Version 1.0

Gas Market Handbook

Procedures and information structure for trading and settlement in the Western Sweden Gas System

2023

ENERGIGAS SVERIGE

Swedish Gas Association – organisation for companies, agencies and authorities operating in the biogas, vehicle gas, LPG, natural gas and hydrogen gas sectors.

Foreword

The Gas Market Handbook is a joint tool used in the gas industry for conducting business operations on a highly efficient market, on strict business terms, and maintaining a healthy level of competition.

The first version of the Gas Market Handbook was published 2008, and since then it has been available, along with related documents, on the Swedish Gas Association website, www.energigas.se.

At the request of the Gas Market, a major update of the Gas Market Handbook took place in 2016. The update involved restructuring and simplification in accordance with prevailing rules and regulations. Since then, the Handbook has been revised each year. The Handbook covers the Western Sweden Gas System.

The Handbook is the outcome of a carefully structured work process developed and implemented by a group of experts comprising:

Ylva Nordlund, Nordion Energi

Ivar Vänlund, Nordion Energi

Linda Svensson, Göteborg Energi

Tedh Stjärnborg, Öresundskraft

Jan Söderberg, Modity Energy Trading

Per Lindeblad, Energi Försäljning Sverige

Susanne Svahn, Varberg Energi

Emelie Garhall, Varberg Energi

Annelie Andersson, Varberg Energi

Anna Liljeblad, Swedish Gas Association

The Gas Market Handbook is reviewed by the gas industry each year and is updated when necessary. We are grateful for your ongoing comments and views, which can be sent to info@energigas.se.

In this rather modest way, I would like to express my appreciation for all the work that has gone into the production of the Gas Market Handbook, which I hope will meet with the approval of all the companies, organisations, and individuals who play an active role in the gas market.

Stockholm, September 2023

Maria Malmkvist

CEO, Swedish Gas Association

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0 Introduction

Key starting points that apply to the Handbook as a whole

- The word 'must' is used to indicate something that must be satisfied according to law, or in compliance with ordinances, regulations, and technical requirements (e.g. EDIEL instructions).
- The words 'can', 'ought to', 'should', and 'recommends' are used to indicate recommended procedures that would make it easier for the party concerned.
- Parties are obliged to provide information stipulated in laws, ordinances, and regulations. All other information provided is voluntary and the party providing the information is permitted to charge for doing so.
- To operate on the gas market, a company must have conducted tests in order to communicate via EDIEL and in doing so be approved as an EDIEL party.
- The term 'gas user' refers to a customer who has entered into a gas grid agreement and a gas sale and purchase agreement.
- The term 'gas supplier' refers to a gas supply company that is responsible for supplying gas to gas users.
- All gas grid owners (grid owners) and gas suppliers ought to apply the general contractual terms and conditions produced by the Swedish Gas Association alongside their own contractual terms and conditions.
- Gas trading can be conducted in two roles: gas supplier and balance administrator. These roles can be within the same gas supply company or in separate companies.
- The term 'consumer' refers to a person, e.g. a gas user, whose consumption is not business-related.
- The Swedish Energy Markets Inspectorate instructions and general guidance regarding metering, calculation, and reporting of transmitted gas are designated consistently in the Handbook as the Metering Regulations.
- Calorific value is stated both as a higher calorific value and a lower calorific value. A higher calorific value is used in the balance settlement and the lower calorific value is used in dealings with end users.

0.1 General information about the Gas Market Handbook

If the market is to function efficiently, with a healthy level of competition and on strict business terms, a clear set of rules are required. A basic precondition for each entity operating on the market is that they must be aware of their rights and obligations and in each given situation they must know what is expected of them in terms of how and when to act.

Market rules are governed ultimately by laws, ordinances, and regulations. In line with Swedish legal tradition, these avoid in many instances setting out any detailed requirements regarding how the practical, day-to-day work ought to be conducted. In the gas industry, as in other sectors, it is incumbent on the parties to agree on a common interpretation of the current rules and regulations in an effort to facilitate an exchange of information between parties operating on the market. It is this specific interpretation, as set out in the Handbook and related references, that constitutes a common way of working for the industry as a whole.

The Gas Market Handbook is directed at all gas market participants in Sweden that are subject to, and affected by, the Natural Gas Act (2005:403). The Handbook supplements the laws, ordinances, and regulations that are linked to the Natural Gas Act without in any way replacing them. Should any part of the Handbook give rise to scope for interpretation, it is always the laws, ordinances, and regulations that take precedence.

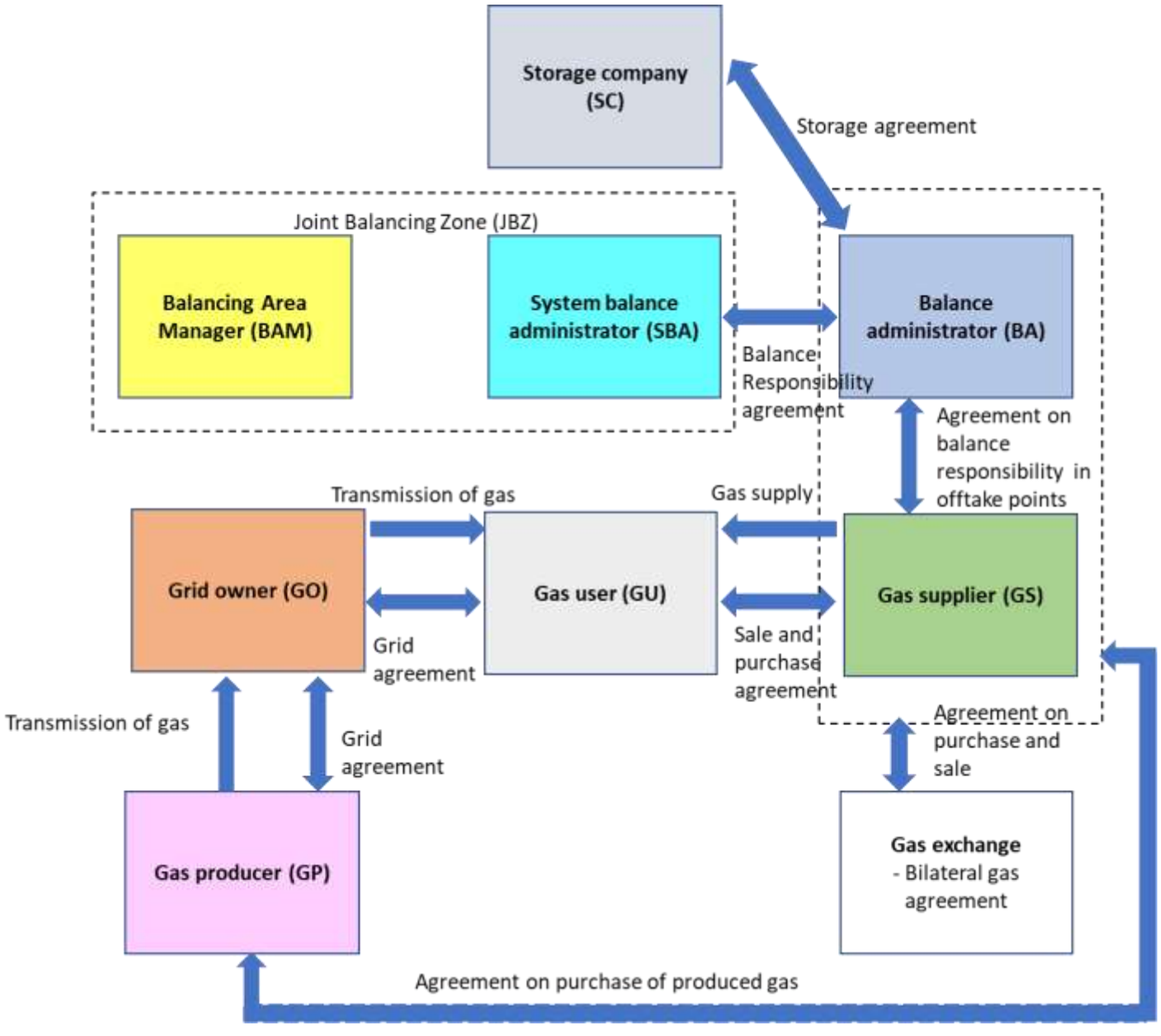
This Gas Market Handbook covers the Western Sweden gas system. The Handbook is updated annually, and the latest edition is always available at www.energigas.se.

0.2 Market participants and relationships

0.2.1 Parties in the gas value chain

The market participants in a gas system that are directly or indirectly affected by the Natural Gas Act are:

- Gas producer (GP)
- Grid owner (GO)
- Storage company (SC)
- Gas user (GU)
- Gas supply companies in the role of
  - Gas supplier (GS)
  - Balance administrator (BA)
- System balance administrator (SBA)
- Balancing Area Manager (BAM)



Gas producer

The gas producer supplies gas in gaseous form for entry into the gas system. The gas can be produced by means of biological and chemical processes or by vaporisation from its liquid state.

Grid owner

The grid owner is responsible for transmission of gas to the gas users. In the Natural Gas Act and other legal contexts, the term 'pipeline licensee' is used instead of grid owner. This provides clarification of the fact that by definition the pipeline licensee does not need to be the owner.

The grid owner is a pivotal party on the gas market. The grid owner has all the original information about the gas supplied within its grid settlement area at its disposal. The grid owner reports metered energy volumes at the input and offtake points, and provides gas suppliers, balance administrators, and system balance administrators with the information required for invoicing, and for planning, regulating, and settling the balance in a gas system.

Storage company

A storage company is the company that operates a facility that stores gas on behalf of parties on the market. The storage company's operations are funded through published tariffs and regulated access to the stored gas. A gas storage facility can be intended for storage of gas either in a compressed or liquid state. A gas storage facility can function both as an input and offtake point in the connecting gas system, which could contribute to maintaining the balance and effective utilisation of the gas system.

Gas user

A gas user is an entity or a physical person that uses gas and could range from a heavy industry company to a domestic customer who uses gas to heat their home or for cooking. All gas users in a gas system who are subject to the stipulations in the Natural Gas Act can personally choose their gas supplier.

There are numerous customer relationships in the gas market, and this is reflected in a number of designations, which in many cases refer to the same party. A gas user is always a customer of both a grid owner and a gas supplier, as it is not possible to have access to gas without having a current connection and transmission agreement with the grid owner. If a customer has gas purely for their personal or intra-company use they are also an end customer.

In its relationship with the grid owner through the connection and transmission agreement, the customer is often termed a grid customer. For the gas supplier with which the customer has entered into a gas supply agreement, the customer is termed a gas customer.

Gas supply companies

Gas supply companies can have different roles. It could be a gas supplier. It could also be a trader that purchases gas and sells to other gas supply companies, or it could be the gas user. Purchasing can take place via a gas exchange, such as Pegas, from other gas supply companies, or from gas producers. A gas supply company could also be the balance administrator.

Gas supplier

A gas supplier is the party that supplies gas to the gas user and purchases the gas from a balance administrator. Under the Natural Gas Act, the gas supplier only supplies gas to an offtake point for which a balance administrator has been assigned balance responsibility. A gas supplier can also enter into an agreement with a balance administrator.

Balance administrator

A balance administrator has financial responsibility for maintaining a balance between volumes of gas entered and withdrawn at the input and offtake points covered by its balance responsibility undertaking. The balance administrator's responsibility is defined in the balance responsibility agreement with the system balance administrator. The balance administrator also has an agreement with the gas supplier for the delivery of gas to offtake points.

System balance administrator

A system balance administrator has overall responsibility for ensuring a balance is maintained between gas input and offtake. This takes place by ensuring the pressure in the system is maintained at a level where reserves are sufficient to cope with disruptions in gas transmission. The system balance administrator is also responsible for ensuring the pressure does not exceed the permitted limit. An imbalance arises when offtake does not correspond to the planned input. In the balance settlement, the system balance administrator calculates any imbalance for each balance administrator and regulates the costs for the imbalance with the balance administrator(s) who have the financial responsibility.

Balance Area Manager (BAM)

BAM is a function that carries out balancing measures and balance settlement with associated invoicing and payment within the Joint Balancing Zone (balancing zone that covers Sweden and Denmark). The

function is appointed by the system balance administrator in Sweden and Denmark.

0.2.2 Sector organisation

The Swedish Gas Association is a member-funded sector organisation with a 100-year history of developing the Swedish gas market for natural gas, biogas, vehicle gas, LPG, bio-LPG, and hydrogen gas. The remit of the Swedish Gas Association and its members is to expand the gas market, combined with a higher proportion of renewable gas, and in doing so contribute to the energy transition, the attainment of politically established goals, and the creation of a sustainable Sweden.

The work includes shaping public opinion and lobbying, information provision, analyses, policy instruments, market development, safety and security, technology, and training. This is achieved in close dialogue with market participants, public authorities and agencies, the government, and parliament.

0.2.3 Regulatory authorities

Supervision and monitoring of compliance with laws and regulations within energy market areas is exercised by the Swedish Energy Agency and the Swedish Energy Markets Inspectorate (EI). The regulatory responsibility of the Energy Agency is set out in the Security of Natural Gas Supply Act whilst the Natural Gas Act falls under the supervision of EI. EI's duties are governed by Ordinance 2007:1118 together with instructions issued to the Energy Markets Inspectorate. Supervision of issues relating to the safe handling of flammable gases is exercised by the Civil Contingencies Agency.

The duties of these authorities are set out in their respective instructions

- Ordinance with instructions for the Swedish Energy Agency (2014:520)
- Ordinance with instructions for the Swedish Energy Markets Inspectorate (20167:742)
- Ordinance with instructions for the Swedish Civil Contingencies Agency (2008:1002)

0.2.4 Swedish Consumer Energy Markets Bureau

The Swedish Consumer Energy Markets Bureau is an independent agency charged with the task of providing information and guidance in issues relating to the energy market. The Bureau responds to questions from consumers about how the energy market functions. This service is provided free of charge. In the case of gas, this could relate to areas such as agreement types and prices, comparison of gas suppliers, and change of gas supplier.

The Bureau's remit also includes identifying consumer issues within the energy market, which are then compiled and reported to the relevant authorities and companies in the energy sector. The Bureau's governing body comprises the Swedish Consumer Agency, the Swedish Energy Agency, the Swedish Energy Markets Inspectorate, and the sector organisations Swedenergy, and the Swedish Gas Association. Further information is available at https://www.energimarknadsbyran.se/.

0.2.5 Municipal energy and climate advisory service

Municipal energy and climate advisers are responsible for answering questions in matters relating to heating, energy costs, and grants. The advice is provided free of charge and is directed at the general public, small enterprises, and organisations. The municipal consumer advice offices can provide consumers with guidance, also free of charge, in matters that arise prior to making a purchase and entering into an agreement, as well as individual disputes with companies. The municipal advisers can be reached through the local authority switchboard. A list of municipal authority energy advisers, climate advisers, and consumer advisers is available on the Swedish Energy Agency website, www.energimyndigheten.se, and the Swedish Consumer Agency website, https://www.konsumentverket.se/.

0.3 Identification of parties in the gas value chain

In the gas market, large volumes of information are exchanged between grid owners, gas trading companies, and system balance administrators. It is therefore vital to be fully up to date with the parties' contact persons, addresses, and other relevant information, which could vary depending on the operating phase.

Data interchange between the parties takes place mostly via EDIEL and EDIG@s. The sender of a message is responsible for verifying that the message has been received.

A key identification concept is the EDIEL ID (a five-digit number) and the Energy Identification Code (EIC, comprising 16 alphanumeric characters), which are used for message interchange between companies. Fundamentally, the parties inform each other about changes that are of significance to their mutual communication. The list of parties at www.ediel.se must be kept up to date by each party.

There are also other key terms, such as area ID, which identifies a grid settlement area in the balance

settlement, and a facility ID, which identifies input and offtake points. Contact between the gas trading companies, gas user, and grid owner is facilitated considerably if these IDs are used. The grid owner ought to quote both the offtake point ID and area ID when the gas user receives consumption data or a meter reading.

To facilitate the exchange of information between grid owners, gas trading companies, and the system balance administrator, there is a form file entitled 'Company information' (Form F). The file can be found on the system balance administrator's website, and there are subforms for grid owners and balance administrators. Information is entered about the companies' points of contact when dealing with matters that arise between the parties. The form can also be used to indicate if there is an agent for a particular function, such as settlement or metering.

Further information about gas market data interchange is available in Chapter 10.

0.4 Laws and regulations

Below is a description of the regulations that govern the gas market in Sweden.

Type of regulation	**Issued by**	
EU Directive	European Parliament and the European Council	Mandatory in Swedish legislation
EU Regulation	European Parliament and the European Council	Mandatory and valid in Swedish law
Law	Parliament	Mandatory
Ordinance	Government	Mandatory
Regulation	Authority	Mandatory
General advice	Authority	Guidance
Agreement	Between parties	Mandatory
Guidelines, recommendations, and industry standards	Within the industry	Practice

0.4.1 EU regulations

- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2005/55/EC

  This is the third gas market directive in succession that imposes strict requirements regarding the separation of gas trading and the operation of transmission grids with requirements for certification of transmission grid operators.
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
- Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators
- Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010
- Commission Decision of 10 November 2010 amending Chapter 3 of Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks
- Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency
- Commission Decision of 24 August 2012 amending Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks
- Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009
- Commission Regulation (EU) No 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013
- Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks
- Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a Network Code on Interoperability and data exchange rules
- Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union
- Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency Text with EEA relevance
- Commission Implementing Regulation (EU) No 1348/2014 of 17 December 2014 on data reporting implementing Article 8(2) and Article 8(6) of Regulation (EU) No 1227/2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency Text with EEA relevance
- Council Regulation (EU) 2022/1369 of 5 August 2022 on coordinated demand-reduction measures for gas
- Council Regulation (EU) 2023/706 of 30 March 2023 amending Regulation (EU) 2022/1369 as regards prolonging the demand-reduction period for demand-reduction measures for gas and reinforcing the reporting and monitoring of their implementation

0.4.2 Laws and ordinances

The list below sets out the laws and ordinances that are of particular importance to the parties involved. The ordinances are linked directly to the act that grants the government the right to issue them.

- Swedish Companies Act (2005:551)
- Swedish Accounting Act (1999:1078)
- Swedish Value Added Tax Act (1994:200)
- Swedish Natural Gas Act (2005:403)
- Swedish Natural Gas Ordinance (2006:1043)
- Swedish Reporting and Auditing of the Transmission of Natural Gas, Storage of Natural Gas, and Operation of a Gasification Plant Ordinance (2006:1051)

- Swedish Certain Fees in the Natural Gas Area Ordinance (2008:1330)
- Swedish Establishment of a Revenue Framework in the Natural Gas Area Ordinance (2014:35)
- Swedish Security of Natural Gas Supply Act (2012:273)
- Swedish Security of Natural Gas Supply Ordinance (2012:275)
- Swedish Intervention in Market Abuse in the Trading of Wholesale Energy Products Act (2013:385)
- Swedish Certification of Certain Natural Gas Companies Act (2011:711)
- Swedish Certification of Certain Natural Gas Companies Ordinance (2011:715)
- Swedish Flammable and Explosive Products Act (2010:1011)
- Swedish Flammable and Explosive Products Ordinance (2010:1075)
- Swedish Information Security for Certain Operators of Essential Services and Digital Service Providers Act (2018:1174)
- Swedish Information Security for Certain Operators of Essential Services and Digital Service Providers Ordinance (2018:1175)

Other statutes that include provisions concerning natural gas include the Swedish Energy Taxation Act (1994:1776), and the Swedish Energy Taxation Ordinance (1994:1784).

0.4.3 Regulations and general guidance

- Swedish Energy Markets Inspectorate regulations and general guidance on a monitoring plan in accordance with the Swedish Natural Gas Act (EIFS 2012:6)
- Swedish Energy Agency regulations and general guidance concerning the reporting and auditing of the transmission of natural gas, storage of natural gas, and operation of a gasification plant (STEMFS 2006:3)
- Swedish Energy Markets Inspectorate regulations on the publication of tariffs and methodologies used to set connection charges (EIFS 2012:3)
- Swedish Energy Markets Inspectorate regulations on natural gas companies' proposals concerning revenue frameworks and data collection methods to determine the size of a revenue framework (EIFS 2014:5)
- Swedish Energy Markets Inspectorate regulations on reasonable costs and a fair yield when estimating the revenue framework for natural gas companies (EIFS 2014:6)
- Swedish Energy Agency regulations and general guidance on security of natural gas supply (STEMFS 2016:1)
- Swedish Civil Contingencies Agency regulations and general guidance concerning natural gas pipeline systems (MSBFS 2009:7)
- Swedish Energy Agency regulations on the obligation to provide underlying data regarding monthly fuel, gas, and storage statistics (STEMFS 2020:7)
- Swedish Energy Agency regulations on the obligation to provide underlying data for the production of annual energy statistics/electricity, gas, and district heating statistics (STEMFS 2020:5)
- MSBFS 202021:9 Regulations on notification and identification of services that are of societal importance
- MSBFS 2018:8 Regulations and general guidance regarding information security for providers of services that are of societal importance
- MSBFS 2018:9 Regulations and general guidance regarding reporting of incidents in services that are of societal importance
- MSBFS 2018:10 Regulations and general guidance regarding reporting of incidents at providers of digital services
- MSBFS 2018:11 Regulations and general guidance regarding voluntary reporting of incidents in services that are of importance to the effective functioning of society
- National Emergency Plan for Sweden's Natural Gas Supply according to Regulation (EU) 2017/1938 of the European Parliament and of the Council
- Swedish Energy Markets Inspectorate regulations amending Swedish Energy Markets Inspectorate regulations (EIFS 2014:6) on reasonable costs and a fair yield when estimating the revenue framework for natural gas companies (EIFS 2022:2)
- The Swedish Energy Markets Inspectorate regulations and general guidance on metering and reporting of transmitted natural gas and notification of delivery and balance responsibility (EIFS 2022:6)
- The Swedish Energy Markets Inspectorate regulations concerning the reporting of natural gas operations (EIFS 2022:12)

0.4.4 Agreements

Apart from the formal set of rules there are also agreements that are binding on the parties that have entered into the agreement. Examples include the EDIEL agreement between the Swedish power transmission company Svenska Kraftnät and the party that undertakes, among other things, to follow SGIX (Swedish Gas Information Exchange) technical instructions with the aim of coordinating and directing data communication between the companies.

Other examples are balance agreements between the system balance administrator and the balance administrator, balance administrator and gas supplier, the connection and transmission agreement between a grid owner and a gas user, as well as a sale and purchase agreement between a gas supplier and a gas user. There are also various sector standards governing technical safety as well as general contractual terms and conditions.

0.4.5 Guidelines, recommendations, instructions, and industry standards

- GMA 2023 – Gas metering instructions 2023 (Only in Swedish: GMA 2013 Gasmätningsanvisningarna)
- Joint sector methods for determining calorific value (Only in Swedish: Branschgemensamma metoder för bestämning av värmevärde)
- Ediel instructions – General technical rules for all Ediel messages
- Technical instructions SGIX – Examples
- Instructions for use: MSCONS message in conjunction with standard calculation
- Instructions for use: DELFOR message when reporting shares
- Ediel instruction PRODAT and related APERAK
- General terms and conditions for gas transport version 22.0

0.4.6 Public Web sites for more information

- The Swedish Gas Association, www.energigas.se
- Swedegas, https://www.swedegas.se/
- Energinet, https://energinet.dk/
- Swedish Energy Agency, https://www.energimyndigheten.se/
- Edielportalen, https://www.ediel.se/Portal
- The Swedish Energy Markets Inspectorate (Ei), https://ei.se/
- Swedish Civil Contingencies Agency, https://www.msb.se/
- Gaskoll www.gaskoll.se

1 Entering into and terminating agreements —grid and transactions

This chapter sets out the process of entering into and terminating agreements and related subprocesses, see below, along with the activities that are included.

Key starting points

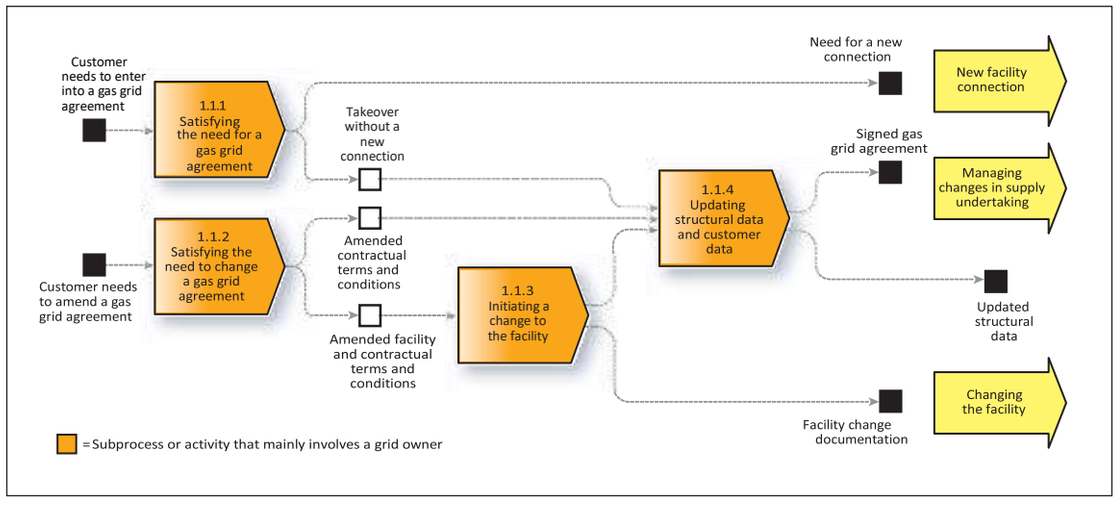
- According to the Natural Gas Act, a gas grid agreement for an offtake point is required before the gas user can enter into a gas sale and purchase agreement.
- The gas user enters into a gas grid agreement with the grid owner and a gas sale and purchase agreement with the gas supplier. If a grid owner, a gas producer, and/or a gas supply company are part of the same group of companies, the companies must state their identity in a way that it is clear to individual gas users, or the general public, what type of business the company is involved in.
- According to the general contractual terms and conditions applied within the industry, a gas supplier must as soon as possible provide the gas user with written confirmation that a gas sale and purchase agreement has been entered into and also state the terms and conditions of supply, e.g. the start date and price.

Recommendations

- The gas supplier's invoice ought to contain details of the type of agreement and the contractual terms and conditions. This reduces the risk of dual agreements.
- If the gas supplier is unsure about whether a new gas user has a gas grid agreement, it can send PRODAT message Z01 to the grid owner for confirmation. To ensure the procedures can be followed, it is important that when a party takes over or leaves a facility that this is registered immediately in the grid owners' systems.
- Only the holder of the gas grid agreement can enter into a gas sale and purchase agreement with a gas supplier for the facility in question.

Commencement of gas supply can be the outcome of a takeover and a new connection, and these events are governed by the Natural Gas Act, the Metering Regulations, and the general contractual terms and conditions. The leaving procedure on the other hand is not regulated in law, only in the general contractual terms and conditions. Under the Natural Gas Act, it is also required that the gas user has entered into a gas grid agreement before they can enter into a gas sale and purchase agreement, and it is only the party that has entered into a gas grid agreement that can then enter into a gas sale and purchase agreement with a gas supplier of their choice.

1.1 Entering into a gas grid agreement



A gas grid agreement must be entered into between the grid owner and the gas user. For grid connection and transmission of gas, the Swedish Gas Association, following agreement with the Swedish Consumer Agency, has produced two different versions of the general contractual terms and conditions. For consumers, there is the standard agreement 'Gas Grid 2022 K', and for businesses and similar operations there is 'Gas Grid 2022 N'.

Under the Natural Gas Act (Chapter 8, Section 14) when an individual gas grid agreement has been drawn up with a consumer, it must include the following information:

- The name, address, telephone number, and website of the grid owner
- The grid owner's undertakings towards the consumer
- The date on which the agreement was entered into
- Where information about the grid owner's prices, terms and conditions can be found
- Terms and conditions for invoicing and payment
- Terms and conditions for terminating the agreement
- Terms and conditions for compensation if the grid owner fails to discharge its undertakings

The gas grid agreement between a grid customer and the grid owner can also be supplemented with the following information:

- Customer name and invoicing address
- Company registration number/Patent and Registration Office certificate, or civic registration number
- Facility address/Property designation
- Gas offtake point ID
- Area ID
- Calorific value area
- Validity period
- Scope of supply (energy and output)
- Connection point
- Connection date
- Metering frequency
- Grid tariff
- Connection charge
- Terms and conditions for excess offtake
- Dispute procedure
- Terms and conditions for system inspection
- Terms and conditions for assignment of a gas supplier
- General contractual terms and conditions
- Other special terms and conditions

Gas grid agreements between grid owners can also be supplemented with the following information:

- Company registration number/Patent and Registration Office certificate or civic registration number
- Area ID
- Validity period
- Border point
- Capacity and pressure at the border point
- Pricing terms and conditions governing a deviation from an agreed capacity
- Gas quality
- Terms and conditions for settlement
- Procedures for reporting metering data
- Terms and conditions to ensure capacity in an upstream grid bordering an adjacent country
- Terms and conditions for technical maintenance, emergency response service, and contingency arrangements
- Grid tariff
- Disputes
- Confidentiality
- Special and general contractual terms and conditions

Informing the customer: Rights and complaints procedure

Under the Natural Gas Act (Chapter 8, Sections 18 and 20), consumers who are a party to an agreement must also be informed about their rights. This can be done directly in the agreement although it is also acceptable to have all the necessary information on the company's website and it is then simply a matter of including a note in the agreement stating where the information can be found. The information must include details of the procedure if a gas user wishes to file a complaint; details of the grid owner's complaints procedure; where the gas user can turn to for further information or to have a dispute resolved; and information about independent advice for users, stating where they can receive advice on available energy efficiency measures and comparison profiles. If the gas user would like this information in writing, their request must be met.

1.1.1 Satisfying a need for a gas grid agreement

When taking over a facility, a gas user must first enter into a gas grid agreement for the new address with the grid owner. A gas sale and purchase agreement can then be entered into with a gas supplier. Takeover can take place at any time during the month and in that case the gas user has the right to begin receiving gas from a supplier of their choice from the takeover date. If no gas sale and purchase agreement is entered into between the gas user and a gas supplier, the grid owner must assign a gas supplier to the gas user. For further information, see section 4.1.

As it is the grid owner that has all the information about the gas user and the offtake point at its disposal, and it is charged with the task of carrying out a meter reading when the gas user takes over and leaves, the grid owner is the primary point of contact during the relocation process. All necessary details are provided by the grid owner.

A gas grid agreement remains valid until it is terminated by the gas user or a new gas user notifies the grid owner that it has taken over. In the latter case, the grid owner contacts the contracting party that is leaving to give them an opportunity to confirm that the gas grid agreement will cease. The grid owner can thus continue charging a gas user until the gas user terminates their agreement, or a new gas user notifies the grid owner that they have taken over the facility.

1.1.2 Satisfying a need to amend a gas grid agreement

The terms and conditions in the gas grid agreement may need to be adjusted when the nature of the agreement is changed, and/or changes are made to the facility. Examples of situations when the agreement must be changed are

1. Changes to an agreement
   - Private individual - > Business operator and vice versa
2. Changes in offtake requirements

1.1.3 Initiating a change to a facility

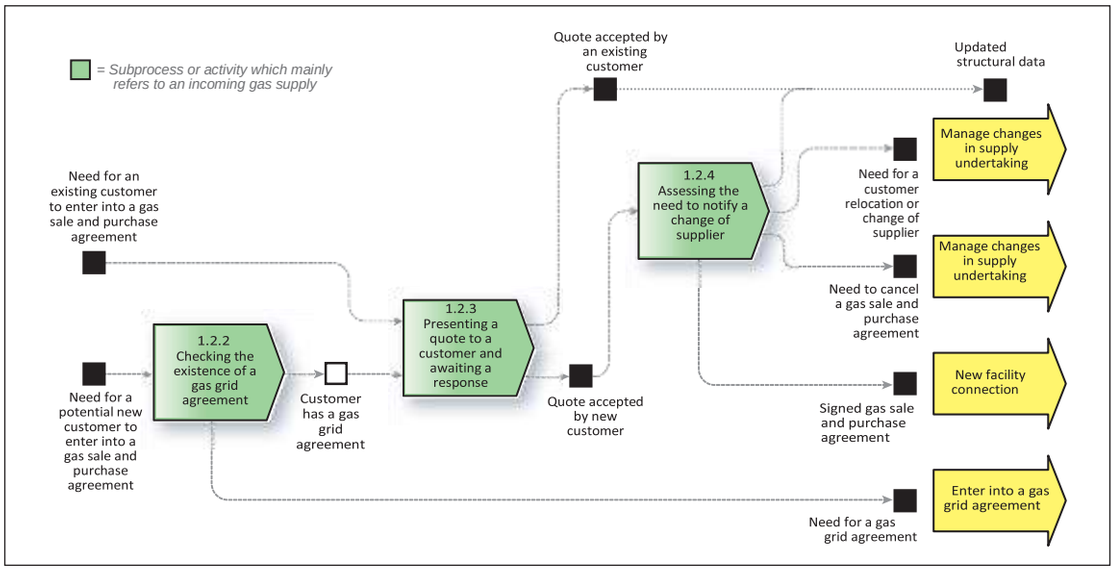
A gas user reports a change to a facility to the grid owner.

For further information, see Chapter 2.

1.1.4 Updating structural data and customer data

When there is a new gas user at the offtake point, the gas user data must be registered in the grid owner's system. If the contractual terms and conditions are changed as a result of a change in the type of agreement, e.g. from a private individual to a business operator, this must be registered to ensure the data is kept up to date. If a change takes place at a facility that affects the gas grid agreement, this must also be registered. All updates that are made and which affect one or more gas suppliers must be reported according to the current rules.

1.2 Entering into a gas sale and purchase agreement



A gas sale and purchase agreement is entered into between the gas supplier and the gas user. This can either come about through direct contact with the gas user, a letter of authority, or an assignment procedure. When a gas sale and purchase agreement is to be entered into, the gas supplier must always apply the current contractual terms and conditions. However, before they can choose a gas supplier, the gas user must have a gas grid agreement (Chapter 7, Section 4 of the Natural Gas Act). It is therefore important that the gas supplier checks that the gas user has a current gas grid agreement for the offtake point in question before the gas supplier and the gas user enter into a gas sale and purchase agreement.

A gas sale and purchase agreement could be linked to the offtake point or to the gas user. Regardless of whether the gas sale and purchase agreement stipulates that the supply applies to a certain offtake point or gas user, it must be terminated on leaving. If the gas sale and purchase agreement is linked to the offtake point, a new gas sale and purchase agreement must be entered into. If the gas sale and purchase agreement is linked to the gas user, it can be transferred to the new offtake point.

Under the Natural Gas Act (Chapter 8, Section 13) when an individual gas sale and purchase agreement is drawn up with a consumer it must include the following information:

- Name, address, telephone number, and website of the gas supplier
- Gas supplier's undertakings to the consumer
- Date on which the agreement is entered into and the date the change of supplier will take place
- Where information about the gas supplier's prices, terms and conditions can be found
- Terms and conditions for invoicing and payment
- Term of the agreement, i.e. the date on which the agreement ceases or whether it remains in force until further notice
- What applies for a fixed-term agreement to be extended
- Terms and conditions for terminating the agreement
- How compensation is estimated if a fixed-term agreement is terminated prematurely
- Terms and conditions governing compensation if the gas supplier fails to discharge its undertakings
- Other ways in which the gas supplier, both on its website and on request, can provide further consumer-related information as stated.

In addition to the above information and what is set out in the general contractual terms and conditions, a gas sale and purchase agreement for customers in general ought to, as a minimum, include the following information:

- Agreement term (Start date and possible end date)
- Invoicing address
- Type of invoice
- Information about what applies when vacating a facility
- Price
- Energy tax category
- VAT
- Agreement ID
- User's identity at the gas supplier
- Supply address
- Grid owner
- Offtake point ID
- Possible period of notice
- Gas supplier's registration number

It is important that the gas supplier checks that no changes have been made to the agreement after it has been entered into with the gas user and that any company signatory is authorised to act in that capacity. The gas sale and purchase agreement between the gas user and the gas supplier ought to be formulated with sufficient clarity that both parties know exactly what applies in the event of possible contractual interpretation at some point in the future.

Informing the customer: Rights and complaints procedure

Under the Natural Gas Act (Chapter 8, Sections 18 and 20), consumers who are a party to an agreement must also be informed about their rights. This can be done directly in the agreement although it is also acceptable to have all the necessary information on the company's website and it is then simply a matter of including a reference in the agreement stating where the information can be found. The information must also include details of the procedure if a gas user wishes to file a complaint; details of the grid owner's complaints procedure; where the gas user can turn to for further information or to have a dispute resolved; and information about independent advice for users, stating where they can receive advice on available energy efficiency measures and comparison profiles. If the gas user would like this information in writing, their request must be met. Under the Natural Gas Act, the gas user must receive this information before the agreement is entered into or confirmed.

12.1 Cooling-off period

A gas sale and purchase agreement can be entered into in different ways – verbally, in writing, by telephone, online, or on-premises. If the agreement has been entered into remotely or off-premises, the rules regarding a cooling-off period come into effect. 'Entering into an agreement remotely' means that it must have been entered into using a remote agreement system set up by the vendor. Consequently, communication does not need to have taken place 'face to face'. Examples of remote agreements are agreements entered into by telephone, online, or when the customer replies to an advertisement or a mailshot. The Act is applicable regardless of who made contact initially.

The term 'off-premises' means that the agreement was entered into in one of the following ways:

1. When the business operator and the consumer were present at the same time at a place other than the business operator's permanent or temporary place of business.
2. The consumer is provided with a quote at such a place, on the business operator's premises, or with the aid of some form of remote communication immediately in conjunction with the consumer being contacted by the business operator at another location where they were both present at the same time.
3. During a trip organised by the business operator for marketing and sales purposes.

The stipulation regarding a cooling-off period means the customer can change their mind within the cooling-off period. The customer does not need to give any reason for exercising their revocation right.

The cooling-off period is the period of time within which the right to revoke an agreement must be exercised. The cooling-off period is 14 days. The time does not begin to run before the information set out in the Distance and Off-Premises Contracts Act has been provided.

According to the Act, there are numerous items of information that must be furnished to the consumer when entering into the agreement, including the vendor's name and address, price details, and what is applicable regarding a cooling-off period under the Distance and Off-Premises Contracts Act. In practice, this usually takes place through confirmation of what has been agreed or in a welcome letter.

There is no specific requirement with regard to how the customer must notify the company that they are exercising their revocation right, although written notification is always preferable in the light of its evidential

value should a dispute arise at a later date.

If the customer changes their mind during the cooling-off period, the change or facility takeover in conjunction with a new agreement must not take place. If the customer changes their mind later, it could be impossible for the gas supplier to revoke the change/new agreement as cancellation must take place no later than four days prior to start of supply. In the case of a change, the customer can only switch back to their former gas supplier at a future date, i.e. in accordance with the regular change of supplier procedure. It is also important to bear in mind in this respect that what is termed a discontinuation charge could be payable if the customer changes their mind after the cooling-off period.

1.2.2 Checking the existence of a gas grid agreement

The procedure described in this section is used when an existing gas user at the supply point intends to enter into or has entered into a gas sale and purchase agreement with a gas supplier, or when the gas user intends to enter into or has entered into a gas sale and purchase agreement with a gas supplier that comes into effect on a specific takeover date at a new supply point. The gas supplier can in that case send an enquiry to the grid owner using PRODAT message Z01, subtype L or LK. Z01L/LK must include the information included in the current EDIEL instruction for PRODAT.

