Communication Check with GTS

For Edig@s XML messages

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Version control

Version	Date	Changes
1.00	17-11-2011	Initial document
1.01	22-12-2011	Typo 4.3. FTP over internet should be 4.3 FTP over ISDN
1.02	29-11-2012	Name change to Gasunie Transport Services
1.03	01-07-2013	Removal of option FTP over ISDN
1.04	26-10-2016	Several changes
1.05	12-02-2017	Standard communication protocol added AS4
1.06	22-03-2018	Amendment communication protocol AS4
1.07	23-08-2018	Several small changes
1.08	13-01-2020	Updated comm. sheet email address / tel. number
1.1	14-04-2021	Several changes, updated contact information
2.0	26-04-2023	Moved technical information to separate document, textual changes to match updated GTS website
3.0	01-10-2024	Programmes: optional without damping

Abbreviations

Abbreviation	Explanation
WDM	Within Day Market
LET	Local European Time (accounting for daylight saving time)
GTS	Gasunie Transport Services
POS	Portfolio Imbalance Signal
BRP	Program Responsible Party
UTC	Universal Time Coordinated
XSD	XML Schema Definition
EIC	Energy Identification Code

Contents

1 Introduction

1.1 General

Any party that wants to do business on the GTS grid requires a licence. Part of the licensing process is a technical and functional communications check. This check ensures the safety and efficiency of the automated electronic communication between GTS and all connected parties. This document contains information on the steps and background of the communications check.

The communications check
The communications check with GTS involves several processes, depending on the requested licence type, and is performed mainly on connected acceptance environments. Edig@s messages, as defined by EASEE-gas, are exchanged and evaluated. The messages sent during the check must originate from the messaging module or layer which the Program Responsible Party will also be using in the future production environment.

Target audience
This document is intended for parties who have been referred to Nomination Support by the GTS Customer Licensing team to perform the communications check. To obtain this referral the party must have passed some basic requirements for obtaining a licence.

For more information on the licensing process please see
https://www.gasunietransportservices.nl/en/shippers/become-a-customer.

1.2 Document structure

First the prerequisites for starting the communications check will be explained. Next a detailed overview of all steps of the check is provided. Then the processes and messages required for each licence type are listed, followed by more information on each process with details that are relevant for testing.

1.3 References

Documentation on Edig@s process messages
Several documents on Edig@s message exchange with GTS are available at:
- https://www.gasunietransportservices.nl/en/shipper-trader/balancing-regime/documents/shippers-and-supliers

The latest Edig@s Message Implementation Guidelines are available at:
- http://www.edigas.org

1.4 Disclaimer

This document is intended for informational purposes only. No rights can be derived from this publication. Final versions and updates of this document will be published on the GTS website.

For questions and/or remarks regarding any information in this document please refer to the contact information in the table below.

Table 1: GTS contact information

Scenarios, processes, messages (functional):	NominationSupport@Gasunie.nl	09:00 – 16:30 LET
Communication channel setup (technical):	Integrations@Gasunie.nl	09:00 – 16:30 LET
Licensing process (commercial):	CustomerDesk@Gastransport.nl	09:00 – 17:00 LET
Operational/production:	CCPContractDispatching@Gasunie.nl	24/7

2 Prerequisites

All communication checks are initiated by the GTS Customer Licensing team. Before starting the actual check, a number of conditions must be met.

1) Certificates

A fundamental prerequisite for the B2B messaging process with GTS is the use of AS4 over internet as the communication channel. This requires specific certificates. For more detailed information, please see section 3.2.

2) Nominating systems

To successfully complete the communications check the BRP's nominating system must be capable of sending correct Edig@s messages, both on an acceptance environment and on the actual production environment.

3) Edig@s messages

GTS exclusively uses Edig@s messages for all business processes with Program Responsible Parties (BRP's), as promoted by EASEE-Gas. Please check the documents mentioned in chapter 1.3 (references) to find out more about Edig@s messages and how they are interpreted by GTS. We strongly recommend using the latest available version of Edig@s messages.

