	**Zeitreihe** *Data series type*	**Qualität** *Data quality*	**Monats-Wert** *Monthly quantity*	**1.** *Day 1*	**2.** *Day 2*	...
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	BestOf BBW	37,326,077	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	BestOf ABW	38,070,170	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	SLPSYN	BestOf	...	...	...	...
... etc. for all BGs/BSGs	...	...	...	...	...	...	...	...	...
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	Oktober 2016	NKPENTRY	BestOf	2,367,405	98,912	...	...
NCHN007123456000	9871234560000	Netz GmbH	Oktober 2016	ENTRYFLG	BestOf	34,224	1,104	...	...
... etc. for all NBAs and NBA balancing objects	...	...	...	...	...	...	...	...	...
NCHN007123456000	9871234560000	Netz GmbH	Oktober 2016	NKSALD1	SALDO1	418,276	12,588	...	...

Figure 49: NBA statement – data part

The analytical part of each NBA statement shows all relevant data relating to the NBA balances shown below (see Figure).

Master data					
Network balancing account number	GASPOOLNH700xxxx				
Data in network balancing account current as at	26.12.2016, 7:11:48				
Reference month	Oktober 16				
Calculation of daily NBA imbalance ratio					
Day of the month	[day]	1	2	3	…
Daily NBA balance 1	[kWh]	…	…	…	…
Daily SLP allocations	[kWh]	…	…	…	…
Daily NBA imbalance calculated as NBA balance 1 / total SLP allocations	[+/- %]	38,63	-0,92	12,45	…
Imbalance > 35% threshold (under-allocation)	[yes/no]	yes	no	no	
Imbalance between 0 and -3% (over-allocation)	[yes/no]	no	yes	no	
Number of days where imbalance > 35% threshold (Charges will be applied if number of days > 6)	[number of days]	2			
Quantities to be charged / paid to NO					
Quantity to be charged to NO for the month	[kWh]	xxx			
Quantity to be paid to NO for the month	[kWh]	yyy			

Figure 50: NBA statement – analytical part

11.4.3.2 Allocation data reports

For monitoring, clearing and analytical purposes the MAM provides allocation data reports to NOs in a common format as follows.

1) Complete allocation data report. Daily data, all DSTs, specific data qualities

Zeitreihen-Stand
Data current as at 29.12.2016 10:18

Bilanzkreis/Netzkonto/NK-Bilanzierungsobjekt *Balancing group/NBA/NBA balancing object*	Netzbetreiber *Network operator ID*	Bezeichnung Netzbetreiber *Network operator name*	Datum Monat *Date month*	Zeitreihe *Data series type*	Qualität *Data quality*	Monats-Wert *Monthly quantity*	1. *Day 1*	2. *Day 2*	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	BestOf BBW	37,326,077	1,301,068	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	BestOf ABW	38,070,170	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	Endgültig	37,016,077	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	Korrigiert BBW	37,636,790	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	Korrigiert ABW	37,639,810	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	Clearing BBW	37,326,077	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	RLMMT	Clearing ABW	38,070,170	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	SLPSYN	Ersatzwert	…	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	SLPSYN	BestOf	…	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	SLPSYN	Endgültig	…	…	…	…
NCHB123456789000	9871234560000	Netz GmbH	Oktober 2016	SLPSYN	Clearing	…	…	…	…
… etc. for all BGs/BSGs	…	…	…	…	…	…	…	…	…
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	Oktober 2016	NKPENTRY	BestOf	2,367,405	98,912	…	…
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	Oktober 2016	NKPENTRYPRI	Endgültig	1,988,681	84,416	…	…
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	Oktober 2016	NKPENTRYPRI	Korrigiert	1,976,250	83,744	…	…
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	Oktober 2016	NKPENTRYSEK	Clearing	2,367,405	98,912	…	…
NCHN007123456000	9871234560000	Netz GmbH	Oktober 2016	ENTRYFLG	BestOf	34,224	1,104	…	…
NCHN007123456000	9871234560000	Netz GmbH	Oktober 2016	ENTRYFLG	Korrigiert	34,224	1,104	…	…
… etc. for all NBAs and NBA balancing objects	…	…	…	…	…	…	…	…	…

Figure 51: Complete allocation data report

2) “RLM” allocation data report. Hourly data, all “RLM” DSTs, all data qualities

Zeitreihen-Stand
Data current as at 29.12.2016 10:18

Bilanzkreis/Netzkonto ***Balancing group/NBA***	**Netzbetreiber** *Network operator ID*	**Bezeichnung Netzbetreiber** *Network operator name*	**Datum Tag** ***Date day***	**Zeitreihe** *Data series type*	**Qualität** *Data quality*	**Tages-Wert** ***Daily quantity***	**H 06-07**	**H 07-08**	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	BestOf BBW	1,204,067	54,482	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	BestOf ABW	1,228,070	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Vorläufig	475,232	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Endgültig	1,194,067	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Korrigiert BBW	1,214,090	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Korrigiert ABW	1,219,454	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Clearing BBW	1,204,067	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	01.10.2016	RLMMT	Clearing ABW	1,228,070	...	...	...
... etc. for all BGs/BSGs	...	...	... etc. for all days of the month		...	...	...	...	...