When the grid owner has received a Z01L or Z01LK, the information and the message are checked against the information in the customer database. The gas supplier must have an agreement with or a letter of authority from the gas user for the message to be processed.

If the information is correct, the grid owner responds within 30 minutes with a Z02L or Z02LK containing the information stated in the current EDIEL instruction for PRODAT. As a Z02 is sent within 30 minutes, the gas supplier does not need to request an APERAK in a Z01. If the gas supplier still requests an APERAK in a Z01, this must be sent by the grid owner. To ensure the message has reached the recipient, which is a requirement under the Metering Regulations, the grid owner must always request an APERAK in a Z02.

If, however, the information sent by a gas supplier deviates from the information in the grid owner's customer register, the grid owner sends a negative APERAK to the gas supplier within 30 minutes. The APERAK must contain the error codes stated in the current EDIEL instruction for PRODAT. On receipt of a negative APERAK, the gas supplier contacts the gas user to adjust the information and the process thus begins again. The gas supplier could, for example, have sent an incorrect customer identity, and in that case it must check the information with the gas user.

If the gas user has a protected identity, the gas supplier must contact the grid owner to obtain information about the gas user to the extent this is necessary. To ensure no information is provided in error, it is even more important in this case that the gas supplier can produce a letter of authority from the gas user.

1.2.3 Presenting a customer with a quote and awaiting a response

The following process ought to be used when the gas supplier offers a gas sale and purchase agreement to a new customer:

1. Receipt of a written or verbal enquiry from the gas user.
2. Examination of the gas user's wishes.
3. Credit check.
4. Preparation of a quote.
5. Draft gas sale and purchase agreement and quote sent to the gas user or their agent. The quote states that that the gas user must have a gas grid agreement before a gas sale and purchase agreement can be entered into.

Examples of information that ought to be included in the quote:

- Prices/terms and conditions
- Volume per facility (Information obtained from the gas user)
- Area ID (Information obtained from the gas user)
- Calorific value area
- Any additional services/undertakings
- Any limitations in the terms and conditions of supply
- Energy and carbon tax
- Terms and conditions of payment
- VAT
- Offtake point ID at the gas grid owner (Information obtained from the gas user)
- Gas supplier's/gas user's rights and obligations
- Agreement term (possible period of notice)
- Validity period
- Estimated date on which supply will start
- Contact person for the agreement

Gas suppliers sometimes send out notifications of interest to gas users regarding gas sale and purchase agreements. For a valid gas sale and purchase agreement to be entered into, acceptance by the gas user is required, either verbally or in writing. However, a verbal acceptance could be problematic from an evidential point of view.

The following process ought to be used when a gas sale and purchase agreement is offered to an existing customer:

1. Receipt of a written or verbal enquiry from the gas user.
2. Examination of the gas user's wishes.
3. Credit check.
4. Preparation of a quote.
5. Proposed gas sale and purchase agreement sent to the gas user or their agent.

Examples of information that ought to be included in the quote:

- Prices/terms and conditions
- Volume per facility (Information obtained from the gas user)
- Area ID (Information obtained from the gas user)
- Calorific value area
- Any additional services/undertakings
- Any limitations in the terms and conditions of supply
- Energy and carbon tax
- Terms and conditions of payment
- VAT
- Offtake point ID (Information obtained from the gas user)
- Gas supplier's/gas user's rights and obligations
- Agreement term (possible period of notice)
- Validity period
- Estimated date on which supply will start
- Contact person for the agreement

Informing the customer: Amended contractual terms and conditions

A gas supplier who intends to change the terms and conditions of a consumer agreement that will remain effective until further notice, must inform the consumer about the change according to the Natural Gas Act (Chapter 8, Section 16). Notification must take place by sending a message to this effect to the consumer. The message can be sent together with an invoice, although the information must be formulated in a way that it is not interspersed with other information. It must be stated in the message that the consumer has the right to terminate the agreement. The new terms and conditions must not come into effect until at least two months have elapsed from the date the message was sent.

A gas user can either personally enter into a gas sale and purchase agreement with full details or issue a new gas supplier of their choice with a letter of authority to obtain the necessary details from the parties involved (grid owner and current gas supplier). This includes the following:

- Offtake point ID
- Area ID
- Calorific value area
- Annual energy consumption
- Current gas supplier
- Period of notice for a current gas sale and purchase agreement
- End date for a current gas sale and purchase agreement.

Handling of a letter of authority

The gas user receives information from the grid owner on a regular basis via the invoice, and this includes the information required to change supplier, such as the facility ID and area ID. In conjunction with a change of supplier and takeover, the grid owner must also provide information to the gas user about which gas supplier is supplying gas to the facility.

If, despite this, the gas user does not have access to the necessary information when the gas sale and purchase agreement is entered into with a new gas supplier, the gas user can issue a letter of authority to the gas supplier who can act on behalf of the gas user to obtain the information required to implement the change of supplier.

Requirements regarding the formulation of a letter of authority

A letter of authority is a legal means by which a party (natural person or legal entity) allows another party (natural person or legal entity) to handle or take action relating to a particular issue on their behalf.

The party issuing a letter of authority must be authorised to do so, i.e. the issuer must be the party who would otherwise have a right to act in the matter in question. The issuer of a letter of authority is responsible for ensuring they are fully aware of the consequences of issuing a letter of authority. As with the agreements entered into by the gas user, the gas user is also responsible for any letters of authority that are issued. If the issuer of the letter of authority (the gas user) changes their mind and wishes to revoke the letter of authority, they are responsible for notifying the holder of the letter of authority (gas supplier) of their intention. It is also the responsibility of the party issuing the letter of authority to inform any recipients that the letter of authority has been revoked.

There are no standard requirements for how a letter of authority must be formulated. Authority granted verbally is just as valid as a written letter of authority. Issuing a verbal letter of authority could, for example, be in the form of an audio recording. A written letter of authority does not need to be witnessed, be on paper, or be handwritten. One example of a written letter of authority is a digital letter of authority issued online. Regardless of the formulation of the letter of authority, the holder who invokes it must be able to demonstrate the scope of the letter of authority, i.e. the way in which it is formulated, as well as the identity of the issuer. If, however, a person who has been issued with the letter of authority invokes the General Data Protection Regulation (GDPR) in order to obtain information about the issuer of the letter of authority, the letter of authority must be in writing, be on paper, and be issued personally.

An enquiry from a holder of a letter of authority acting on behalf of the gas user with the support of a valid letter of authority must be treated in the same way as if the same enquiry came directly from the gas user, e.g. in relation to the processing time for a specific matter, and a response must be sent to the person authorised to receive the information. The holder of a letter of authority is only entitled to request information covered by the letter of authority. It is the person who adduces the letter of authority who bears the evidential burden of proving the letter of authority exists and is valid.

The recipient of a letter of authority (grid owner or current gas supplier) has both the right and the obligation to take the measures necessary to verify the validity of the letter of authority. Consequently,

the person who provides information is entitled to see the letter of authority that has been invoked. Verification of the letter of authority must take place objectively and be limited to questions relating to the validity of the letter of authority, e.g.

- that the issuer of the letter of authority is authorised to do so,
- what the holder of the letter of authority is entitled to obtain information about,
- that the letter of authority is correctly formulated if the information is being requested under GDPR,
- that the period of validity of the letter of authority has not expired. If no end date has been given, the letter of authority remains valid until further notice.

If the letter of authority is found to be invalid, the request made by the holder of the letter of authority must be rejected. If the information that is being sought is not covered by the letter of authority, the request must be treated as if it was the holder of the letter of authority (gas supplier) who asked the question, not the issuer of the letter of authority (gas user).

Partner letter of authority

A gas sale and purchase agreement could be sold through what is popularly known as a 'partner letter of authority'. A 'partner letter of authority' means that someone (not necessarily a cohabiting partner or spouse, although the person must have reached the age of majority) enters into a gas sale and purchase agreement in place of the person responsible for the gas grid agreement.

A partner letter of authority is a letter of authority in two stages:

1. The person who entered into the gas grid agreement issues a letter of authority to a person permitting them to enter into a gas sale and purchase agreement on their behalf (verbal or written).
2. The person who has been issued with a letter of authority according to stage 1 issues a letter of authority to a gas supplier to obtain information to facilitate a change of a gas sale and purchase agreement.

A grid owner is always under an obligation to verify the correctness of the letter of authority before information is provided. If there is no reason for the grid owner to question whether a letter of authority has been issued by the party who has the gas grid agreement to the recipient according to stage 1, the partner letter of authority must be approved.

If the grid owner considers any of the stages in the letter of authority procedure to be unclear, the grid owner must notify the gas supplier. As the gas supplier acting under the letter of authority always bears the burden of proving the letter of authority is correct at each stage, the gas supply company in question is obliged to supplement the letter of authority with correct information before processing of the matter continues.

Letter of authority in conjunction with a change of supplier

When a party, with the support of a valid letter of authority issued by a gas user, requests information, they are acting on behalf of the gas user. This means the holder of the letter of authority is treated as if they were the gas user and the matter should be handled in the same way as if it is the gas user personally who is asking the question or requesting information. This means in practice that the holder of the letter of authority must have their enquiry processed within the same period of time that would have been the case if the equivalent enquiry came from the gas user.

Under the Natural Gas Act, changing supplier takes place at no cost to the gas user. Consequently, information requested by a gas supplier who has been issued with a letter of authority by the gas user for the purpose of implementing a change of supplier must be provided free of charge.

The gas user, via the letter of authority, grants the holder of the letter of authority (gas supplier) the right to act on the gas user's behalf, and the information must therefore be furnished directly to the holder of the letter of authority, i.e. not to the gas user. The information will then be passed on to the gas supplier. It should be stated in the letter of authority that the holder of the letter of authority is entitled to obtain information about the gas user and their facility and/or an agreement for the purpose of implementing a change of supplier. If the grid owner requests a letter of authority for the purpose of changing to a gas supplier outside their own group of companies, the same demands must be made as would have been the case with a change to a gas supplier within the group of companies. If the gas user is informed that a change of supplier had already commenced when the information was provided under a letter of authority, the same information must also be provided to gas users in all cases where a change of supplier process has commenced and not only in those cases where a letter of authority is involved, i.e. the equal treatment principle also applies here.

A letter of authority can also be used in conjunction with the termination of a gas sale and purchase agreement. In that case it is important that the letter of authority includes the right to terminate the agreement, and that it is

clearly stated that it is a matter of termination.

Should the gas user maintain that a change of gas supplier has not taken place correctly, the party contacted by the gas user (grid owner or gas supplier) is responsible for requesting that the matter be investigated (according to the general contractual terms and conditions Gas Grid 2022 K).

If a gas user is of the opinion that implementation of a change of supplier is incorrect, and the fault lies in the fact that the gas supplier is invoking a letter of authority which the gas user does not consider it has issued, it then becomes a matter between the gas user and the gas supplier. As long as the letter of authority satisfies the objective criteria for a letter of authority to be valid, the grid owner has no reason to take any action to 'safeguard' the gas user from the consequences of the letter of authority issued by the gas user to the gas supplier. If the gas user believes it was incorrectly treated or is dissatisfied, e.g. with the gas supplier's marketing methods, they can report the matter to the Swedish Consumer Agency, or the Consumer Ombudsman.

Further information about the handling of a letter of authority can be found in guidance issued by Swedenergy, which can be found at https://www.energiforetagen.se/globalassets/plattformar/elmarknadsutveckling/fullmaktshanteringen-i-leverantorsbytesprocessen.pdf

More than one supply agreement for an offtake point

The gas user can mistakenly enter into an agreement with a new gas supplier during a current agreement period. More than one supply agreement for the same offtake point normally means the gas user is in breach of the agreement, which could result in the gas user being liable for payment of compensation. The new gas supplier ought to inform the gas user about the situation that has arisen. Under the Natural Gas Act, the former gas supplier's supply obligation ceases when the new gas supplier begins supplying gas to the gas user. The grid owner must have no information about the gas sale and purchase agreements and must remain neutral as it is a matter that must be resolved between the gas supplier and the gas user. Cancellation of a change of supplier can be made by the new gas supplier if the parties are agreed, and if this takes place with sufficient time for the supply to still be cancelled.

If two different gas suppliers send a Z03 for the same offtake point and in respect of the same supply start date, the grid owner must register the report with the correct information that was received first. The second report must be rejected as a report has already been submitted regarding a change of supplier for the date in question.

12.4 Assessing the need to notify a change of supplier or other changes

When the gas supplier enters into a new agreement with a gas user, it could mean that the grid owner needs to be informed to allow any necessary changes to be made.

If a gas user is already being supplied by a gas supplier at the facility in question and chooses to re-sign or renew its gas sale and purchase agreement, no change of supplier message should be sent. If, however, the gas user enters into a gas sale and purchase agreement for what is a new facility for the supplier, or if the new gas user enters into a gas sale and purchase agreement for a facility, notification of a change of supplier must be sent.

Entering into a new gas sale and purchase agreement for a new customer and/or new facility

When the gas user and the gas supplier have agreed on terms and conditions of supply, the new gas supplier must notify the grid owner of the change of supplier. It must be stated in the gas sale and purchase agreement that the party that enters into a gas supply agreement is also the party that has the gas grid agreement with the grid owner. A change of supplier takes place at 06:00 current time.

When a gas user enters into a gas sale and purchase agreement for what is a new facility for the gas supplier, notification of a change of supplier must be sent. The same applies if a new gas user enters into a gas sale and purchase agreement for a facility, regardless of whether the facility is already known or not.

Entering into a new gas sale and purchase agreement for an existing customer and an existing facility

If a gas user is being supplied by a gas supplier at a current facility and chooses to extend or renew the gas sale and purchase agreement, no change of supplier messages must be sent.

Informing the customer: Confirmation that an agreement has been entered into

According to the general contractual terms and conditions, a gas supplier must as soon as possible send written confirmation to the gas user that a gas sale and purchase agreement has been entered into, regardless of whether the gas supplier has been agreed or assigned, stating the terms and conditions of the agreement, e.g. the start date and price. The gas supplier must also provide the gas user with the offtake point ID and area ID to allow the gas user to check the information.

Terminating an earlier agreement

The gas user is responsible for terminating the agreement with the current gas supplier according to the prevailing terms and conditions. The outgoing gas supplier confirms the termination and awaits a Z05L from the grid owner, stating that the gas sale and purchase agreement has been terminated, and includes the metering values for the gas user to be able send a final bill.

Gas supplier notifies the balance administrator

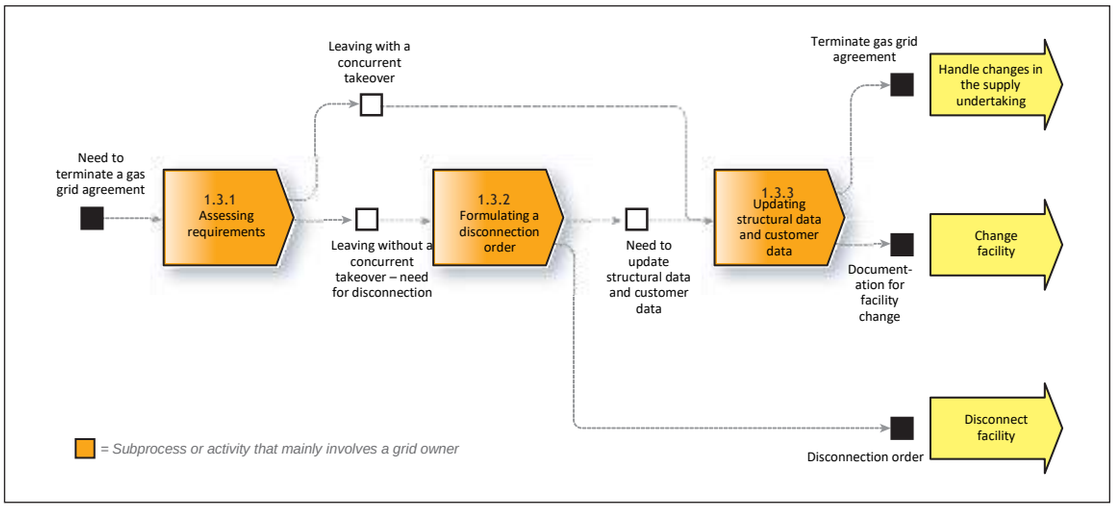
The gas supplier chosen by the gas user sends a consumption forecast to the balance administrator for the gas supplier's total use in each grid settlement area if this has been agreed between the balance administrator and the gas supplier.

When the gas sale and purchase agreement is terminated, the gas supplier sends an updated consumption forecast to the balance administrator for the current agreement.

Changing a civic registration number or company registration number

A change of civic registration number or company registration number must be treated as a relocation, i.e. that a new gas user is taking over at the offtake point. The parties involved ought to inform the gas user about this, as new agreements may need to be drawn up. If the gas supplier is to continue supplying gas according to the above, it must send a Z03LK to the grid owner for all current supplies to this gas user. Otherwise, the agreement is transferred to the assigned supplier.

1.3 Terminating a gas grid agreement



According to the general contractual terms and conditions, the gas grid agreement remains valid until further notice. The gas user must personally terminate their gas grid agreement with the grid owner and, unless agreed otherwise, the gas grid agreement ceases at the turn of the month immediately after six months have passed from the date of termination by the consumer. Termination can be either verbal or written. Termination by email is also classed as written termination.

Informing the customer: Confirmation of termination of an agreement

According to the general contractual terms and conditions Gas Grid 2022 K, the consumer must as soon as possible after termination receive written confirmation from the grid owner.

If the facility is not disconnected when the gas user leaves, the gas grid agreement is transferred to the new property owner if the grid owner has agreed with the property owner that the property owner is registered as a gas user at the offtake point. The gas grid agreement must otherwise be discontinued both when a facility is vacated and when a facility is decommissioned.

As it is the grid owner that has all the information about the gas user and the offtake point, and it is the party that carries out a meter reading when the gas user takes over and leaves, it is the grid owner who is the 'main point of contact' for the relocation process. All necessary information is therefore provided by the grid owner.

1.3.1 Assessing requirements

Leaving a facility is not regulated in the Natural Gas Act or the Metering Regulations, only in the general contractual terms and conditions. According to the general contractual terms and conditions, the gas user must personally terminate their agreement with the grid owner. Termination must take place no later than one month prior to leaving unless agreed otherwise, and it can be done either verbally or in writing.

The gas user's liability for payment for the gas consumed at the facility remains until the gas grid agreement has been terminated or a new gas user issues notification that it has taken over the facility and, by doing so, become liable for payment.

When the grid owner informs the gas supplier about leaving using PRODAT message Z05LK, the supply obligation ceases, which means the gas user's payment liability ceases for the offtake point in question. It is advisable for the gas user to notify both the grid owner and the gas supplier regarding termination although it is not necessary as the gas sale and purchase agreement must also be terminated when leaving.

Following termination of the agreement by the gas user, the grid owner is notified that the gas supply will be discontinued, and the offtake point will no longer have any gas supplier unless notification of commencement of gas supply is received.

Consequently, the grid owner also has time to disconnect the facility, e.g. in conjunction with the final meter reading, which must take place on cessation of the agreement. This only takes place if there is no new customer. See also sections 1.4 and 2.4.

Leaving a facility with a concurrent takeover

When one party leaves and another party takes over, the grid owner receives notification of relocation from the gas user that is leaving regarding their gas grid agreement. At the same time, the new gas user enters into a gas grid agreement for the same date and for the same facility.

If, however, the new gas user enters into a gas grid agreement with the grid owner before the period of notice by the outgoing gas user has come to an end, the earlier gas grid agreement will cease at the point the new gas grid agreement comes into effect. Notifications are sent according to the same rules as above.

Leaving without a concurrent takeover

The grid owner receives leaving notification from the gas user and subsequently sends a Z05LK to the gas supply company confirming the leaving date.

1.3.2 Formulating a disconnection order

A facility may need to be disconnected because of a party leaving without another party taking over at the same time. The grid owner should endeavour to disconnect offtake points that do not have a gas user. Further information can be found in section 2.2.

1.3.3 Updating structural data and customer data

As soon as the grid owner receives notification from the gas user that the gas grid agreement will cease, the grid owner is required under the Metering Regulations to register this without delay and send a Z05LK to the current gas supplier. The stipulation 'takes place without delay' also applies if the grid owner receives notification of an earlier or later point in time for terminating the gas supply, in which case a Z05C and a new Z05LK must be sent.

In those cases where there is a production facility at the same offtake point, this must also be decommissioned and a Z05LK must be sent to the existing gas supplier.

Leaving with a concurrent takeover

The grid owner sends a message with details of the date that has been registered as the leaving date, i.e. when the gas supply ceases, and a Z05LK is sent to the gas supplier. It should never be backdated. The report that is received first, takeover or leaving, governs the date used in the grid owner's Z05LK. If a Z03LK is not received, the grid owner must assign a gas supplier to the new gas user.

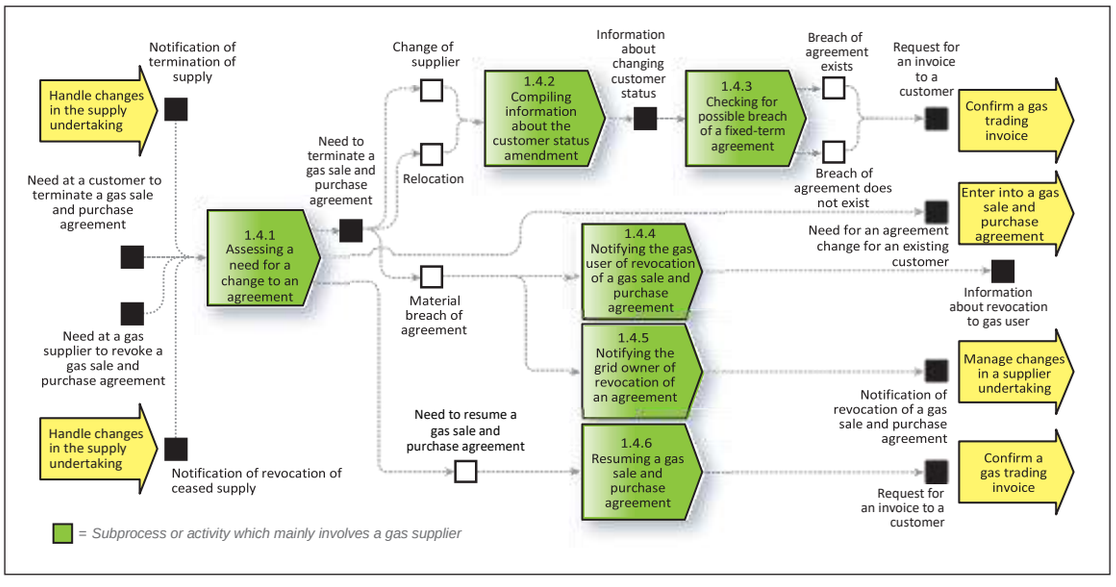
Leaving without a concurrent takeover

The grid owner ought to endeavour to disconnect offtake points that do not have a gas user.

1.3.4 Bankruptcy

A general rule in conjunction with bankruptcy is that the bankruptcy estate is entitled to take over the bankrupt party's agreement although there is no obligation. If the bankruptcy estate chooses to take over the agreement, it also takes over all the bankrupt party's rights and obligations. However, there are exceptions in those cases where the parties have decided in advance what will happen, in which case it is the rules that have been agreed on that apply. There are also cases where the solvent party can choose to discontinue the agreement as the bankruptcy could be deemed to be a breach of agreement that provides grounds for cancellation.

1.4 Terminating a gas sale and purchase agreement



1.4.1 Assessing a need to amend an agreement

Unless agreed otherwise, the agreement ceases to apply no later than the turn of the month immediately after a period of one month has passed from the date on which notification was issued by the consumer. The gas user is entitled to terminate the agreement verbally, in writing, or via a letter of authority. The gas user's payment liability thus continues until they terminate the gas sale and purchase agreement, and the period of notice has come to an end.

If the gas user has left the facility without terminating the gas sale and purchase agreement with the gas supplier, the gas sale and purchase agreement should still be deemed to have been terminated when the gas supplier receives leaving notification via a Z05LK from the grid owner and the gas supplier's supply obligation ceases. The gas user ought to notify both the grid owner and the gas supplier about the termination, although this is not a requirement as the gas sale and purchase agreement will be terminated when the gas user leaves. See also section 1.3.

When the gas sale and purchase agreement with the previous gas supplier is about to expire, the gas user can either terminate the agreement and choose another gas supplier, or they can enter into a new gas sale and purchase agreement with the existing gas supplier. Termination must take place on observance of the period of notice stipulated in the agreement. Details that ought to be included in the notice of termination are as follows:

- Date on which the agreement/gas supply ceases
- Customer number at the gas supplier
- Offtake point ID

Informing the customer: Confirmation of termination

On receipt of notice of termination from the gas user, the current gas supplier ought to send confirmation of termination to the gas user.

It should be stated in the confirmation that the gas sale and purchase agreement with the current gas supplier will remain in effect until the gas supplier receives a message from the grid owner that gas supply will cease (supply obligation under the Natural Gas Act).

14.2 Compiling information about a change of customer status

The gas supplier is entitled to debit the gas user according to the gas sale and purchase agreement during the period of notice. When the grid owner sends a Z05LK, it could be that the termination date differs from the date stated in the notice of termination. The gas supplier's supply obligation continues until the gas supply according to the Z05LK ceases. If the current gas sale and purchase agreement ceases before the grid owner's final date stated in the Z05LK, the gas supplier must notify the gas user about the terms and conditions that apply for the period up to the point at which the gas supply actually ceases.

14.3 Checking for a possible breach of a fixed-term agreement

The gas supplier's invoice ought to state the terms and conditions and the type of agreement (agreement period, notice of termination, price etc.) that have been agreed with the gas user. If the customer is fully informed there will be less risk of dual agreements.

If the gas user enters into an agreement with a new gas supplier and this new agreement begins to run before the old agreement has ceased, the old gas supplier is entitled to compensation under the general contractual terms and conditions. If the gas user would like the old agreement to continue, the gas user can request cancellation of the new agreement. This can only be done on condition that a Z03C message can be sent within the prescribed time period.

14.4 Notifying the gas user of cancellation of a gas sale and purchase agreement

In a situation where the gas supplier is entitled to discontinue supply as a result of a material breach of agreement on the part of the customer, the gas supplier must inform the customer that disconnection can take place if the breach of agreement is not rectified. If a gas user is a consumer and the breach of agreement is due to non-payment, the Natural Gas Act stipulates that notification of non-payment must be sent to the social welfare committee in the municipality in which the consumer's offtake point is located. If the claim is disputed, or if the customer rectifies the breach of agreement, disconnection is not permitted.

If, despite this, the customer does not rectify the breach of agreement, the gas supplier can choose to

- request that the facility be disconnected
- revoke the agreement and terminate the contractual relationship

A gas supplier has the option of first disconnecting the facility and then revoking the agreement. If the gas supplier chooses to disconnect the facility without revoking the agreement, the contractual relationship remains, and the gas supplier is obliged under the Natural Gas Act to continue supplying the customer until the customer leaves or another gas supplier takes over the supply. For details of the disconnection procedure, see Chapter 2.

If the gas supplier chooses to revoke the agreement without disconnecting, the contractual relationship is terminated, and the supplier must immediately inform the grid owner. If the gas user does not actively choose a new gas supplier, the grid owner must allocate supply responsibility to the assigned supplier. In that case, it is stipulated in the Natural Gas Act that both the grid owner and the assigned gas supplier must inform the gas user about the conditions that apply with regard to the assigned agreement.

If the gas supplier chooses to revoke the agreement, the gas user ought to be notified. Notification ought to include the date on which the agreement ceases as well as the reason and the consequences.

However, it is not possible for an assigned gas supplier to revoke the agreement in the event of a material breach of agreement by the gas user as the company is obliged to provide all gas users who do not have a gas supplier with a gas sale and purchase agreement. The assigned gas supplier is instead advised about the possibility of requesting disconnection to mitigate its losses if it emerges that a gas user has acted negligently.

In the case of gas users who are business operators, there are no special rules in the Natural Gas Act governing the right to discontinue supply to a customer who is in material breach of agreement, and this must instead be regulated in the general contractual terms and conditions for the industry.

14.5 Notifying the grid owner about revocation of an agreement

If a party is in material breach of agreement, the counterparty is normally entitled under contract law to revoke the agreement. The term 'revocation' refers to cessation of the contractual relationship. Any remaining unsettled issues between the parties must be resolved immediately in conjunction with revocation. From an evidential point of view, notification of revocation to the counterparty ought to be in writing.

In the matter of revocation, it is only the party terminating the agreement that can state at which point revocation will take place. When the agreement is revoked, the gas supplier notifies the grid owner using a Z08H. The date of revocation must be stated in the message. It should be noted that an agreement can never be revoked retroactively. A Z08H can be sent no later than the revocation date.

The grid owner responds to the Z08H by sending a Z05L to the former gas supplier and a Z04A to the assigned supplier if the grid owner does not receive a Z03L from another gas supplier chosen by the customer. The case reference number in the PRODAT message links the Z08H to the Z05L, and the Z05L

must contain the same end date as the Z08H. The time period for the Z05L and Z04A notifications belonging to MSCONS messages is the same as for a change of supplier.

Even if a gas supplier has a fixed-term agreement with a gas user, it is possible to terminate this agreement prematurely. The gas supplier can in that case levy a charge if this is stipulated specifically in the agreement with the gas user.

The grid owner informs the gas user about the assigned supplier. The metering procedures in conjunction with revocation are the same as for a change of supplier. An MSCONS message with the final meter reading is sent by the grid owner to the outgoing gas supplier and an MSCONS message with an opening meter reading is sent to the assigned gas supplier after the end of the supply period in accordance with the regular reporting deadlines.

It should be noted that a Z08H must not be used as a final means of revoking an agreement. A Z08H that has been sent must be responded to with a Z05L, termination of gas supply, not with a Z04C, revocation of gas supply. If a Z04C is sent, the gas supply is revoked, i.e. it never started. A Z05L terminates a gas supply i.e. the start date must have passed for supply to be terminated. Revocation messages must not be followed by metering values, although this must be the case for termination messages. Following revocation, the previously applicable party history is restored, although following revocation the assigned supplier takes over.

A Z08H cannot be revoked. If it emerges that the customer settles their debt in conjunction with revocation, and the gas supplier wishes to resume their business relationship with the customer, a new agreement must be entered into and messages must be sent according to the normal change of supplier procedure for the gas supply to be reinstated. This is regulated in the Contracts Act. In that case start of supply will be at least 14 days hence. See section 4.1 for further information about the change of supplier procedure.

1.4.6 Reinstatement of a gas sale and purchase agreement

If cessation of the gas supply is incorrect, or if the gas user issues notification of a different final date for discontinuation of the gas supply than was previously notified, the Z05L/LK must be revoked. The Metering Regulations do not state the date although the new end date ought to be sent before the gas supply is discontinued. This is done by the grid owner revoked the previous Z05L/LK with a Z05C and then possibly resending a Z05L/LK with a new date. Amendments to the leaving date should not be made retroactively.

If the gas sale and purchase agreement has been concluded on the wrong date or concluded incorrectly, the terms and conditions in the gas sale and purchase agreement continue to apply until the final date of the agreement or until a new discontinuation of supply date is received.

For further information about what is applicable when entering into and terminating gas sale and purchase agreements, see sections 1.2 and 1.4.

1.5 The Balance Administrator enters into a balance responsibility agreement with the System Balance Administrator

The balance administrator's responsibility is defined in the balance responsibility agreement with the system balance administrator and the balance administrator is required to comply with the following.

- Register as a shipper with Energinet
- Secure approval as an EDIEL party
- Register with the Swedish Tax Agency for payment of energy tax.
- Enter into and maintain a balance responsibility agreement with a system balance administrator. https://www.swedegas.se/vara_tjanster/systemansvar/balansansvar/villkor_och_avgifter
- Plan to achieve an internal balance, and a balance with gas trading companies with which it has an agreement.
- Submit plans for production, use, input, and offtake at a storage facility.
- Report details of bilateral trading for each trading point and counterparty.
- Function as a financial counterparty for settlement of imbalances.
- Ensure the balance settlement structure information is kept up to date.
- Check all relevant information from the system balance administrator and notify any deviations.
- Provide details of which gas supply companies the balance administrator is the administrator for, both with regard to production and consumption, in each grid area.

The gas supplier needs to enter into an agreement with the balance administrator on delivery of gas, more information about this can be found in section 4.2.

2 Connection and disconnection of a facility

This chapter deals with the procedures relating to the connection and disconnection of a facility.

Key starting points

- In this process, structural information is created that is important in the future exchange of information between the parties, e.g. customer details, facility number, and meter number.

Recommendations

- The grid owner ought to ensure that procedures and system support are designed in a way that critical structural information is made available as quickly as possible to facilitate the exchange of information with other parties.

2.1 Newly connected facility

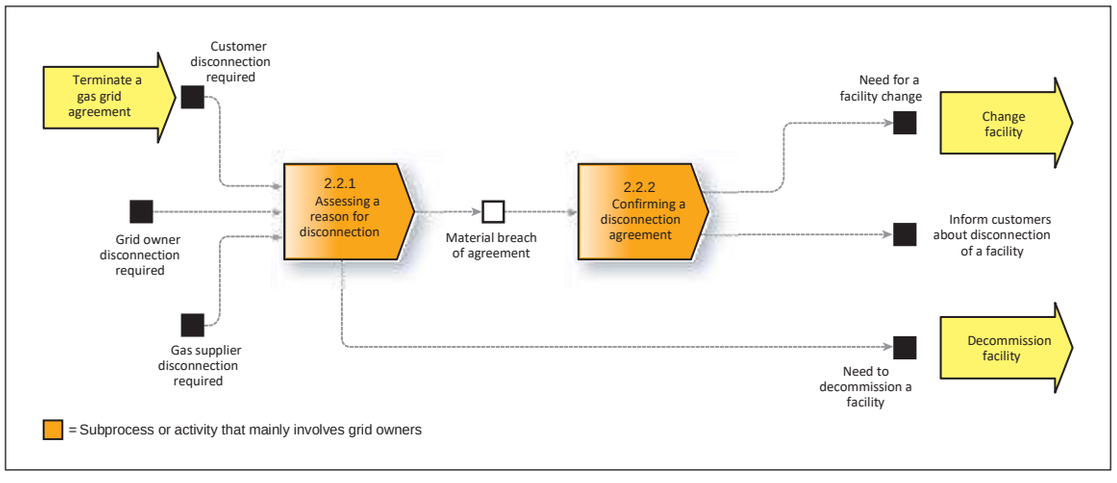
The term newly connected facility refers to the first connection made after the facility has been created. If there are no specific reasons for not doing so, a grid owner is obliged to connect customers to its grid on payment of a charge that the grid owner considers to be reasonable in the light of the conditions prevailing from case to case. A party wishing to connect to the grid contacts their nearest grid owner with a request for a connection quote. This can be done either by the potential end customer or by a gas supplier that is interested in selling gas to new customers. The methods employed by the grid owner for calculating new connection charges must be approved by the Swedish Energy Markets Inspectorate and must be published.

Before connection takes place, a connection and transmission agreement must be entered into. In the first instance it is the grid owner that decides which metering system the gas user must have at the offtake point. If a gas user below the non-daily limit (limit = annual consumption greater or equal to 3 GWh_l, or a maximum monthly consumption greater than 0.5 GWh_l) requests hourly metering, the gas user must meet the additional cost of the metering equipment.

The owner of a facility connected to the gas grid enters into a connection and transmission agreement with the grid owner. According to the general contractual terms and conditions for gas supply, it is the gas user that enters into a gas supply agreement and at the same time it is also obliged to have a current connection and transmission agreement. It is important that it is the same end customer (legal entity or natural person) who enters into both agreements. This facilitates processing in the event of a change in the supply undertaking.

According to the general contractual terms and conditions for connection and transmission, this agreement applies until further notice. Unless agreed otherwise, the connection and transmission agreement ceases six months after the gas user has issued the grid owner with written notification of termination. However, the agreement ceases to apply as soon as a new gas user takes over and enters into a new connection and transmission agreement.

2.2 Disconnecting a facility



The term 'disconnect a facility' refers to the physical discontinuation of the gas supply to the facility. An offtake point may be disconnected from the gas grid as a result of the following:

- A material breach of agreement with the grid owner or a gas supplier (according to the general contractual terms and conditions)
- A gas user leaves, but no new gas user takes over at the same time (according to the general contractual terms and conditions)
- At the request of the gas user if the user chooses to switch to another energy source or for some other reason wishes the supply to be disconnected.

2.2.1 Assessing reasons for disconnection

Breach of agreement with a grid owner and breach of agreement with a gas supplier must be assessed individually. For disconnection to take place, a breach of agreement must be material.

Discontinuation can be initiated by any of the following three parties: gas user, gas supplier, or grid owner.

- A gas user can request temporary disconnection in conjunction with redevelopment or permanent disconnection prior to decommissioning of the facility, see section 2.4.
- Grid owners can disconnect following a material breach of agreement according to the general contractual terms and conditions.
- A gas supplier can request disconnection of an offtake point following a material breach of agreement according to the general contractual terms and conditions. The gas supplier must in that case contact the grid owner for disconnection to be carried out.

2.2.2 Confirming a disconnection decision

Grid owner

If the grid owner is entitled to disconnect as a result of a material breach of agreement, the grid owner sends a Z06F to the gas supplier with a disconnection date, with the installation status set on closed, together with a related meter reading. When the facility has been disconnected, a Z06F with the installation status set on active is sent to the gas supplier together with a related meter reading.

Only a Z06F is sent to a possible future gas supplier although containing a date for start of supply and an updated installation status, but without a meter reading as the disconnection date refers to a date prior to start of supply by the incoming gas supplier. If connection also takes place before the upcoming change of supplier, no meter readings relating to disconnection/connection are sent to the incoming gas supplier. The first thing that is sent is a regular metering value report, although with customer reference P, as there are several PRODAT matters linked to the supply start date.

If the gas user changes gas supplier during the time the facility is disconnected, i.e. if the grid owner receives a Z03L for the disconnected facility, the grid owner must reply in a Z04L that the installation status is set on closed. The facility thus remains disconnected until the breach of agreement with the grid owner is resolved. When the facility is connected, a Z06F with the installation status set on active is sent to all the gas trading companies concerned.

Gas supplier

When choosing to disconnect, the gas supplier contacts the grid owner for disconnection to be carried out. As there is no message for this, the request is made manually (i.e. by telephone, email, regular mail, or other similar means) and not via PRODAT. The grid owner sends manual confirmation to the gas supplier about disconnection (often following a procedure set out by the gas supply company in conjunction with disconnection).

If the facility is disconnected for more than two working days, the grid owner registers the disconnection and a Z06F, with the installation status set on closed, and a related meter reading are sent to the gas supplier.

In those cases where a gas user wishes to change gas supplier at a facility that has been disconnected as a result of breach of agreement with the gas supplier, the grid owner is not permitted to refuse reconnection. If the grid owner receives a Z03L for the disconnected facility, the grid owner must respond, stating in a Z04L that the installation status is active. The facility then remains disconnected up to the point a new gas supplier takes over. According to the general contractual terms and conditions governing consumer gas grids, the grid owner is entitled to demand payment for disconnection and reconnection.