4) Energy Identification Code (EIC)

For successful B2B communication with GTS the BRP needs an Energy Identification Code (EIC). This code provides a unique identification of the market participants and other entities (like network points and TSOs) active within the Internal European Market (IEM), and can be requested at your Local Issuing Office (LIO).

Please visit https://www.entsoe.eu/data/energy-identification-codes-eic/ for more information.

Once a BRP has met all the above requirements, they are ready to set up the connection with GTS.

3 The communication check, step by step
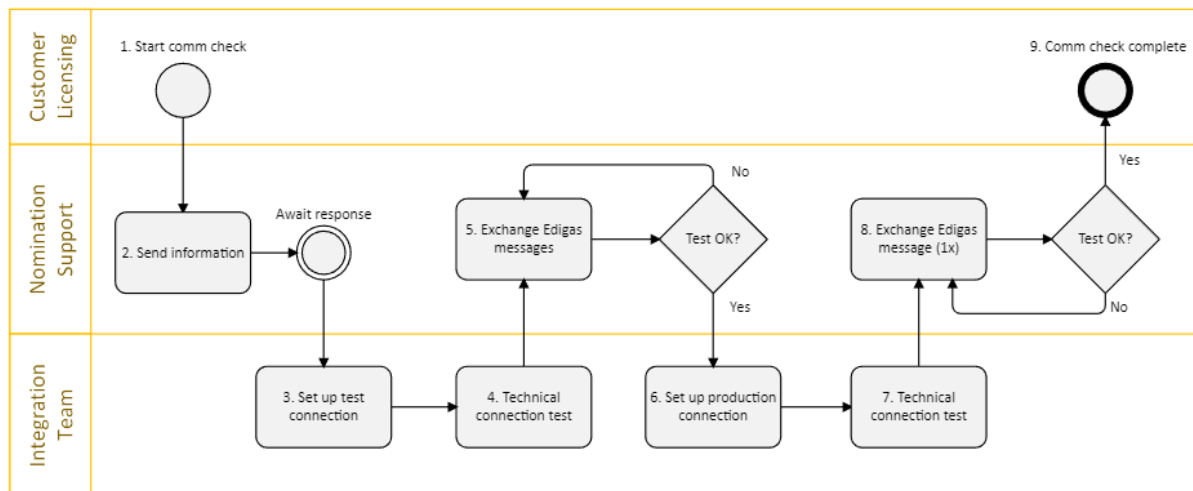
Step 1 – Starting the communication check

After filling out and returning the communication check form provided by team Customer Licensing, team Nomination Support will coordinate the communication check. The communication check is started at the request of team Customer Licensing.

The following steps can be performed with your IT department, or with a service company mandated to act on your behalf.

Note: If you are new to Edig@s messaging, we recommend setting up your Edig@s software before setting up a connection, and exchanging Edig@s XML files with us via e-mail as soon as you are able. We are happy to help you implement and test the Edig@s standard which can be a time consuming process.

Responsible GTS team: Customer Licensing

Step 2 – Exchange information

Team Nomination Support provides you with practical and technical information regarding the communication check. To proceed with the next step we need to exchange some technical information with you or your IT. There are two ways to do this.

The first way is by using EASEE-connect. This platform was created by EASEE-gas for the management and exchange of technical parameters and identifiers used for digital communication.

The second way is by filling in the necessary information in a document we refer to as the communications sheet ('commsheet'). This commsheet is sent to you by team Nomination Support and also contains the technical information you need to configure the connection on your end. We expect the comm sheet to be filled in and returned as soon as possible to our Integration Team.

Responsible GTS team: Nomination Support

Step 3 – Setting up a test connection

After the required technical information has been received, the GTS Integration Team will work with your IT to set up an AS4 test connection.

Responsible GTS team: Integration Team

If it is not possible for you to set up a test connection, please contact team Nomination Support.

Step 4 – Technical testing

After the test connection has been set up some technical tests are performed to make sure the technical connection is fully functional.

Responsible GTS team: Integration Team

Step 5 – Exchange Edig@s messages

Using the test connection the team Nomination Support exchanges a number of Edig@s messages with you. Which messages need to be tested is dependent on your planned activities in the GTS grid.