The RLM allocation data report shows the hourly data as allocated by the NO for all data qualities. For the purposes of this report, the RLMmT data is not converted to a flat profile.

Figure 52: “RLM” allocation data report

3) “EntryNKP” allocation data report. Hourly data, all inter-system flow data series (“ENTRYNKP”) and LPG data series (“ENTRYFLG”), all data qualities

Zeitreihen-Stand
Data current as at 29.12.2016 10:18

Bilanzkreis/Netzkonto *Balancing group/NBA*	**Netzbetreiber** *Network operator ID*	**Bezeichnung Netzbetreiber** *Network operator name*	**Datum Tag** *Date day*	**Zeitreihe** *Data series type*	**Qualität** *Data quality*	**Tages-Wert** *Daily quantity*	**H 06-07**	**H 07-08**	...
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	01.10.2016	NKPENTRY	BestOf	63,755	3,538	...	...
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	01.10.2016	NKPENTRYPRI	Endgültig	64,151	3,559	...	...
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	01.10.2016	NKPENTRYPRI	Korrigiert	63,750	3,531	...	...
NCHN007123456000_NCHN007001230000	9871234560000_9870012300001	Netz GmbH_downstream Netz GmbH	01.10.2016	NKPENTRYSEK	Clearing	63,755	3,538	...	...
NCHN007123456000	9871234560000	Netz GmbH	01.10.2016	ENTRYFLG	BestOf	1,104	46	...	...
NCHN007123456000	9871234560000	Netz GmbH	01.10.2016	ENTRYFLG	Korrigiert	1,104	46	...	...
... etc. for all NBAs	...	...	... etc. for all days of the month		...	...	...	...	...

Figure 53: “EntryNKP” allocation data report

4) “Entryso/Exitso” allocation data report. Hourly data, all data series of the types “ENTRYSO”, “EXITSO”, “ENTRYBIO” and “ENTRYH2”, all data qualities

Zeitreihen-Stand
Data current as at 29.12.2016 10:18

Bilanzkreis/NK-Bilanzierungsobjekt ***Balancing group/NBA balancing object***	**Netzbetreiber** *Network operator ID*	**Bezeichnung Netzbetreiber** *Network operator name*	**Datum Tag** *Date day*	**Zeitreihe** *Data series type*	**Qualität** *Data quality*	**Tages-Wert** *Daily quantity*	**H 06-07**	**H 07-08**	...
NCLB123456789000	9871234560000	Netz GmbH	01.10.2016	ENTRYSO	BestOf	127,510	7,063	...	...
NCLB123456789000	9871234560000	Netz GmbH	01.10.2016	ENTRYSO	Endgültig	128,302	7,102	...	...
NCLB123456789000	9871234560000	Netz GmbH	01.10.2016	ENTRYSO	Korrigiert	127,500	7,060	...	...
NCLB123456789000	9871234560000	Netz GmbH	01.10.2016	ENTRYSO	Clearing	127,510	7,063	...	...
NCLBBIO123000002	9871234560000	Netz GmbH	01.10.2016	ENTRYBIO	BestOf	...	...	...	...
NCLBBIO123000002	9871234560000	Netz GmbH	01.10.2016	ENTRYBIO	Endgültig	...	...	...	...
NCLBBIO123000002	9871234560000	Netz GmbH	01.10.2016	ENTRYBIO	Korrigiert	...	...	...	...
... etc. for all BGs/BSGs and NBA balancing objects	...	...	... etc. for all days of the month		...	...	...	...	...

Figure 54: “Entryso/Exitso” allocation data report

5) Allocation data report for days on which the clocks change to or from daylight saving time (example shows RLM allocation data report). All data qualities