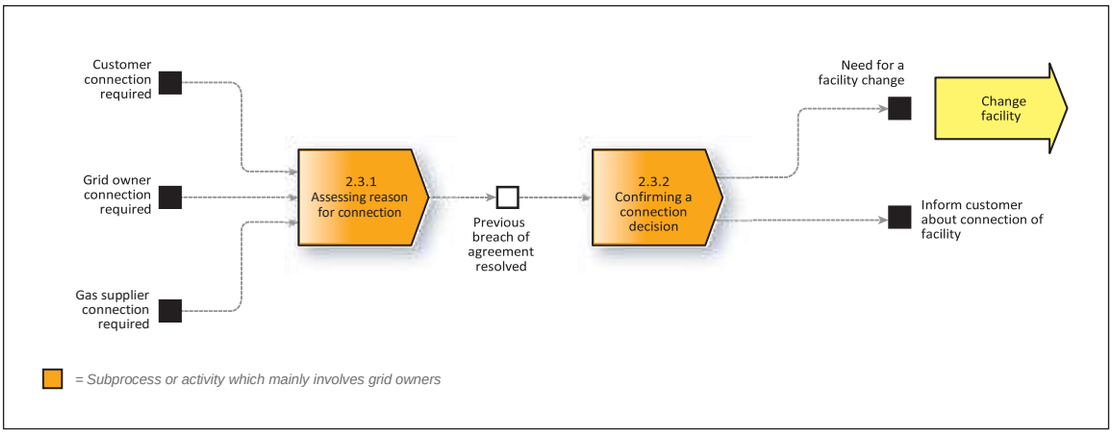
Informing the customer: Disconnection

Under the Natural Gas Act, a consumer must be given the opportunity to rectify the situation before disconnection is permitted.

In the event of non-payment, a special procedure must be followed before disconnection is permitted. This procedure involves the gas user being provided with information before disconnection takes place, and a message being sent to the social welfare committee in the municipality where the consumer receives the gas. The procedure is set out in the Natural Gas Act and in the general contractual terms and conditions for consumers. If there is a risk of significant personal injury or extensive damage to property, disconnection is under normal circumstances not permitted. If the gas user can confirm that payment has been made before disconnection, the grid owner is not permitted to disconnect the facility.

The grid owner is also permitted to discontinue gas transmission to carry out measures that are justified from a safety point of view or in conjunction with a disruption in supply. In the latter case, this does not apply to gas users protected under the Security of Natural Gas Supply Act.

2.3 Connecting a facility



'Reconnecting a facility' refers to connecting a facility following disconnection. When reconnecting a facility, the grid owner is involved at an early stage as it is the grid owner that reconnects the gas user's offtake point to the grid.

2.3.1 Assessing reasons for connection

Gas user

If the gas user has requested temporary disconnection of the facility – due to redevelopment for example – the gas user must notify the grid owner about when reconnection can take place.

Grid owner

The grid owner must check to verify the gas user has taken measures to rectify the material breach of agreement.

Gas supplier

The gas supplier must check if the gas user has taken action to resolve the material breach of agreement and notify the grid owner that reconnection can take place.

2.3.2 Confirming a connection decision

Gas user

Reconnection can take place after the all-clear has been received from the gas user that the facility is ready for reconnection.

Grid owner

When the gas user has taken measures to rectify the material breach of agreement, and the grid owner has reconnected the facility, the facility status and meter status must be updated within five working days. After the facility has been reconnected, a Z06F with the installation status set on active is sent to the gas supplier with a related meter reading. A Z06F should be sent on the same day that registration takes place.

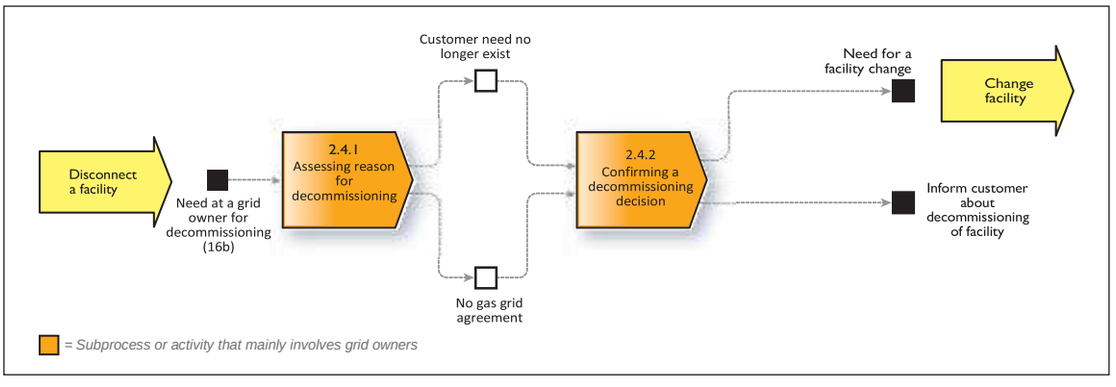
If messages relating to the facility are received during the time the facility is disconnected, these are

processed using the regular message processing system although with the installation status set on closed. On reconnection, a possible incoming gas supplier must also be notified that the installation status has been changed to active by means of a Z06F without a meter reading.

Gas supplier

Notification of reconnection is done manually, not automatically, by telephone according to an agreement reached between the grid owner and the gas supplier at the time of disconnection. If the facility has been registered as disconnected before reconnection is requested, reconnection should be registered within two working days. A PRODAT Z06F is sent, with the installation status set on active, to the gas supplier that has requested the reconnection.

2.4 Decommissioning a facility



'Decommissioning a facility' refers to the physical discontinuation of the gas supply and removal of the meter. Sections of the pipeline that were used exclusively to supply the facility can then be disconnected. Reconnection of a decommissioned facility requires a process equivalent to a new connection.

2.4.1 Assessing reasons for decommissioning

Gas user

The gas user terminates the gas grid agreement. If the gas facility is closed down permanently, this must be clarified in a way that allows the grid owner to reach a suitable decision regarding the decommissioning of the facility.

Grid owner

If there is no gas grid agreement, the grid owner can choose to decommission the facility. There are different reasons for the absence of an agreement. It could be due to:

- Planned decommissioning of the gas user's facility
- The property does not have a new gas user
- The gas user is not interested in taking over the gas grid agreement
- The property has been disconnected and there has not been a gas grid agreement for a long period of time even though the supply pipes are still operational.

2.4.2 Confirming a decommissioning decision

Grid owner

If there is no gas grid agreement for a particular offtake point, the grid owner must examine which measures are appropriate depending on the type of facility. The gas grid owner decides which part of the gas grid can or must be decommissioned when a gas facility has ceased operating and there is no gas grid agreement in place. In all cases where a gas facility is decommissioned, the facility is deactivated in the grid owner's systems. Various items of data must also be stored in the systems, including the facility history, metering values, and settlement.

3 Entering gas into the gas system

This chapter describes the process 'Entering gas into the gas system' with the associated subprocesses and activities that are included. The description is limited to the subprocesses in Sweden.

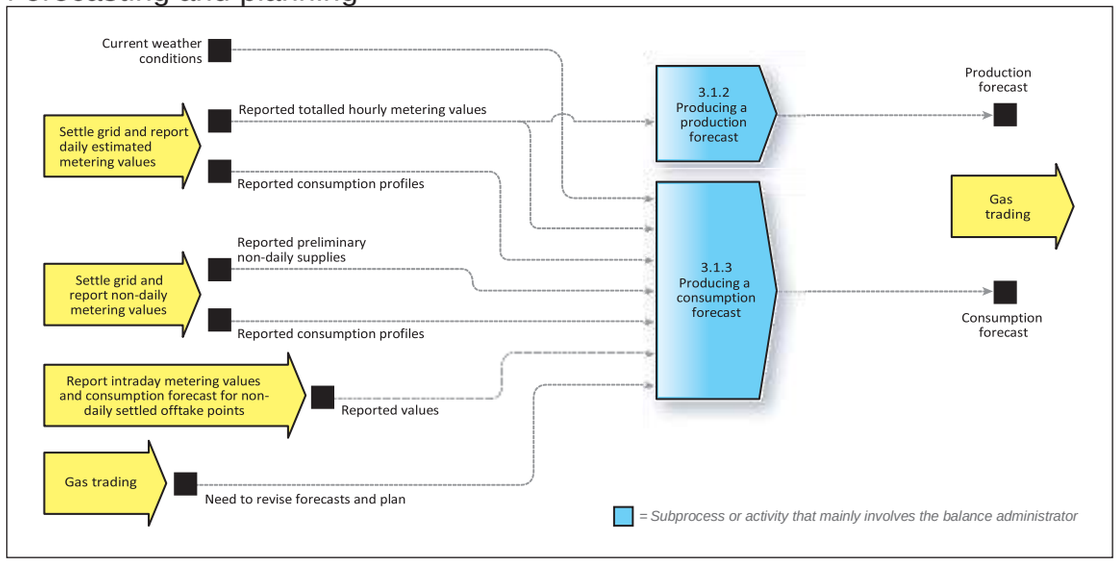
Key starting points

- The balance responsibility agreement governs the obligations of the balance administrator with regard to selling and purchasing and planning information.

Recommendations

- The balance administrator ought to update and report planning information on an ongoing basis.

3.1 Forecasting and planning



All production and consumption must be forecast in accordance with the balance responsibility agreement between the system balance administrator and the balance administrators. These forecasts must correspond to what is entered and withdrawn at all the input and offtake points for which the balance administrator is responsible. The Natural Gas Act only stipulates that there should be a balance administrator for each offtake point. For a system balance administrator to make a balance settlement between the balance administrators according to the balance responsibility agreement, there must also be a balance administrator for each input point. Normally, it is the balance administrator who prepares consumption and production forecasts. The balance administrator is always responsible for ensuring forecasts are reported to the system balance administrator.

Input and offtake data to facilitate forecasting is derived from the subprocesses 'Grid settlement and reporting hourly metering values' and 'Grid settlement and reporting non-daily metering values'.

The balance administrator needs to enter into a balance responsibility agreement with the System Balance Administrator, see more in section 1.5.

3.1.1 Planning information to the balance administrator

A gas supplier and balance administrator could have agreed that it is the gas supplier that provides the balance administrator with consumption forecasts for its gas deliveries. The agreement between the gas supplier and the balance administrator also specifies the totalling level on which the planning information should be based. The balance administrator then bases the forecast on the information provided.

3.1.2 Producing a production forecast

A production forecast includes domestic entry of gas within a gas system. At present it could be locally produced biogas or gas from a gasification plant. Production forecasts and consumption forecasts are then used as a basis for selling and purchasing in section 3.2.

3.1.3 Producing a consumption forecast

The balance administrator's consumption forecast is used as a basis for gas procurement. The balance administrator could have received underlying documents from the gas suppliers as a basis for its forecast. There are two types of consumption and the forecasts are prepared in different ways for each type.

1. Daily metered consumption

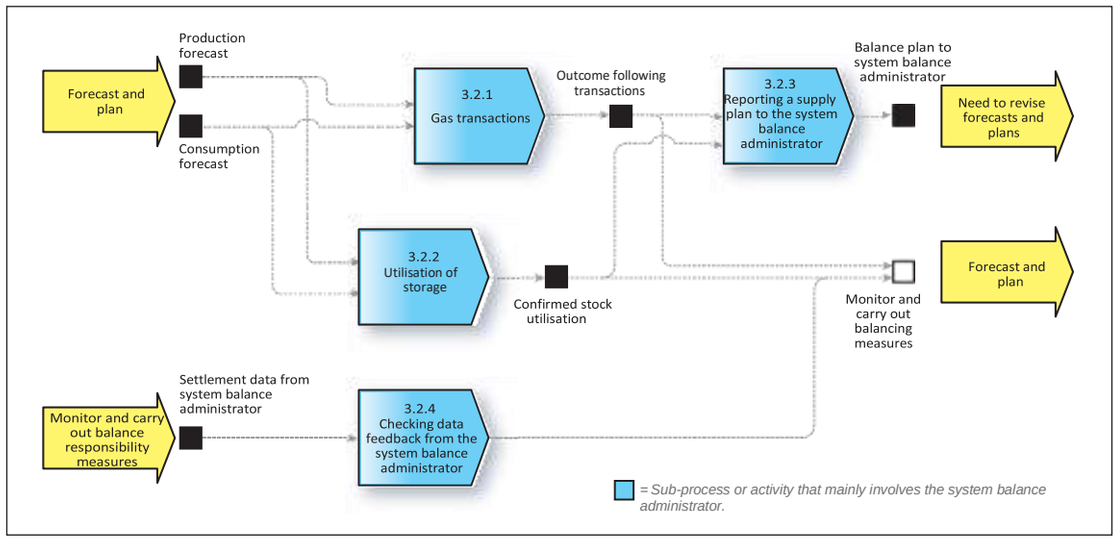
   The forecasts are based on reported hourly metering values from grid owners and weather forecasts from meteorological institutes.

2. Non-daily metered consumption

   The forecasts are based on reported allocations, preliminary allocation figures and consumption profiles from grid owners, a forecast from a system balance administrator, and weather forecasts from meteorological institutes.

The consumption forecasts and production forecast then form the basis for selling and purchasing in section 3.2.

3.2 Gas transactions



A gas supplier can enter into a gas supply agreement with one or more balance administrators for its total gas procurement. The agreements can refer either to actual consumption (full supply) or a combination of fixed gas volumes and gas balancing volumes (split supply). Balancing gas volumes are the difference between actual consumption and fixed gas volumes.

3.2.1 Gas transactions

To make gas transactions, the balance administrator must have booked capacity for the Joint Exit Zone (JEZ) (of which Sweden is part).

Gas transactions (primary market)

The balance administrator uses consumption forecasts and production forecasts to assess if/when they need to purchase gas to ensure the supply of gas into the system matches the balance administrator's customers' gas consumption. The balance administrator can purchase gas on the gas exchange and through bilateral transactions with another balance administrator.

Bilateral gas transactions (secondary market)

Bilateral gas transactions often refer to transactions between two balance administrators. These can be agreed well in advance and are known as fixed gas exchange but can also take place up to two hours before the operating hour when a system balance administrator ceases its reporting.

A system balance administrator or its agent must be informed about the nature of the relationship between two parties that have not previously exchanged gas with each other and where the transaction also takes place between different balance administrators. Structural notification regarding bilateral transactions must be sent to the system balance administrator in advance.

3.2.2 Utilisation of storage

Based on the forecasts and the transactions that have taken place, the need to utilise gas storage must be calculated. This assumes a valid storage services agreement is in place and the desired utilisation level has been confirmed by the storage company.

3.2.3 Reporting a balance plan to a system balance administrator

In its balance plan to the system balance administrator or its agent, the balance administrators must report bilateral transactions for each counterparty, as well as a production forecast, consumption forecast, trading at a border point, storage utilisation, and trading on the gas exchange. The balance plan must be submitted according to the time schedule set out in the balance responsibility agreement with the system balance administrator.

Corrected supply plans, trading at the border limit and trading in the gas exchange can be reported on an ongoing basis up to 2 hours before the operating hour. For storage utilisation and bilateral trading by counterparty, a lead time of 1 hour applies.

The balance administrator sends their planning information for each portfolio to the System Balance Administrator with message type NOMINT. The system balance administrator confirms the planning information by responding with a NOMRES.

The Swedish portfolios in JBZ:

- nDMS-SE
- DMS-SE
- STORAGE-SE
- RES Entry SE

3.2.4 Checking data feedback from a system balance administrator

A system balance administrator or its agent reconciles bilateral transactions and storage utilisation against counterparty data held by the system balance administrator, or it forwards this information for reconciliation by another system balance administrator or storage company. This is termed matching. Following reconciliation, bilateral transactions and storage utilisation are determined, whereupon the determined values are reported to the balance administrator for verification and for possible action to be taken if the reconciliation results deviate from the figures in the supply plan.

4 Maintaining structural data and customer data

This chapter deals with the Maintaining structural data and customer data process and the subprocesses and activities that are included, as set out below. These subprocesses cannot be linked to the role of an individual party as several parties are involved.

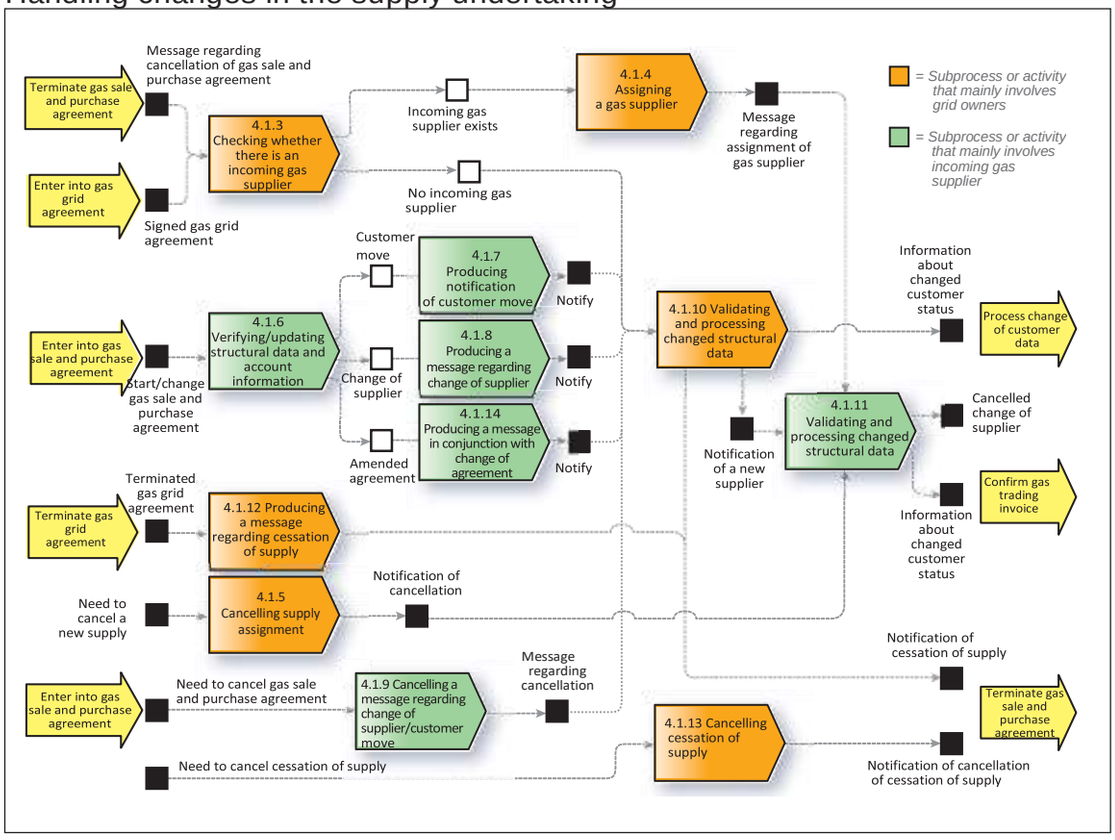
Key starting points

- Commencement and takeover of the gas supply is regulated mainly in Chapter 3 of the Metering Regulations.
- Regardless of whether it is a grid owner or gas supplier, the sender of a PRODAT message notifies the recipient if an APERAK and/or CONTRL is missing, is negative, or was not received within the stipulated time. The parties ought to check this on a daily basis and within three working days at the latest. This presupposes that the sender of the message can also identify messages that have not been acknowledged.
- To be able to change gas supplier, the gas user must have an active gas grid agreement for the facility in question.
- Under the Natural Gas Act, it is the new gas supplier that notifies the grid owner of a change of supplier and who ensures there is someone who has balance responsibility for the gas user's supply.

Recommendations

- To ensure the procedures can be followed, it is important that takeover and leaving are registered immediately in the party's system.
- The parties ought to work together to investigate the reason why information relating to a change of supplier does not concur with the information in their own customer register.

4.1 Handling changes in the supply undertaking



Takeover and a new connection are both classed as start of supply. When the gas user changes gas supplier, this is classed as a takeover of supply. The same rules apply to production facilities and consumption facilities, except for the possibility of assignment. The Metering Regulations set out the information provided in conjunction with a change of supplier. They also state that a confirmed EDIEL format must be used for reporting a change of supplier unless agreed otherwise.

Chapter 4, Section 4 of the Natural Gas Act stipulates indirectly that a gas user has a gas grid agreement and consequently the gas supplier ought to ensure that such an agreement is in place.

This also means that if the gas user is planning to move, the gas supplier ought to refer the gas user to the grid owner in order to terminate the gas grid agreement for the facility being vacated by the gas user. As soon as the grid owner receives notification of termination of the gas grid agreement from the gas user, the grid owner must, under the Metering Regulations, register the termination without delay and send a Z05LK to the current gas supplier.

A change of supplier can take place on any day of the month and the grid owner must be notified of the change no later than 14 days before supply is due to start. If, for example, a Z03L is received by the grid owner on Monday the 1st, it is permitted to commence supplying gas no earlier than Monday the 15th of the same month.

A change of supplier in conjunction with takeover can take place any time during the month on condition the gas user has a valid gas grid agreement. This means a Z03LK can be sent up to and including the whole of the takeover day.

For changes of supplier, the following change-specific activities must be carried out:

No.	Activity & time requirement	Sender	Recipient	Message type
1	Notify a change of supplier immediately, although no later than 14 days before the change is due to take place.	NGS	GO	PRODAT Z03L/LK
2	Create an application acknowledgement within 30 minutes of receipt of notification.	GO	NGS	APERAK
3	Confirm a change of supplier within 3 days of receipt of notification*).	GO	NGS	PRODAT Z04L/LK
4	Create an application acknowledgement within 30 minutes of receipt of a PRODAT.	NGS	GO	APERAK
5	Notify a change of supplier within 3 days of receipt of a notification*).	GO	PGS	PRODAT Z05L/LK
6	Create an application acknowledgement within 30 minutes of receiving a PRODAT.	PGS	GO	APERAK
7	Report a final meter reading, non-daily settled facility: Report a final meter reading no later than 10 working days from the change of supplier date. Daily settled facility: Stop reporting hourly values.	GO	PGS	MSCONS Product code 6113
8	Report an opening meter reading, non-daily settled facility. Report the opening meter reading no later than 10 working days from the change of supplier date. Daily settled facility: Begin reporting hourly values.	GO	NGS	MSCONS Product code 6113

Legend: GO = Grid owner, NGS = new gas supplier, PGS = Previous gas supplier at the time of notification of the current supplier

*) The assumption is that the time points for equivalent notification on the electricity market apply, as opposed to what is stated in the Metering Regulations for the natural gas market (5 working days)

The following also apply:

- The grid owner must notify the system balance administrator about which balance administrators will be added to a grid settlement area following standard notification. See separate section 'Notification of the addition and cessation of balance responsibility undertakings in section 4.2'.
- Preliminary allocation figures are reported no later than the 24th of the month prior to the supply month.

For formatting reasons, the previous gas supplier delivers up to 6am current time on the supply start date. The new gas supplier thus takes over supply from 6am current time on the supply start date. Accordingly, the outgoing gas supplier is permitted to charge up to 6am current time on the supply start date.

As the change of supplier can take place on any day, the gas user could have several different gas suppliers for a short period.

4.1.1 Case reference numbers in PRODAT

PRODAT messages contain a case reference number, making it easier to link them to each other in a flow. A sent Z03L/LK must be responded to with a Z04L/LK with the same case reference number. A cancellation message must always contain the same case reference number as its start message, i.e. Z03C, Z04C, and Z05C must always contain the same case reference number as their start message Z03L, Z03LK, Z04A or Z05LK. If a new Z04L/LK is sent following cancellation, it must have the same case reference number as the original Z03L/LK to which it is responding. If, however, a Z03L/LK, Z04A or Z05L/LK are cancelled and need to be resent, they must always be assigned a new case reference number. In that case it is the start message that is cancelled, and the process is consequently discontinued at the recipient. If the message needs to be resent, the process must be restarted from the beginning.

For a normal change of supplier or relocation process, the message flow is as follows:

Case reference number procedure – Z03L/LK-Z04L/LK-Z05L/LK – two gas suppliers involved

The incoming gas supplier sends a Z03L/LK with case reference number 174711. The grid owner responds with a positive APERAK and a Z04L/LK with case reference number 174711. The grid owner sends a Z05L/LK with case reference number 568947 to the outgoing gas supplier.

For a normal change of supplier or relocation process, with an associated cancellation process, the message flow is as follows:

Case reference number procedure – Z03L/LK-Z04L/LK-Z05L/LK-Z03C-Z04C-Z05C – two gas suppliers involved

The incoming gas supplier sends a Z03L/LK with case reference number 116717. The grid owner responds with a positive APERAK and a Z04L/LK with case reference number 116717. The grid owner sends a Z05L/LK with case reference number X to the outgoing gas supplier.

The incoming gas supplier sends a Z03C with case reference number 116717. The grid owner responds with a positive APERAK and a Z04C with case reference number 116717 and a Z05C with case reference number 654789 to the outgoing gas supplier.

If a current gas user at a facility wishes to leave its facility, and the new gas user would like the same gas supplier, the message flow is as follows:

Case reference number procedure – Z03LK-Z04LK-Z05LK – one gas supplier involved

The gas supplier sends a Z03LK with case reference number 123456 in respect of the incoming gas user. The grid owner responds with a positive APERAK and a Z04LK with case reference number 123456. The grid owner also sends a Z05LK in respect of the outgoing gas user, with case reference number 258456.

In conjunction with notification of a gas supply, the message flow is as follows:

Case reference number procedure – Z04A-Z04C – one gas supplier involved

The grid owner sends a Z04A to an assigned gas supplier with case reference number 123. The grid owner sends a Z04C with case reference number 123. A possible new Z04A sent by the grid owner must have a different case reference number, e.g. 456.

In the case of a notified change of supplier where the date is changed, the message flow is as follows:

Case reference number procedure – Z03L-Z03C-new Z03L

The gas supplier sends a Z03L to the grid owner with case reference number 123. When it emerges that the start date needs to be changed, the gas supplier sends a Z03C with case reference number 123, and a new Z03L must have a different case reference number, e.g. 456.

In the case of a notified relocation where the date is changed, the message flow is as follows:

> Case reference number procedure — Z05LK-Z05C-new Z05LK — one gas supplier involved
> The grid owner sends a Z05LK to the outgoing gas supplier with case reference number 123. When it emerges that the final date needs to be changed, the grid owner sends a Z05C with case reference number 123, and a new Z05LK must have a different case reference number, e.g. 456.

4.1.2 Structural change when a gas supplier acquires another supplier

The following checklist describes what a gas supplier ought to do in conjunction with the acquisition of another gas supplier and where one of the companies' EDIEL ID ceases.

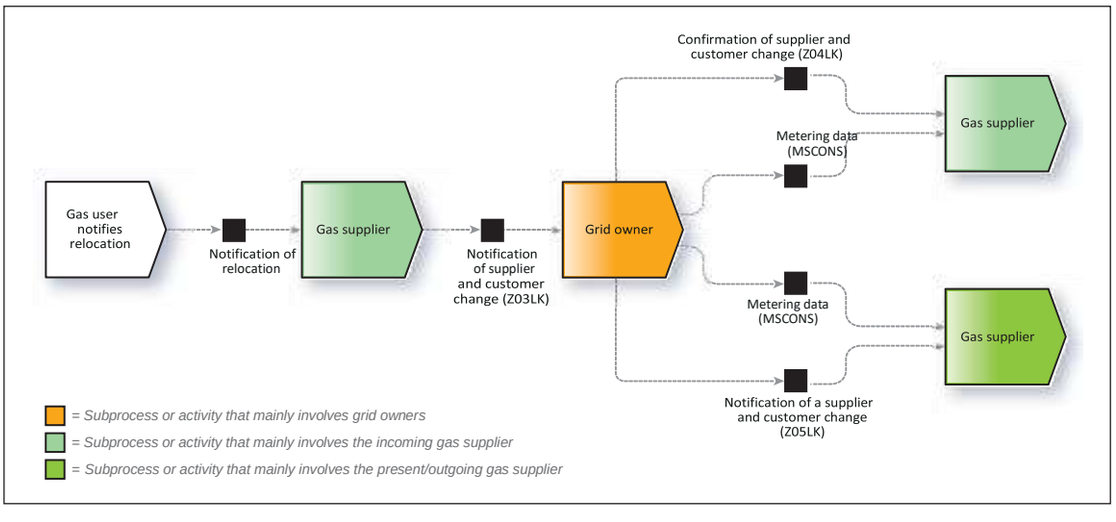
- Inform the gas users concerned well in advance and check that the wording 'The agreement can be assigned without the approval of the gas user' is included in the agreement. If this agreement wording is not included, the customer needs to be contacted with a new draft agreement. Alternatively, the existing agreement continues to apply with a new contracting party.
- The outgoing gas supplier secures the facilities by ordering information from the grid owners concerned and checking that the information concurs with their own information.
- Inform all the grid owners.
- The new gas supplier takes over the customer stock using the normal procedure set out in the change of supplier process. For further information, see section 4.1
- The new gas supplier reconciles the facilities against the requested facility information and ensures there are no facilities remaining on the EDIEL ID that are due to cease.
- Possible notification of removal of the EDIEL ID.

For the agreement to apply to the gas user, there are no rules other than what is stipulated under contract law. Consequently, if the agreement is to apply to the new gas supplier, the gas user must be notified of the change of supplier. This notification should be issued as soon as possible.

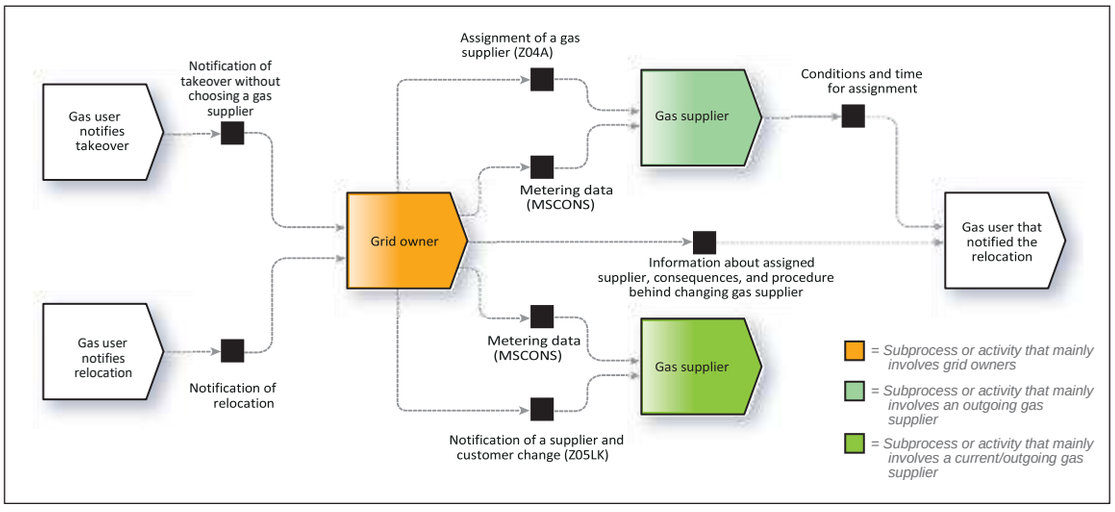
4.1.3 Checking if there is an incoming gas supplier

In conjunction with a new connection, takeover, or cancellation of a gas sale and purchase agreement, the grid owner must check if there is an incoming gas supplier for the facility.

As stated above, the gas user, when taking over, can choose its gas supplier up to and including the whole of the takeover date, and consequently the grid owner must await a possible Z03LK before assigning a gas supplier. Consequently, a Z04A cannot be sent earlier than the date after the takeover date.



4.1.4 Assigning a gas supplier



Under the Natural Gas Act, the grid owner is obliged to assign a gas supplier that undertakes to supply gas users who do not have a gas supplier. The grid owner ought to notify the assigned gas supplier that a gas user has taken over the facility no later than five days after supply has commenced (i.e. the takeover date or the date on which it comes to the knowledge of the grid owner that energy offtake has commenced). This is done by the grid owner sending a Z04A to the assigned gas supplier. This may be sent no earlier than the day after the takeover date.

Notification is sent to the gas supplier in the following circumstances:

- A Z03LK has not been received by the conclusion date (in the case of a new installation)
- A Z03LK has not been received by the takeover date
- The current gas supplier rescinds the agreement (for further information regarding rescission of an agreement, see Chapter 1.4.5)
- The current gas supplier becomes insolvent (for further information, see Chapter 4.1.15)

Informing the customer: Assigned gas supplier

When the grid owner assigns a gas supplier, the grid owner must inform the gas user without delay about which gas supplier has been assigned to them, as well as the consequences of the assignment, the stipulations in the Natural Gas Act regarding a change of gas supplier, and the date on which the assignment comes into effect.

If a gas user begins using gas without the grid owner receiving a Z03LK by the same date at the latest, the assigned gas supplier must automatically be deemed to be the gas supplier at the offtake point. The gas user must then pay the assigned gas supplier for the gas it has used. On receipt of a Z04A from the grid owner, the gas supplier is obliged under the Natural Gas Act to make available the terms and conditions it intends to apply to the gas supply and the date on which the gas supplier intends to start supplying gas under the agreement.

In the case of production facilities, a Z03LK must be received no later than the date the production facility is connected to the grid.

Informing the customer: Terms and conditions of assigned supply

The assigned gas supplier must inform the gas user without delay about the terms and conditions it intends to apply to the gas supply and the date on which the gas supplier intends to start supplying under the agreement.

4.1.5 Cancelling a new assigned supply

The grid owner can also initiate the cancellation process. If the assigned supply is not correct, it must be cancelled. One reason for it not being correct could be that the grid owner has not noticed that a message has been received about a change of supplier. If this happens, the previously sent Z04A must be cancelled using a Z04C. Only the grid owner can cancel an assigned delivery. The assigned supplier cannot relinquish its supply obligation on its own initiative.

4.1.6 Verifying/updating structural data and customer data

When a gas user enters into a new gas sale and purchase agreement with a gas supplier that already has the supply undertaking for the facility, a Z03L should not be sent as there will be no change of supplier. However, the gas supplier must update its system with the new terms and conditions governing the term of the agreement and the price. However, if the gas user and/or the facility is/are new for the gas supplier, a Z03L/LK must be sent.

The following information must be provided in conjunction with a change of supplier under the Metering Regulations (Chapter 3, Section 1) and EDIEL instructions:

- Notifying gas supplier (EDIEL ID)
- Receiving grid owner (EDIEL ID)
- Reference indicating that a gas supply agreement has been entered into with the gas user
- Offtake point ID
- Facility address
- Area ID
- Gas user's identity (civic registration number or company registration number)
- Gas user's name and address
- Reason for the notification (commencement or takeover)
- Gas supply start date
- Balance administrator (EDIEL ID)

Identification of the gas user

Under the Natural Gas Act (Chapter 7, Section 4) a gas user must have both a gas grid agreement and a gas sale and purchase agreement. To facilitate identification of the gas user at an offtake point, the customer ID field in the PRODAT messages in question must always be completed.

In the case of a Z03L/LK, the gas supplier's notification to the grid owner must, among other things, include the gas user's civic registration number or company registration number. The civic registration number is not mandatory, i.e. people with protected identity do not need to provide their civic registration number in order to change gas supplier. This also applies to non-Swedish citizens who do not have a Swedish civic registration number. If a civic registration number or company registration number cannot be used, the grid owner's registered customer identity for the offtake point should be used, and in the second instance their date of birth (first eight date of birth digits, including the century). To process a Z03L/LK that contains a civic registration number, the grid owner must register a civic registration number or a company registration number for its gas grid customers. It is therefore important that grid owners update their customer registers with this information. It is important that the gas supplier checks which customer identity number should be used in a Z03L/LK. Grid owners should confirm the change of supplier using the same customer identity number that was used in the request for a change of supplier (Z03L/LK).

Identification of a sole trader

Regardless of whether a gas supplier operating as a sole trader is registered as a private individual or a legal entity, the gas user's civic registration number is used as a customer identity number in messages exchanged between the gas supplier and the grid owner, i.e. format code SE2 and a 12-digit civic registration number. If the recipient of the message only has 10 digits registered (company registration number), this must not result in messages being rejected

Facility identification

In certain message flows, addresses must also be given. These are standardised as far as possible. In PRODAT messages, the address must be divided into specific fields according to the PRODAT instruction to allow automatic processing and interpretation of the information, ensuring all the parties involved have address details that are as correct as possible. Street address refers to both the street and the number, including any letter (A, B…). Where applicable, the apartment number (according to the national apartment register) is included, or the floor number if there is no apartment number. See examples below:

Procedure: Facility identification
Option 1: Hundvägen 7A apartment 1234
Option 2: Hundvägen 7A 5th floor

4.1.7 Producing a customer relocation message

A customer relocation means the offtake point acquires another gas user, which means termination must take place and a new gas grid agreement must be entered into. Only one gas user at an offtake point is permitted to have a gas grid agreement. Takeover can take place at any time during the month and in that case the gas user is entitled to select a gas supplier of their choice. This presupposes that there is a valid gas grid agreement in place and that a Z03LK has been received by the grid owner no later than the date on which gas supply starts.

Commencement of gas supply — change of gas supplier in conjunction with takeover and new connection

When the new gas supplier has entered into a gas sale and purchase agreement with the gas user, a Z03LK is sent to the grid owner. The aim of the notification is to inform the grid owner about when a change will take place and at which facility. To ensure processing of the grid owner takes place as quickly and automatically as possible, the offtake point ID and area ID for the facility must be correct, and it must be possible for the gas user to be identified.

Facility takeover

When taking over a facility, a Z03LK must always be used when notifying start of supply. To accommodate the gas user's choice of gas supplier, the grid owner must:

- approve a Z03LK if the stated start date is within +/-15 days (presupposing that a Z03LK is received by the grid owner no later than the takeover date, and other information in the notification is correct) or
- await a Z03LK if the gas user is not registered at the facility in question in the grid owner's system when notification is received (assuming that it is not possible to respond with a Z04LK within the prescribed time). In that case, the grid owner is required under the Metering Regulations to notify the gas supplier that a Z03LK has been received, that the gas user is not registered at the facility in question, and how long the matter will remain pending before a Z03LK is rejected unless the gas user issues notification that it is a matter of a takeover. In that case the gas supplier ought to contact the gas user and ask them to notify the grid owner about the takeover as soon as possible.

Procedure: Monitoring of a Z03LK — supplier change approved

The gas supplier sends a Z03LK with the start date 1 February. As the grid owner has not received any notification that a gas user has moved into the facility, the message is responded to with a positive APERAK and the grid owner informs the gas supplier by email that monitoring is taking place. The customer notifies the grid owner that it took over the facility on 13 February. The grid owner sends a Z04LK regarding the start date – 13 February.

Procedure: Monitoring of a Z03LK — supplier change rejected

The gas supplier sends a Z03LK with the start date 1 February. As the grid owner has not received any notification that a gas user has moved into the facility, the message is responded to with a positive APERAK and the grid owner informs the gas supplier by email that monitoring is taking place. The customer notifies the grid owner that it took over the facility on 17 February. The grid owner informs the gas supplier that submitted a Z03LK that the customer did not issue a notification of takeover within the permitted time period, that the search will be rejected, and that monitoring will cease.

New connection

In the case of a new connection, a Z03LK must always be used to notify start of supply.

To accommodate the gas user's choice of gas supplier, the grid owner, following consultation with the gas supplier, should, if the rest of the information is correct, approve the Z03LK even if the stated start date deviates by more than +/-15 days.

Procedure: Monitoring a Z03LK in conjunction with a new connection —change of supplier approved

The gas supplier sends a Z03LK with the start date 1 February. As the new connection has not been completed, the grid owner responds to the notification received with a positive APERAK and informs the gas supplier by email that monitoring will take place and at the same time provides details of the current facility status. When the new connection is completed, the takeover date is registered as 20 December. Following completion of the new connection, the grid owner must check the information in the Z03LK that has been received once again before the notification is approved and a Z04LK is sent or a Z03LK is rejected. If the matter has been monitored over a long period, contact must also be made with the gas supplier.