An overview of messages per activity and licence type can be found in chapter 4. How to implement the Edig@s messages as used by GTS, in your IT systems, is described in a separate document.

Team Nomination Support will request you to send the required messages. Every valid message sent to GTS triggers an acknowledgement message (ACKNOW) within ten minutes after it is received. After the message has been processed and the matching process is complete a confirmation is generated and sent. The timing of the matching may differ. Team Nomination Support will inform you when messages have been sent and/or received, and ask you to check relevant messages.

> **Note:** If a received Edig@s message is not valid, no ACKNOW will be sent. Not receiving an ACKNOW after sending a message should therefore be a trigger for the sender to investigate and correct any issues.

Responsible GTS team: Nomination Support

Step 6 – Setting up the production connection

The GTS Integration Team will work with your IT to set up the AS4 connection in the production environment. This needs to be planned in advance.

Responsible GTS team: Integration Team

Step 7 – Technical testing

After the production connection has been set up some technical tests are performed to make sure the connection is fully functional.

Responsible GTS team: Integration Team

Step 8 – Exchange Edig@s message

Using the production connection a single Edig@s message is exchanged to make sure the end to end connection is fully functional.

Nomination Support will contact the BRP for a functional test. As all messages have been thoroughly tested on the acceptance systems, a simple check on production will be sufficient to verify that messages can be exchanged successfully.

Responsible GTS team: Nomination Support

Step 9 – Completing the communication check

After all previous 8 steps are completed successfully, team Nomination Support informs team Customer Licensing that the communication check has been completed.

Responsible GTS team: Customer Licensing

4 Edig@s messages

This chapter contains more detailed information on the messages to be tested. First general information relevant for all processes is provided. This is followed by an overview of what messages are required per licence type and activity. The message scenarios themselves are described in chapter 5.

4.1 General information

Most processes consist of three messages. A process starts with an Edig@s message from the BRP to GTS. This message is validated using the XSD within ten minutes of arrival, and the results of the validation are immediately communicated to the BRP via an ACKNOW (acknowledgement) XML message. If the first message was validated successfully, it will be processed further and/or matched. The results of the processing and matching are then communicated to the BRP via a confirmation message (for example a NOMRES). The timing of the confirmation message depends on the timing of the corresponding process.

A test is considered successful when all messages in a process have been sent, received and processed by the BRP and/or by GTS.

Acknowledgement messages
Every valid Edig@s message sent to GTS is followed by a generic acknowledgement message (ACKNOW) from GTS to the sender. Not receiving an ACKNOW within ten minutes of sending a message means our system did not receive a valid message. The ACKNOW message type is part of every scenario.

The ACKNOW is a message containing the results of the validation based on the XSD. These results can be found in the XML element <ReasonList> using codes - the possible codes are specified in the Edig@s code lists. This validation is semi-technical, which means the values contained within the original message have not been fully validated and processed yet.

The following reason codes are often seen during a communication check:

ReasonCode	Text	Description
01G		Accepted – the message will be processed/matched further.
66G	There is not an agreement for the nominating period or overnomination is not (yet) allowed.	No or insufficient capacity has been booked, so the nomination message is rejected.
70G	Ignored the market operator as counter party	When trading via a market operator, nominations sent by the market operator are leading. Counter nominations are ignored.

Note: It is optional for the BRP to send an ACKNOW message in response to receiving a message from GTS. GTS accepts but does not actively monitor these ACKNOW messages. The BRP is responsible for checking if all expected messages have been received.

4.2 Message scenarios per licence type

There are three licence types available with GTS, each corresponding to a different set of activities requiring a different set of Edig@s messages.

Licence A
With licence A, it is possible to trade via TTF and have gas transported over physical network points. In consultation with Nomination Support the messages below can be tested:
- o Message scenario 1 (nominating on TTF);
- o Message scenario 2 (physical network points);
- o Message scenario 4 (entry/exit programs);
- o Message scenario 5 (within day balancing actions).