Zeitreihen-Stand
Data current as at 23.01.2017 11:21:05

Bilanzkreis/Netzkonto *Balancing group/NBA*	Netzbetreiber *Network operator ID*	Bezeichnung Netzbetreiber *Network operator name*	Datum Tag *Date day*	Zeitreihe *Data series type*	Qualität *Data quality*	Tages-Wert *Daily quantity*	H 06-07	...	H 02-03	H 02*-03	H 03-04	H 04-05	H 05-06
...	...	...	...		...	...	...	...	...	...	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	BestOf ABW	39,355	1,767	...	1,434		1,523	1,469	1,658
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	BestOf BBW	39,013	1,752	...	1,421		1,509	1,456	1,643
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	Endgültig	36,957	1,752	...	1,325		1,413	1,350	1,514
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	Korrigiert ABW	39,355	1,767	...	1,434		1,523	1,469	1,658
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	Korrigiert BBW	39,013	1,752	...	1,421		1,509	1,456	1,643
NCHB123456789000	9871234560000	Netz GmbH	28.10.2016	RLMMT	Vorläufig	15,081	1,752	...					
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	BestOf ABW	38,657	1,592	...	1,646	1,681	1,632	1,672	1,664
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	BestOf BBW	38,328	1,578	...	1,632	1,666	1,618	1,657	1,650
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	Endgültig	35,640	1,477	...	1,516	1,516	1,478	1,515	1,516
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	Korrigiert ABW	38,657	1,592	...	1,646	1,681	1,632	1,672	1,664
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	Korrigiert BBW	38,328	1,578	...	1,632	1,666	1,618	1,657	1,650
NCHB123456789000	9871234560000	Netz GmbH	29.10.2016	RLMMT	Vorläufig	14,380	1,477	...					
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	BestOf ABW	37,670	1,664	...	1,636		1,628	1,847	1,859
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	BestOf BBW	37,346	1,650	...	1,622		1,614	1,831	1,844
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	Endgültig	37,346	1,650	...	1,622		1,614	1,831	1,844
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	Korrigiert ABW	37,670	1,664	...	1,636		1,628	1,847	1,859
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	Korrigiert BBW	37,346	1,650	...	1,622		1,614	1,831	1,844
NCHB123456789000	9871234560000	Netz GmbH	30.10.2016	RLMMT	Vorläufig	12,703	1,516	...					
... etc. for all BGs/BSGs	...	...	... etc. for all days of the month		...	...	...	...	...	...	...	...	...

Zeitreihen-Stand
Data current as at 23.06.2017 11:09:10

Bilanzkreis/Netzkonto *Balancing group/NBA*	Netzbetreiber *Network operator ID*	Bezeichnung Netzbetreiber *Network operator name*	Datum Tag *Date day*	Zeitreihe *Data series type*	Qualität *Data quality*	Tages-Wert *Daily quantity*	H 06-07	...	H 01-02	H 02-03	H 03-04	H 04-05	H 05-06
...	...	...	...		...	...	...	...	...	...	...	...	...
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	BestOf ABW	105,686	6,315	...	2,751	2,657	2,493	2,738	3,298
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	BestOf BBW	105,958	6,337	...	2,758	2,666	2,502	2,748	3,309
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	Endgültig	104,587	6,337	...	2,189	2,738	2,423	2,701	3,121
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	Korrigiert ABW	105,686	6,315	...	2,751	2,657	2,493	2,738	3,298
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	Korrigiert BBW	105,958	6,337	...	2,758	2,666	2,502	2,748	3,309
NCHB123456789000	9871234560000	Netz GmbH	24.03.2017	RLMMT	Vorläufig	54,599	6,337	...					
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	BestOf ABW	67,125	3,501	...	1,255	1,450	1,662	2,171	
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	BestOf BBW	67,282	3,512	...	1,258	1,454	1,668	2,179	
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	Endgültig	66,034	3,093	...	1,063	728	1,181	827	
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	Korrigiert ABW	67,125	3,501	...	1,255	1,450	1,662	2,171	
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	Korrigiert BBW	67,282	3,512	...	1,258	1,454	1,668	2,179	
NCHB123456789000	9871234560000	Netz GmbH	25.03.2017	RLMMT	Vorläufig	34,670	3,093	...					
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	BestOf ABW	68,647	2,451	...	3,032	2,523	2,936	3,827	6,186
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	BestOf BBW	68,802	2,458	...	3,041	2,530	2,946	3,839	6,206
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	Endgültig	68,802	2,458	...	3,041	2,530	2,946	3,839	6,206
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	Korrigiert ABW	68,647	2,451	...	3,032	2,523	2,936	3,827	6,186
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	Korrigiert BBW	68,802	2,458	...	3,041	2,530	2,946	3,839	6,206
NCHB123456789000	9871234560000	Netz GmbH	26.03.2017	RLMMT	Vorläufig	17,158	2,458	...					
... etc. for all BGs/BSGs	...	...	... etc. for all days of the month		...	...	...	...	...	...	...	...	...