If a Z03L is sent for a new connection but the facility has not yet been connected to the gas grid, and as a result registration of the meter and gas user at the facility has not yet been completed, it is rejected with a negative APERAK.

Notifying transfer of a production facility at an input point

When leaving a production facility, the same procedures that applied when taking over an offtake point must be followed.

4.1.8 Producing a change of supplier message

When the gas user and gas supplier have agreed on a gas supply, the new gas supplier must notify the grid owner of the change. Only the party that has a gas grid agreement with the grid owner can enter into a gas sale and purchase agreement with a gas supplier for the facility in question.

Takeover of a gas sale and purchase agreement —change of gas supplier

When the new gas supplier has entered into an agreement with the gas user, a Z03L is sent to the grid owner. The aim of the notification is to inform the grid owner about when a change will take place and at which facility. To ensure processing by the grid owner takes place as quickly and automatically as possible, the offtake point ID and area ID for the facility must be correct, and it must be possible for the gas user to be identified.

The gas supplier chosen by the gas user can send a consumption forecast to the balance administrator for the gas supplier's total consumption in each grid settlement area if this has been agreed between the balance administrator and the gas supplier.

Notifying a change of gas supplier at an input point

Even at input points there is a party that acts as gas supplier. When a gas supplier that purchases gas from a production facility is replaced by another gas supplier, the same procedures that are applied in conjunction with a change of supplier at an offtake point must be followed.

Future change of gas supplier

When the gas supplier has received a Z04, a Z06 and a Z10 referring to a date before the start of supply must be sent to the incoming gas supplier in the same way as to the existing gas supplier. These changes are of equal interest to the incoming gas supplier as they are to the existing supplier. However, no reading is sent before the first reporting point following start of supply. See also section 4.3 for further processing of a Z06 and a Z10.

4.1.9 Cancelling a message regarding a change of supplier/customer relocation

For cancellations to be approved by the grid owner, the following time schedule applies for the gas supplier:

- Cancellation of a change of supplier (Z03L) must be received by the grid owner no later than four days before supply is due to start.
- Cancellation of a customer relocation (Z03LK) must be received by the grid owner no later than the date supply is due to start.

Gas supplier

A gas supplier can cancel a Z03L/LK by sending a Z03C to the grid owner following the procedure outlined above. If the grid owner has already sent a Z04L/LK to the gas supplier, they must confirm a Z03C within three days by sending a Z04C. If the grid owner has already sent a Z05L/LK before a Z03C has been received, this must also be cancelled within three days using a Z05C.

If the conditions for the start of an agreement change after the gas supplier has sent a Z03L/LK notification, the notification must be cancelled, and a new Z03L/LK notification must be sent for supply to start. An example could be that the gas user issues notification of a start point for the agreement that

is different from what was previously notified, and in that case the original Z03L/LK must be cancelled. For the grid owner to understand which changes the gas supplier wishes to make, and to ensure the new notification is not rejected, it is important that the notifications are sent in the correct order. This is done by the gas supplier sending a Z03C and then sending a new Z03L/LK notification with new conditions for commencement of supply.

Grid owner

The grid owner can also initiate a cancellation process. If a gas user who has entered into a gas sale and purchase agreement with a gas supplier relocates before the agreed gas supply has commenced, the grid owner must send a Z04C. This must not be preceded by a Z03C. A Z04C must always be sent to the gas supplier as soon as the change has come to the knowledge of the grid owner, even if supply has already commenced.

Cancellation of a change of supplier in conjunction with takeover must be confirmed with a Z04C from the grid owner within three days of receipt of a Z03C from the gas supplier. In this case, confirmation could be sent after the date supply should have commenced as cancellation by means of a Z03C can take place up to and including the takeover date.

If the preconditions for commencement of supply are not correct, e.g. the takeover date changes, confirmation of commencement of supply must be repeated. This is done by the grid owner cancelling the original Z04LK with a Z04C, and then sending a new Z04LK with the new date. To ensure the gas supplier understands the changes the grid owner wishes to make, and to ensure the new PRODAT message is not rejected, it is important that the messages are sent in the correct order.

When a grid owner makes an internal correction in its customer data system, this must not result in a cancellation message being sent to the gas supplier, followed by a new PRODAT message. If this occurs, the grid owner should contact the gas supplier by email and inform them about what has happened, stating that an incorrect cancellation message has been sent. In cases such as this, a new PRODAT message must include the same case reference number as its start message, apart from a Z04A and Z05LK, which must include a new and unique case reference number.

4.1.10 Validating and processing changed structural data — grid owner

The grid owner sends and receives an application acknowledgement (APERAK). The field that needs to be checked is stated in the PRODAT instruction.

A positive APERAK means the message has been received and it will continue to be processed. A negative APERAK, however, means that an error has been detected in the message and processing has been discontinued. In that case the sender needs to resend the message following rectification.

Checking the incoming notification

In the case of a Z03L for example, the following must be checked:

- Gas supplier's EDIEL ID
- A balance administrator has been specified
- Notification has been received within the stipulated time
- Offtake point ID
- Area ID following a check of the Metering Regulations
- Reference to an agreement
- Customer ID
- No other gas supplier has already notified a change of supplier for the same date

For gas supply to commence, all checks and acknowledgements of a Z03LK normally take place automatically within 30 minutes. If a check against a customer ID cannot be made automatically, it is recommended that the grid owner sends a positive APERAK and then carries out a manual check. If the customer ID used is different to the civic registration number/company registration number and a positive APERAK is sent, a manual check should always be carried out to ensure it is the correct gas user before a Z04LK is sent.

If a customer ID in a Z03LK deviates from the information received from the grid owner, a negative APERAK must be sent. This presupposes that details of a customer relocation and the new gas user are registered in the grid owner's system. A negative APERAK means the supplier change process has been discontinued and the grid owner will not process the change of supplier before the gas supplier sends a new Z03L/LK.

A positive APERAK does not mean the change of supplier has gone through, only that the information that has been checked is correct. If the grid owner has sent a positive APERAK but subsequently discovered something that meant the change of supplier could not be implemented, the grid owner must notify the gas supplier within three days. The takeover can thus not be implemented before the gas supplier has sent a correct Z03L, otherwise the change of supplier

could be delayed. The gas user can request compensation from the gas supplier if the delay is the result of the gas supplier providing incorrect details, or if it failed to include mandatory details. This does not apply if it is the gas user who has provided incorrect details.

The grid owner must always use a Z04L/LK to confirm the change of supplier within three days of receipt of a correct Z03L/LK containing the following:

- Facility address
- Gas user's name and address
- Meter identity
- Number of digits shown on the meter (if meter readings are sent)
- Meter constant (if meter readings are sent)
- Number of registers and the types (counter codes) (if meter readings are sent)
- Interval for meter readings (e.g. hour, month)
- Metering method (hourly or monthly)
- Reporting frequency and calculation method for the offtake point
- Identity of meter readings that will be reported
- Confirmation of the gas supply commencement or takeover date
- Calculated annual consumption
- Balance administrator (EDIEL ID)
- Calorific value area

The message must state the metering method and the meter reading interval for the facility at the time confirmation is sent. If, for example, the grid owner subsequently changes the metering method and the meter reading interval, or if it changes the meter, a Z06 or Z10 is sent when the change is made. However, this must be done within three months of receipt of the request. See section 4.3 for further information.

When the Z04L is sent to the incoming gas supplier, a Z05L is sent to the current gas supplier. If no Z04L or Z05L can be sent, the grid owner must contact the gas supplier in question to notify them of the reason.

According to the Metering Regulations, the grid owner must notify the gas user about the gas supplier it has chosen for the offtake point, the date on which supply will start, the offtake point identity, and the area identity (Chapter 3, Metering Regulations).

Informing the customer: Implemented change of supplier

According to the Metering Regulations, the grid owner must notify the gas user that a change of supplier has taken place, regardless of whether it refers to commencement (new connection and takeover) or takeover (change of supplier), which gas supplier is supplying the facility, the supply start date that has been confirmed, and the offtake point ID, area ID and calorific value area. This is acknowledgement to the gas user that the change of supplier has gone through as expected and the message must be received by the gas user no later than the last day of the calendar month in which gas supply commences.

New connection

If a Z03LK is received before all the technical information is in place, and a Z04LK can therefore not be sent within the stipulated time, the grid owner must instead send an email to the gas supplier informing them that a Z03LK has been received and that the grid owner will revert with a Z04LK when all the information is available. The email must state that it is a new connection, and must include all other information about the facility available at the time, as well as the name of the gas user, the expected supply start date, etc. It must also state that the matter will be monitored until a Z04LK can be sent or it emerges that a Z03LK must be rejected.

When the new connection has been completed, the grid owner must recheck the information in the Z03 received before the notification is approved and a Z04LK is sent or rejected. If the matter has been monitored over a long period of time, contact must also be made with the gas supplier. To accommodate the gas user's choice of gas supplier, the grid owner, following consultation with the gas supplier and if other information is correct, ought to approve a Z03LK in conjunction with a new connection even if the starting date given deviates by more than +/-15 days. See earlier example in section 4.1.

If no notification has been received from the gas supplier by the gas supply commencement date at the latest, the grid owner must assign a gas supplier to the gas user. Further information about assigned supply is available at the beginning of section 4.1.4.

Informing the customer: Selected gas supplier in conjunction with takeover

According to the Metering Regulations, the grid owner must notify the gas user, no later than the final date of the calendar month in which gas supply commences, that a change of supplier has taken place, regardless of whether it refers to commencement (new connection and takeover) or transfer (change of supplier), and it must also provide details of the gas supplier that is supplying the facility, the confirmed supply start date, the offtake point ID, the area ID, and the meter number. This is confirmation to the gas user that the change of supplier has gone through as expected.

4.1.11 Validating and processing changed structural data — gas supplier

The gas supplier sends and receives an application acknowledgement (APERAK). Message checks should take place automatically. The fields that must be checked are stated in the PRODAT instruction.

A positive APERAK means that the message has been received and will continue to be processed. A negative APERAK means that an error has been detected in the message and the processing has been discontinued. In that case the sender must resend the message following rectification.

Follow-up of a sent notification

A change of gas supplier cannot be deemed to have been carried out before the grid owner has returned confirmation in the form of a Z04L/LK. A negative APERAK means the change of supplier process has been discontinued and the grid owner will not handle the change of supplier before the gas supplier sends in a new ZO3L/LK. Otherwise, the takeover could be delayed. A positive APERAK does not mean the change of supplier has gone through, simply that the checked information is correct. The grid owner is obliged to confirm or reject the supplier change within three days.

If the prospective gas supplier has still not received a ZO4L/LK within the prescribed time, they ought to contact the grid owner immediately for the change to be implemented on time. When the gas supplier has received a ZO4L/LK from the grid owner, a check is made to ensure the information in the message concurs with the information in the sent ZO3L/LK. Information about the current facility address is provided in the ZO4L/LK. For further information about how the grid owner processes and checks an incoming ZO3L/LK, see Chapter 4 above.

A gas supplier can cancel a ZO3L/LK by sending a ZO3C to the grid owner according to the above. If the grid owner has already sent a ZO4L/LK to the gas supplier, they must confirm the ZO3C with a ZO4C within three days. If the grid owner has already sent a ZO5L/LK before a ZO3C is received, this must also be cancelled within three days using a ZO5C.

If the conditions for the start of the agreement are changed or the gas supplier has sent a ZO3L/LK, the message must also be cancelled but then re-sent with the new information to permit supply to start. One instance when this is necessary is if the gas user notifies an agreement start date that is different from what was notified previously.

For the grid owner to understand which changes the gas supplier wishes to carry out, and to ensure the new PRODAT message is not rejected, it is important that the messages are sent in the correct order. This is done by the gas supplier sending a ZO3C and then sending a new ZO3/LK notification with new conditions for start of supply.

4.1.12 Producing a message regarding discontinuation of supply

Leaving a facility is not regulated in the Natural Gas Act or the Metering Regulations. However, the recommended procedure is as follows.

As soon as the grid owner receives notification of termination of the gas grid agreement from the gas user, the grid owner is required under the Metering Regulations to register this without delay and send a ZO5LK to the existing gas supplier. According to the general contractual terms and conditions, a gas supplier must terminate both its own gas sale and purchase agreement and its gas network agreement when it leaves a facility, otherwise liability for payment continues. For further information, see sections 1.3 and 2.4.

The same procedure is recommended in conjunction with the decommissioning of a facility. In that case, however, a ZO5LK will probably be sent retroactively as decommissioning must first take place on site.

If the gas user wishes to change gas supplier, it is the gas user who is personally responsible for terminating the gas sale and purchase agreement with their gas supplier within the stipulated time. The gas supplier then confirms the termination and awaits a ZO5L from the grid owner, stating that the gas supply will be discontinued. When a ZO5L is received by the current gas supplier, the

company awaits metering values from the grid owner in order to be able to send a final invoice to the gas user.

If the gas user changes gas supplier without terminating the gas sale and purchase agreement with the existing gas supplier, this could result in a breach of agreement and the gas user could be liable for payment of compensation. In that case it must be stated in the gas supplier's agreement and in the contractual terms and conditions when compensation of this nature can be claimed and how it is calculated. For further information, see sections 1.3 and 2.4.

4.1.13 Cancelling discontinuation of supply

If discontinuation of the gas supply is incorrect, or if the gas user reports a final date for discontinuation of the gas supply that is different from what was notified previously, the ZO5L/LK must be cancelled. If a change of supplier needs to be cancelled because it was completely wrong, the grid owner must send a ZO5C to the outgoing gas supplier no later than the day before the previously notified discontinuation of supply.

If the final supply date needs to be changed, the grid owner must cancel the previous ZO5L/LK with a ZO5C and then send a new ZO5L/LK with the correct date. The Metering Regulations do not set out any timeframe for this, but the new end date should be a future date.

Changes to the end date should not be made retroactively, although if this still proves necessary due to the agreement with the gas user, the gas supplier must always be contacted in conjunction with the sending of a ZO5C and a new ZO5LK.

4.1.14 Producing a message in conjunction with a change to an agreement

In conjunction with notification of a change to an agreement, the following information must be provided under the Metering Regulations (Chapter 3, Section 6) and the EDIEL instruction:

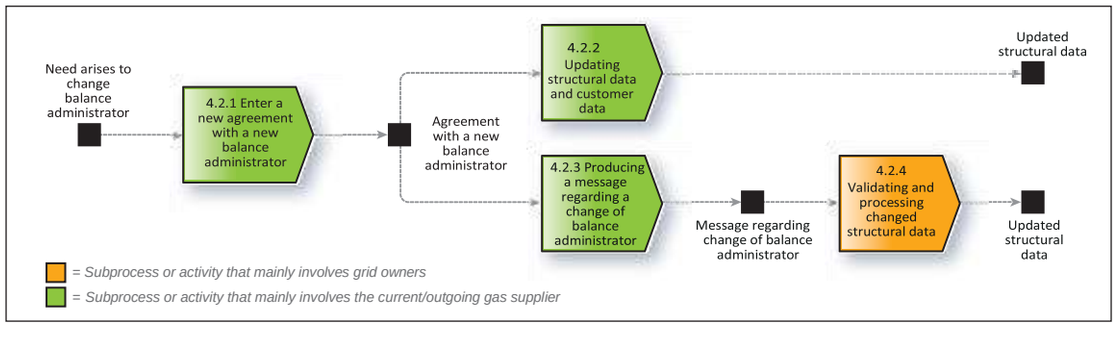
- Offtake point ID
- Area ID
- Calorific value area
- Agreement start date (must not be stated in the same message as the end date), or
- The agreement end date (must not be stated in the same message as the start date)

4.1.15 When a gas supplier becomes insolvent

If a gas supplier becomes insolvent (enters into liquidation, suspends payments, is declared bankrupt,) their supply responsibility ceases. In that case the pipeline owner must as soon as possible assign a supplier to the affected gas users and notify each gas user about which supplier has been assigned (Chapter 7, Section 7c of the Natural Gas Act).

If there are confirmed future gas supplies where the agreement is due to start after the gas supplier ceases operating, the grid owners concerned must cancel takeover of supply by sending a ZO4C to the outgoing gas supplier and cancel discontinuation by sending a ZO5C.

4.2 Changing balance administrator



The gas supplier is responsible for ensuring that someone has balance responsibility for the gas supply to the gas user. If the gas supplier is seeking to change balance administrator for the whole or parts of its supply undertaking within a grid settlement area, the grid owner must be informed about this via a Z09B.

When the gas user changes gas supplier it does not necessarily mean that supply at the offtake point will have a different balance administrator. The new gas supplier could have the same balance administrator as previously. Below is an illustration of different supply conditions within the same grid settlement area. The balance administrators could have more than one gas supplier within the same grid settlement area.

4.2.1 The gas supplier entering into an agreement with a new balance administrator

Chapter 7, Section 4 of the Natural Gas Act stipulates that a gas supplier is only permitted to supply gas at offtake points where there is a balance administrator. When the gas supplier has entered into a balance responsibility agreement with a new balance administrator, or it has entered into such an agreement with a system balance administrator, the gas supplier is obliged to notify the grid owners concerned of the change of balance administrator at the offtake points. This must take place one month before the turn of the month in which takeover of balance responsibility is due to take place. See Chapter 7, Section 9 of the Natural Gas Act.

The grid owner thereafter informs the system balance administrator about which balance administrators have undertakings within each grid settlement area, However, it is stated in Chapter 7, Section 9 of the Natural Gas Act that a system balance administrator, under special circumstances and in individual cases, is permitted to consent to balance responsibility being taken over earlier than what is stated above.

A gas supplier can be left without a balance administrator in two instances. One instance is when a gas supplier has entered into an agreement with another company regarding a takeover of balance responsibility and for some reason this agreement ceases to apply. The other instance is where a system balance administrator terminates the agreement with a balance administrator, which means the company is not permitted under any circumstances to act as balance administrator on the gas market.

If it is to continue as a gas supplier after a balance administrator has terminated the balance responsibility agreement, the gas supplier must immediately find a new balance administrator and must do so no later than the date on which the balance responsibility agreement ceases. Furthermore, the gas supplier must without delay notify the grid owners concerned about who will take over balance responsibility if the normal notification times cannot be observed.

4.2.2 Updating structural data and customer data

Should the gas supplier continue after a balance administrator has terminated the balance responsibility agreement, the gas supplier must immediately find a new balance administrator and do so no later than the date on which the balance responsibility agreement ceases. Furthermore, the gas supplier must without delay notify the grid owners concerned about who will take over balance responsibility if the normal notification periods cannot be observed. This is done via a Z09B, which notifies changes in the balance responsibility undertaking. The message must be received no later than 30 days prior to the change taking place. Under the Natural Gas Act, a change can normally only take place on the first day of each month, with the exception of additional supplies during the month before the change of balance administrator.

4.2.3 Producing a message regarding a change of balance administrator

One recommendation is that the gas supplier requests information from the grid owner and verifies that it has a corresponding facility structure before a Z09B is sent. If there are any deviations, these must be addressed before the change of balance administrator takes place.

When the information received has been checked, a Z09B, one for each facility, must be sent to the grid owners and must contain the EDIEL ID for the new balance administrator and the date on which the change will take place. Notification must be sent for those facilities that do not have a final date or have a final date that falls after the date of the scheduled change of balance responsibility. For confirmed supplies with a start date that falls after the change of scheduled balance responsibility, notification must be sent, although in that case with the same date as the supply start date. For additional supplies during the month before the balance responsibility change, the gas supplier can send the notification even if the period is less than one month before the balance responsibility changes. The grid owner must in that case respond with a positive APERAK if the rest of the information in the message is correct. The gas supplier should check that all grid owners have updated the balance responsibility information with the date that was sent to them.

4.2.4 Validating and processing changed structural data

If there have been changes in the balance responsibility in the grid settlement area, the grid owner must inform the parties concerned. With each new change, the information structure is amended and must be reconfirmed. To facilitate this process, the following procedures are recommended:

1. In the case of facilities that are added during the month before the change of balance administrator comes into effect, the gas supplier, following receipt of a ZO4 (L/LK/A), must send a Z09B on the same date as other facilities in the original notifications.
2. Confirm acknowledgement with an APERAK.
3. A 'Structure acknowledgement for changes in balance responsibility' should be sent to the gas supplier (document N1a) and to the balance administrator (document N1b) as well as a 'Structure notification, changes in balance responsibility' to the system balance administrator

(document N2). These must confirm the new information regarding balance responsibility provided by the gas supplier. The confirmations state the totalled metering values which the grid owner will report to the parties concerned.

4. Send information about changes in the grid settlement area to the system balance administrator no later than the 22nd of the month before the change is due to come into effect.
5. Report additional balance administrators after the 22nd of the month to the system balance administrator. The report must be sent no later than three days before the date of the change of supplier.
6. Receive any claims or objections to structure acknowledgement N1 from the gas supplier and the balance administrator.
7. Receive a structure report from the balance administrator containing information about the new structure that will apply in the grid settlement area, and which will form the basis for the balance settlement. Check and return the approved report to the system balance administrator.

4.2.5 When a balance administrator becomes insolvent

If a balance administrator becomes insolvent, the system balance administrator terminates the balance responsibility agreement. The system balance administrator informs the grid owners concerned about the change, and they in turn notify the suppliers concerned (Chapter 7, Section 7 of the Natural Gas Act).

It is stipulated in Chapter 7, Section 4 of the Natural Gas Act that a gas supplier may only supply gas at offtake points where there is a balance administrator. However, there is no exception to the supply obligation under the Natural Gas Act if there is no balance administrator.

Due to the fact that the gas supplier is no longer a party on the gas market (as they do not have a balance administrator), the supply obligation ceases and generally the assigned supplier takes over as the new gas supplier from the date on which the party ceases. If there are confirmed future supplies where the agreement starts after the balance responsibility agreement ceases, the grid owners affected must cancel the takeover of supply using a Z04C and send notification of cancellation of the agreement to the outgoing gas supplier using a Z05C.

The above situation often occurs at very short notice. However, the situation could be avoided by the gas supplier immediately entering into an agreement with another balance administrator.

Another way of resolving the situation is to sell the customer stock to another gas supplier. This gas supplier can then issue a request to take over supply using a Z03L and notify the grid owners involved to ensure the takeover is approved even if the final date for notification has passed. Both the outgoing supplier and the new gas supplier are subsequently responsible for notifying the customer about what is applicable, whilst the grid owners send confirmation of a change to the gas user using the normal procedures.

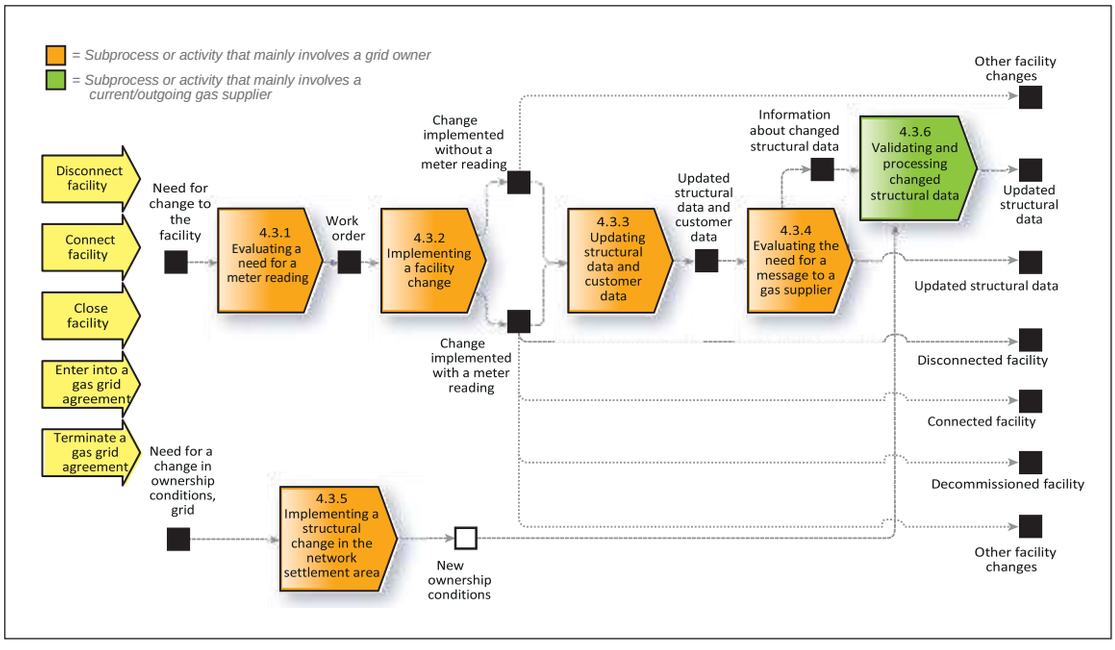
4.2.6 Notification of the addition or cessation of balance responsibility undertakings

Structure notification regarding a change of the structure in a grid settlement area, i.e. which balance administrators are represented in the grid settlement area, must be sent to the system balance administrator. Notification applies to both incoming balance administrators and balance administrators where the undertaking in a grid settlement area ceases.

Notification of a structural change must take place no later than three days before it comes into effect. If it is sent on the same date as the change, the change will come into effect three days later. There is no difference if the notification refers to takeover or if it refers to commencement of gas supply. After notification has been issued, the system balance administrator sends a new structure report to the grid owner and the incoming/outgoing balance administrator. The grid owner must then report in line with the validity in the new structure report.

Changes in the settlement structure that have taken place during the supply month are adjusted when calculating the final allocation figures as they are based on the current supply structure and the metered energy volumes for the supply month. For details of structure notification of hourly settlement on a monthly basis, see section 7.2.

4.3 Changing a facility



When information about the facility is changed, the new information, including the date on which it comes into effect, is sent via PRODAT to the parties concerned using a Z06 and/or a Z10. However, these PRODAT messages cannot be cancelled in the same format, as subtype C does not exist here. Consequently, if a Z06 (regardless of the subtype) or a Z10 contains incorrect information, or should not have been sent, the gas suppliers concerned must be notified in another way, preferably by email, and the message must possibly be re-sent with the correct information.

Exceptions to PRODAT reporting are events where the grid owner changes the offtake point ID or grid settlement area in its customer data system. In that case the grid owner instead sends updated information to the parties concerned in a suitable way. This method is used as there is no PRODAT message for these types of changes.

When structural changes take place in a grid settlement area, such as a change of agent for reporting metering values, ownership changes, or a merger of grid settlement areas, the grid owner must notify the system balance administrator using form N3 'Structure notification, grid area changes'. In the case of essential mergers or divisions of grid settlement areas, new area IDs are produced. When changes are made in the information that affects gas suppliers and balance administrators, the grid owner should contact the parties well in advance of the change coming into effect.

In the case of major changes that result in the facility being discontinued, and if one or more new facilities are started up, the offtake point ID may need to be changed.

4.3.1 Assessing the need for a meter reading

A meter reading must take place when gas supply starts or ceases. In the case of a new connection, permanent disconnection, or meter change, the meter must be read on site via the meter's display or counter. Readings must be registered using the reading time rounded off to the nearest hour.

4.3.2 Implementing a facility change

The term 'meter change' means that another meter with a new identity (number) is fitted at the facility. It can either take the form of the meter being changed physically, or that the existing meter changes number. It is also possible to change an existing facility without changing the meter, e.g. a change of the meter constant, metering method, or installation status. For further information, see Chapter 2.

Informing the customer: Meter change

If the grid owner intends to change a meter it must, unless there are particular reasons for not doing so, inform the consumer well in advance of the reason and the date the change is scheduled to take place. If access request notification needs to be issued, this should also be done well in advance. The provision of other relevant information, such as meter functions, is also a statutory requirement when new meters are installed.

Connection with a meter change

If the grid owner also changes the meter in conjunction with connection, both a Z10 and a

Z06F with installation status active must be sent to the gas supplier.

4.3.3 Updating structural data and customer data — grid owners

For the grid owner to have correct information, and to be able to send it to the parties concerned, the customer data system must be updated with the changes that have been made.

4.3.4 Evaluating a need for a message to gas suppliers

There are three alternatives for updating a facility/meter.

1. Updating of the facility/meter data with a meter change (Z10).
   - Reading always required.
2. Updating of the facility/meter data without a meter change but with a meter reading (Z06F). A reading is required when changing the
   - constant
   - number capacity
   - reporting frequency
   - settlement method
   - product code (if a reading can be sent)
   - calorific value area
3. Updating of a facility/meter data without a meter change and without a reading (Z06G). A reading is not required in conjunction with a change of
   - facility address
   - digit capacity if the meter counter has not gone full circle.
   - reporting frequency.

Disconnection due to a material breach of the agreement with the grid owner

The grid owner sends a Z06F to the gas supplier containing a validity date for disconnection, with the installation status set on closed, and a related reading. When the facility is connected, a Z06F with the installation status set on active, is sent to the gas supplier with a related reading. A Z06F should be sent on the day registration takes place.

Only a Z06F is sent to a possible incoming gas supplier, although it must contain the date on which supply starts and with an updated installation status, but without a reading as the actual disconnection date is before the incoming gas supplier begins supplying.

Even if connection takes place before the upcoming change of supplier, no metering values related to disconnection/connection are sent to the incoming gas supplier, and instead the first thing that is sent is the regular metering value report, although with case reference number P, as there are several PRODAT matters linked to the supply start date.

Incoming messages at the facility during the time the facility is disconnected must be handled according to the regular message processing procedure although with the installation status set on closed. When the facility is connected, a Z06F, with the installation status set on active, must be sent to all gas suppliers concerned. For further information, see sections 2.2 and 2.3.

Disconnection due to a material breach of the agreement with the gas supplier

If the facility has been disconnected for more than two working days, the grid owner ought to register the disconnection and a Z06F, with the installation status set on closed, and a reading should be sent to the gas supplier.

If the gas user changes gas supplier whilst the facility is disconnected, the grid owner must state in a Z04L that the installation status is active. The facility must be reconnected on the change of supplier date.

If the facility has already been registered as disconnected before connection is requested, the connection ought to be registered within two working days. A PRODAT Z06F, with the installation status set on active, is sent to the gas supplier that has requested connection. For further information, see sections 2.2 and 2.3.

4.3.5 Implementing structural changes in the grid settlement area

The grid owner issues a structure change notification where changes have been made in the grid settlement area structure. A change in the structure could be the result of, for example, a merger or division of the grid settlement areas, a change of grid owner, or notification of a grid settlement area.

Following each change in the grid settlement area, the grid owner submits notification to the system balance administrator (form N3). When a system balance administrator has received notification from the grid owner, the information is registered.

Division, merger, or new grid settlement area

In conjunction with a division or merger of grid settlement areas, a new grid settlement area can be established. When changes are made, the system balance administrator must be informed well in advance of a change coming into effect.

To ensure a consistent picture of the grid and its interface with other grid settlement areas, the grid owner will reach an agreement with the grid owners that have an adjacent grid about which definitions and designations should apply to the border points, and which of the companies will be responsible for metering at each border point. The party responsible for metering is also responsible for quality assurance of the metering process.

The grid owner responsible for metering specifies which meter points account for the total values for the adjacent grid settlement area. The identities of the meter points are reported to the receiving grid owner. Form N3 is used in contact with the system balance administrator and only the name of the adjacent grid settlement area is reported on the form.

Structural changes in one or more grid settlement areas

It is the effective date that is the deciding factor when determining which grid area must be stated in the PRODAT message and in the metering value reports. It is important that information about any future change reaches the gas suppliers well in advance, and that all parties have the opportunity to update their systems. The following checklist specifies what a grid owner should do in conjunction with structural changes in one or more grid settlement areas.

- Contact the system balance administrator to present the desired change and agree on the change date.
- Report any structural change(s) to the system balance administrator well in advance of the change taking place (form N3).
- Publish information on the EDIEL portal.
- Inform the gas users concerned about the upcoming change.
- Inform the gas suppliers about the upcoming change well in advance of the change being implemented in the grid owner's system:
  - Effective date for a new area ID.
  - The grid settlement areas that will be affected and what form the change will take.
  - Contact person if any questions arise.
  - The date on which the change will be implemented in the grid owner's system.

Structure report from the system balance administrator

After changes in the grid settlement area have been registered, the system balance administrator sends a structure report to the grid owner containing the details that will form the basis for the balance settlement. It is vitally important that the grid owner checks that the contents of the report concur with the notification that has been submitted. It is also important that reporting of metering values takes place in accordance with the structure report.

Structure for hourly metering values and non-daily supplies

The procedures for reporting allocation figures are presented in more detail in Chapter 7.

Structural changes in a grid settlement area in conjunction with acquisitions

An acquisition/merger can take place with regard to both grid owners and gas supply companies although it is only in conjunction with the acquisition of a grid owner that a structural change takes place. If a gas supplier merges with another gas supplier, the regular procedures for a change of supplier are followed, see section 4.1.

The following checklist sets out what the grid owner should do in conjunction with an acquisition and changes in the grid settlement area that affect the structure.

- Ensure the settlement method is correct at all facilities.
- Contact the system balance administrator to present the desired change and to agree on a change date.
- Notify the system balance administrator of the structural change/changes (form N3).
- Publish information on the EDIEL portal as soon as possible following approval by Svenska Kraftnät
- Inform the gas users concerned about the upcoming change.
- Inform all the gas suppliers concerned about the upcoming change well in advance of the change taking place in the grid owner's system:
  - Effective date for a new area ID.
  - Grid settlement areas that are affected and what form the change will take.

- Contact person if any questions arise.
- Date on which the change will be implemented in the grid owner's system.

- Submit a list as soon as possible for reconciliation to gas suppliers that have customers in the grid settlement areas that are affected, preferably 1-2 months before a change in the structure is due to take place. An equivalent list should also be sent just before the change is made to eliminate as many errors as possible.
- Rearranging the system.
  - If the whole or part of a grid settlement area is acquired – enter customer data into the customer data system.
  - If a grid owner is acquired, it is not always necessary to convert a customer data system in conjunction with a takeover. Sometimes the previous grid owner's customer data system can be retained.

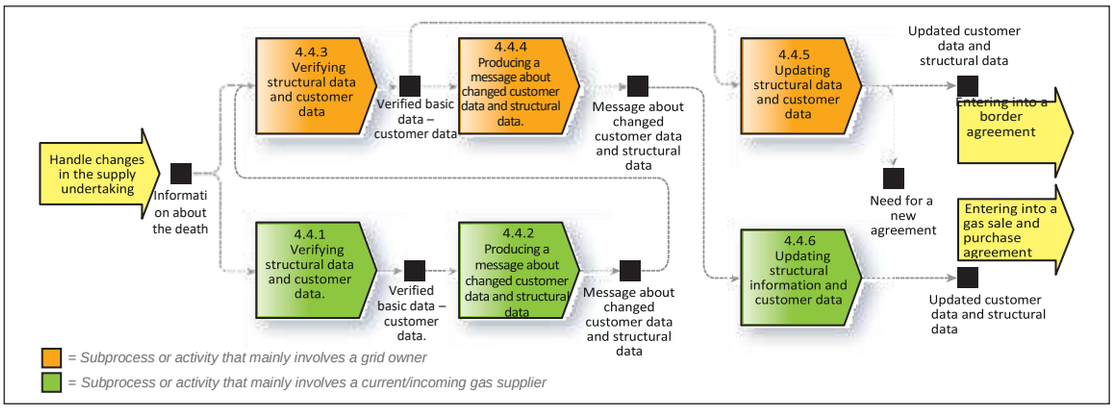
Informing the customer: Change of grid settlement area

It is recommended in conjunction with a change of area ID that the grid owner informs the customer about the facility's new area ID and the date on which the change becomes valid.

4.3.6 Validating and processing changed structural data — gas supplier

When the gas supplier has received messages regarding a change of structure, these messages must be validated, processed, and updated in the gas supplier's customer data system to ensure its data is correct and concurs with the data held by the grid owner.

4.4 Handling a change of customer data



Death

The most common reason why customer data needs to be changed is that the customer has died, although customer information may also need to be changed, for example, in the case of a change of civil registration number.

Under the Inheritance Code, the estate takes over all the deceased person's receivables and liabilities. The gas grid agreement and the gas sale and purchase agreement are thus taken over by the deceased person's estate. Contact should be made with an agent for the estate to find out who will be responsible for the gas grid agreement and gas sale and purchase agreement. If the agreements are to continue in the name of the estate, the terms and conditions applicable to a business owner should be applied. For the terms and conditions to become effective, they must be sent to the estate. However, if the surviving relatives wish to take over the agreements, a change of gas user must take place at the offtake point. As a new customer, the surviving relatives must also have two new agreements. This presupposes that the estate terminates its agreements for the facility, and the surviving relatives submit a new gas user application for the offtake point to the grid owner and gas supplier. In that case it is categorised and dealt with as a move, see section 4.1.

If the gas supplier wishes, the supplier can allow the surviving relatives to take over the gas sale and purchase agreement from the estate. A transfer of this nature ought to be in writing. As the grid owner normally only makes use of the general contractual terms and conditions, a transfer is not of interest in this respect as the terms and conditions will still remain the same. Consequently, the new gas user procedure must be applied.

The handling of an estate, from an administrative point of view, differs from one company to another. Some companies have an automatic updating system, via SPAR (Swedish population and address

register) for example, which means that, following a death, invoices are automatically made out to the estate. In the majority of cases, however, the surviving parties must contact their grid owner and their gas supplier directly.

When a gas user dies it is important that procedures are in place to determine how the gas grid agreement or the gas sale and purchase agreement should be dealt with to ensure the surviving parties do not need to experience the distress of receiving sales letters addressed to the deceased. As the gas grid agreement and the gas sale and purchase agreement are with two different companies, it is important to contact both companies. However, to make it easier for the estate, the company that is contacted first can offer to notify the other company, which in turn contacts the estate. If the estate would like one of the companies to handle contact with the other company on their behalf, a letter of authority from the estate would be required. Communication between the grid owners and the gas supplier ought to take place via PRODAT messages using the procedure outlined below.

Change of customer identity

A gas user's civil registration number may need to be changed, e.g. when a customer ID changes to a coordination number or civil registration number, when a coordination number is replaced by a regular civil registration number, or if the gas user changes gender. In these cases, the change must be implemented without it being processed as a move, i.e. the gas user's contractual relations remain unchanged.

4.4.1 Verifying structural data and customer data — gas supplier

If the gas supplier receives information about the death first, it should inform the grid owner. As it is the grid owner that makes the update, the gas supplier can simply wait for incoming and confirmatory messages.

4.4.2 Producing a message regarding changed customer data and structural data

The gas supplier can send a Z09E to the grid owner to report that the gas user has died. Alternatively, the gas supplier can contact the grid owner personally.

According to the current instructions, a ZO9E is used only in the case of death. The customer status field should be included, and the death code should be entered. If this information is not included in the message, it must be rejected with a negative APERAK. However, there is a possibility of using a Z09E for other purposes following bilateral agreement between the parties concerned. In that case it must be possible to state that an agreement has been reached with a certain party regarding a wish to exchange these messages. It should be noted that entering into a bilateral agreement is not mandatory.

If the choice is made to handle a Z09E from one party, this does not automatically mean there is an agreement with all the parties. In the case of the parties with whom there is no agreement, the message must still be rejected.

A Z09E must be responded to with a Z06E, which is the grid owner's notification that the customer has died, or a Z06E and a Z05LK if the gas grid agreement is to be terminated immediately. The death code in the customer status field must also be stated in a Z06E.

4.4.3 Verifying structural data and customer data — grid owner

The grid owner learns about the death and the gas grid agreement needs to be terminated

If the estate wishes to terminate the gas grid agreement, the grid owner sends a Z05LK to the gas supplier, although it is extremely important that the grid owner notifies the gas supplier that it is a question of a death, i.e. that it sends a Z06E. The reason this information is so important is that it prevents the gas supplier from sending out a new draft agreement to a deceased person.