Figure 55: Structure of hourly allocation data reports (RLM, EntryNKP, Entryso/Exitso) on days when clocks change to or from daylight saving time (example showing RLM allocation data report)

11.4.4 Financial settlement according to the daily network balancing account system as an incentive mechanism

The financial settlement process takes place once all clearing windows have closed and is based on the network balancing account data as established on conclusion of the network balancing account data review process. The relevant parameter for the financial settlement according to the daily network balancing account system as an incentive mechanism is the

daily NBA imbalance ratio (in %) (calculated for each day as the ratio of the daily NBA balance 1 to the total daily SLP allocations):

a) Where the daily NBA imbalance ratio is between 0% and 35% (under-allocations), no charges will be applied by the MAM.

b) Other than provided for at a) above, where the daily NBA imbalance ratio exceeds the 35% threshold (under-allocations) on more than 6 days in a month, the MAM will charge the corresponding daily NBA balance 1 quantities to the relevant NO for all days in that month (M) on which the daily NBA imbalance ratio exceeded the 35% threshold.

c) For days on which the daily NBA imbalance ratio is less than 0% but not less than -3% (over-allocations), the MAM will make a payment to the relevant NO. Where the daily NBA imbalance ratio is less than -3%, no payment will be made. Each NO may waive its right to receive payments for its over-allocations for the duration of an entire gas year by giving written notice to this effect to the MAM by 1 October of the relevant year. The MAM will allow this to be done via the portal.

Each month between M+2M+15 BD and M+2M+25 BD the MAM raises all relevant invoices (self-billed invoices where applicable; each such invoice an “NBA invoice”) plus VAT. The due date for payments is 10 working days from the receipt of the invoice. If the financial settlement of the reconciliation quantities that are relevant - from the reverse transaction perspective - has already been carried out, there will be no invoice. In the course of this process all NBA balance 1 quantities to be charged or paid to the relevant NO pursuant to b) and c) above are multiplied by the reconciliation price as published for the corresponding reconciliation month pursuant to section 49(6) of the Cooperation Agreement. Save where otherwise agreed between the MAM and an NO, the total amount including VAT payable by the NO as stated in an NBA invoice is offset against the total amount including VAT payable by the MAM as stated in a self-billed NBA invoice (if any). The MAM will send the invoice as an electronic document in accordance with Section 14 (1) sentence 8 of the German VAT Act (*UstG*).

Where an NO’s network area (or subnetwork) is affected by a gas quality switchover from low CV to high CV gas quality, the switchover balancing effective date may differ from the date on which the gas quality changes at the relevant system interconnection point.

The NO affected will notify the MAM of these dates no later than three months ahead of the relevant switchover balancing effective date.

When providing this notice the NO must also inform the MAM of whether a new network balancing account for high CV gas will have to be set up (in conformity with the process and documentation described in chapter 2.3 above), whether the existing network balancing account for low CV gas can be closed (for example where the NO’s entire low CV gas network has been switched over to high CV quality), and what topological changes have

resulted from the switchover with regard to the network balancing accounts set up for adjacent networks.

Throughout the period between the above dates as relevant for the NO's network area (or relevant subnetwork) all NBA imbalances arising in the respective network balancing accounts for high CV and low CV gas will be considered in aggregate. However, in the case of subnetworks the data will only be considered in aggregate for those months in which there is an actual difference in timing between the technical implementation of the switchover and the date relevant for energy balancing purposes.

For under-allocations, the aggregated view means that there will be a check for the relevant month to see whether the 35% threshold is exceeded on more than 6 days, even when the imbalances are considered in aggregate. If so, the MAM will invoice the entire under-allocated quantity in the market area on the respective days.

For over-allocations, the aggregated view means that only the days on which the aggregated daily percentage network balancing account deviation is between 0% and -3% will result in a self-billed invoice. For each of these days, limited to the aggregated quantity, the amount will be credited to the NO. In justified cases, the MAM has the right to request an explanation for network balancing account deviations, in particular if there are significant differences between the daily network balancing account deviations in percent in the market area, which do not represent normal, system-related deviations. If the reasons provided are inadequate, the NO will be invoiced according to the daily network balancing account system as an incentive mechanism.

This also applies to NOs who had separate network balancing accounts for the same gas quality in the two market areas prior to the market area merger.

11.4.5 Consequences for the quantity reconciliation process and reversal of the financial settlement of network balancing accounts

The financial settlement according to the daily NBA mechanism pursuant to section 8(a) of the operative part of the GaBi Gas 2.0 ruling operates as an additional incentive mechanism outside of the SLP quantity reconciliation process. In the course of the quantity reconciliation process the monthly NBA invoices – if any – will be reversed and all payments made on these NBA invoices will be fully refunded. The exact timing of the reversal and repayment process in each case depends on the meter reading arrangements (fixed reference date or rolling basis) in place for the SLP market locations of the relevant NO. However, payments on NBA invoices, on the one hand, and on SLP reconciliation invoices, on the other hand, will not necessarily be offset against each other.

The due date for payments is 10 working days from the receipt of the invoice.

Case 1: Reversal of the financial settlement according to the daily network balancing account system as an incentive mechanism for NOs who carry out quantity reconciliation at individual market locations on a rolling basis but take meter readings around a fixed reference date

Reversal of monthly NBA invoices for under-allocations:

All amounts payable by an NO under the financial settlement according to the daily network balancing account system as an incentive mechanism for network balancing accounts in respect of the month of the meter reading reference date and the 11 preceding months as stated in each case in the corresponding NBA invoice will be refunded to the NO by the MAM by the end of the third month (M+3M) following the month of the meter reading reference date, provided the quantity reconciliation process for the corresponding SLP reconciliation quantities in this period has been completed between the MAM and the NO.

This means that the MAM will make a repayment to the NO for all relevant NBA invoices in the last 12 months once the quantity reconciliation process for the corresponding SLP reconciliation quantities in these 12 months is completed between the NO and the MAM (irrespective of whether the reconciliation quantities in question were positive or negative reconciliation quantities). The repayment will include all payments made under the financial settlement according to the daily network balancing account system as an incentive mechanism for network balancing accounts for the month M and the preceding 11 months. For all repayments the invoice number(s) corresponding to the relevant payments/NBA invoice(s) must be indicated. The settlement document produced for the purpose of the reversal must also include the mention that repayment is made on account of the completed SLP quantity reconciliation process. If more than one NBA invoice has been issued in relation to the reconciliation period in question, these will be indicated separately.

Example of the reversal of monthly NBA invoices for under-allocations:

An NO determines the reconciliation quantities for the market locations on its network individually on a rolling basis. Periodic meter readings are taken annually around 31 December. If the MAM has to apply charges for the NO's under-allocations in a month, for example January 2017 as shown in Figure 56, the NBA invoice for the corresponding NBA payment will be issued (from the MAM to the NO) in April 2017 following expiry of all relevant clearing deadlines. If the NO then completes the quantity reconciliation process for the month December 2017, which is the month of the reference date, by the applicable deadline (M+3M; in this case March 2018), and if the NO has also submitted its reconciliation quantities and invoices for the preceding 11 months, the MAM will in this case make a repayment to the NO for the NBA invoice issued for January 2017.

Reversal of monthly NBA invoices for over-allocations (self-billing):

Monthly NBA invoices for over-allocations (self-billing) will always be reversed by the end of the third month following the month of the meter reading reference date (M+3M), irrespective of whether the NO in question has completed the reconciliation process for the

corresponding 12 monthly SLP reconciliation quantities as required between the NO and the MAM. This means that the MAM will issue an invoice to the NO for all relevant self-billed NBA invoices in the last 12 months even if the NO has not yet (fully) submitted or invoiced the corresponding monthly SLP reconciliation quantities. This repayment invoice will include all payments made for the last 12 months under the financial settlement according to the daily network balancing account system as an incentive mechanism for network balancing accounts and will state the number(s) of the relevant self-billed NBA invoice(s) corresponding to the relevant payments. If more than one NBA invoice has been issued in relation to the reconciliation period in question, these will be indicated separately.

Example of the reversal of monthly NBA invoices for over-allocations (self-billing):

An NO determines the reconciliation quantities for the market locations on its network individually on a rolling basis. Periodic meter readings are taken annually around 31 December. If the MAM has to make a payment for the NO's over-allocations in a month, for example January 2017 as shown in Figure 56, the corresponding NBA payment will be made (by the MAM to the NO) in April 2017 following expiry of all relevant clearing deadlines. The MAM will then issue an invoice to the NO in the third month (March 2018) following the month of the reference date (December 2017) to charge the NO for the January 2017 NBA payment made to the NO in April 2017, even if the corresponding monthly SLP reconciliation quantities (January 2017 to December 2017) have not yet been (fully) submitted or invoiced.