The grid owner learns about the death and the gas grid agreement must be [illegible] the deceased person's estate

If the grid owner learns about the death first, and the gas grid agreement is not terminated immediately, the grid owner must inform the gas supplier when a change of customer details is involved.

According to the current instructions, a Z06E is only used in the event of death. The customer status field must be included, and the death code must be entered. If this information is not included in the message, it must be rejected with a negative APERAK. However, there is a possibility of using a Z06E for other purposes following bilateral agreement between the parties concerned. It must therefore be possible to state that there is an agreement with a certain party regarding a wish to exchange these messages. It should be noted that entering into a bilateral agreement is not mandatory.

If the choice is to handle a Z06E from one party, this does not automatically mean there is an agreement with all the parties. In the case of parties with whom there is no agreement, the message must still be rejected.

4.4.4 Producing a message regarding changed customer data and structural data

When the grid owner becomes aware of the death first, it must inform the gas supplier via a Z06E when this involves a change in the customer's details. For grid owners that use the population register, monitoring of

changes in a customer's details following their death should be entered and linked to the creation of a Z06E. If the deceased person's estate wishes to terminate the agreements, the grid owner sends a Z05LK containing the customer status 'deceased' to the gas supplier.

4.4.5 Updating structural data and customer data — grid owner

Regardless of whether the deceased person's estate has taken over the gas grid agreement or whether it is a new customer at the facility, the grid owner must update its systems in a way that the correct customer is registered for the facility. This is important, for example, in order to ensure upcoming notifications are sent to the correct legal recipient and for an upcoming change of supplier to work.

4.4.6 Updating structural data and customer data — gas supplier

The gas supplier must also update its system in the light of the messages that have been received. If a Z06E has been received, this means the deceased person's estate has taken over the gas sale and purchase agreement, and new terms and conditions come into effect in conjunction with the estate becoming a business. If a Z06E and a Z05LK have been received, the gas sale and purchase agreement must be terminated, and a final invoice must be issued. Even here it is important to ensure that any correspondence is sent to the correct legal recipient and does not contain information that could be considered distressing.

4.5 Gas appliance customers

4.5.1 PRODAT processing

With effect from 1 July 2007, all gas customers, including gas appliance customers, have the right to choose their gas supplier. However, when it comes to gas appliance customers there are certain exceptions in the handling procedure as described in this chapter.

When a gas appliance customer contacts a gas supplier, it is incumbent on the gas supplier to contact the grid owner to obtain the correct offtake point ID and area ID. This is done to allow a Z03 to be sent in order to initiate the change of supplier. Reporting in conjunction with a change of supplier takes place in EDIEL, in the same way as other supplier changes. However, there are certain deviations in the PRODAT content (see table in 4.5.3).

4.5.2 Meter reading processing and settlement

When there is no metering of gas appliance facilities, there is neither a meter number nor metered consumption. To obtain the gas appliance customer's consumption history, each new gas appliance customer is assigned a virtual meter, where the meter number is the same as the gas appliance customer's offtake point ID.

A gas appliance customer is deemed to consume 480 kWh per year, and this is considered to be evenly spread over the year, i.e. 40 kWh per month. This is also the total that is settled for gas appliance customers.

In the case of gas appliance customers, no periodic MSCONS should be sent. However, an MSCONS is sent in conjunction with the start and/or discontinuation of supply. These MSCONS deviate to a certain extent from other MSCONS (see table in 4.5.3) and when there is no metering the meter readings are estimated as follows:

- All existing gas appliance customers' simulated meter readings are 0 (zero) as of 1 January 2007, and they then rise continuously by 40 kWh per month, regardless of whether the gas appliance customer chooses to change gas supplier or not.
- Up to the point at which a gas appliance customer changes supplier for the first time, the facility's most recent simulated meter reading is always the same as of 1 January 2007, i.e. '0'.
- The simulated meter reading at the point at which a gas appliance customer changes supplier for the first time is the same as the consumption since 1 January 2007, i.e. the number of months that have passed from 1 January 2007 multiplied by 40 kWh/month.
- With effect from the point at which a gas appliance customer changes supplier for the first time, the facility's most recent simulated meter reading is always the same as the simulated meter reading at the time of the most recent change of supplier.
- To calculate simulated meter readings at times other than the turn of the month (in conjunction with relocation for example), the percentage of the current month multiplied by the agreed non-daily consumption (40 kWh/month) is used.
- For additional facilities, the simulated meter reading is set at 0 (zero) at the first change of the month after the connection date.

4.5.3 Deviations in PRODAT and MSCONS

In the case of gas appliance customers, there are certain deviations in the PRODAT and MSCONS content.

The deviations for PRODAT are shown in the table below.

Message	Field	Deviation
Z03	-	No deviations
Z04	214, constant	Always 1
	218, number of digits	Always 9
	259, counter code	Always 800
	224, meter number	Always the same as the offtake point ID
Z05	224, meter number	Always the same as the offtake point ID
Z06	Not applicable, simulated meter	
Z08	224, meter number	Always the same as the offtake point ID
Z09	-	No deviations
Z10	Not applicable, simulated meter	

MSCONS	Meter number	Always the same as the offtake point ID
	Meter constant	Always 1
	Number of digits	Always 9
	Counter code	Always 800
	Meter reader	Always 1 (grid owner)
	367, previous meter reading	Always QTY: 137 (estimated)
	368, most recent meter reading	Always QTY: 138 (estimated)

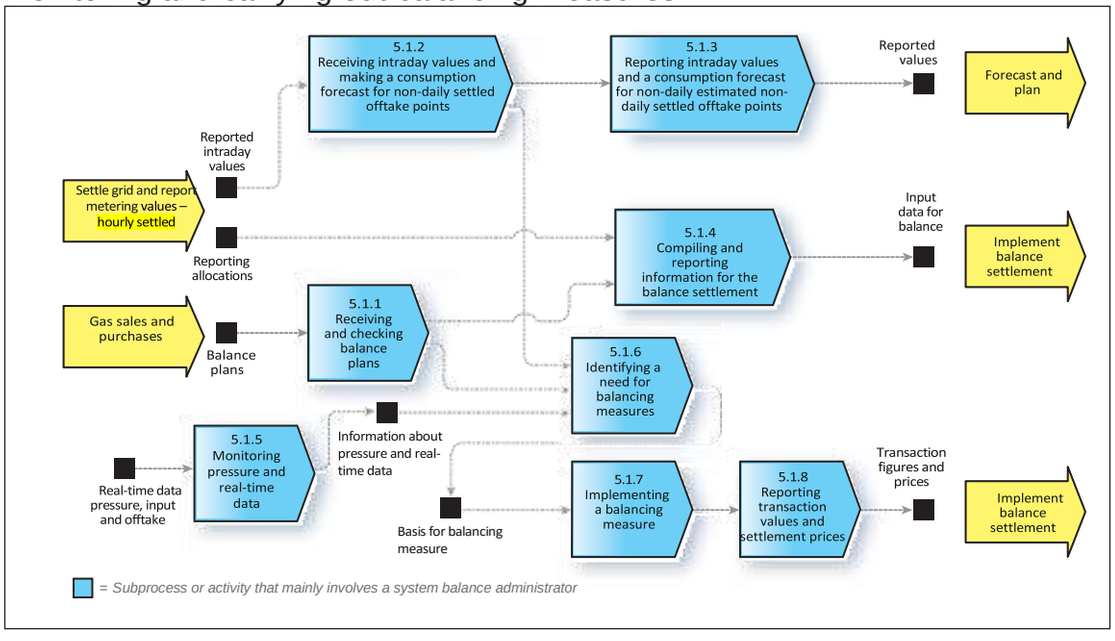
5 Maintaining a balance

This chapter describes the process 'Maintaining a balance' with associated subprocesses, and the activities that are included

Key starting points

- The system balance administrator is responsible for maintaining an adequate balance between input and offtake in the gas system.
- The balance administrator is responsible for balancing their customers' offtake by matching the supply of gas into the system to the customers' consumption.
- The remit of the balance administrator is defined in the Balance Responsibility Agreement.
- Sweden is part of the Joint Balancing Zone (JBZ), which is a joint balancing zone for Sweden and Denmark.
- The JBZ has an overall function which carries out balancing measures on behalf of system balance administrators in Sweden and Denmark. This function title is Balancing Area Manager (BAM).

5.1 Monitoring and carrying out balancing measures



At the start of each new hour, BAM issues ASB (Accumulated System Balance) and the limits within which the system is considered to be in balance. The limits are estimated in the manner stated in the balance responsibility agreement. As long as the system is in balance, no balancing measures are taken. If the system is expected to go beyond the notified limits, BAM can carry out relevant balancing measures within the framework prescribed in the Balance Responsibility Agreement. If there is a major imbalance in the system, the system balance administrator requests that the authority in question announces a suitable crisis status.

5.1.1 Receiving and checking supply plans and transactions

The balance administrator reports balance plans to the system balance administrator with regard to stock use and production and consumption forecasts. Transactions reported by a balance administrator with a counterparty in another gas system must be reconciled in a similar way with the corresponding data at the company responsible for the other gas system. This is done by BAM. BAM checks that the total reported balance plans do not put the system outside the balance limit for the system.

5.1.2 Receiving intraday values and preparing a consumption forecast for non-daily settled offtake points

The system balance administrator receives intraday reporting every hour (XX.20) for facilities in input point, border point storage point and in offtake point with consumption greater than or equal to 3,0 GWhu or with a highest monthly offtake greater than 0,5 GWhu. The grid owner can also intraday report facilities that do not meet the requirements for the intraday reporting. These must then be estimated. Reporting takes place for each balance administrator and is sent to the grid owner.

- IDM6104
- IDM6135
- IDM6101

The system balance administrator then calculates a residual (non-daily) by grid area for each hour.

According to the EU Gas Balancing Regulation, a system balance administrator also produces a forecast for daily consumption at non-daily settled offtake points. This forecast includes the facilities that are not included in the intraday reporting. The forecast is updated on an ongoing basis five times per day.

5.1.3 Reporting intraday values and preparing a consumption forecast for non-daily settled offtake points

The system balance administrator totals the reported intraday values and calculated residual for each balance administrator and reports the totalled values to BAM every hour XX.30. BAM compiles each balance administrator's position and publishes IASB (individual Accumulated Shipper Balance) XX.40.

5.1.4 Compiling and reporting information for balance settlement

The forecasts that have been received from the balance administrators and reconciled transaction values are stored as a basis for the system balance administrator's balance settlement. Reconciled transaction values are reported to the balance administrator as they stand. The system balance administrator reports the totalled series for each balance administrator to the BAM.

5.1.5 Monitoring pressure and real-time data

A system balance administrator monitors the pressure and balance in relation to the surrounding systems. The pressure should, under normal operating conditions, remain within the range required for the safe operation of the grids within the gas system.

5.1.6 Identifying a need for balancing measures

Based on forecast consumption, monitored real-time data, and pressure changes in the transmission grid, the system balance administrator produces balancing measure requirements.

5.1.7 Carrying out a balancing measure

BAM normally purchases and sells balancing measures on the gas exchange. There is an exception in the case of national balancing, which is when a system balance administrator enters into transactions with the individual balance administrators. For details of the regulations governing transactions, from request to implementation, reference can be made to the balance responsibility agreement.

5.1.8 Reporting trading values and settlement prices

Prices obtained in conjunction with balancing measures form the basis for the pricing of gas exchanged with a balance administrator as part of a final balance settlement. BAM reports prices to balance administrators in a way that the balance administrators can calculate all the settlement prices that could affect them.

6 Handling metering values, calorific values, and grid reconciliation differences

This chapter contains descriptions and explanations of the gridowner's responsibility for handling metering values, calorific values, and a grid reconciliation difference.

Key starting points

- The different grid connections have the following meter points:
  - Border points for adjacent grids
  - Input points for production facilities
  - Offtake points for consumption facilities
- Metering values mentioned in this chapter refer to volume unless stated otherwise.
- When calculating a meter reading, actual readings before and after the point in time are used and the calculation should be made proportionally based on a straight-line allocation.

The grid owner's responsibility for metering and reporting is set out in the Natural Gas Act and the Metering Regulations. Responsibility covers the accuracy, operation, and meter maintenance.

The grid owner can allow another company, termed a metering agent, to handle collection of meter readings although it is the grid owner who is ultimately responsible for this work.

According to the Metering Regulations, reading of the meter must take place after the end of a supply period. The term supply period normally refers to one month for monthly and hourly metered, non-daily settled offtake points, and one day for hourly metered and daily metered offtake points. A reading should also be made on the day the gas supply is taken over, commences, or is discontinued. In the case of a new connection, permanent disconnection, or meter change, the meter must be read on site via the meter display or counter.

6.1 Metering and calculations

6.1.1 Units

Metering of gas flows takes place mainly using equipment where the volume that passes the metering point (operating volume) can be determined. As the operating volume is dependent on pressure and temperature, the operating volume is converted to the equivalent volume at a set pressure and a set temperature. In Sweden, the operating volume is converted into what is termed normal state (atmospheric pressure and 0°C). The converted operating volume in cubic metres (m^3) is in that case termed normal cubic metres (Nm^3).

It can be noted that internationally it could be that operating volume is instead converted into what is termed standard state (atmospheric pressure and 15°C), abbreviated to Sm^3. There is a 5% difference between volume stated in Sm^3 and volume stated in Nm^3, which is something anyone comparing foreign volume information with Swedish information ought to be aware of.

The energy content of gas is dependent on its molecular composition. Simply metering the volume that passes a gas metering point does not provide information about the composition of the gas and nor does it state how much energy can be developed during combustion. Determination of the molecular composition of the gas is done using another type of metering equipment, which for cost reasons is only available at a limited number of places in the gas system. Using the energy value as guidance at such points, the factors used for converting volume into energy (calorific values) can be set.

During gas combustion, it is mainly carbon dioxide and water vapour that are formed. Normally, flue gases are evacuated directly into the atmosphere although further energy in the gas could be utilised via condensation of water vapour before evacuation into the atmosphere. There are therefore two ways of expressing the energy content of gas depending on whether or not the possibility of condensing water vapour in the flue gases is included. If account is taken of the condensation potential, the gas has a higher calorific value, known as the higher calorific value, or gross calorific value. If account is not taken of the condensation potential, a lower calorific value is obtained, known as the lower calorific value, or net calorific value.

In international contexts, the energy content of the gas is normally based on the higher calorific value. For adaptation reasons, the higher calorific value is used in the balance settlement. In dealings with end users in Sweden, energy is calculated using the lower calorific value. This explains why different calorific values arise when converting volume into energy.

The smallest unit of energy used is normally kWh (kilowatt-hours).

6.1.2 Metering limits and reading frequency

The following applications shall apply:

- Hourly metering
  - An offtake point with annual consumption greater than or equal to 3.0 GWh_l or with the highest monthly offtake greater than 0.5 GWh_l should be metered hourly.
- Daily metering
  - An offtake point with annual consumption greater than or equal to 0.3 GWhu must be metered at least monthly. It is permitted to measure consumption by hour below the non-daily limit. The grid owner can do this on its own initiative and at its own expense and then meter it once a day.
- Monthly metering
  - An offtake point with annual consumption greater than or equal to 0.3 GWh_l, must be metered at least once a month.
- Annual metering
  - An offtake point with annual consumption up to 0.3 GWh_l, must be metered at least annually.
- Offtake points that only refer to gas appliance use for household purposes are not subject to metering requirements.
- All interruptible supplies, production facilities, and storage facilities must be metered hourly, and readings must be collected hourly.

For monthly and annually metered gas customers, the grid owner must, on taking over and commencing supply, read the meter on the same day or no later than five weekdays after the date on which a change of supplier/customer takes place. The value should be recalculated in such a way that it represents the current change date. This takes place at 6am current time. If no reading can take place within the prescribed time as a result of circumstances that are beyond the control of the grid owner, the grid owner can then calculate the consumption for the change date.

Size	Reading = Metering	Collection	Settlement type	Reporting	Intra day	Preliminary	Final
Under 3 GWh	Monthly reading/Annual reading	Collected monthly	Non-daily YEAR/MONTH	Non-daily settlement		6105	6114/6115
Under 3 GWh	Hourly reading = Hourly metered	Collected daily	Non-daily YEAR/MONTH	Non-daily settled		6105	6114/6115
Under 3 GWh	Hourly reading = Hourly metered	Collected daily	HOUR	Estimerad 1 value every hour	IDM6104/ IDM6135	6104/6135	6110/6140
Over 3 GWh	Hourly reading = Hourly metered	Collected hourly	HOUR	Hourly settlement = IDM = 1 value every hour	IDM6104/ IDM6135	6104/6135	6110/6140

6.1.3 Practice in conjunction with self-reading

A grid owner can use the gas user as an agent to read the meter (self-reading) presupposing the gas user has access to the gas meter and the meter is a type that can be read easily. Such a reading must also be done according to the Metering Regulations, which means the grid owner must have a reported meter reading from the gas user well in advance to allow the grid owner to carry out a reading within five weekdays if necessary. If the grid owner is unable to carry out the reading as a result of circumstances beyond the grid owner's control, and if it has not received a self-reading from the gas user, the grid owner must calculate the use.

Gas users can also on their own initiative carry out self-readings between the regular reading points. The grid owner passes on all self-readings to the gas supplier.

6.1.4 Right to hourly metering below the non-daily limit

It is permitted to measure consumption per hour below the non-daily limit. The grid owner can do this on its own initiative and at its own expense. If the grid owner chooses to provide a metering system that only

meets the requirements set out in the Metering Regulations, the additional cost of meeting the gas user's wish for hourly metering when consumption is below the non-daily limit can be charged to the gas user.

6.1.5 Gas consumed by a facility

A facility, such as a metering and regulation station (MR-station), can use gas and the consumption is then termed 'own consumption'. This should be regarded as a starting point and subsequently metered according to the above.

6.1.6 Production of calculated annual consumption

Annual consumption for a facility can be based on the actual consumption for the previous 12-month period. This is done by taking the metered monthly consumption for an individual month and using it to estimate the consumption during the same month the next year. If, for example, 100 Nm3 was used at facility A in July 2016, the estimated consumption for July 2017 is also 100 Nm3.

The estimated annual volume for the non-daily facility can be calculated by totalling the metered consumption for the previous 12 months, which can be used as the calculated consumption for the coming 12 months. At the end of each month, a new 12-month period commences, which means that the calculated annual volume is updated each time a new monthly value is received.

For a newly connected facility, there is no previously metered consumption. Consequently, consumption must be estimated for the coming 12 months using a reliable method. One example could be to compare the consumption at a similar facility and use the same consumption pattern to allocate the calculated annual requirements over a 12-month period.

6.1.7 Conversion of volume into energy

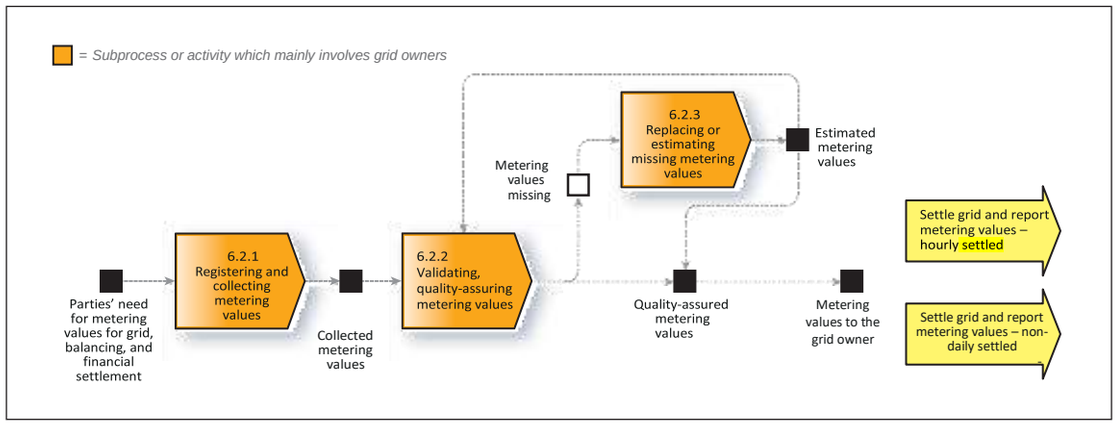
For all individual points in the gas system where the volume needs to be calculated into energy, the calorific values must be set. The procedure is described in more detail in 6.6.

6.1.8 Correction of metering values

If metering values that form the basis for the gas supplier's invoicing are incorrect, the corrected metering values must be sent without delay to the gas supplier. For a calorific value to be corrected after the event, the deviation must be greater than +/- 2%.

Correction of hourly metered values that formed the basis for reporting final settlement values can lead to subsequent bilateral corrections as described in more detail in Chapter 7.

6.2 Handling metering values — hourly metered



6.2.1 Registering and collecting metering values

At an hourly collected metering point, the grid owner must collect metering values as soon as possible after the end of the hour and register the metering values at each turn of the hour.

6.2.2 Validating and quality-assuring metering values

When obtaining and storing a metering value, a reasonability assessment must be made. This can take place by monitoring the consumption pattern to identify possible metering errors.

If a metering value from an hourly metered input, offtake, or border point is not considered to be reasonable, any deviation must be checked. This can be done by checking in the system to see if there is a similar offtake pattern during other periods. An example of an event of this nature is an industrial unit with considerable variations in offtake or power production and which only operates during certain periods.

6.2.3 Replacing or estimating missing metering values

If it has not been possible to obtain an hourly measured metering value directly after the hour, it must

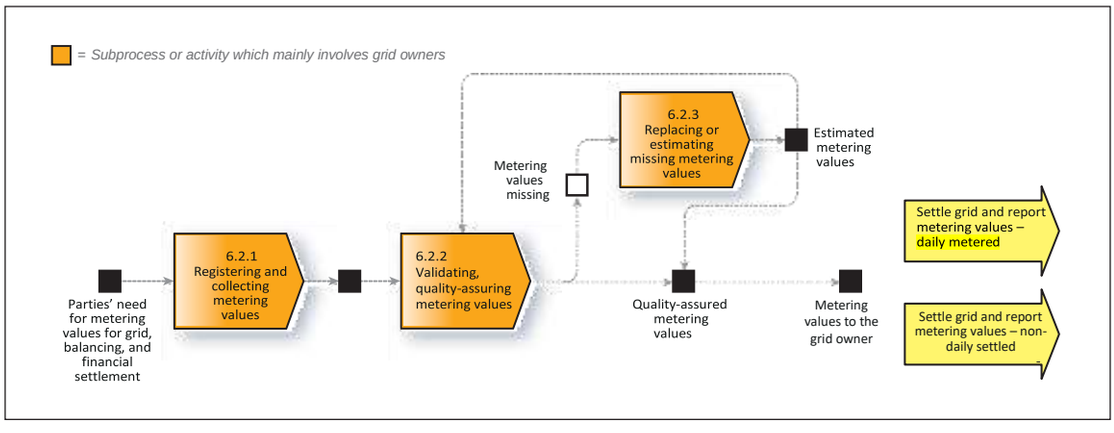
be estimated for use in the intraday report.

Estimation may only be made of individual metering values. All individual metering values must be included before totalling takes place. Consequently, total values may not be estimated, although the status is 'inherited' from the individual metering value that has the poorest quality in conjunction with totalling. For hourly metering values, a missing metering value can be replaced with the previous hour's metering value. If the meter reading is available for the point before and after the time period for which hourly values are missing, the missing hourly values can be created via interpolation or via another profile-based distribution of the energy between the meter readings.

If an estimated value has been sent as a replacement for a missing or incorrect metering value, the correct values must be sent without delay after they have been produced by the grid owner. It is then up to the recipient to decide on appropriate action. In the SGIX message, the metering value is marked as estimated or approved using a status code.

An estimated value, a metering value from a control meter, or an operational monitoring system, can, following careful assessment, be confirmed as valid if the ordinary metering value cannot be obtained. This method could be used if an error has occurred in the metering equipment or, for example, in conjunction with operational adjustments in the pipeline system.

6.3 Handling metering values — daily metered



6.3.1 Registering and collecting metering values

At a daily settled metering point the grid owner must collect metering values on a daily basis as soon as possible after the end of the gas day and register the metering values at each turn of the hour.

6.3.2 Validating and quality-assuring metering values

When obtaining and storing a metering value, a reasonability assessment must be made. This can take place by monitoring the consumption pattern to identify possible metering errors.

If a metering value from a daily metered input, offtake, or border point is not considered to be reasonable, any deviation must be checked. This can be done by checking in the system to see if there is a similar offtake pattern during other periods. An example of an event of this nature is an industrial unit with considerable variations in offtake or power production and which only operates during certain periods.

6.3.3 Replacing or estimating missing metering values

If it has not been possible to obtain an hourly measured metering value directly after the gas day, it must be estimated for use in the preliminary report.

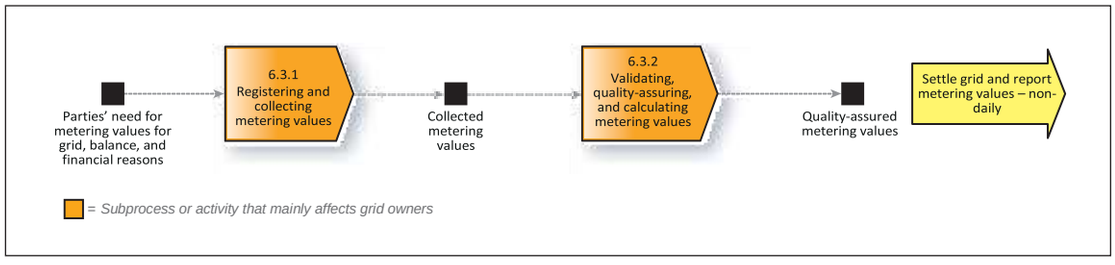
Estimation may only be made of individual metering values. All individual metering values must be included before totalling takes place. Consequently, total values may not be estimated, although the status is 'inherited' from the individual metering value that has the poorest quality in conjunction with totalling. For hourly metering values read each day, a missing metering value can be replaced with the previous hour's metering value. If the meter reading is available for the point before and after the time period for which hourly values are missing, the missing hourly values can be created via interpolation or via another profile-based distribution of the energy between the meter readings.

If an estimated value has been sent as a replacement for a missing or incorrect metering value, the correct values must be sent without delay after they have been produced by the grid owner. It is then up to the recipient to decide on appropriate action. In the SGIX message, the metering value is marked as estimated or approved using a status code.

An estimated value, a metering value from a control meter, or an operational monitoring system,

can, following careful assessment, be confirmed as valid if the ordinary metering value cannot be obtained. This method could be used if an error has occurred in the metering equipment or, for example, in conjunction with operational adjustments in the pipeline system.

6.4 Handling metering values — non-daily



6.4.1 Registering and collecting metering values

Meter types

In the case of metering of gas consumption that is not handled as hourly values there are two types of metering:

1. Metering without a volume value converter measures operating cubic metres in a gas meter using a counter. Using a fixed conversion factor for the facility, consumption is converted to normal cubic metres in conjunction with processing in the metering or debiting system. A conversion factor is stated in the constant field in the current SGIX message. Further information can be found in the technical instructions for SGIX.
2. Metering with a volume value converter comprises:

   A gas meter that registers operating cubic metres on one counter and normal cubic metres on another counter.

   Counter 1 receives pulses from the gas meter and registers operating cubic metres.

   Counter 2 registers normal cubic metres by recalculating pressure, temperature, and compressibility. Only Counter 2 is used for debiting and data for this counter is therefore used in PRODAT and MSCONS.

Reading

Reading of monthly metered offtake points must be done at 6am current time on the first day of the month. Reading of annually metered offtake points should take place on a rolling 12-month basis. Metering values must be read on the day, 6am current time, if a gas supply is discontinued or commences. If a reading cannot be made then, it must be done no more than five weekdays after supply has commenced or been discontinued, and metering values for the start date and discontinuation date respectively are calculated.

Meter change

When changing a meter, the meter reading for both the removed and replacement meter must be registered.

6.4.2 Validating, quality-assuring, and calculating metering values

In conjunction with the collection and storage of a metering value, a reasonability assessment must be made. This can be done by monitoring the consumption pattern to identify any metering errors.

In those cases where the grid owners are unable to carry out a reading, the grid owner must make a preliminary consumption calculation and a meter reading to/from the envisaged reading date.

6.5 Calculating and confirming a grid reconciliation difference

The term 'grid reconciliation difference' refers to the difference between gas input and gas offtake minus supplementary storage of gas in the pipeline system. In the case of a distribution grid operating at a low and generally constant pressure, the change in the amount of gas in the pipeline system over a longer period of time is negligible.

The grid reconciliation difference arises mainly as a result of a lack of accuracy in the metering system and can be both positive (gas appears to arise in the pipeline system) and negative (gas appears as if it has been consumed in the pipeline system). Grid reconciliation differences refer to gas that is required to operate pipeline systems and consequently the grid owner sells positive grid reconciliation differences and purchases negative grid reconciliation differences. The demands set out in the Natural Gas Act for the procurement of energy for operating gas pipelines (Chapter 3, Section 8) should apply to the grid owner's transactions with regard to grid settlement differences. The grid settlement difference is considered to consist of grid losses and metering deviations. Grid losses are unmetered gas that has leaked from the gas pipeline. Metering deviations are the meter's incorrect reading compared with the actual consumption.

The grid owner shall on request report its final monthly grid reconciliation difference for the month referred to in the inquiry. The information must be sent by email or in another agreed manner.

6.5.1 Distribution grid

If the grid owner can confirm daily reconciliation differences, the grid reconciliation difference can be processed as a daily metered point in the pipeline system. Otherwise, it must be calculated in a different way.

With the deviations in the gas metering system, monthly confirmation of the extent of a grid reconciliation difference would be preferable if it cannot be processed as a daily metering point. A monthly grid reconciliation difference can be set based on metering values for daily metered points, monthly metered points, and calculated total consumption during the month for points that are read annually or are unmetered.

Under the Metering Regulations, the grid owner must, annually in advance and no later than 15 December before the beginning of the year, report the following year's estimated grid reconciliation difference to the balance administrator and gas supplier. The grid settlement difference is reported in kWh_h per year. Information to the gas supplier and balance administrator concerned is sent by email or in another agreed manner.

6.5.2 Transmission grid

In the transmission grid, where the pressure is allowed to vary, it is not possible to ignore changes in the gas volume in the pipeline system when confirming the size of the grid reconciliation difference. The volume of gas in a transmission grid is not directly measurable and must be calculated using current pressures and temperatures. With daily readings at all input, offtake, border, and storage points, along with current pressures and temperatures registered with the same regularity, the daily settlement differences can be confirmed, and the grid reconciliation difference can be processed as a daily metered point in the pipeline system.

In conjunction with the regular reporting process, the grid owner is required to report, retroactively each month, its final grid settlement differences for the concluded month expressed in kWh_h. The data is sent by email or in another agreed manner. Reporting of monthly grid reconciliation differences is included in the final daily metered consumption.

6.6 Calculating and setting calorific values

6.6.1 Preliminary calorific value

A system balance administrator sets a preliminary calorific value in kWh_h/Nm^3 for use within the gas system to convert volume into energy in conjunction with a preliminary balance settlement. A preliminary calorific value is reported to the grid owner in the form of a DELFOR message no later than the 25th of the month before the supply month.

6.6.2 Final calorific values

Final calorific values for each supply month must be set for all points in the gas system where the metering value is used as a basis for final settlement and/or invoicing. To ensure local differences in the energy content of the gas that reaches a customer are handled accurately, it is the responsibility of each grid owner to place its offtake points in the calorific value areas. Final higher and lower calorific values must be calculated by the grid owner for each calorific value area and then used as a basis for final settlement and forwarding to gas suppliers.

Both the final higher and lower calorific values must be set for each input point, storage point, border point, and calorific value area. The methods are set out in the Swedish Gas Association report 'Joint industry methods for setting a calorific value', which can be found at https://www.energigas.se/library/1762/branschgemensamma-metoder-vaermevaerde.pdf

7 Settling the grid and reporting metering and calorific values

This chapter 'Settling the grid and reporting metering and calorific values' contains a description and explanation **of the grid owner's responsibility for reporting these** values.

Key starting points

- In the table and the equations, the grid owner is designated GC, the gas supplier as GS, the balance administrator as BA, the storage company as SC, and the system balance administrator as SBA.
- The dates/times listed in the handbook tables for reporting metering values are based on the Metering Regulations.
- All metering values for settlement and reporting stated in this chapter refer to energy in kWh_h unless stated otherwise.
- Periodised metering values and consumption are included in the term metering value.

Recommendations

- Written agreements can be entered into if the parties are agreed that metering value reporting should go beyond what is set out in law.

7.1 Reporting rules

7.1.1 Settlements

The grid owner mainly makes the following settlements:

- Reconciliation of energy metering
  - The grid owner must check the reasonableness of collected metering values. The most important aspect of this procedure is to check that the measured offtake energy from the grid is equivalent to the measured input energy.
- Calculation of the grid reconciliation difference
  - The grid reconciliation difference is estimated by producing the difference between the input energy and offtake energy from the grid for a certain period. The accuracy of this calculation will vary depending on the reading frequency.
- Cost calculation and invoicing of grid fees
  - The grid owner finally produces a settlement for each grid customer in order to invoice the gas user for using the grid. The grid owner could have a series of fee components that need to be settled. Further invoicing information is available in Chapter 9.

7.1.2 How and when reporting must take place

The grid owner reports according to the Metering Regulations, which specify the dates/times collection of metering values will take place and how they will be stored and reported.

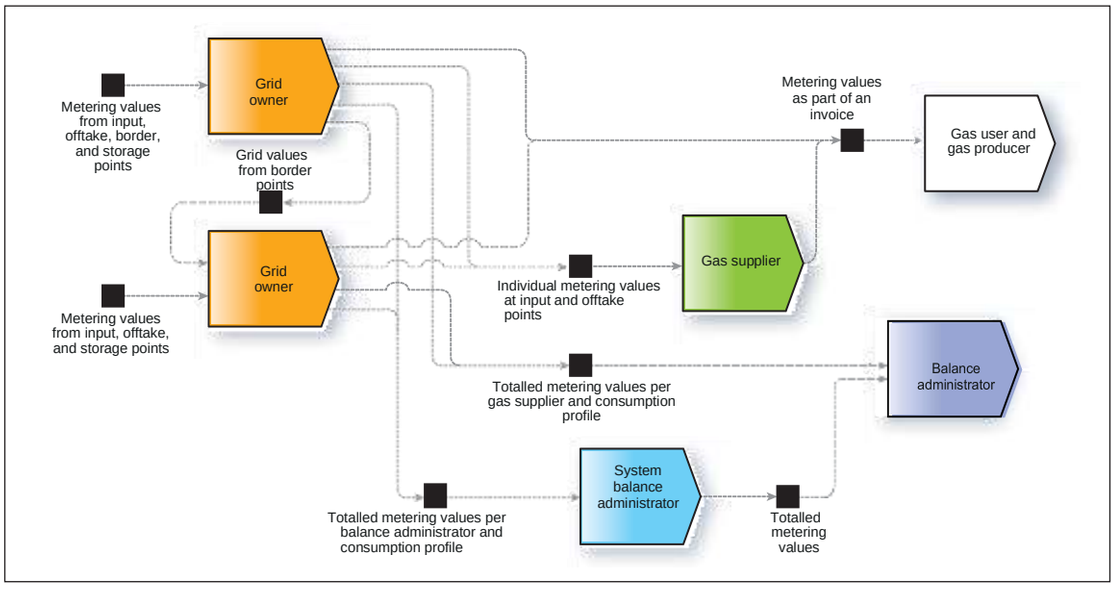
If metering values are missing, the grid owner must estimate these values.

Consumption expressed in Nm^3 is sent to the gas supplier for the offtake point. This consumption figure is intended for invoicing purposes.

Consumption expressed in kWh_h is sent to other parties (balance administrator, system balance administrator, and grid owners with adjacent grids). Grid/grid reporting is used as a basis for invoicing.

Reporting to adjacent grids, i.e. between grid owners, is carried out by the grid owner that has been appointed as metering value administrator – normally the party that has the metering equipment.

Reporting of metering values from the grid owner takes place via the EDIEL format MSCONS to all parties, with the exception of the gas user and gas producer if they have not requested a report. In the report, quality labelling is used to state that the metering value has either been read, calculated, or is missing. For technical data about mandatory information and similar information, see the EDIEL instructions for the MSCONS message.



All reporting of metering values and balance settlement results generally takes place in normal time but refer to current time. The reason for reporting in normal time all year round is to avoid time adjustments in conjunction with the switch to and from summer time in the settlement systems. As reporting takes place in normal time, reported values during the summer are displaced by one hour, see example:

- Summer time → Normal time = Current time minus one hour. During summer time, the gas day begins at 5am (normal time) which is 6am current time.
- Winter time → Normal time = Current time. During winter time, the gas day begins at 6am.

A precondition for a gas supplier to be able to handle metering value messages automatically is that the company is familiar with the metering and settlement system for the facility in question. This information is sent by the grid owner on commencement of gas supply or when changes take place, e.g. in conjunction with a meter change. For these details to be reported to the gas supplier, the grid owner must have the necessary information about the facility and meter registered in its system and ensure the details are updated in line with any changes that are made.

The grid owner needs to store the following information:

- Offtake point ID (facility ID)
- Facility address
- Calculated annual consumption
- Meter identity for the gas meter or meters installed at the offtake point
- Metering value identity
- Metering value time period (e.g. hour, month)
- Metering value reporting frequency
- Connection, disconnection, and reconnection dates
- Settlement method
- Area identity (area ID) of the grid settlement area to which the offtake point belongs
- Identity of the gas user at the offtake point (e.g. company registration number or civic registration number)
- Gas user's name and address
- Gas supplier's identity (EDIEL ID)
- Balance administrator's identity (EDIEL ID)
- Calorific value area

7.1.3 Identification of time series in messages

All reporting must take place via EDIEL and the metering values must be sent to the address registered by the recipient in the EDIEL portal. Reporting must take place at the correct time, with the requisite level of accuracy, and with the correct designations, unit, and identification as stated below.

To identify the grid owner that is sending the report, a border point, input point, or offtake point is used as a series ID. The metering value type is identified with the aid of product codes. A list of product codes can be found at https://www.ediel.se/ Info/edielanvisningar.

The grid owner can assign another company, termed a metering agent, to report metering values on

behalf of the grid owner. The grid owner cannot, however, assign an agreement whereby it divests itself of responsibility for reporting, and it is responsible at all times for ensuring that reporting takes place in accordance with current provisions and regulations.

The minimum number of decimal points used when reporting is none for KW and kWh, one for volume in Nm^3, three for calorific values in kWh/Nm^3, and four for the allocation figure in per cent. Generally, it is permitted to use three decimal points except for allocation figures in per cent, where the figures must be to at least four decimal points.

Correct designations mean that for totalled values the production values and values for gas transmitted from adjacent grids must be reported as positive. Consumption values and gas transmitted to adjacent grids are reported as negative. However, in the case of metering values for individual metering points, these are always reported as positive regardless of whether they refer to production or consumption.

It is important to bear in mind that if metering series are corrected, only the supply periods affected by the correction need to be reported. As the supply period is a minimum of one 24-hour period, when an hourly value is corrected, the value for the whole 24-hour period must be re-reported.

7.1.4 Reporting unmetered consumption

According to the Metering Regulations, gas appliance customers are exempted from the metering requirement. These customers are assumed to have estimated average annual consumption of 480 kWh_i per year.

In all reports from the grid owner, these types of facilities are treated as normal consumption facilities, i.e. the gas supplier and the customer must receive the same energy volume data that would have been produced if a meter had been used. If the grid owner wants to provide information about agreed energy or capacity, this must be done via the invoice or be sent in another manner.