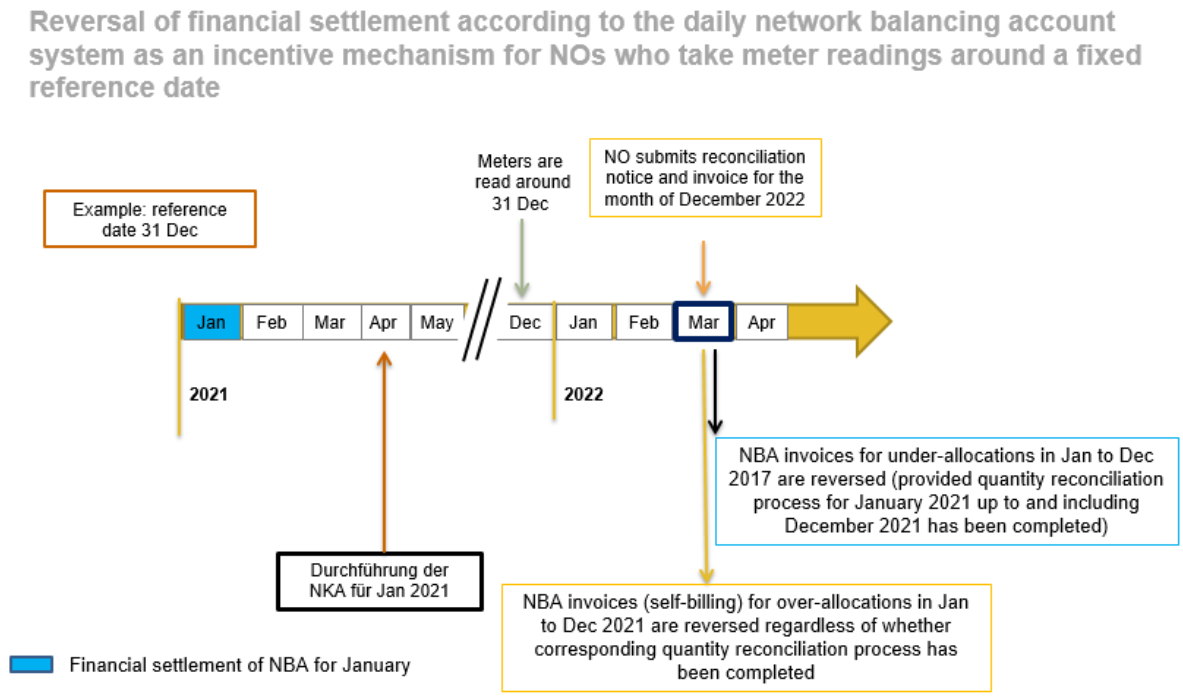

Figure 56: Reversal of financial settlement according to the daily network balancing account system as an incentive mechanism for NOs who take meter readings around a fixed reference date

Case 2: Reversal of the financial settlement according to the daily network balancing account system as an incentive mechanism for NOs who carry out quantity reconciliation at individual delivery points on a rolling basis and also take meter readings on a rolling basis

Reversal of monthly NBA invoices for under-allocations:

All amounts payable by an NO in respect of a month (M) in accordance with 11.4.4(b) as stated in the corresponding NBA invoice will be refunded to the NO by the MAM by the end of the eighth month following that month (M+8M), provided the SLP quantity reconciliation process between the MAM and the NO required for the month M and the following five months (M+5M) has been completed.

This means that the MAM will make a repayment to the NO for the relevant NBA invoice issued for the month M once the quantity reconciliation process for the SLP reconciliation quantities in these 6 months is completed between the NO and the MAM (irrespective of whether the reconciliation quantities in question were positive or negative reconciliation quantities). The repayment will include the entire payment made for the month M under the financial settlement mechanism for network balancing accounts. For each repayment the

invoice number corresponding to the relevant payment must be indicated. The settlement document produced for the purpose of the reversal must also include the mention that repayment is made on account of the completed SLP quantity reconciliation process.

Example of the reversal of monthly NBA invoices for under-allocations:

An NO determines the reconciliation quantities for the market locations on its network individually on a rolling basis. Periodic meter readings are also taken on a rolling basis. If the MAM has to apply charges for the NO's under-allocations in a month, for example January 2017 (M) as shown in Figure , the NBA invoice for the corresponding NBA payment (to be made from the NO the MAM) will be issued in April 2017 following expiry of all relevant clearing deadlines. If the NO then completes the quantity reconciliation process for the month June 2017 (M+5M) by the applicable deadline, and if the NO has also submitted its reconciliation quantities and invoices for the months January 2017 up to and including May 2017, the MAM will repay the NBA payment/NBA invoice for January 2017 to the NO.

Reversal of monthly NBA invoices for over-allocations (self-billing):

Monthly NBA invoices for over-allocations (self-billing) will always be reversed in the eighth month following the month to which the relevant NBA invoice relates (M+8M), irrespective of whether the NO in question has completed the monthly quantity reconciliation processes for the corresponding SLP reconciliation quantities as required between the NO and the MAM. This means that the MAM will issue an invoice to the NO for the self-billed NBA invoice issued for the month M even if the NO has not yet (fully) submitted or invoiced the corresponding monthly SLP reconciliation quantities. The repayment invoice will include the entire payment made for the month M under the financial settlement mechanism for network balancing accounts. In each repayment invoice the number of the relevant self-billed NBA invoice corresponding to the relevant NBA payment must be indicated.