7.1.5 Status labelling of metering values

When reporting metering values, a status designation is used to indicate that the metering value has not been read and is thus automatically deemed to be 'Approved'.

7.1.6 Replacement of missing or incorrect metering values

A missing or obviously incorrect metering value must be replaced with an estimated metering value. For hourly metering values metered each day, a missing metering value must be replaced with the metering value for the preceding hour. If there is a better basis for calculating the replacement value than the value for the preceding hour, this can be used.

If an estimated value has been sent as a replacement for a missing or incorrect metering value, the correct values must be sent without delay as soon as the grid owner has produced the figures. It is then up to the recipient to decide on appropriate action. In the SGIX message, the metering value is labelled as estimated or approved using a status code.

7.1.7 Corrections

Sometimes errors occur in the normal settlement procedures. There could be several reasons why an error occurs. It could be a metering error, structural error, or an error in the report from the grid owner.

Faults could lead to a party (gas supplier and/or balance administrator) incurring a cost for a gas supply for which another party receives revenue. A metering error could, for example, have implications for balance administrators, gas suppliers, grid owners, and end customers. Metering errors are corrected on an ongoing basis by grid owners, who then notify the customer's gas supplier and send updated metering values. The customer invoice can be corrected on an ongoing basis. The customer's balance administrator also receives this information although correction of a balance takes place at pre-set times. A correction can also take the form of retroactive bilateral correction.

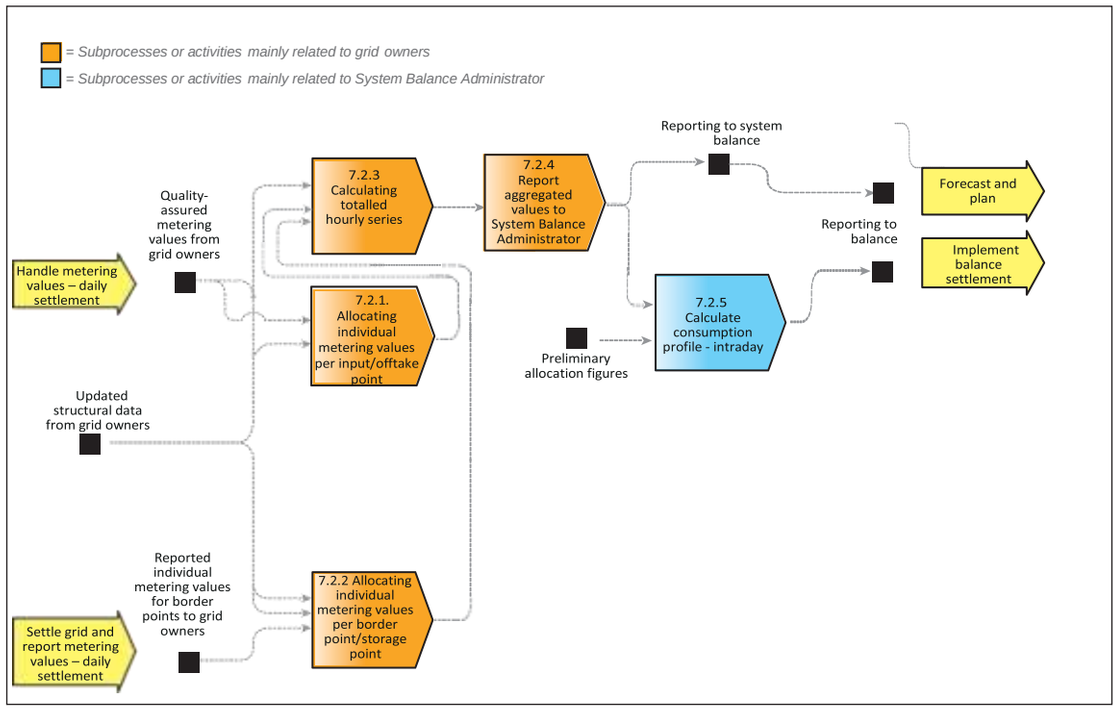
It is common for grid owners to receive minor corrections retroactively when more complete data for non-daily settled customers is received after the final settlement has been submitted. This type of change is corrected on two occasions: four months (also known as M-4) and 15 months (also known as M-15) after the supply month. As opposed to the finally settled values, which are sent in on the 15th of the month after the supply month (also known as M-1), the corrections are submitted within a period commencing on the 1st (not before start of the gas day at 6am) up to and including the 5th. The corrections are submitted for the same time series as the final settlement although with the range for the month for which the correction is being made. The possibility of correcting the values came about with the introduction of the Joint Balancing Zone and the first month an M-4 correction could be made was August 2019 and the first month an M-15 correction was made was July 2020.

Example:
A grid owner wants to submit corrections for April 2019 (M-15) in July 2020 and March 2020 (M-4) between 1 July and 5 July. The grid owner sends messages for two time periods for the product codes in question. The M-15 report will then be assigned the time period 6am, 1 April 2019 – 6am, 1 May 2019, and for the M-4 report the time period will be 6am, 1 March 2020 – 6am, 1 April 2020.

For major errors, a bilateral agreement between the parties (can include gas suppliers, balance administrators, and grid owners) is regarded as a neutral retroactive adjustment and should generally be similar to the correct settlement, although still be simplified to reduce the amount of administration by the parties involved.

The main purpose of bilateral, retroactive correction is to financially neutralise the major errors that have occurred. Minor errors (and where possible major errors) are handled via the scheduled corrections. In certain cases, it is not possible by law or under the general contractual terms and conditions to completely neutralise the economic consequences of the error. The party which in these cases caused the fault should thus cover any additional costs that have arisen.

7.2 Grid settlement and reporting metering values – intraday settlement



This section contains a description of settlement and reporting of intraday settled metering values. Settlement and reporting for individual supply days take place every hour during the supply day and thereafter four times: first a preliminary report immediately after the end of the supply day and a final one per supply day at the end of the supply month as well as corrections four and fifteen months respectively after the supply month: processes for these are described in the following section:

7.2.1 Allocation individual metering values for each input/offtake point

Individual metering values for each input/offtake point must be allocated to the balance administrator concerned.

7.2.2 Allocating individual metering values for each border point and storage point

Individual metering value for each border point must be allocated to the grid owner concerned. Corresponding individual metering value for each storage point must be allocated to the affected storage company.

7.2.3 Calculating totalled hourly series

Totalled hourly series is used in the reporting to the system balance administrator. This means that different types of metering values are totalled before they are reported. Total hourly series can be calculated in different ways as follows:

1. Totalled metering value for input and offtake points that will be intraday reported within a grid settlement area allocated according to consumption type for:
   - balance administrator, regarding the total balance responsibility in the grid settlement area.
2. Totalled metering value for daily settlement offtake points within a grid settlement area allocated according to consumption type for:
   - balance administrator, regarding the total balance responsibility in the grid settlement area.
3. Totalled metering value for input points within a grid settlement area for:
   - balance administrator, regarding the total balance responsibility in the grid settlement area.
4. Totalled metering values for border point in the grid settlement area for:
   - Adjacent underlying grids.

7.2.4 Reporting totalled metering values to the System Balance Administrator

The grid owner must report totalled preliminary hourly metering values in input point, border point, storage point as well as in offtake point with an annual consumption greater than or equal to 3.0 GWhu or a highest monthly offtake greater than 0.5 GWhu and hourly metering values are metered every full hour.

Reporting totalled border points and storage points

The grid owner must no later than 5 minutes after the supply hour for border points within a grid settlement area allocated to: system administration's, like the total of the balance administrator's, total balance responsibility.

Reporting totalled input points

The grid owner must no later than 20 minutes after the supply hour report the totalled hourly values within a grid settlement area to: the system balance administrator's total balance responsibility. The hourly values for daily settled input points are reported with product code IDM6135 in MSCONS message.

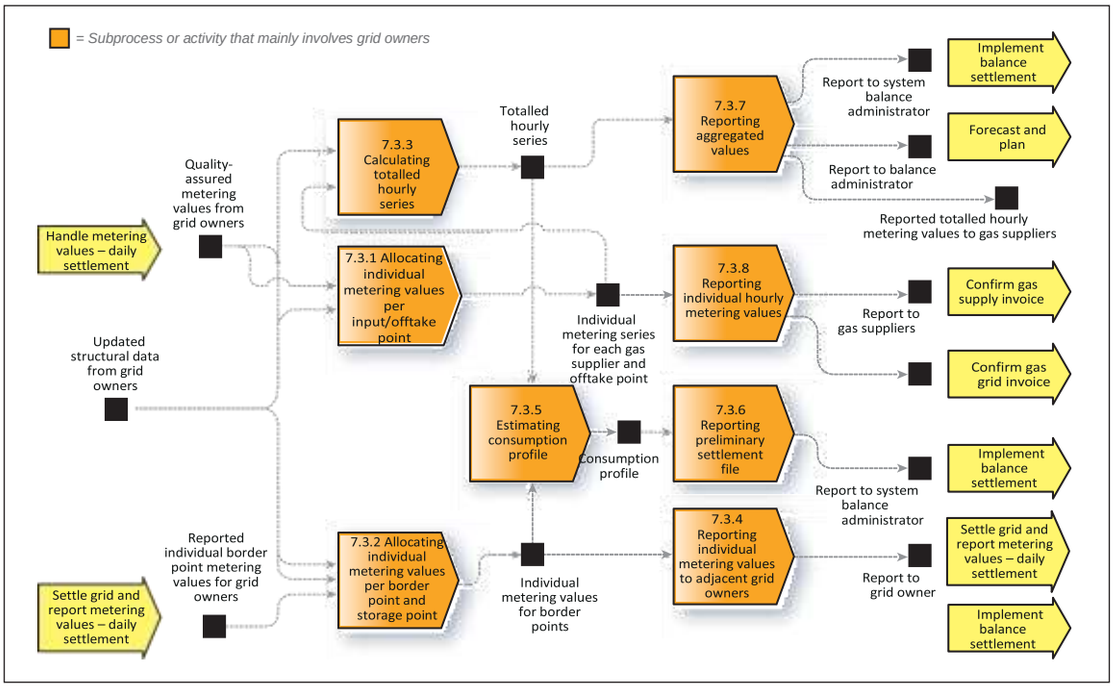
Reporting totalled offtake points

The grid owner must no later than 20 minutes after the supply hour report the totalled hourly values within a grid settlement area to: the system balance administrator's total balance responsibility. The hourly values for daily settled input points are reported with product code IDM6135 in MSCONS message.

7.2.5 Calculate the consumption profile – intraday (Residual)

The intraday consumption profile, also called Residual, is calculated by the System Balance Administrator for each grid settlement area for distribution. Calculation takes place hourly in arrears as total metering in the grid settlement area minus offtake at hourly metered and daily metered hourly settled (including storage, producer and pre-gassing facility), Residual thereby includes monthly metered, annually metered, unmetered and gas settlement differences. Residue is then allocated per by the Balance Administrator in accordance with reported preliminary allocation figure.

7.3 Grid settlement and reporting metering values – Preliminary and final daily settlement



This section contains a description of the procedure for settlement and reporting of daily metering values. Settlement and reporting for individual supply days takes place every hour during the supply day and thereafter four times: first on a preliminary basis immediately after the end of supply day, and then finally for each supply day after the end of the supply month as well as corrections four and fifteen months respectively after the supply month The subprocesses are largely the same and consequently the descriptions apply to both settlements. If there are any differences, these are stated separately.

The settlement for a grid settlement area must show a balance between gas input and gas offtake. For non-daily settled offtakes, an hourly series, termed the consumption profile, can be created. Allocation of energy within the consumption profile takes place according to the descriptions in 7.2.3. In the settlement process, input is assigned a positive value (plus) whilst offtake is assigned a negative value (minus).

7.3.1 Allocating individual metering values for each input/offtake point

Individual metering values per input/offtake point must be allocated to the relevant gas supplier and balance administrator.

7.3.2 Allocating individual metering values for each border point and storage point

Individual metering values for each border point must be allocated to the relevant grid owner. The equivalent individual metering values for each storage point must be allocated to the relevant storage company.

7.3.3 Calculating totalled hourly series

Totalled hourly series are used in the report to the system balance administrator, the balance administrators, and the gas suppliers. The different metering values are thus totalled before they are reported. Totalled hourly series can be calculated, in different ways, as follows:

1. Totalled metering values for offtake points which must be intraday reported within a grid settlement area and divided according to consumption type for:
   - Balance administrator with regard to the total balance responsibility in the grid settlement area.
2. Totalled metering values for daily metered offtake points within a grid settlement area and divided according to consumption type for:
   - Gas supplier, divided per balance administrator.
   - Balance administrator, divided per gas supplier.
   - Balance administrator, applicable to the total balance responsibility in the grid settlement area.
3. Totalled metering values for input points within a grid settlement area for:
   - Gas supplier, divided per balance administrator.
   - Balance administrator, divided per gas supplier.
   - Balance administrator, applicable to the total balance responsibility in the grid settlement area.
4. Grid reconciliation difference for the grid settlement areas where all offtake points are settled on a daily basis for:
   - Balance administrator, each gas supplier that is registered for the grid reconciliation difference
5. Totalled metering values for offtake points (consumption profile) must be settled on a daily basis each month within a grid settlement area for:
   - Gas supplier, divided per balance administrator.
   - Balance administrator, divided per gas supplier.
   - Balance administrator, applicable to the total balance responsibility in the grid settlement area.

7.3.4 Reporting individual metering values to adjacent grid owners

The grid owner must report individual preliminary hourly metering values for a border point to the owner of the adjacent grid by 9am current time at the latest on the day after the supply day. Final individual metering values at a border point must then be reported no later than the fifth weekday after the supply month to the grid owner whose grid settlement area borders on the company's own grid settlement area. Individual preliminary hourly metering values are reported using a MSCONS message with product code 6101/6106.

7.3.5 Calculating the consumption profile

A preliminary consumption profile (PCP) and final consumption profile (FCP) are calculated by each grid owner for their respective grid settlement areas for distribution. Calculation is done retroactively on a daily basis, resulting in total preliminary input into the grid settlement area minus preliminary offtakes at daily metered offtake points (including storage facilities, producers, and gasification facilities). The profile therefore includes monthly metered, annually metered, unmetered, and grid reconciliation differences.

7.3.6 Reporting preliminary profiles

Reporting the consumption profile

The grid owner must report the preliminary consumption profile for each grid settlement area to the balance administrators and system balance administrator no later than 10.30am current time on the day after the supply period. The final consumption profile is reported no later than the 15th of the month after the supply month. A consumption profile is reported using MSCONS with product code 6103/6111.

7.3.7 Reporting totalled offtake points settled on a daily basis

The grid owner must by 10.30am current time at the latest on the day after the supply day report preliminary totalled hourly metering values within a grid settlement area allocated to:

- Balance administrators, divided per gas supplier
- System balance administrator, as the sum of the balance administrator's total balance responsibility.

It is also recommended that the data sent to the balance administrator is also sent to the gas supplier to allow it to prepare its own gas supply forecasts, which are reported to the relevant balance administrator.

Final reporting must take place on the 15th of the month after the supply month. As part of the final reporting procedure, a total per balance administrator must be sent to the gas supplier.

Hourly metering values for offtake points settled on a daily basis are reported using an MSCONS message with product code 6104/6110.

Reporting totalled input points

The grid owner must, by 10.30am current time on the day after the supply date at the latest, report preliminary totalled hourly metering values within a grid settlement area to:

- Balance administrators, divided per gas supplier
- System balance administrator, as the sum of the balance administrator's total balance responsibility.

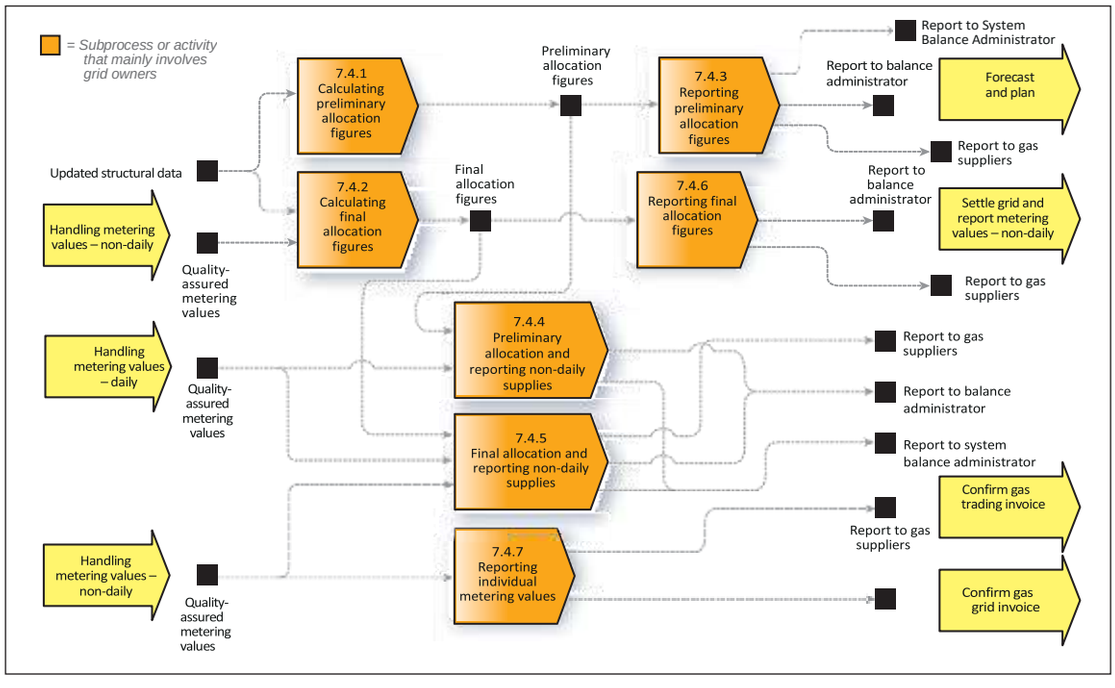
Final reporting must take place no later than the 15th of the month after the supply month.

Hourly metering values for daily metered input points are reported using a MSCONS message with product code 6135/6140.

7.3.8 Reporting individual hourly metered values

Under the Metering Regulations, individual metering values for daily settled offtake and input points must be reported to the gas supplier in Nm^3. Preliminary hourly values for the preceding supply day are reported no later than 10.30 am current time the following day. Final hourly values for a whole supply month are reported within five weekdays after the end of the supply month. Reporting takes place in MSCONS stating that preliminary values are assigned product code 6102 and final values are assigned product code 6109.

7.4 Grid settlement and reporting metering values — Preliminary and final non-daily



This section contains a description of the settlement and reporting of offtake points that do not have meter reading values that can be used in the balance settlement. These points, monthly metered, annually metered, or points without metering, are non-daily settled in the balance settlement with the aid of allocation figures.

Allocation figures are used to allocate the gas supplies to non-daily settled offtake points within the grid settlement area for distribution to each balance administrator and gas supplier. There are preliminary and final allocation figures. Both are calculated using similar principles and are reported to gas suppliers and balance administrators. The difference is that the preliminary figures are a forecast, and the final figures are based on metered values, and the final allocation figures for both monthly and annually metered offtake points and gas appliance customers are confirmed. The number of offtake points that form the basis for the allocation figures are reported to the gas suppliers.

The totalled volumes for non-daily settled offtake points and gas appliance customers within a grid settlement area is known as a consumption profile.

7.4.1 Calculating preliminary allocation figures

Preliminary allocation figures are calculated by each grid owner and show the proportion of deliveries to non-daily settled offtake points for each balance administrator and each gas supplier, as well as grid reconciliation differences within the actual grid settlement area (GA).

The first step in the calculations is to total the annual consumption for non-daily customers per BA and GS and the total for the grid. The preliminary allocation figures for all balance administrators and suppliers are then calculated as follows

PAF (BA, NSA) = (AC (BA, NSA))/(AC (NSA))

PAF (GS, NSA) = (AC (GS, NSA))/(AC (NSA))

where

PAF = Preliminary allocation figure

AC = Annual consumption

7.4.2 Calculating final allocation figures

Final allocation figures are calculated by the grid owner for balance administrators and gas suppliers within the owner's grid settlement area (when quality-assured readings for the daily metered and monthly metered offtake points become available).

The first step in the calculations is to total the non-daily customers' (NDC) total monthly consumption for the grid settlement area, which is the same as the total monthly energy in the final consumption profile.

The next step in the calculation is to total the monthly metered non-daily customers' monthly consumption total per balance administrator and gas supplier. Monthly metered non-daily customers = MON

The final allocation figures for the monthly metered offtake points are then calculated as:

FAFMON (BA, NSA) = (MCMON (BA, NSA)/(MCND (NSA))

FAFMON (GS, NSA) = (MCMON (GS, NSA)/(MCND (NSA))

where

FAFMON = Final allocation figure for monthly metered

MCMON = Monthly consumption for monthly metered

MCND = Monthly consumption for non-daily settled

The next part of the calculation is to determine the annually metered offtake points' proportion of the monthly consumption profile. This proportion is 1 minus the monthly metered offtake points' share:

ANPROP = 1 – [MCMON (NSA)/(MCND (NSA)]

where

ANPROP = Annually metered offtake points' proportion of monthly consumption

The annually metered non-daily customers' annual consumption, per balance administrator and gas supplier, and the total for the grid, are then added together. If during the month there have been leaks and pressurisation of a known magnitude, the periodised grid reconciliation difference is increased by the calculated energy for these.

Finally, the final allocation figures for the annually metered offtake points are calculated as:

FAFAR (BA, NSA) = ANPROP * (ACAR (BA, NSA) / (ACAR (NSA))

FAFAR (GS, NSA) = ANPROP * (ACAR (GS, NSA) / (ACAR (NSA))

where

FAFAR = Final allocation figure for annually metered offtake points

ACAR = Total annual consumption per balance administrator, gas supplier and grid settlement area for annually metered offtake points.

7.4.3 Reporting preliminary allocation figures

The preliminary allocation figures are stated in percentages and are reported to the balance administrators concerned (own PAF if the balance administrator is acting as the gas supplier and PAF for other gas suppliers for which the balance administrator has assumed balance responsibility), System Balance Administrator and to gas suppliers (own PAF). Preliminary allocation figures are reported in DELFOR. They must be calculated and sent no later than the 24th of each month.

7.4.4 Preliminary allocation and reporting non-daily supplies

Preliminary allocation of the consumption profile is done retroactively by the grid owner on a daily basis for each balance administrator and gas supplier and using the preliminary allocation figures. Allocation is as follows:

PALLND(BA,NSA,h) = PAF(BA,NSA) * PCP(NSA,h) PALLND(GS,NSA,h) = PAF(GS,NSA) * PCP(NSA,h)

where

PALLND = Hourly series for preliminarily allocated gas supplies to non-daily customers

PAF = Preliminary allocation figure

PCP = Preliminary consumption profile

The preliminarily allocated supplies are reported (MSCONS) no later than 10.30 am current time on the day after delivery to the balance administrators and the system balance administrator.

7.4.5 Final allocation and reporting non-daily supplies

Final allocation is done retroactively by the grid owner on a monthly basis after the final allocation figures have been confirmed.

To obtain the finally allocated supplies to non-daily customers for each balance administrator and for each gas supplier, the final allocation figures are used, whereupon allocation takes place per hour according to the following:

FALLNDMON (BA, NSA, h) = FAFMON (BA, NSA) * FCP (NSA, h)

FALLNDMON (GS, NSA, h) = FAFMAN (GS, NSA) * FCP(NSA, h)

FALLNDAN (BA, NSA, h) = FAFAN (BA, NSA) * FCP (NSA, t)

FALLNDAN (BA, NSA, h) = FAFAN (GS, NSA) * FCP (NSA, t)

where

FALLNDMON = Hourly series for finally allocated gas supplies to monthly metered offtake points

FALLNDAN = Hourly series for finally allocated gas supplies to annually metered and unmetered offtake points

FAFMON = Final allocation figure for monthly metered offtake points

FAFAN = Final allocation figure for annually metered and unmetered offtake points

FCP = Final consumption profile

The finally allocated supplies (monthly and the remaining non-daily customers) are reported using MSCONS messages no later than the 15th of the month after delivery.

7.4.6 Reporting final allocation figures

The final allocation figures are stated as a percentage and are reported to the balance administrators concerned (own FAF if a balance administrator is acting as a gas supplier, and FAF for other gas suppliers for whom the balance administrator has assumed balance responsibility) and also to gas suppliers (own FAF) no later than the 15th of the month after delivery. The grid owner uses the final allocation figures the month after delivery for final allocation of gas for each balance administrator and each gas supplier. Final allocation figures are reported in DELFOR.

7.4.7 Reporting individual metering values

Reporting to the gas supplier must take place via SGIX. The grid owner is not obliged to inform the gas supplier about other consumption that is being registered.

If the agreement between the gas supplier and the gas user changes in a way that a meter reading is required, the grid owner is obliged to assist on payment of a reasonable charge.

- Energy withdrawn at the offtake point is reported under a given product code with negative values.
- Input energy at the input point is reported using a given product code with positive values.

Reporting after reading

In the case of regular monthly and annual readings, the grid owner must send the following data to the gas supplier no later than 10 weekdays after the end of the month, and 10 weekdays after the reading to the gas user, and at the latest together with the next grid invoice:

- Date of reading
- Consumption between the current reading and the previous reading
- Meter reading
- Grid settlement area identity (area ID)
- Offtake point identity

Reporting in conjunction with a change of supplier

The grid owner must send the following data to the new gas supplier no later than 10 weekdays after a change of supplier.

- The consumption figure for the date on which gas supply started is set at 0 (zero).
- Meter reading on the date gas supply started.
- If a reading takes place after a change of supplier date, the meter reading is registered in a way that it is possible to determine whether the calculated meter reading needs to be checked.

The grid owner must send the following data to the previous gas supplier no later than 10 weekdays after a change of supplier:

- Consumption figure for the period between the current reading and the previous reading.
- Meter reading on the date gas supply ceased.
- If a reading takes place after a change of supplier date, the consumption figure and a meter reading must be calculated.

Annual consumption figures should also be reported to the previous gas supplier.

The grid owner must send the following data to the gas user no later than the final day of the calendar month in which gas supply starts:

- Change of supplier date
- Meter reading
- Reading date
- Reason for the reading

Reporting in conjunction with a move

The grid owner must send the following data to the new gas supplier no later than 10 weekdays after commencement of supply:

- The consumption figure for the date on which gas supply started is set at 0 (zero).
- Meter reading on the date gas supply started.
- If a reading takes place after the takeover date, consumption between the takeover date and the reading date is stated together with meter readings for each date.

The grid owner must send the following data to the outgoing gas supplier no later than 10 working days after the gas supply is discontinued:

- Consumption between the current reading and the previous reading.
- Meter reading on the date gas supply ceased.
- If a meter reading cannot be carried out on the vacation date, it must be calculated. The meter reading must be registered if it is to be presented as part of a control measure procedure.

In addition, the grid owner must send the following data to the new gas user no later than the invoice issued immediately following commencement of supply:

- Date of gas supply start
- Meter reading
- Reading date
- Reason for the reading

7.5 Reporting calorific values

7.5.1 Preliminary calorific value

A system balance administrator sets the preliminary (higher) calorific value that will apply for the whole grid. This is sent to the grid owner on the 25th of the month before it is due to come into effect. Reporting takes place using DELFOR.

7.5.2 Reporting final calorific values for border and storage points

Grid owners with metering responsibility for border or storage points report confirmed final (higher and lower) calorific values for these points to the grid owners, storage companies, and gas suppliers concerned. This must be done as soon as possible although no later than the third working day after the end of the month. Reporting takes place in MSCONS.

7.5.3 Reporting final calorific values for input points and calorific value areas

Reporting of confirmed final (higher and lower) calorific values to the gas suppliers concerned should take place as soon as possible although no later than the eighth weekday after the end of the month. Reporting takes place in MSCONS (including a product code). See table in Chapter 12.

7.6 Quality control measures by parties — hour

Quality assurance of metering value reporting can take place via operations according to a time schedule and using set methods to check the quality of the metering values. These processes are interlinked and should not be regarded as separate events. The grid owner presents a report before a certain date and the report recipients carry out quality control measures to ensure the quality of the metering values is adequate for invoicing to take place. The reporting and quality control of the metering values should be regarded as an operational activity with fixed procedures at each company. The system balance administrator does not own the correction procedure. If the System Balance Administrator points out a shortcoming in the reporting to a grid owner, this must be rectified by the grid owner.

7.6.1 Gas supply company's control measures

Control measure	Performance of control	Action
Series missing.	Identify series that have not been reported.	Bring the shortcoming to the notice of the grid owner.

7.6.2 Gidowe's control measures

Control measure	Performance of control	Action
Series missing.	Identify series not reported to the balance administrator	Report missing series before a prescribed date.
The gas supply company has missing series that should have been reported or they consider the reported values to be unreasonable	A gas supply company highlights the shortcoming in the reporting process.	Check metering values, communications, and re-report if necessary.

7.7 Quality control measures by parties — non-daily

As all the energy within the consumption profile needs to be apportioned across the final allocation figures for each month, the outcome should be quality assured by the grid owner before it is reported to the parties concerned. The total allocated energy in kWh_h for the grid settlement area for a month must be the same as the energy in the consumption profile for the same month. Below is a description of the control measures the parties ought to carry out to quality assure the settlement of non-daily customers.

7.7.1 Gidowe's control measures

Control measure	Performance of control	Action
Allocated energy does not concur with the energy in the consumption profile.	Check that the total energy apportioned using allocation figures is the same as the energy in the current consumption profile.	Check that the offtake points included in the allocation calculation are equivalent to the offtake points that will be non-daily settled and are thus included in the consumption profile. Carry out error localisation in the program to calculate allocation figures.
Deviation between allocated energy and metering value documentation.	Shortcoming highlighted by the system balance administrator that allocated energy is not equivalent to the energy that should be allocated according to the metering values.	Check the metering values and calculations and re-report with the corrected values.

7.7.2 Balance administrators' control measures

Control measure	Performance of control	Action
Allocation figure missing.	Check that all the allocation figures are reported for all the grid settlement areas where balance responsibility has been assumed.	Bring the shortcoming to the attention of the grid owner that has not reported allocation figures.
Reported energy does not concur with the figure that can be calculated using allocation figures and a consumption profile.	Check that reported energy for non-daily customers in the grid settlement areas concurs with the corresponding allocation figure multiplied by the consumption profile	Bring the shortcoming to the attention of the grid owner.

7.7.3 Gas supplier's control measures

Control measure	Performance of control	Action
Allocation figure missing	Check that all the allocation figures are reported for all the grid settlement areas where gas is supplied.	Bring the shortcoming to the attention of the grid owner that has not reported allocation figures.
Reported energy does not concur with the figure that can be calculated using allocation figures and a consumption profile	Check that reported energy for non-daily customers in grid settlement areas concurs with the equivalent allocation figures multiplied by the consumption profile.	Bring the shortcoming to the attention of the grid owners.
The number does not concur.	Check that the number of offtake points reported at the same time with allocation figures concurs with the number in the company's own customer register.	Check the company's own customer register and request a check on the number at the grid owner if no shortcoming is identified in the company's own customer register.

8 Balance settlement

This chapter describes the process 'Settling the balance' with associated subprocesses and the activities that are included. For balance administrators, the General Terms and Conditions for Gas Transport that BAM has issued applies, in which there is more information about for example Balance Gas and Balancing Measures.

Key starting points

- Balancing takes place in collaboration with the Danish gas system, (JBZ).
- Balance settlement is regulated in the balance responsibility agreement between the system balance administrator and the balance administrators.
- Reporting between the balance administrators, system balance administrator, and Balancing Area Manager (BAM) should preferably take place electronically via Edigas.
- Balance settlement and invoicing of imbalances is normally carried out by BAM with the exception of certain supply emergencies where it is done by the system balance administrator. The emergency situation exceptions are not described in detail in this handbook.
- Metering values mentioned in this Chapter refer to energy in kWh_h.

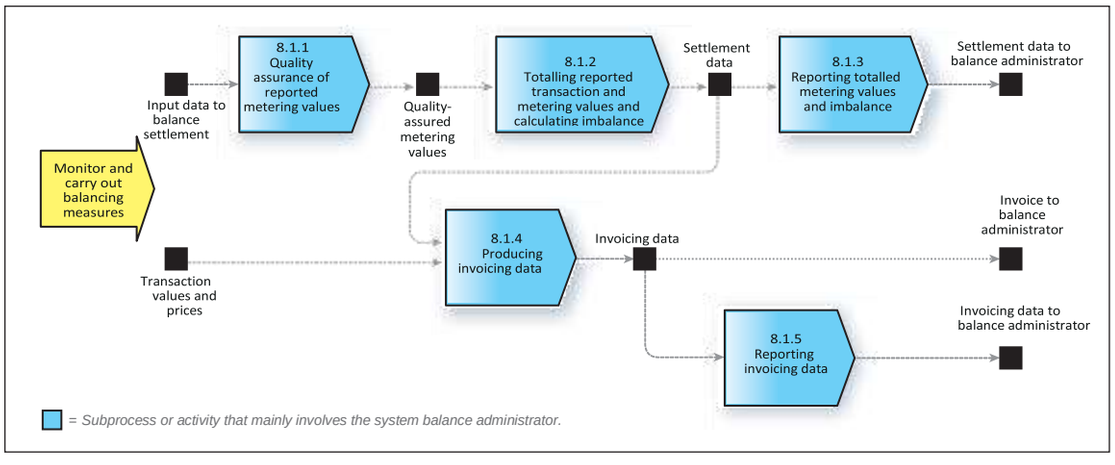
Recommendations

- To quality-assure supply undertakings between the balance administrator and the gas supplier, the balance administrator provides the gas supplier with settlement documentation and settlement results. The gas supplier then checks this information.

Through the balance settlement, BAM allocates the cost of the balancing measures and possible imbalances between the balance administrator companies in the gas market. The balance responsibility agreement between the system balance administrator and the balance administrator includes further details of the balance settlement procedure. The balance administrator then makes corresponding calculations for control purposes against BAM. Depending on the agreement between the balance administrator and the gas supplier, an equivalent settlement could also take place between these parties.

Settlement and reporting for an individual supply day take place five times: within 24 hours, a preliminary report immediately after the end of the supply day, and a final report for each supply day at the end of the supply month, as well as in the case of corrections four months back and 15 months back The sub-processes largely look the same, and consequently the descriptions apply to both settlements. In those cases where they differ, this will be stated separately.

8.1 Implementing balance settlement



8.1.1 Quality assurance of reported metering values

The system balance administrator receives totalled metering values for each balance administrator as reported by the grid owners and storage companies. The totalled metering values must be equivalent to the net energy that has flowed from the transmission grid to the distribution grid and storage. The totalled reported energy to non-daily offtake points in a grid settlement area is also checked to see whether it concurs with the reported consumption profile.

8.1.2 Totalling reported transaction and metering values and calculating the imbalance

For each balance administrator, the system balance administrator totals all storage use, consumption, and production within its balancing responsibility remit during a supply day and this data is then forwarded to

the BAM.

The balance administrator's difference between gas volume input and offtake in the joint Danish/Swedish balancing zone, which is calculated by BAM, is the balance administrator's imbalance for the supply day.

8.1.3 Reporting totalled metering values and imbalance

The system balance administrator sends the balance administrators a report showing their transactions, storage use, total metering values, and calculated imbalance for each supply day.

The system balance administrator also reports totalled series for each balance administrator to the BAM.

8.1.4 Producing invoicing data

Using calculated imbalances and prices for balancing measures, invoicing data can be produced by BAM and is reported to the balance administrators.

8.1.5 Reporting invoicing data

BAM submits settlement documentation and settlement results for final settlement to the balance administrators. Each balance administrator then uses this data to assure the quality of its own calculations.

8.2 Quality assurance of settlement results

8.2.1 Balance administrators' control measures

Control measure	Performance of control	Action
Difference in the transaction values between re-reported values from a system balance administrator and the data from the balance administrator.	Check that the transaction values from the system balance administrator concur with the data from the balance administrator	Contact the system balance administrator and/or transaction counterparty to resolve the difference.
Reported energy from the system balance administrator does not concur with the figure reported by the grid owner.	Check that reported input and consumption from the system balance administrator concurs with the reports from grid owners.	Contact the system balance administrator and grid owner to bring the difference to their attention.

8.2.2 Gas supplier's control measures

Control measure	Performance of control	Action
Lack of concurrence.	Check that the settlement result reported by the balance administrator concurs with the result reported by the grid owner.	Bring the shortcoming to the attention of grid owners who have not reported allocation figures.

9 Financial settlement with the customer

This chapter describes the process for implementing financial settlement with the customer and associated activities.

Key starting points

- The term 'customer' in this chapter refers to the end customer.
- A number of details regarding the grid owner and the gas supply company invoices are regulated in the Natural Gas Act (Chapter 7).
- In this chapter reference is made to the Swedish Gas Association general contractual terms and conditions regarding invoicing, collateral, and payment. The company's own contractual terms and conditions could be applied and, if so, they must take account of prevailing laws and ordinances.

Recommendations

- In order to identify a delivery and facilitate a change of supplier, it is important that the identity of the facility (offtake point ID), area identity (area ID), and calorific value area are always included in the gas user's grid invoice.
- The gas supplier's invoice should state the type of agreement. This reduces the risk of dual agreements.

Joint invoicing is common in the gas industry. Joint invoicing means that the grid owner, gas supplier, or an agent, i.e. a third party, invoices on behalf of all the parties. As part of the joint invoicing process, each company's claim is identified using a unique running number. The invoice must state that there is an agreement whereby a claim is assigned to the party issuing the invoice. By doing so, any future claim can be pursued by the issuing party.

A claim process could, at worst, result in a material breach of agreement. For information about handling cancellation or disconnection as a result of a material breach of agreement, see Chapters 1 and 2.

To facilitate contact between the gas user, gas supplier, and grid owner, it is recommended that the following information is included in the gas user's gas grid invoice and placed in a way that it is easy for the gas user to find the:

- Offtake point ID.
- Area ID (a three-digit uppercase letter code).
- Calorific value area
- Customer ID (civic registration number or company registration number).

The type of agreement the company has entered into with the gas user should be stated on the gas supplier's invoice (one-year agreement, variable price, etc.). If this is stated clearly, there is less risk of the customer entering into dual agreements.

Informing the customer: Method of payment

According to the general contractual terms and conditions, the grid owner must inform the consumer about the forms of payment and invoicing alternatives that are being offered. The most suitable way of doing this is via the grid owner's website.

9.1 General invoice requirements

General requirements for all invoices can be found in the Swedish Companies Act, the Accounting Act, and the VAT Act. There are also official regulations that impose further demands regarding the way the invoice must be specified.

The Companies Act (Chapter 28, Section 5) states that a limited liability company's invoices must include the name of the company, the company's registered office, and the company's registration number.