Example of the reversal of monthly NBA invoices for over-allocations (self-billing):

An NO determines the reconciliation quantities for the market locations on its network individually on a rolling basis. Periodic meter readings are also taken on a rolling basis. If the MAM has to make a payment for the NO's over-allocations in a month, for example January 2017 (M) as shown in Figure , the corresponding NBA payment will be made (by the MAM to the NO) in April 2017 following expiry of all relevant clearing deadlines. The MAM will then issue an invoice to the NO in the eighth month following the month to which the relevant NBA invoice relates (M+8M; in this case September 2017), even if the relevant monthly SLP reconciliation quantities (January 2017 (M) to June 2017 (M+5M)) have not yet been (fully) submitted or invoiced.

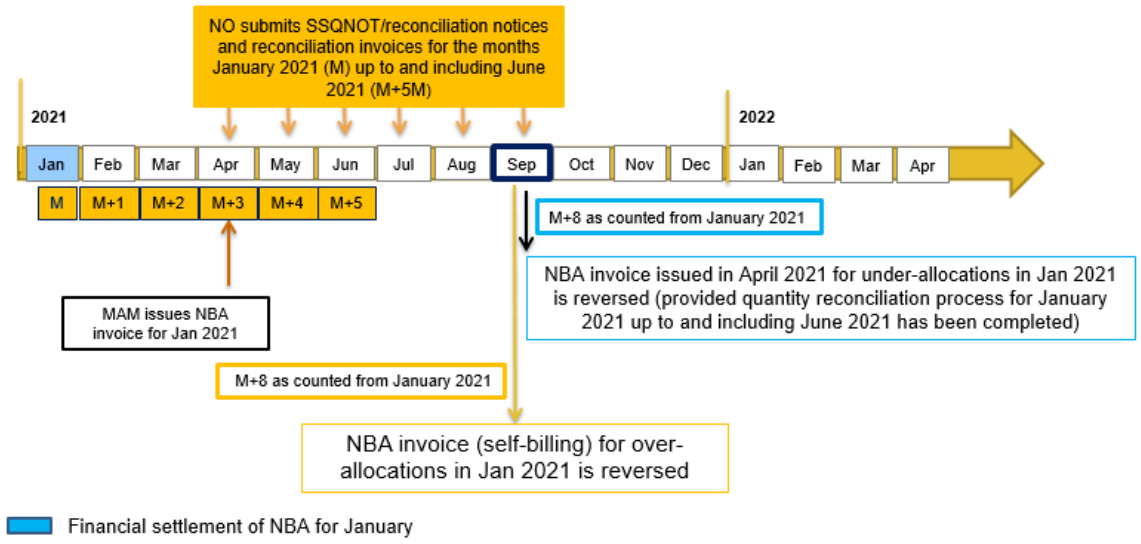

Figure 57: Reversal of financial settlement according to the daily network balancing account system as an incentive mechanism for NOs who take meter readings on a rolling basis

11.5 Reporting to the Federal Network Agency according to the daily network balancing account system as an incentive mechanism

The MAM has an obligation to provide the data for all data series types submitted by all NOs to the Federal Network Agency on a monthly basis, with the data to be reported separately for each day and network balancing account. Bilateral arrangements will be agreed between the MAM and the Federal Network Agency to ensure secure provision of the relevant data.

11.6 Publication according to the daily network balancing account system as an incentive mechanism of NOs on MAM's website

Whether the name of an NO must be published according to the daily network balancing account system as an incentive mechanism is dependent on the daily NBA imbalance ratio determined for the NO in accordance with chapter 11.3. NOs who incur a daily NBA

imbalance ratio in their network balancing account greater than +50% or less than -50% on 10 or more days (“error days”) in a month will be published in the public area of the MAM's website. This threshold of 10 error days applies generally to all days on which over-allocations or under-allocations have been made.

The NO lists published by the MAM will be updated on a rolling basis, with the historical lists published in the 12 preceding months being provided in each case.

11.7 Obligation to review measures if there is a permanent unusual network balancing account imbalance

Network operators with network balancing accounts containing SLP allocations are obliged to examine measures to improve the application of standard load profiles if the cumulated absolute network balancing account imbalance over a 12-month period in relation to the calendar year is outside the 90% quantile of the following size groups. For this purpose, the network balancing accounts are divided into the following size groups on the basis of the SLP offtake allocation per calendar year in the period under review:

small: allocated SLP offtake < 100 million kWh/calendar year

medium: allocated SLP offtake ≥ 100 million to < 250 million kWh/calendar year

large: allocated SLP offtake ≥ 250 million kWh/calendar year

Network operators with a cumulative absolute NBA imbalance per calendar year of less than 130 kWh/MWh for each calendar year under review are not subject to the review obligation, even if they are outside the 90% quantile of their respective size group.

Network balancing accounts of network operators and in the market area converted to another gas quality are considered in aggregate with regard to the determination of the cumulative absolute NBA imbalance and allocated to the relevant size group. This also applies to network operators who had separate network balancing accounts for the same gas quality in the two market areas prior to the market area merger.