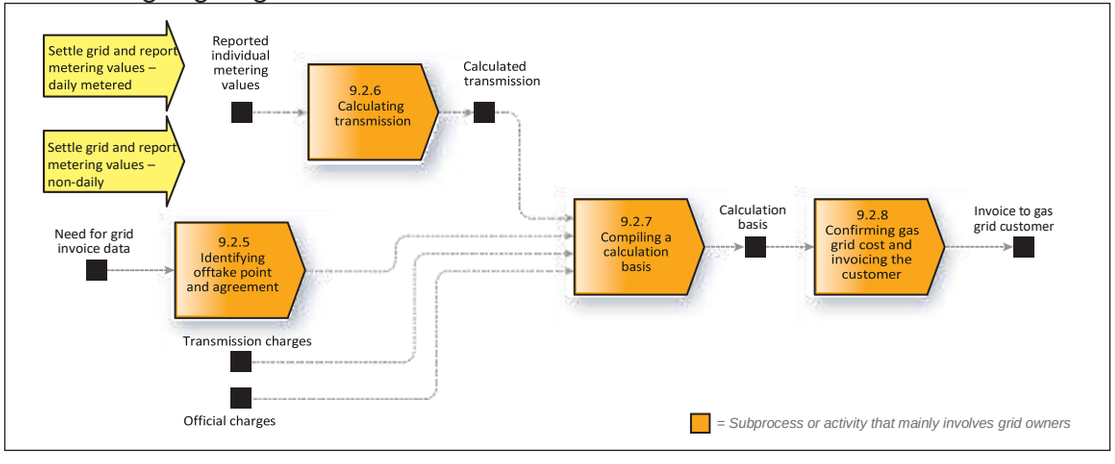
The Accounting Act (Chapter 5, Section 6) stipulates that there must be an underlying document for each transaction. The Act also states that the underlying document must include information about when it was compiled, when the transaction took place, what it refers to, the amount involved, and the name of the counterparty (Chapter 5, Section 7).

The Value Added Tax Act (Chapter 11, Section 8) states that an invoice must include the following data:

- Date of issue
- A running number, based on one or more series, which is the unique identity number for the invoice
- The vendor's VAT number
- The customer's VAT number in the case of what is termed reversed tax liability (i.e. in those cases when the vendor does not charge VAT on the invoice and instead the purchaser reports what is termed acquisition VAT in their home country)
- Names and addresses of the vendor and purchaser
- Volume and nature of the goods sold, or the scope and nature of the services provided
- Date on which the goods were sold, the services were provided/completed, or advance payment was made
- Tax base for each tax rate or exception, unit price excluding VAT, and any price reduction if this is not included in the unit price
- Rate of VAT applied
- VAT amount

It is sufficient to state the company registration number, assuming that it clearly indicates that it is also the VAT number. Notification that the company holds a class F tax registration certificate is not necessary if a VAT number is provided.

9.2 Confirming a gas grid invoice



Informing the gas user: consumption information

According to the Metering Regulations, the grid owner must, in the case of monthly and annually metered offtake points and no later than the invoice date, provide the gas user with the following data:

- The most recent meter reading
- Consumption during the metering period

The grid owner must also report consumption statistics each month in Nm^3 for the 13 preceding months or the current term of the supply contract if this is shorter.

Informing the customer: Information about grid tariffs

The grid owner must, on request and without delay, provide written information about its tariffs. The grid owner must also publish its grid tariffs (the part that refers to charges and terms and conditions for gas transmission). The most suitable way of doing this is via the website.

Informing the customer: Price change

Unless agreed otherwise, the grid owner is permitted to change its prices. If there is a price change, the grid owner must notify the consumer. Notification must take place at least 15 days before the change is made, either in the form of a specific message to the consumer or a notice in a daily newspaper and information on the grid owner's website. The term 'daily newspaper' refers to a daily newspaper that has the largest circulation in the municipal area in which transmission takes place.

Price changes resulting from amendments to special taxes, contributions, or charges decided by the state can be made and levied without prior notification. It must be clearly stated on the next invoice when the price change took place and the size of the change.

Informing the consumer: Consumer rights and complaints procedure

Under the Natural Gas Act (Chapter 8, Section 18), an invoice issued by a grid owner who enters into an agreement with a consumer must include up-to-date information about the consumer's rights, the procedure if the consumer wishes to file a complaint, the manner in which disputes must be handled, and where the consumer can obtain independent user advice and guidance on available energy efficiency measures and comparison profiles. This can be done by referring the consumer to the grid owner's website. At the consumer's request, the grid owner must also be able to provide this information in another way.

9.2.1 VAT

VAT on grid charges is calculated on all the components that make up the gas grid invoice.

9.2.2 Advance payments and collateral — grid owner

The preconditions for advance payment and collateral for gas users is governed by the general contractual terms and conditions. If the grid owner has reasonable cause to fear that the gas user will fail to discharge their payment obligations, the grid owner is entitled to request satisfactory collateral or advance payment for connection and transmission to continue. If the gas user provides collateral, it must be deposited in an interest-bearing account that is separate from the grid owner's own assets.

Conditions specific to a consumer (Gas Grid 2022 K)

- Collateral and advance payment: A maximum of four months' estimated gas grid connection charges or gas transmission charges.
- If a grid owner applies a system of advance payment, this must be reasonable and be based on expected consumption.

Conditions specific to a business operator (Gas Grid 2022 N)

- Collateral and advance payment: a maximum of six months' estimated gas transmission charges.

9.2.3 Identifying the offtake point and agreement

When invoicing, the grid owner must verify which facilities will be invoiced and how. The grid owner's system support for customer management and invoicing normally handles this automatically.

9.2.4 Calculating transmission

Invoicing of gas transmission charges to grid owners and gas users must be based on actual metering values. If metering values are not available to confirm transmission, a preliminary invoice can be issued. In that case it must be based on historical values unless another calculation method proves to be more equitable.

A preliminary invoice situation could be where a new customer with a completely different consumption pattern has taken over the facility or where the heating system has been replaced. If a meter reading is received and the consumption of a preliminarily invoiced customer is being checked, account must be taken of the price difference that may have arisen during the preliminary period.

Metering values reported as Approved or Calculated must be regarded as a basis for charging by both the grid owner and the gas supplier. Calculated energy is allocated to monthly energy figures between readings. Period allocation takes place the month after the calculation month based on the consumption profile that is finally reported for the calculation month.

If the grid owner finds that the reported metering values are incorrect, the grid owner must notify the parties concerned and report new, corrected metering values. The invoiced amount must be adjusted without delay. See Chapter 7 for further information about reporting of metering values.

If the agreed invoicing does not materialise, and this is a result of the actions of the invoicing party, e.g. an error in the invoicing system, the counterparty is entitled, on request, to an interest-free and without charges instalment plan. However, the plan must be formulated in relation to the number of unissued invoices.

9.2.5 Compiling calculation data

The metering values required for invoicing the grid charge are used to compile the charges that will be invoiced. The layout of the compilation depends on the type of gas grid agreement under which the invoice is being issued.

9.2.6 Setting a gas grid cost and invoicing the customer

The gas grid cost is compiled in invoicing data sent to the customer.

Conditions specific to a consumer (Gas Grid 2022 K)

Invoicing a consumer must take place at least every third month unless the parties have agreed otherwise. The consumer also has the option of being invoiced monthly.

The consumer is entitled to an interest-free instalment plan without any charges if preliminary invoicing has taken place for no specific reason. The number of instalments must be set in relation to the length of time the incorrect preliminary invoicing took place.

Preliminary invoicing is permitted for a maximum of 18 months. Thereafter, the consumer is entitled to a reduction of 15% of the difference between the metered and preliminary consumption if the consumer issues a request to that effect (if the metered consumption is higher than the preliminary consumption).

If an invoice is not sent, or if it is incorrect, and if this is due to circumstances within the control of the grid owner, the grid owner is not entitled to demand payment for claims older than 12 months.

In the case of invoicing of incorrect metering values during the agreement period, this must be corrected by the grid owner without delay. If the amount is small, it can be corrected in the next invoice.

In the final invoice sent to a consumer, the grid owner must have particular reasons for not invoicing based on metered consumption.

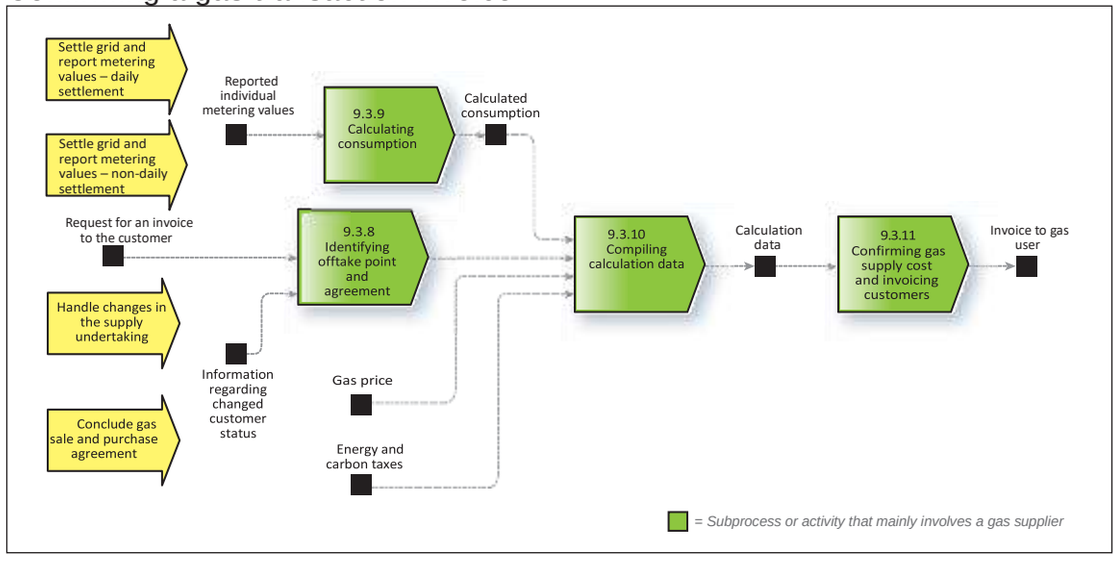
When the contractual relationship ceases, the consumer must receive a final invoice within six weeks of the date on which the agreement ceased. Once the grid owner has sent a final invoice, no further invoices may be sent.

Specific handling of a business operator (Gas Grid 2022 N)

Invoicing based on metering values must take place at least once a year and when the gas grid agreement ceases (final invoice).

Calculation of metering values using faulty metering equipment must not continue for more than three years from the point at which the fault came to the knowledge of both parties.

9.3 Confirming a gas transaction invoice



The gas supply invoice includes the gas price, energy and carbon taxes, and VAT. These components are set out below.

Informing the customer: Price change

Under the Natural Gas Act (Chapter 8, Section 17), if there has been a price change the gas supply company must inform the consumer in the next invoice from the gas supply company that a price change has been made. It must state when the price change came into effect and the nature of the change.

Informing the customer: Consumer rights and handling of complaints

Under the Natural Gas Act (Chapter 8, Section 18), a gas supplier who has entered into an agreement with a consumer must provide information in the consumer's invoice about the consumer's rights, the procedure if the consumer wishes to file a complaint, the manner in which disputes must be handled, and where the consumer can obtain independent user advice and guidance on available energy efficiency measures and comparison profiles.

This can be done by referring the consumer to the gas supplier's website. At the consumer's request, the gas supplier must also be able to provide this information in another way.

9.3.1 Final invoice

Under the Natural Gas Act (Chapter 8, Section 19) a consumer must, no later than six weeks from the date on which the agreement ceased, receive a final invoice from the outgoing gas supplier.

9.3.2 Gas price

The gas user enters into an agreement with their gas supplier regarding the gas price that will be applied when the volume used by the gas user is invoiced.

9.3.3 Energy and carbon tax

Below is an overview of the rules applied in conjunction with taxation of natural gas and biogas as of 11 September 2023.

The Energy Tax Act (1994:1776) governs taxes on fuel and electric power. Tax is levied on natural gas and biogas used as heating fuel or motor fuel.

Storage operators can handle natural gas or gaseous biogas under tax deferment

A party that handles natural gas or gaseous biogas can be approved as a storage operator by the Swedish Tax Agency. As a storage operator, tax is paid when the gas is delivered to someone who is not a storage operator or to the storage operator's own sales point which is not a depot. Tax must also be paid when the fuel is used internally.

The aim of the storage operator system is that a storage operator should be able to purchase gas from another storage operator and sell gas to another storage operator without giving rise to a tax liability. The same applies if a storage operator sells gas to a party registered with the Swedish Tax Agency as a user not liable for tax.

A user not liable for tax is a user who is permitted to purchase gas, either wholly or in part without payment of tax, for consumption for specific purposes. No invoicing of energy tax and carbon tax on the natural gas or biogas shall takes place in conjunction with sales of this nature.

A gas supplier approved as a gas storage operator can purchase gas without energy tax or carbon tax being levied. The tax liability does not arise until the supplier supplies the gas to a purchaser who is not an approved storage operator, to its own point of sale that is not a depot or if the storage operator consumes the fuel itself. It is the gas supplier, in the capacity of storage operator, who is responsible for submitting a monthly excise duty return to the Swedish Tax Agency. The energy tax and carbon tax on gas supplied to a customer who is not an approved storage operator is reported after, or if the tax liability has occurred through supply to the point of sale in the excise duty return. The supplier can, however, report the energy tax and carbon tax costs on the invoice to the gas user. In the excise duty return, the storage operator must also report tax on gas used directly by the storage operator.

Storage operators can handle liquefied biogas under tax deferment

Liquefied biogas is handled according to different tax procedure rules compared to gaseous biogas, gaseous natural gas, and liquefied natural gas. According to the Energy Tax Act, the reason for this differentiation is that liquefied biogas is a deferment fuel. A party that is liable for payment of tax on liquefied biogas can thus not be approved as a fuel storage operator and must instead be approved as a tax warehouse proprietor in order to handle the fuel under tax deferment. However, liability for tax on biogas does not come into effect when the gas is converted from liquefied to gaseous form if the biogas is being handled by a storage operator. Nor does liability for tax arise when the biogas is converted from gaseous to liquefied form if the gas has been placed in a tax warehouse.

Biogas tax exemption

A taxable fuel can be fully or partially exempted from energy tax and carbon dioxide tax. According to the Energy Tax Act this is the case with regard to biogas used as fuel for heating or as motor fuel. However, as a result of a ruling in the EU General Court (the EU tribunal), the Swedish Tax Agency announced on 7 March 2023, that tax exemptions can no longer be granted for biogas (or bio-LPG), except in cases where biogas is sold to a non-beneficiary (private individuals) who intend to use it for heating. In that individual case, tax exemption is still achieved by the taxpayer deducting energy tax and carbon dioxide tax in their excise tax declaration.

Natural gas tax exemption in certain cases

Consumption of natural gas in metallurgical processes, mineralogical processes or for the production of energy products gives the right to full exemption from energy and carbon dioxide tax. Consumption of natural gas in other manufacturing processes in industrial activities gives the right to full exemption from the carbon dioxide tax (but no right to a reduction in the energy tax) provided that the activity is covered by the EU Emissions Trading System (EU ETS). To count as a manufacturing process, the gas must have a direct

connection with the production process. Heating of headquarters, staff areas, etc. does not give the right to a tax reduction. Anyone who is approved as a storage operator with the Swedish Tax Agency makes a deduction in their excise tax return to receive the lower tax. Otherwise, the application for a refund is made for each calendar quarter.

Consumption of natural gas in manufacturing processes in industrial activities not covered by the EU ETS no longer gives the right to tax exemption, with the exception of consumption in metallurgical processes, mineralogical processes or for the production of energy products (see above paragraph).

The tax exemption previously granted for professional agricultural or forestry activities, which included, among other things, tax exemption for natural gas consumed in greenhouse cultivation, has been abolished.

Grant recipients

Beneficiaries are business operators that carry on industrial manufacturing, heat production, plant cultivation, agriculture, forestry, or aquaculture, or who use the biogas for heating. Private individuals are only beneficiaries if an individual carries on business operations.

Application for refund of energy tax or carbon dioxide tax

The refund application must be submitted electronically to the Swedish Tax Agency. Further information is available in the Swedish Tax Agency regulations regarding electronic refund applications (SKVFS 2017:1, amended through SKVFS 2018:1). The refund application must cover a period of one calendar quarter. The refund application must be submitted to the Tax Agency within three years of the end of the calendar quarter. Entitlement to a refund is only granted when the amount per calendar quarter is at least 1,000 kronor, although the full amount is repaid, i.e. from the very first krona, when the 1,000 kronor limit is reached.

Fiscal allocation of biogas and natural gas when they are transported together in a pipeline

If both biogas and other taxable gaseous fuels are supplied via a pipeline, tax must be calculated separately for each of the fuels. The gas supplier can, based on an agreement, allocate each of the fuels to different areas of use (through what is termed the green gas principle). The fuels that have not been allocated based on an agreement must be allocated between different areas of use by the gas supplier in relation to the proportion of the fuels entered into the pipeline by the gas supplier.

Information about the current tax rates and other tax exemptions for certain customer categories can be found at www.skatteverket.se.

9.3.4 VAT

Payment of VAT on the gas cost must be calculated on all the components that make up the gas supply invoice, except in cases where the gas supplier is an entrepreneur in another EU Country (so-called reverse payment obligation). See more information at www.skatteverket.se.

9.3.5 Payment collateral — gas supplier

Collateral terms and conditions are governed by the general contractual terms and conditions. If the gas supplier has reasonable cause to fear that the gas user will fail to discharge its payment obligations, the gas supplier is entitled to request satisfactory collateral for sales to continue.

Conditions specific to a consumer (Gas 2022 K)

- Collateral comprises a maximum of four months' estimated charges for gas trading.

Conditions specific to a business owner (Gas 2022 N)

- Collateral comprises a maximum of six months' estimated charges for gas trading.

9.3.6 Identifying an offtake point and agreement

When invoicing, the gas supply company must verify which facilities will be invoiced and how. The gas supply company's system support for customer management and invoicing normally handles this automatically.

9.3.7 Calculating consumption

Invoicing of a gas user's consumption must be based on actual consumption. If, for particular reasons, the metering values are not available, invoicing can take place using preliminary metering values. This preliminary invoicing must be based on the historical consumption at the facility, i.e. the gas user's actual consumption during the previous year and other circumstances that could affect the volume of transmitted gas. This could, for example, be a situation where a new customer with a completely different consumption pattern has taken over the facility. The recommendation is to use metering values for the same period the preceding year unless the customer has stated otherwise. When a meter reading is received and when reconciling the preliminary charge, account must be taken of the price difference that could have arisen during the preliminary period.

Calculated energy is allocated to monthly energy figures between readings. Period allocation takes place the

month after the calculation month based on the consumption profile that is finally reported for the calculation month.

Metering values reported as Approved or Estimated must be regarded as a basis for charging both the grid owner and the gas supplier. If the grid owner finds that the reported metering values are incorrect, this must be reported to the parties concerned and the invoiced amount must be adjusted without delay. See Chapter 7 for further information about reporting of metering values.

If the metering values are not available as a result, for example, of a faulty meter or faulty collection equipment, the grid owner can if necessary, calculate a metering value on which invoices can be based.

If an agreed invoice is not issued and this is attributable to the invoicing party, e.g. an error in the invoicing system, the counterparty is entitled, on request, to an interest-free instalment plan without charges. The plan must be formulated in relation to the number of unissued invoices.

9.3.8 Compiling calculation data

The metering values that are required for invoicing the gas trading cost must be used to compile the costs that are to be invoiced. The layout of the compilation depends on the type of gas sale and purchase agreement under which the invoice is being issued.

9.3.9 Setting a gas supply cost and invoicing the customer

The gas supply cost is compiled in invoicing data sent to the gas user.

Specific handling of a consumer (Gas 2022 K)

Invoicing a consumer must normally take place every third month unless the parties have agreed otherwise. For a specific facility, invoicing can take place at least once a year. However, a consumer also has the option of being invoiced monthly.

The consumer is entitled to an interest-free instalment plan without any charges if preliminary invoicing has taken place for no specific reason. The number of instalments must be set in relation to the length of time the incorrect preliminary invoicing took place.

Preliminary invoicing is permitted for a maximum of 18 months. Thereafter, the consumer is entitled to a reduction of 15% of the difference between the metered and preliminary consumption if the consumer issues a request to that effect (if the metered consumption is higher than the preliminary consumption).

If an invoice is not sent, or if it is incorrect, and if this is due to circumstances within the control of the gas supply company, the gas supply company is not entitled to demand payment for claims older than 12 months.

In the case of invoicing of incorrect metering values during the agreement period, this must be corrected by the gas supply company without delay. If the amount is small, it can be corrected in the next invoice.

Invoicing for a specific facility may take place according to a standard procedure and a separate agreement with the consumer.

In the final invoice sent to a consumer, the gas supplier must have specific reasons for not invoicing based on metered consumption.

When the contractual relationship ceases, the consumer must receive a final invoice within six weeks of the date on which the agreement ceased. Once the gas supply company has sent a final invoice, no further invoices may be sent.

10 Communication

This chapter describes how much of the information in the gas industry is communicated between the parties.

Key starting points

- The sender must use the current EDIEL ID applicable at the time regardless of the message validity date.
- To operate on the gas market, a party must have carried out tests in order to communicate via EDIEL and thus be approved as an EDIEL party.
- Reporting via EDIEL takes place using the SMTP communication protocol.
- An EIC code is used to identify a market participant that uses EDIG@s.
- Reporting using EDIG@s takes place using the communication protocol AS/4.
- Messages containing customer data (PRODAT) must be encrypted when the message is sent via the Internet.
- The sender of an EDIEL message must notify the recipient if an APERAK and/or CONTRL is missing, negative, or does not arrive within the prescribed time.

Recommendations

- If there is a communication error, the parties concerned must contact each other by telephone/email for further error identification, and they must agree on what measures need to be taken.
- In the case of changes in an EDIEL address or other changes that affect the exchange of information, the party that initiates the change should notify this via the EDIEL portal at least 14 days before the change comes into effect. This also applies in conjunction with planned stoppages in incoming or outgoing EDIEL traffic.
- In the case of changes and updates to AS/4 Addressing etc. these are also notified via the EDIEL portal.

10.1 SGIX — gas industry system for message handling

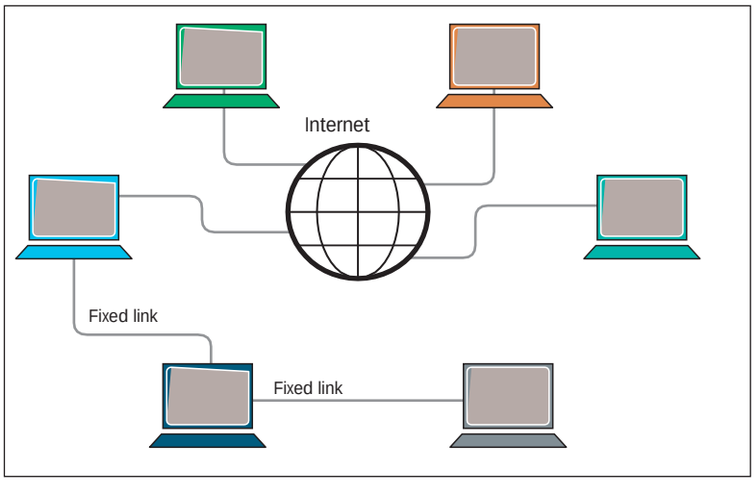
To satisfy the need for data exchange between gas market participants in purely practical terms, electronic data interchange (EDI) is required. EDI means that standardised electronic messages are sent from one computer to another, i.e. the whole chain is electronic.

It is therefore imperative that the standard is independent of a supplier. In the electricity industry, Svenska Kraftnät has developed a joint EDI system named EDIEL. The gas industry has opted to use EDIEL as a starting point and has made a small, albeit necessary, number of adaptions. This regulatory system is known as SGIX (Swedish Gas Information Exchange).

The joint standardised message format used is known as EDIFACT and the transmission of messages takes place using the SMTP communication protocol. SMTP is used among other things for emails sent via the Internet, although it is also possible to use the SMTP protocol to send EDIFACT messages using both the Internet and private networks. In the SMTP standard, messages are placed in a digital envelope with the address of the recipient stated in a standardised format (EDIEL standard format in the gas industry).

EDIG@s is being developed by Easygas, and an exchange of information takes place via AS/4, which involves encryption and an exchange of certificates between the parties. EDIG@s is used between Energinet, Swedegas, and the balance administrator.

Within EDIEL and EDIG@s, communication takes place using the Internet unless agreed otherwise between the parties. To facilitate communication via the Internet, certain parties can agree to have a fixed link instead. Parties that use an agent are free to choose this communication method whenever agents are used. Nor is in-house communication within the organisation regulated. It is, however, the responsibility of the parties to ensure communication takes place in a manner that is satisfactory from a security point of view.



The image shows very schematically how SGIX messages are sent. The majority of parties exchange EDIEL messages using the Internet. Certain parties have agreed to use a fixed link.

10.1.1 Reporting entirely via SGIX

All metering values from grid settlement areas must be reported via SGIX. Structural data in conjunction with a change of supplier must also be sent via SGIX. Reports are sent to the system balance administrator, balance administrators, and gas supplier.

The sender of a message is responsible for checking that what is being sent actually arrives at the recipient.

SGIX should be capable of handling all information that is not of a real-time nature. It should be possible, for example, to use SGIX for metering values, financial settlement, forecast values, and sales and purchasing information. SGIX is based on international standards, thus guaranteeing long-term access to software products and services.

The information sent by SGIX is structured in the form of standardised EDIFACT messages and currently exists for settlement/meter readings (MSCONS), forecasts/shares (DELFOR), structural data in conjunction with a change of supplier (PRODAT), control messages (CONTRL), and application acknowledgements (APERAK).

There are two types of MSCONS: MSCONS hour and MSCONS-STA (standard). MSCONS-STA is used primarily for reporting annual and monthly metering values.

The DELFOR message has been supplemented to handle the gas industry's allocation figures.

Messages for invoices (INVOICE), purchase/sales quotes (QUOTES), and trading results (SLS RPT) have been produced, although they are not used within SGIX.

SGIX, together with EDIEL, is in a constant state of development in order to handle several types of messages, to offer a range of services, and to safeguard data against manipulation and unauthorised use.

EDIG@s Version 5.1 is used to handle nominations (NOMINT/NOMRES), which is equivalent to a balance plan, and its confirmation (DELFOR), allocations (MARSIT), and intraday metering values (METERD). ACKNOW are control messages for all the above messages. For further detailed documentation, see https://www.edigas.org/version-5/.

10.1.2 SGI messages used in different operating phases

Phase	Info exchange	Message type SGIX	Control message
Procurement/ establishment	Company information Definition of balance responsibility	Forms via email (forms N2a)	-
Structuring	Structural data	PRODAT	APERAK
Transactions and operational planning	Preliminary allocation figures	DELFOR	APERAK
	Preliminary calorific value	DELFOR	APERAK
	Bilateral transactions	DELFOR	APERAK
	Production forecasts	DELFOR	APERAK
	Consumption forecasts	DELFOR	APERAK
Operation			
Metering value reports – hourly values	Hourly values	MSCONS hour	APERAK
Metering value reporting Non-daily settlement C	Meter reading/consumption/ calorific value area	MSCONS-STA	APERAK
Calorific value area	Calorific value	MSCONS-STA	APERAK
Settlement – hourly values	Settlement result	MSCONS hour	APERAK
Settlement	Final allocation figures	DELFOR	APERAK

The above table shows a list of all the SGIX messages used in the different operating phases.
C = counter.

10.1.3 EDIG@s messages used in different operating phases

Phase	Info exchange	Message type SGIX	Control message
Trading and operational planning	Bilateral trading	NOMINT/NOMRES	ACKNOW
	Production forecasts	NOMINT/NOMRES	ACKNOW
	Consumption forecasts	NOMINT/NOMRES	ACKNOW
Operation			
Metering value reporting – hourly values, totalled	Hourly metered values	METRED	ACKNOW
Updated system consumption forecasts	Hourly values	METRED	ACKNOW
Settlement	Settlement result	MARSIT	ACKNOW

10.1.4 EDIEL portal

The EDIEL portal is a web-based solution for testing EDIEL messages. Tests are performed in several phases. First, the system providers and thereafter the actors are tested. The EDIEL portal shows which messages have been approved for the actors. The web address for the EDIEL portal is www.ediel.se

Actor information can be found via the EDIEL portal. All actors must make use of the information that is published to communicate with or match data against each other. Changes in addressing of the message must be made with good foresight (at least 14 days) so that all actors have a chance to update their mailing lists. EDIEl has its own customer service that responds to questions related to EDIEL. Contact details for EDIEL customer service are available on the EDIEL portal under "Kontakt/Öppettider" (Contact/Opening hours). Information about EDIEL is available on the EDIEL portal www.ediel.se.

10.1.5 Procedure in case of a communication fault

Companies with extensive traffic via SGIX and EDIG@s, and which are sensitive to operational disruption, report operational disruptions via the EDIEL portal and by email. In the case of a protracted operating disruption, email is used as a backup.

10.1.6 Methods for reporting via SGIX

The following methods are available for reporting via SGIX:

- Use a standard system with an interface that can handle communication with SGIX.
- Supplement an existing in-house system with an EDI front adapted to SGIX.
- Engage the services of an agent that offers services related to SGIX reporting.

10.1.7 Connection to SGIX

All gas market participants must enter into an EDIEL agreement with Svenska Kraftnät. Information about the requirements for connecting to EDIEL is available on the Svenska Kraftnät website https://www.svk.se/aktorsportalen/elmarknad/ny-pa-elmarknaden/anvanda-EDIEL/

10.1.8 Addressing and identification within SGIX

Svenska Kraftnät has produced instructions regarding the procedure for addressing and identifying an EDIEL ID in Sweden. Below is a brief summary of the document.

Each legal entity on the gas market in Sweden must have an ID for communication via SGIX. This can be compared to a company registration number. Subsidiaries and associate companies have their own IDs.

Reporting via SGIX can be done by the party concerned directly or via an agent.

There are currently a number of companies that have the role of both balance administrator and gas supplier. When there is a need to separate the roles within the company to ensure messages relating to the different roles are kept apart, this can be done by addressing the message to an internal agent with an extra inbox unless the party has a system that can differentiate internally between the messages.

For messages relating to hourly series, corrections of ID concepts are made in conjunction with structural changes. In the case of communication with Svenska Kraftnät, this is done in the structure notification and to other parties it is done in accordance with the recommendations set out in this handbook.

For messages relating to information about non-daily supplies, the changes should be made when new systems are introduced for non-daily settlement. As all outgoing data must contain the correct information, the correct ID information must at all times be communicated externally to other parties. Any reformulation of old or incorrect IDs must take place in-house.

Report recipients must always be notified of all changes to ID concepts before reporting starts.

10.1.9 Rules for linking an EDIEL ID to a company registration number

Svenska Kraftnät allocates an EDIEL ID to companies in the gas market that are linked to the company's registration number. When a company merges with another company – through a corporate acquisition for example – the company's EDIEL ID is deregistered. Svenska Kraftnät employs a procedure where a company that receives a new registration number must also receive a new EDIEL ID to preserve the link to a specific legal entity.

Experience has shown, however, that internal organisational changes that entail a new registration number also result in a great deal of administration (e.g. database changes) as a result of a change in the EDIEL ID. The rules that apply are as follows:

A company that makes an internal organisational change, and which does not entail any change of the company's obligations on the gas market, will be able to retain its old EDIEL ID despite the fact it has a new company registration number. The principle should be the same and the company's obligations and undertakings must not be split between different legal entities.

The company can apply to Svenska Kraftnät to transfer an EDIEL ID. The application must include a description of the organisational change and a copy of the registration certificate. Svenska Kraftnät examines each application individually. A precondition for implementing the change is that the former company and the new company have entered into an agreement with Svenska Kraftnät regarding the transfer of an EDIEL agreement. If the company has balance responsibility, an agreement must also be entered into with the system balance administrator regarding the transfer of a balance agreement. In conjunction with this, the system balance administrator requisitions a new credit rating for the company if this proves necessary.

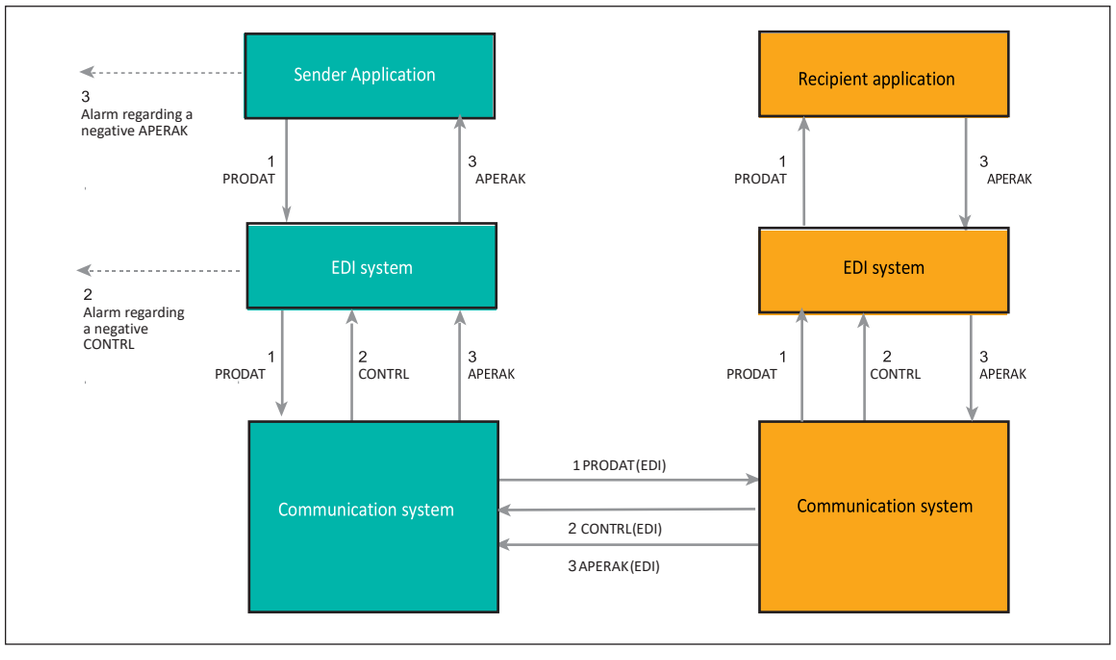
10.1.10 Acknowledgement levels for EDIEL

In the EDIEL standard there are two different acknowledgement messages:

- CONTRL message (syntax control)
- APERAK message (application control)

The chart below shows an example of a message flow for PRODAT, including the two acknowledgement levels.

1. The sender sends a PRODAT from their application. The PRODAT message must be sent all the way to the recipient's application.
2. When the PRODAT message has reached the recipient's EDI system, a CONTRL message is sent from the recipient's EDI system to the sender's EDI system. If the sender receives a negative CONTRL, this must be highlighted automatically to initiate error localisation and for further action to be taken.
3. When the PRODAT message has reached the recipient's application, an APERAK message from the recipient's application is sent back to the sender's application. If the sender receives a negative APERAK, this must be highlighted automatically to initiate error localisation and for further action to be taken.



The chart shows the message flow for PRODAT with two acknowledgement messages.

10.1.11 When has an EDIEL message been received?

An EDIEL message (EDIFACT file) is 'received' when the sender has received a positive (approved) CONTRL from the recipient. CONTRL is verification that the message has been delivered.

The sender/recipient could be the sender/recipient personally or their agent.

10.1.12 Product codes

Information about product codes can be found in chapter 12 and on the Swedish Gas Association website. http://www.energigas.se/publikationer/gasmarknadshandboken/

The gas market uses its own product codes, all of which begin with the figure 6.

The product codes state the contents of a report, e.g. the type of consumption or production that is included in a metering series and the terms and conditions for reporting (e.g. which message field must be completed, period of validity etc.). See Chapter 12 'Product codes'.

10.1.13 Agent for reporting via SGIX

If the company does not have its own system for reporting/receiving via SGIX, the company can enlist the services of an agent for this purpose. There are a number of companies operating on the market that provide this type of service.

The party that engages an agent has formal responsibility for ensuring that reporting takes place according to the regulations. It is therefore important that technical responsibility is strictly regulated.

10.2 EDIEL messages

10.2.1 PRODAT — for reporting structural data

The EDIEL message PRODAT is used to report offtake point structural data. The acknowledgement message is APERAK. PRODAT is used for:

- Takeover of gas supply (change of supplier).
- Commencement of gas supply (takeover and new connection).
- Cessation of a grid agreement (vacating a facility).
- Maintenance of basic data as part of an ongoing agreement, e.g. a change of balance administrator for a number of facilities in a grid settlement area.
- Meter change.

If the message could not be sent within the prescribed time, the recipient should be contacted in another way (applies to all message types in PRODAT).

Function	Sub-type	Sender	Recipient	Area of use	Deadline
Z01		Potential new supplier	Grid owner	Customer identity enquiry	As necessary
Z02		Grid owner	Potential new supplier	Response to customer identity enquiry	No later than 30 minutes after a Z01 has been received.
Z03	L	New gas supplier	Grid owner	Change of supplier	No later than 14 days before start of supply. No sooner than 14 months before start of supply.
Z03	LK	New gas supplier	Grid owner	Takeover with a supplier other than the previous offtake point supplier. Takeover with the previous offtake point supplier.	Earliest takeover date. No sooner than 14 months before start of supply.
Z03	C	New gas supplier	Grid owner	Revocation of a change of supplier notification.	Z03L: No later than four days before start of supply. Z03LK: No later than the takeover date.
Z04	L	Grid owner	New gas supplier	Confirmation of change of supplier Z03L.	No later than three days after a Z03LK has been received.
Z04	LK	Grid owner	New gas supplier	Response to a Z03LK.	No later than three days after a Z03LK has been received.
Z04	A	Grid owner	Assigned gas supplier	States that delivery by the assigned gas supplier has started.	Within three days of start of gas offtake.
Z04	C	Grid owner	New gas supplier	Confirmation of a change of supplier revoked.	No later than three days after a Z03C has been received. Alternatively, as soon as possible after information regarding an amended/incorrect takeover date has been received.
Z05	L	Grid owner	Current gas supplier	Notification that gas delivery is ceasing due to a change of supplier. Sent at the same time a Z04L is sent to a new gas supplier.	No later than three days after a Z03L has been received. No later than three days after a Z08H has been received.

Func-tion	Sub-type	Sender	Recipient	Area of use	Deadline
Z05	LK	Grid owner	Current gas supplier	Information that gas delivery is ceasing and the reason. Sent at the same time as a Z04LK when a Z03LK has been received.	No later than three days after a Z03LK has been received. Alternatively, without delay following cessation of a grid agreement.
Z05	C	Grid owner	Previous gas supplier	Notification of cessation of gas delivery has been revoked. Sent at the same time a Z04C is sent to a new gas supplier.	Must be sent as soon as possible, although it should be sent before the original end date.
Z06	E	Grid owner	Gas supplier	Update of customer data.	As soon as the data is known.
Z06	F	Grid owner	Gas supplier	Update of facility/meter data without a change of meter but with a reading.	No later than 10 days after a change. In the case of disconnection/ connection no later than the registration date.
				Change of calorific value area.	Can only take place at the turn of the month and the gas supplier must be notified no later than 8 days after the turn of the month.
Z06	G	Grid owner	Gas supplier	Facility update/meter data without a change of meter, but without a reading.	No later than 10 days after a change has been made. Note: If a change is not reported within this time period, it must be reported as soon as the fault is discovered.
				Change of calorific value area.	Can only take place at the turn of the month and the gas supplier must be notified no later than 8 days after the turn of the month.
Z08	LK	Gas supplier	Grid owner	Used as notification that an agreement has been terminated in conjunction with a relocation.	No later than the leaving date.
Z08	H	Gas supplier	Grid owner	Information that the gas supplier is revoking the agreement with the customer and is switching to the assigned supplier.	No later than the day revocation becomes effective.
Z09	B	Gas supplier	Grid owner	Information that a change of balance administrator will take place at the turn of the next month.	No later than one month before a change of balance administrator.
Z09	E	Gas supplier	Grid owner	Information that the customer has died.	When death becomes known to the gas supplier.
Z10		Grid owner	Gas supplier	Used to notify a meter change (i.e. when a meter number is changed).	No later than 10 working days after the meter change.

APERAK acknowledgements must always be sent and the sender of a PRODAT message must therefore always request an APERAK (in the BGM segment). However, this does not apply to PRODAT Z01/Z02 when the APERAK request is not mandatory.

10.2.2 MSCONS for reporting metering values

All reporting of consumption as hourly metering values and meter readings must take place using the MSCONS message. The acknowledgement message is APERAK.

For non-daily settled offtake points, reporting normally covers the previous and current meter reading, consumption between the readings, and estimated annual consumption. Reporting takes place in conjunction with a change of supplier, leaving, meter change, change of balance administrator (following agreement), and once a month or once a year during a current agreement. A 'Reason for a meter reading' code indicates the reason for the report. MSCONS-STA is used for this purpose.

The following codes are used when reporting using MSCONS:

Code	Meaning	Time period (at the recipient)
1. Periodic	The most common code, which is used with regular readings.	No later than one month after a reading.
2. Change of supplier	Used for a change of supplier and/or takeover. The code is also used when a facility is connected or disconnected.	No later than 10 working days after the change of supplier.
3. Control reading	Used if the grid owner or the gas user has carried out a reading in addition to the periodic readings, e.g. if the grid owner carries out a control reading. The code is also used if the gas user requests an extra meter reading and when meter readings are reported following structural changes, e.g. after the grid settlement area structure has been changed.	No later than 10 days after the reading.
4. Change of meter (last reading, old meter)	Used in conjunction with a change of meter. Provide the reading on the old meter that is being removed.	No later than 10 working days after the meter has been removed.
5. Change of meter (first reading, new meter)	Used in conjunction with a change of meter. Provide the reading on the new meter that is being fitted.	No later than 10 working days after the meter has been fitted.
6. Correction of meter reading	The correction code is used for correction of both read and calculated meter readings.	As soon as possible following correction. Note: As soon as possible following correction although within 30 days at the latest. If the fault is discovered after 30 days have elapsed, contact the gas supplier manually to discuss the consequences.
7. Change of balance administrator	Used in conjunction with a change of balance administrator. Recommended!	
8. Update of master data, metering point, requires a meter reading	Used in conjunction with a reading due to amended master data which requires a reading, i.e. after a Z06F.	No later than 10 working days after the change.

To identify a metering value, use is made of a facility ID, a grid settlement area ID (area ID), product, and time tariff (type of counter). A code, the status code, states if the value refers to a meter reading, consumption, or estimated annual consumption.

When reporting time-settled offtake points, the metering values are identified using the series ID. MSCONS hour is used for this purpose.

10.2.3 MSCONS for reporting calorific values

All reporting of final calorific values for a calorific value area must use the MSCONS message. The acknowledgement message is APERAK. To identify a calorific value, a calorific value area and a product code are used, https://www.ediel.se/info/edielanvisningar

10.2.4 DELFOR for reporting allocation figures and transaction values

The EDIEL message DELFOR is used to report preliminary allocation figures, bilateral transactions, production forecasts, preliminary calorific values, and consumption forecasts. The acknowledgement message is APERAK.

10.2.5 APERAK — acknowledgement message for PRODAT and DELFOR

APERAK is an acknowledgement message for PRODAT and DELFOR. In a PRODAT message, an APERAK can be returned in the form of a positive or negative acknowledgement according to the table below. This must take place within 30 minutes:

PRODAT	Positive APERAK	Negative APERAK
Z01	Not mandatory to request an APERAK.	The grid owner has not approved the message and discontinues the process.
Z02	Not mandatory to request an APERAK.	The gas supplier has not approved the message. A new Z02 is expected.
Z03	The grid owner has received the message without comment and the gas supplier can expect a Z04. NOTE: The date can be changed by the grid owner.	The grid owner has not approved the message and discontinues the process. A new, correct Z03L must be sent, containing a new case reference number.
Z04	The gas supplier has received the message without comment and will start supply from the date stated in the Z04.	The gas supplier has not approved the message. A new Z04 is expected.
Z05	The gas supplier has received the message without comment and will terminate the gas supply from the date stated.	The gas supplier has not approved the message. A new Z05 is expected.
Z08	Formally correct message received.	Formally incorrect message rejected.
Z06	Formally correct message received.	Formally incorrect message rejected.
Z09B	Change of balance administrator will take place on the date stated in the Z09B.	Formally incorrect message rejected.
Z10	Formally correct message received.	Formally incorrect message rejected.
Z0xC	Formally correct message received.	Formally incorrect message rejected.

The recipient of a Z05 may not send a negative APERAK even if the gas user still has an agreement with the gas supplier. This must be resolved with the gas user in some other way.

A negative APERAK for a Z04 may not be sent if the grid owner has waited longer than the set time limit for a Z04.

An APERAK can be used on two different levels:

1. Message level (acknowledgement that a message has been received in the recipient application).
2. Detailed level (acknowledgement that each transaction/facility etc. has been scanned and approved in the recipient's application).

10.3 Edig@s messages

Within JBZ (Joint Balancing Zone), Edig@s XML 5.1. is used for the exchange of messages between the Balance Administrator and the System Balance Administrator.

- NOMINT NOMination INTention
- NOMRES NOMomination RESponse
- METRED METer REaDings
- MARSIT MARket SITuation
- ACKNOW ACKNOWledge

The message types used to communicate between the Balance Administrator and the System Balance Administrator are described below.

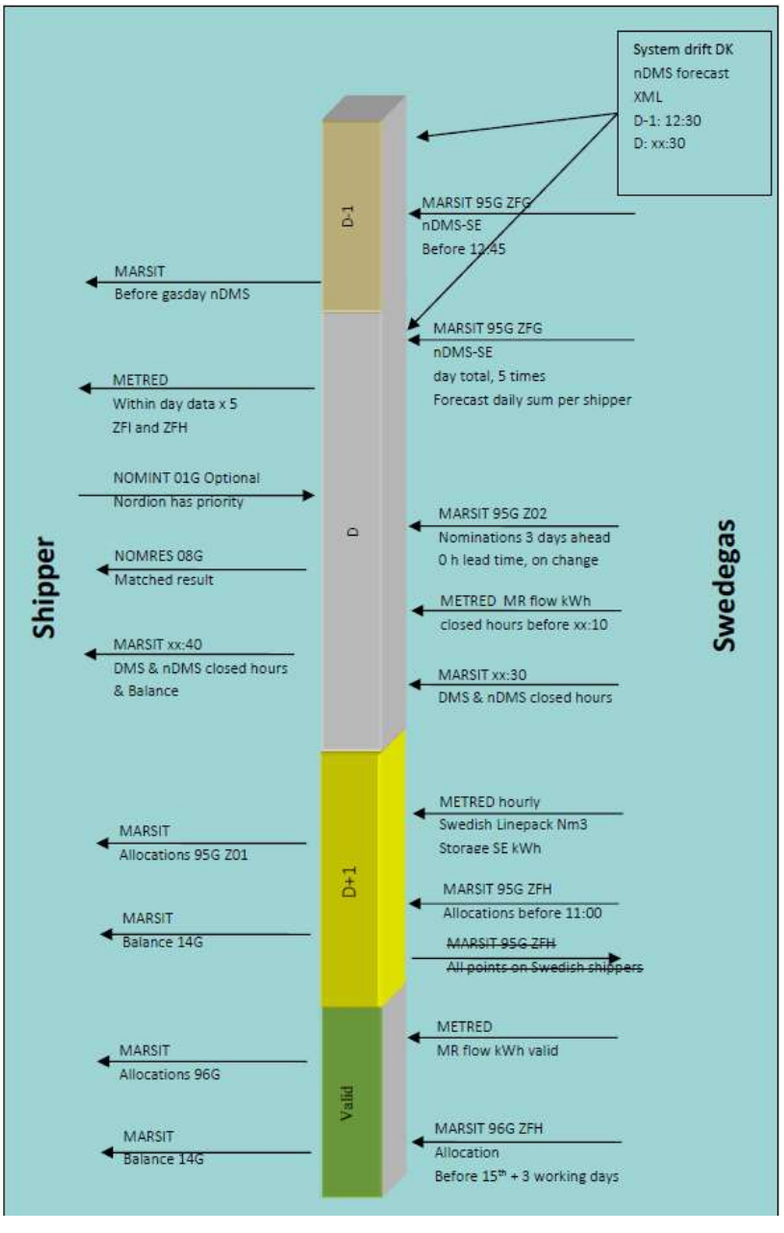
Message type	Description
NOMINT 01G	Nominations must be sent before 2pm the day before they are to apply. BA may send new nominations up to 2 hours before they are to take effect
NOMRES 08G	After having received a NOMINT from BA, BA responds with a NOMRES 08G to BA
ACKNOW 294	The system balance administrator sends an ACKNOW which responds to all received messages. The system balance administrator expects an ACKNOW in response to all messages sent.

The portfolios that a Balance Administrator can nominate for in Sweden and in which phase they are used are set out below.

Description	Day before 13:00	Within day 5 times nDMS	Hourly MR flow during gas day All closed hours xx:10 ASB	Hourly during gas day All closed hours xx:30 IASB	Nomina-tion	Non valid allocation	Valid allocation
Swedish portfolios on JEZ							
nDMS-SE: Consumption Per shipper GSRN: 571515198310700078	Yes Forecast Daily sum	Yes Forecast Daily sum	no	yes	yes	yes	yes
DMS-SE: Consumption DMS Per Shipper GSRN: 571515198310700030	no	no	no	yes	yes	yes	yes
STORAGE-SE Skallen Storage exit/entry GSRN: 571515198310700047	no	no	no	yes	yes	yes	yes
RES Entry SE: Swedish RES production GSRN: 571515198310700054	no	no	no	yes	yes	yes	yes

On the next page, a diagram is provided of the exchange of messages that takes place between the Balance Administrator, System Balance Administrator and BAM. BAM uses the following different message types to communicate with the Balance Administrator.

- NOMINT NOMination INTention
- NOMRES NOMination RESponse
- METRED METer REaDings
- ALOCAT ALOCATions
- ACCSIT ACCount SITuation
- MARSIT MARket SITuation
- ACKNOW ACKNOWledge


System drift DK
nDMS forecast
XML
D-1: 12:30
D: xx:30
D-1
D
D+1
Valid
Shipper
Swedegas
MARSIT 95G ZFG
nDMS-SE
Before 12:45
MARSIT
Before gasday nDMS
MARSIT 95G ZFG
nDMS-SE
day total, 5 times
Forecast daily sum per shipper
METRED
Within day data x 5
ZFI and ZFH
NOMINT 01G Optional
Nordion has priority
MARSIT 95G Z02
Nominations 3 days ahead
0 h lead time, on change
NOMRES 08G
Matched result
METRED MR flow kWh
closed hours before xx:10
MARSIT xx:40
DMS & nDMS closed hours
& Balance
MARSIT xx:30
DMS & nDMS closed hours
METRED hourly
Swedish Linepack Nm3
Storage SE kWh
MARSIT
Allocations 95G Z01
MARSIT 95G ZFH
Allocations before 11:00
MARSIT
Balance 14G
~~MARSIT 95G ZFH~~
~~All points on Swedish shippers~~
METRED
MR flow kWh valid
MARSIT
Allocations 96G
MARSIT 96G ZFH
Allocation
Before 15th + 3 working days
MARSIT
Balance 14G

11 Glossary

This chapter contains a glossary of terms that are in some way related to the content in the handbook. All the terms listed under Definition in the glossary begin with a capital letter.

TERM	DEFINITION
Adjacent Grid	Grids that are physically linked to each other via a Border Point.
Agent	A Party can enter into an agreement with an agent that it reports or handles a specific service. The Agent could be a Grid Owner, Gas Supply Company, or a completely independent legal entity.
Allocation Figure	The relative proportion (%) of the Consumption Profile for each Balance Administrator or Gas Supplier. The Allocation Figures are estimated by the Grid Owner for each Grid Settlement Area in two stages: Preliminary Allocation Figures and Final Allocation Figures.
Annually Metered	An Offtake Point with annual consumption of up to 0.3 GWhl must be read at least annually. Final reporting of metered consumption during a period equivalent to one year is sent immediately after reading.
Application Acknowledgement (APERAK)	An acknowledgement that states whether or not a message has been accepted by a receiving system. A positive application acknowledgement means that data is approved for storage. A negative acknowledgement means that data is not approved for storage. In the case of a negative application acknowledgement, the cause of the fault is stated. In EDIEL, an Application Acknowledgement can be reported using the APERAK message.
Area Balance	The total reported input and offtake (including Grid Settlement Difference) from a Grid Reconciliation Area. When reporting is correct, the total equals zero.
Area ID	ID for a Grid Settlement Area.
Assigned Gas Supplier	A Gas Supplier which, after being assigned by a Grid Owner, supplies gas to a Gas User that does not have a regular Gas Supplier. Governed by the Natural Gas Act.
Average Daily Power	Gas volume offtake or input in kWh during a Gas Day divided by 24.
Balance Administrator	The party that has entered into a Balance Responsibility Agreement with the System Balance Administrator. The Balance Responsibility of the Balance Administrator covers input and offtake points for the Gas Supplier or Suppliers that have entered into an agreement with the Balance Administrator.
Balance Plan	An overall term covering the measures through which a Balance Administrator notifies a System Balance Administrator about its intended energy volume input or offtake (Higher Heating Value) during a gas day.
Balance Responsibility Agreement	An agreement between a Balance Administrator and a System Balance Administrator.
Balance Responsibility	Financial responsibility for ensuring the amount of gas entered into a gas system is the same as the amount withdrawn under a Balancing Agreement with the System Balance Administrator.
Balance Settlement	A System Balance Administrator's calculation of the Balance Administrator's imbalance and the resulting financial agreement.
Balancing Measure	The input and takeover of gas that takes place between a System Balance Administrator and a Balance Administrator or other counterparty.
BAM	Balance Area Manager – A function created by system balance administrators in Sweden and Denmark (in conjunction with JBZ) to carry out balancing measures and balance settlement with associated invoicing and payment.
Bar	According to ISO 1000, a definition of megapascal (MPA) is provided. One Bar is 0.1 Mpa. The unit Bar can be expressed as overpressure (bar O) or absolute pressure (bar A).

TERM	DEFINITION
Bilateral Gas Agreements	Agreements that govern bilateral transactions.
Biogas	Gas that is formed in conjunction with oxygen-free breakdown of organic material. The main components are methane and carbon dioxide.
Border Point	The point at which the pipeline systems for different Grid Owners connect to each other. For each gas transaction at an international Border Point, there must be a Balance Administrator in place for the added energy volume.
Business Owner	A customer who is not a Consumer.
Calorific Value (Lower)	The total energy released as heat in conjunction with complete combustion of 1 m3 gas after heating or cooling to 25°C and under a pressure of 1.01325 Bar(a), and excess air of the same temperature and pressure as the gas and with the combustion products cooled to 25°C, with water that materialised during combustion in the gas phase, and the water vapour in the gas and combustion air before combustion.
Calorific Value (Higher)	The total energy released as heat in conjunction with complete combustion of 1 m^3 gas after heating or cooling to a temperature of 25°C and under a pressure of 1.01325 Bar(a), and with the combustion products cooled to 25°C, the water condensed into a liquefied state in conjunction with combustion, and the combustion products containing the same total volume of water vapour as gas and air before combustion.
Calorific Value Area	A geographical area with a linked pipeline system in which the calorific value of the gas is determined via direct metering or indirectly via calculation in a way that the calorific value at the individual offtake and Border Points is not permitted to deviate from the set value by more than a pre-determined tolerance. Only a set Calorific Value applies in the Calorific Value Area.
Connection and Transmission Agreement	An agreement between a Grid Owner and a Grid Customer. In the event the Grid Customer is also a Grid Owner, the agreement is termed a Grid/Grid Agreement.
Connection Fee	The fee charged by a Grid Owner for either connecting or reconnecting a Grid Customer to its grid or for administering a change of Contracted Capacity or agreement term.
Connection of a Facility	A new connection or reconnection of an existing Gas Pipeline, a change to the contracted capacity at the Connection Point, and a change of time for Transmission. 'Reconnection' refers both to physical and contractual reconnection.
Connection Point	The point where a Grid Owner's Gas Pipelines are connected to each other, or the Gas User's gas facility is connected to the Grid Owner's Gas Pipeline, and to which Gas Transmission can take place in both directions.
Consumer	A person to whom natural gas is transmitted or supplied, mainly for purposes that cannot be categorised as business operations.
Consumption Profile	The sum of all the consumption within a Grid Settlement Area that is not metered daily, and which should thus be non-daily settled, i.e. the sum of all the input in the area minus the consumption measured on an hourly basis. Gas appliance customers' consumption is also included. The Grid Reconciliation Difference is included in the Consumption Profile.
Contracted capacity (kWh/h or Nm^3/h)	The highest offtake volume, expressed in kWh/h or Nm^3/h, a Grid Customer is entitled to at the Connection Point if this is specified in the Connection and Transmission Agreement.
Control Message (CONTRL)	A message that confirms whether or not an SGIX message has been received correctly.
Conversion Factor	A factor for conversion between the Upper and Lower Calorific Value, or conversion between Operating Cubic Metre and Normal Cubic Metre.
Current Time (Day)	A day refers to 00.00-24.00 and is set one hour forward during the summer. 01.00 current time during the summer is the same as 00.00 Central European Time. The Current time and Central European Time are the same during the winter.

TERM	DEFINITION
Customer ID	The company registration number for all types of companies. A civic registration number is used for sole traders and consumers.
Customer	The name given to a customer depends on the context, i.e. Gas User, Gas Customer, Grid Customer, or End Customer. The terms Gas Customer and Grid Customer are linked to the Customer's contractual relationship.
Daily Series	An hourly series that refers to one Gas Day. Contains a value for each Hour in the Gas Day. Consequently, a Daily Series normally comprises 24 values.
Daily Settlement	This means the 24 hours of the gas day are settled the following day. The Balance Settlement is a daily Settlement.
Day	Calendar Day
DELFOR Message	An EDIEL message used to report Preliminary and Final Allocation Figures, bilateral trading, plans, and forecasts.
Delivery Address	The Gas User's postal address for the delivery of gas. The same Delivery Address could have more than one offtake point.
Delivery Day	A Gas Day when a fixed (contracted) physical delivery of gas takes place.
Delivery Hour	The calendar hour when a fixed (contracted) physical delivery of gas takes place.
Delivery Month	The Month in which a fixed delivery of gas takes place.
Digester Gas	Biogas formed during anaerobic digestion in a digestor.
Disconnection	The Gas supply to the Gas User is turned off using a shut-off valve at the receiving unit or well (at the supply border).
Distribution	Transmission of gas for the purpose of supplying gas to Gas Users.
Distribution Cubic Metre	A measurement of the actual volume and not re-calculated to Normal Cubic Metres.
Distribution Grid	System of Gas Pipelines intended to supply gas to Gas Users.
Distribution Pipeline	A Gas Pipeline that supplies gas to Gas Users.
Downstream Grid	Gas pipelines connected downstream of a Grid Owner's Gas Pipeline and of which another Grid Owner is the licensee.
EDIEL	A standard for electronic data interchange within the power industry. EDIEL standardises the formulation of the message (with the aid of the EDIFACT electronic data interchange standards) and how it is sent. Using EDIEL, settlement documentation for example is sent to a Balance Administrator and a nomination response with control values is sent to Grid Owners.
EDIEL Agreement	An agreement between Svenska Kraftnät and a Party connected to EDIEL or SGIX.
EDIEL-ID	An EDIEL ID comprises five digits and is used to address an electronic message and to state the sender and recipient of the message. A legal entity can have its own ID by entering into an EDIEL agreement with Svenska Kraftnät. The following Parties must have an EDIEL ID: System Balance Administrator, Balance Administrators, Gas Suppliers, Grid Owners, and Agents.
EDIFACT	An international standard for electronic data interchange (e.g. invoice, order, customs declaration).
Energy Content	Expressed in kWh/normal cubic metre and based on the composition of the gas, see also Calorific Value.
Swedish Energy Markets Inspectorate	The regulatory body under the Natural Gas Act for the Swedish gas market and which, among other things, reaches decisions regarding a Revenue Framework.
Estimated Annual Consumption	The annual consumption by the Gas User estimated by the Grid Owner (kWh/year or Nm3/year).
Estimated Consumption	All consumption that is not metered and reported within the Month and is estimated instead.

TERM	DEFINITION
Estimated Value	Replaces a metering value when both the value from the regular Gas Meter and the Replacement Value are not available. The estimate can be made by, for example, multiplying the value produced by the volume meter by an estimated factor. See also Replacement Value.
Facility	A facility that is owned by a Gas Producer for the production and input of gas into a Gas System, or a Gas User for consumption and offtake of gas from a Gas Pipeline. The term 'facility' refers to both Grid Owners' pipelines and stations within the Gas Producer's and the Gas User's gas facilities.
Facility Connection	Refers to the connection of a Facility following disconnection.
Facility Decommissioning	Decommissioning refers to when the gas supply to the Facility is cut off physically and the meter is removed.
Facility ID	Identification number for a Facility or part of a Facility with well-defined borders.
Gas Customer	A party that has entered into a Gas sale and purchase agreement for the purchase of gas. Includes a Gas Supplier and those Customers (both businesses and consumers) who have entered into an agreement with a Gas Supply Company.
Gas Day	The gas day runs from 06:00 to 06:00, current time.
Gas Exchange	A commercial marketplace for gas trading.
Gas Exchange	Gas transmitted from a Balance Administrator to another party in conjunction with the drawing up of a Balance Plan. Gas Exchange can only take place as part of this process. In the case of Bilateral Gas Transactions between Balance Administrators, both parties that have agreed on a Gas Exchange must inform the System Balance Administrator about the energy transactions when the Balance Plan is reported.
Gas Grid	A pipeline system, which includes Offtake Points, Metering and Control Stations, storage, LNG facilities, and compressor stations.
Gas Meter	A meter for metering gas volume.
Gas Meter Counter	Shows the accumulated gas volume that has passed through the Gas Meter. There can be one or more counters in the Gas Meter.
Gas Pipeline	Gas Pipeline includes the pipeline, metering and regulation station, line valve station, cleaning station, and compressor station.
Gas Producer	A party that produces gas for transmission in a Gas System. See Production Facility.
Gas Storage Facility	A facility for the storage of gas in gaseous form that requires a concession to operate, and which is connected to a Gas System. In certain contexts, it is simply called 'store'. In the Natural Gas Act, it is termed Natural Gas Store.
Gas Supplier	The Gas Supplier purchases gas for the purpose of selling it to Gas Users. See also Gas Supply Company.
Gas Supply	Sale of gas, including LNG, to a Gas User.
Gas Supply Company	A company that purchases and sells gas. A Gas Supply Company could have the role of Gas Supplier and Balance Administrator.
Gas System	A cohesive system of Gas pipelines.
Green Gas Principle	The meaning of the Green Gas Principle is regulated in tax legislation (Chapter 2, Section 2a) and offers consumers connected to a Gas grid in which Biogas and Natural gas are mixed the opportunity, through an agreement, to decide on the proportion of Biogas that will be supplied. The Biogas thus follows the agreement instead of the physical molecule. Biogas consumers in a Gas grid can thus secure exemption from payment of energy and carbon tax for Biogas that is fed into a Gas grid and distributed together with Natural Gas.
Grid Concession	A special permit from the government that is required to build or operate Gas Pipelines that require a concession.

TERM	DEFINITION
Grid Concession Holder	The Grid Owner that holds a Grid Concession.
Grid Customer	A party that has entered into a Connection and Transmission Agreement with the Grid Owner. A Grid Customer includes the Customer, Grid Owner, Gas Customer, and Gas Producer.
Grid Losses	Gas that disappears from a Gas Pipeline through leakage into the air. Included in the Grid Reconciliation Difference.
Grid Owner	The term Grid Owner refers to the licensee of a grid that requires a concession and a grid that does not require a concession for the connection and Transmission of gas in a Gas System.
Grid Reconciliation Area	Delimitation of the pipeline network for the settlement of transmitted gas, mainly through energy metering and calculation of the Grid Settlement Difference. A Grid Settlement Area is separated from another Grid Reconciliation Area by a Border Point. A Grid Settlement Area could include several physically separate pipeline networks if these are owned by the same Grid Owner.
Grid Reconciliation Difference	The volume of gas that must be entered into or withdrawn from a Grid Settlement Area for a balance to be achieved between the confirmed volume of gas entered, the confirmed volume of gas withdrawn, and the estimated difference in volume stored in the Grid Settlement Area Gas Pipelines. The Grid Settlement Difference is procured or sold by the Pipeline Owner. Comprises Grid Losses and Metering Deviations.
Grid Settlement	Settlement carried out by the Grid Owner. Comprises mainly the following Settlements: Reconciliation of energy metering, calculation of Grid Reconciliation Difference, calculation, and invoicing of the Transmission tariff.
Grid/Grid Agreement	A Connection and Transmission Agreement between two Grid Owners. Can be two separate agreements or one joint agreement.
Hour	A 60-minute period, commencing at 06.00 current time each Day and ending at 07.00 the same Day, or an equivalent 60-minute period which runs from the start of one of the other hours in the Day.
Hourly Series	A time series with hourly values for a certain period, e.g. a 24-hour period.
Hourly Value	Metering value registered per Hour.
Inbox	Each party's part of the electronic mail system with a specific address through which all incoming and outgoing messages to the individual party pass.
Input Point	The point where gas is added to a Gas System. There must be a Balance Administrator in place for each Input Point.
Interruptible Supply	Interruptible Supply covers an agreement whereby the Grid Owner is entitled to discontinue or limit supply, either directly or at the request of the Gas Supplier.
Intraday Settled	An offtake point with annual consumption greater than or equal to 3.0 GWhl, or with a highest monthly offtake greater than 0.5 GWhl, should be Intraday Settled. 24 hourly values of metered consumption are reported during the Gas Day 06:00 to 06:00 current time.
JBZ -	Joint Balancing Zone – Balancing zone that covers Sweden and Denmark
Kilowatt hour, lower (kWh_l)	Energy volume based on the lower calorific value.
Kilowatt hour, higher (kWh_h)	Energy volume based on the higher calorific value.
LNG Facility	LNG – Liquefied Natural Gas. A gasification facility for condensed Natural Gas.
Matching	The System Balance Administrator's control system to ensure trading conducted by a Balance Administrator in the Balance Plan concurs with the trading notified by the Balance Administrator's trading counterparties.
Measured Consumption	The measured volume of used gas between two meter readings.

TERM	DEFINITION
Metering Point	A joint term for the points in the Gas Grid where the Grid Owner is obliged to carry out metering, i.e. at a Border Point, Input Point, Offtake Point, and Storage Point.
Metering Deviation	The incorrect figure produced by the meter in percentage terms compared with the metering equipment at accredited laboratories or national metering points with guaranteed traceability.
Metering Period	The Metering Period agreed between the Grid Owner and the Grid Customer.
Metering Series	A series of metering values, e.g. an hourly series.
Metering System	The collective name for equipment required for metering gas.
Metering Value Reporting Party	The party responsible for reporting Metering Values to the Parties concerned. The Reporting Party could be the Grid Owner or a company whose services have been enlisted by the Grid Owner. See also Agent.
Metering Value	The registered volume flow per time period for a Gas Meter, which in conjunction with reporting can be converted into energy or normal volume flow per time period.
Month	A time period commencing at 06.00 current time on the first Day of the calendar month and running through to 06.00 current time on the first Day of the next calendar month.
Monthly Metered	An offtake point with annual consumption greater or equal to 0.3 GWHl must be metered at least monthly. A final gas consumption report for the whole month is produced, calculated from 06.00 current time on the 1st of the month.
MR Station	A Metering and Regulation Station: a station where the gas volumes flowing through are metered and the pressure is reduced to a lower level.
MSCONS Message	a) An EDIEL message used to report hourly values, meter readings, and settlement results.
Natural Gas Act	Natural Gas Act: Swedish Code of Statutes 2005:403
Natural Gas	Combustible gas – and each physical state in which such combustible gas can be produced through, for example, compression or cooling – which has a methane content which at 1 Bar accounts for at least 75 per cent by volume of the combustible components in the gas, and which has been: b) extracted directly from the ground or seabed and its underlying strata c) extracted indirectly from the ground or seabed and its underlying strata, such as gas associated with the production of crude oil or produced through extraction or concentration in another manner compared with a gas named under a) or b).
Natural Gas Company	Each natural person or legal entity, with the exception of the End User, who carries on at least one of the following activities – production, Transmission, Distribution, supply, purchasing, or storage of Natural Gas, including LNG – and which is responsible for commercial and technical duties and/or maintenance in conjunction with these operations.
Newly Connected Facility	Refers to the first connection after a facility has been built.
Nomination Response	Reporting of a control series from the System Balance Administrator to a Grid Owner or their Agent, and Balance Administrators.
Non-Daily Settlement	Settlement of the Balance Administrator's non-daily settled deliveries. Non-daily settlement takes place preliminarily for each Month and finally after the end of the Month.
Normal Cubic Metre	A Normal Cubic Metre refers to 1 m3 at a pressure of 1.01325 Bar and at a temperature of 0°C.
Normal Time (Day)	The day refers to 00.00-24.00 and where the time is not adjusted to take account of summer time, i.e. 00.00 normal time is 01.00 summer time. See also Current Time (Day).

TERM	DEFINITION
Offtake Point	The point where gas, under an agreement with the Grid Owner, is withdrawn from a Gas System. A Balance Administrator must be in place for each Offtake Point.
Ordinance	A set of rules issued by the government.
Party	The market participants can be divided up as follows: Gas User (includes Gas Customers and Grid customers), Gas Supply Company, Storage Company, Gas Producer, Grid Owner (Pipeline Licensee), and System Balance Administrators. The Gas Supply Company could have one or both of the following roles: Balance Administrator, Gas Supplier.
Periodisation of Metered Energy	Allocation of metered energy to monthly energies between readings. Periodisation is carried out the month after the metering month based on the Consumption Profile when the Consumption Profile for the metering month is finally reported.
Physical Imbalance	When the gas pressure in the Gas Grid is not within the stipulated limits.
Pipeline Owner	The Pipeline owner is the owner of a grid for the connection and Transmission of gas in a Natural Gas System. This applies to pipelines that require a concession and those that do not require a concession. See also Grid Owner.
Preliminary Allocation Figures	The proportion of the Consumption Profile that is estimated before the Delivery Month. Preliminary allocation figures for the Delivery Month are based on: Metering Value history for the Consumption Profile, annual consumption by the Gas User that must be non-daily settled, and the Gas User/supplier relationships during the Delivery Month in question.
Preliminary Settlement	The reporting of Metering Values that refer to a full Day and which should be received by the adjacent grid no later than 09.00 current time each day, and other report recipients daily no later than 10.30 current time the day after the Gas Day.
Pressurisation	Connection of a gas pipeline which is then filled with gas.
PRODAT message	An EDIEL message that is used to report structural information in conjunction with supplier changes and takeover. Sent between a Grid Owner and a Gas Supplier.
Production Facility	A Facility owned by a Gas Producer for the production and input of gas into a Gas System.
Production Forecast	A forecast with information about the Gas Producers' planned production, for which a Balance Administrator has Balance Responsibility, and which is settled per Day.
Quality Specification	A specification of the quality of the gas transmitted in a Gas System.
Raw Gas	Digester gas which is not purified and upgraded to Natural Gas quality.
Regulations	Rules issued by public authorities.
Replacement Value	A metering value from a control meter – or another Gas Meter that is not the regular Gas Meter. Used when the regular value is not available or is incorrect.
Residual (intraday)	Residual is calculated by the system balance administrator for each network area and hour.
Revenue Framework	The maximum amount a Grid Owner is permitted to receive in revenue during a given regulation period. Decided by the Swedish Energy Markets Inspectorate.
Series ID	A code for reported and re-reported Hourly Series. Defined in the structural report from the System Balance Administrator.
Settlement	Calculation of a Party's undertakings, such as volumes and costs, based on a pre-agreed settlement price. Quality assurance of volumes and the formulation of invoicing data are included in the settlement. Balance Settlement is included as part of the settlement procedure within a Gas System. See also Non-Daily Settlement.
SGIX	The Swedish gas industry's system for electronic data interchange. SGIX stands for Swedish Gas Information Exchange.

TERM	DEFINITION
Shared Supply	More than one Gas Supplier delivers to a Gas User, or several Balance Administrators deliver to one Gas Supplier.
Storage Company	The proprietor of a facility that stores gas on behalf of the Parties.
Storage Customer	A Market Participant that purchases storage services from a Storage Company via a Balance Administrator.
Storage Point	The point at which gas is withdrawn from or entered into a gas storage facility.
Structural Acknowledgement	The acknowledgement shows which changes have been registered at the party that receives a structural notification. This is acknowledgement that the change has been received and entered. Approval of the change that has been entered shows that the parties have agreed on the structure.
Structural Report	Compilation of information that applies to the information structure between two companies, e.g. the Grid Owner's list of Gas suppliers for whom the Balance Administrator has undertaken Balance Responsibility. The Structural Report sent by the System Balance Administrator to the Grid Owner and the Balance Administrator is a list and also Structural Acknowledgement of the changes that have been reported.
Supply Structure	Information about who is the Gas Supplier and the Balance Administrator for each Offtake Point in a Gas System.
Swedish Gas Association	The joint trade organisation for energy gases in Sweden.
System Balance Administrator	The party that has overall responsibility for ensuring a balance is maintained between gas input and offtake in a Gas System.
System Balance Responsibility	The overall responsibility for maintaining a balance in the short term between the input and offtake of gas in a Gas System.
Tariff	The charging principles for Gas Transmission. Refers to charges and other terms and conditions.
Transmission Grid	A grid that mainly comprises high-pressure pipelines with the exception of a high-pressure pipeline used primarily for Distribution.
Upgraded Biogas	Digester gas which after separation of mainly water, hydrogen sulphide, and carbon dioxide, is the same quality as Natural Gas. LPG can be added to achieve the required calorific value.
Upstream Grid	A Transmission Grid or other Gas Pipeline connected upstream to a Grid Owner's Gas Pipeline and of which another Grid owner is the licensee.
Varying Calorific Value	The value varies depending on the fact that the value in unmixed gas is permitted to vary or that gas from different sources with different calorific values are mixed.
Volume Value Converter	A device used for compensation of pressure, temperature, and compressibility. Also termed a compensation device.
Weekday	A day that is not a Sunday, other public holiday, Saturday, Midsummer Eve, Christmas Eve, or New Year's Eve.
Western Sweden Gas System	The Pipeline System for gas in Sweden from a Border Point in Dragør, including pipelines, metering and regulation stations, pipeline ventilation, cleaning unit stations, storage, LNG facilities, and compressor stations.
Year	A time period commencing at 06:00 current time on any Day in any calendar year and running up until 06:00 the same Day the following calendar year.

12 Product codes

Message interchange between market participants arranged according to product code and initiating party. These tables are also available as an Excel file on the Swedish Gas Association website with further technical information http://www.energigas.se/publikationer/gasmarknadshandboken/ Messages are listed in chronological order based on when they are sent.

Mess. type: Type of message that must be sent in conjunction with reporting

Res. = Resolution. Y = Year, M = Month, H = Hour
Freq. = Frequency. Y = Yearly, M = Monthly, H = Hourly

12.1 Reporting with EDIEL to each counterparty[1]

Description	Mess. Type	Prod. code	Character convention	Unit	Res.	Freq.	Sender	Point in time according to Metering Regulations	Recipient
Preliminary calorific value	MSCONS	6322		kWh/Nm^3	M	M	GO (TSO)	25th of the month before	GO, BA
Grid reconciliation differences, distribution	As agreed	6174, 6175	-/+	kWh	M	Y	GO	15th December year before	BA, GS
Preliminary allocation figures	DELFOR	6300	+	%	M	M	GO	15th of the month before[2]	BA, GS, SBA
Preliminary consumption, intraday reporting	MSCONS	IDM6104	-	kWh	T	T	GO	Every hour XX.20	SBA
Preliminary input, intraday reporting	MSCONS	IDM6135	-	kWh	T	T	GO	Every hour XX.20	SBA
Preliminary border point, intraday reporting	MSCONS	IDM6101	-	kWh	T	T	GO	Every hour XX.20	SBA
Preliminary metering values, border point	MSCONS	6101	-/+	kWh	T	D	GO	09.00 day after	GO
Preliminary metering values, daily read	MSCONS	6102	-	Nm^3	T	D	GO	10.30 day after	GS
Preliminary consumption, daily read	MSCONS	6104	-	kWh	T	D	GO	10.30 day after	SBA, BA
Preliminary allocation, daily metered production	MSCONS	6135	+	kWh	T	D	GO	10.30 day after	SBA, BA

[1] An expanded version is available on the Swedish Gas Association website http://www.energigas.se/publikationer/gasmarknadshandboken/
[2] Between the 15th and the 28th

Description	Mess. Type	Prod. code	Character convention	Unit	Res.	Freq.	Sender	Point in time according to Metering Regulations	Recipient
Preliminary consumption profile	MSCONS	6103	-	kWh	T	D	GO	10.30 day after	SBA, BA
Preliminary consumption, non-daily settled customers	MSCONS	6105	-	kWh	T	D	GO	10.30 day after	SBA, BA
Final metering values, border point	MSCONS	6106	-/+	kWh	T	M	GO	5 weekdays after	GO
Final heating values for the heating value area, border point, and storage point	MSCONS	6125(ö), 6131 (u)	+	kWh/ Nm^3	M	M	GO	3 weekdays after	GO, SC
Final metering values, daily read	MSCONS	6109	-	Nm3	T	M	GO	5 weekdays after	GS
Final calorific values for calorific value area	MSCONS	6125(ö), 6131 (u)	+	kWh/ Nm^3	M	M	GO	8 weekdays after	GS
Final consumption, daily read (the same product code is used for reporting at the time of correction four and fifteen months after the delivery month)	MSCONS	6110	-	kWh	T	M	GO	15th of the month after, 1st-5th four months after, and 1st-5th 15 months after	SBA, BA, GS
Final allocation, daily read production (same product code is used for reporting at the time of correction four and fifteen months after the delivery month)	MSCONS	6140	+	kWh	T	M	GO	15th of the month after, 1st-5th four months after, and 1st-5th 15 months after	SBA, BA, GS
Final consumption profile (same product code is used for reporting at the time of correction four and fifteen months after the delivery month)	MSCONS	6111	-	kWh	T	M	GO	15th of the month after, 1st-5th 4 months after, and 1st-5th 15 months after	SBA, BA
Final consumption, monthly read (same product code is used for reporting at the time of correction four and fifteen months after the delivery month)	MSCONS	6114	-	kWh	T	M	GO	15th of the month after, 1st-5th 4 months after, and 1st-5th 15 months after	SBA, BA, GS

Description	Mess. Type	Prod. code	Character convention	Unit	Res.	Freq.	Sender	Point in time according to Metering Regulations	Recipient
Final consumption, annually metered (same product code is used for reporting at the time of correction four and fifteen months after the delivery month)	MSCONS	6115	-	kWh	T	M	GO	15th of the month after, 1st-5th four months after, and 1st-5th 15 months after	SBA, BA, GS
Reporting of monthly metered	MSCONS	6113	+	Nm^3	M	M	GO	10 weekdays after	GS
Reporting of annually metered	MSCONS	6113	+	Nm^3	Y	Y	GO	10 weekdays after	GS
Final allocation figures, monthly metered	DELFOR	6301	+	%	M	M	GO	15th of the month after	BA, GS
Final allocation figures, yearly metered	DELFOR	6302	+	%	M	M	GO	15th of the month after	BA, GS

Energigas Sverige
Box 49134,
100 29 Stockholm
www.energigas.se

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