The obligation to review measures always refers to the synthetic or analytical load profile method applied by the network operator.

After the relevant clearing periods, the MAM determines the network balancing accounts for each size group which are subject to the above-mentioned review obligation and calls upon the network operators concerned to comply with the review obligation by 1 April of the year using the review routine defined in the BDEW/VKU/GEODE Best Practice Guidelines for the Use of Standard Load Profiles for Gas Demand Estimation Purposes (German only; “*Leitfaden Abwicklung von Standardlastprofilen Gas*”). The reviews cover two calendar years and are based on adjusted data M+2M+10 BD. The network operators concerned will inform the MAM of the results of the reviews by 1 July of the same year. If the findings have an

impact on the data basis of the review, e.g. due to subsequent allocation corrections in accordance with chapter 8.3 or future planned market area conversions, the NO must make a note of this in the result of the review. The NO must send the results of the review, the completed tools on which it is based (Annex 2 or Annex 3 to the SLP Guidelines) and the completed SLP Checklist (Annex 1 to the SLP Guidelines) by e-mail to the MAM. The MAM will use the data received from the NOs as part of the procedure described above exclusively for the purpose of carrying out this procedure.

If the review finds a significant and sustainable potential for improvement, the NO must implement the corresponding improvement measures by 1 July of the following year. In justified individual cases, a longer implementation period may be agreed in consultation with the MAM.

A significant and sustainable potential for improvement is assumed if the review reveals a possible reduction in the cumulative absolute NBA imbalance of 10% on average over the two calendar years under review. Similarly, in both calendar years under review, there must be a reduction in the cumulative absolute NBA imbalance in the respective calendar year.

The following examples illustrate a significant and sustainable improvement potential for improvement:

Example 1:

NO A could reduce its cumulative absolute NBA imbalance by 8% in year 1 and by 13% in year 2. On average over the two years, the potential for improvement of the cumulative absolute NBA imbalance is above 10%. Therefore, the relevant improvement measures have to be implemented.

Example 2:

NO B could not improve its cumulative absolute NBA imbalance in year 1 but could increase it by 8% and decrease it by 23% in year 2. As the improvement potential is not positive in both years, no measures have to be implemented according to the above logic to improve the cumulative absolute NBA imbalance.

Example 3:

NO C could improve its cumulative absolute NBA imbalance by 4% in year 1 and by 13% in year 2. On average over the two years, the potential for improvement of the cumulative absolute NBA imbalance is below 10%. Therefore, no measures according to the above logic need to be implemented to improve the cumulative absolute NBA imbalance. If the MAM has any doubts about the contents and/or results of the review and these doubts cannot be dispelled, the NO and the MAM will consult with an independent expert to examine the results of the review. The MAM will bear the costs of the independent expert if the expert confirms the correctness of the review; otherwise, the NO will bear the costs. If the expert does not confirm the correctness of the review, the NO will to carry out a new review without delay.

If the NO has sufficiently demonstrated that an improvement is structurally impossible and this has been accepted by the MAM, this result will apply for the following two calendar years, provided that these structural conditions remain unchanged.

If the NO fails to comply with the obligation to review and submit the results or fails to do so adequately, or if the improvement measures in accordance with the significant and sustainable potential for improvement identified by the review are not implemented within the planned or agreed implementation period, the MAM will levy a penalty to be paid by the NO concerned within 10 business days of receipt of the MAM's invoice. The amount of the penalty payment will be based on the SLP offtake allocation per calendar year of the NO concerned in the year under review:

Up to and including 100 million kWh:	EUR 3,000
From > 100 million kWh up to and including 175 million kWh:	EUR 5,000
From > 175 million kWh up to and including 250 million kWh:	EUR 7,500
From > 250 million kWh up to and including 1,000 million kWh:	EUR 10,000
From > 1,000 million kWh up to and including 5,000 million kWh:	EUR 15,000
From > 5,000 million kWh:	EUR 20,000

The MAM will send the invoice as an electronic document in accordance with Section 14 (1) sentence 8 of the German VAT Act (*UstG*).

The MAM will record the corresponding revenue items in the SLP balancing neutrality account, report the NOs concerned to the Federal Network Agency and publish the names of the NOs subject to penalties for the period under review on its website, stating the reason for the penalties. In addition, the MAM will prepare and publish a brief report on the events described in this chapter on its website once a year. This report will contain the following information:

- Limit values of the 10 % quantiles per size group
- Number of NOs contacted
- Number of NOs for which a significant and sustainable potential for improvement has been identified
- Anonymised information on the identified relative and absolute significant and sustainable potential for improvement per NO
- Identified improvement approaches
- The cumulative absolute NBA imbalances of the network balancing accounts of the last two years in an anonymised format

The transmission system operators are excluded from the above.