Licence B
With licence B, it is possible to trade via TTF, have gas transported over physical network points and transfer gas to local gas transport networks. In consultation with Nomination Support the messages below can be tested:
- o Message scenario 1 (nominating on TTF);
- o Message scenario 2 (physical network points);
- o Message scenario 3 (balancing relations);
- o Message scenario 4 (entry/exit programs);
- o Message scenario 5 (within day balancing actions).

Licence C
With licence C it is possible to trade via TTF. In consultation with Nomination Support the messages below can be tested:
- o Message scenario 1 (TTF);
- o Message scenario 4 (trade programs);
- o Message scenario 5 (within day balancing actions).

Changing licence type
When requesting an additional licence, an additional communication check must be completed. The steps that have already been completed for the original licence do not need to be repeated. Only the additional messages that are required for the added activities need to be tested.

For example, when a party already has licence C and requests a licence A the only required actions are:
- To exchange the nomination messages for a physical network point;
- To exchange the transport program messages for physical entry and/or exit.

4.3 Message types per scenario

Message scenario 1: TTF nominations		§5.1
Message	*Edig@s type*	*Message direction*
TTF nomination	NOMINT	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
TTF Confirmation	NOMRES	GTS >> BRP

Message scenario 2: Physical network points		§5.2
Message	*Edig@s type*	*Message direction*
Borderpoint nomination	NOMINT	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Borderpoint Confirmation	NOMRES	GTS >> BRP

Message scenario 3: Balancing relations (TTFB)		§5.3
Message	*Edig@s type*	*Message direction*
Balance Document	BALDOC	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Balance Confirmation	BALCON	GTS >> BRP

Message scenario 4: Programs		§5.4
Message	*Edig@s type*	*Message direction*
Trade program	PRODOC (ALH)	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Program Confirmation	PROCON (ALL)	GTS >> BRP

Message scenario 5: Within day balancing actions		§5.5
Message	*Edig@s type*	*Message direction*
Clearing Confirmation	CLRCON	GTS >> BRP

5 Message scenarios

5.1 Scenario 1: TTF nominations

Purpose

The correct exchange of nomination messages on the virtual network point TTF.

Note: Net positions from trades on one of the Exchanges will be nominated by the Exchange. The nominations of the Exchanges will be confirmed regardless of any counter nomination. (If a BRP nominates with an Exchange as a counterparty, this part of the nomination will be ignored.)

Message scenario 1: TTF		
Message	*Edig@s type*	*Message direction*
TTF nomination	NOMINT	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
TTF Confirmation	NOMRES	GTS >> BRP

The scenario

The BRP sends a NOMINT on network point TTF. If the NOMINT is valid, GTS sends an ACKNOW. If the NOMINT is accepted and consequently processed, GTS sends a NOMRES which contains the processing results.
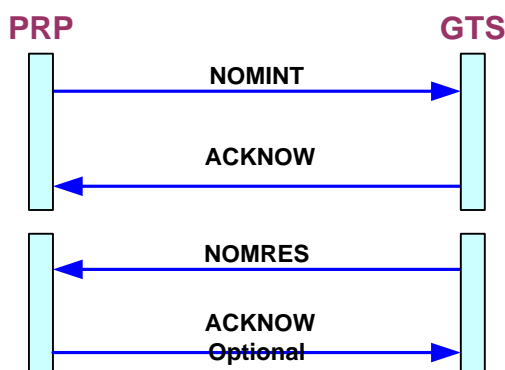
Expected content of the NOMINT

Period:	Current or Next gas day;
Network point:	TTF (21YNL----TTF---1);
Counter Party:	GS-code of any other BRP in the GTS grid.

Process timing

The processing and matching of TTF nominations for any gas day takes place the first full hour after receiving a nomination. Intra-day nominations are processed and matched at the first half hour or full hour.

5.2 Scenario 2: Physical network points

Purpose

The correct exchange of nomination process messages on physical network points.

| Message scenario 2: Physical network points		
Message	*Edig@s type*	*Message direction*
Nomination	NOMINT	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Borderpoint Confirmation	NOMRES	GTS >> BRP

Scenario

The BRP sends a NOMINT for a physical network point. If the NOMINT is valid, GTS sends an ACKNOW.

Normally matching with the values received by the Neighbouring Network Operator (NNO) or Neighbouring system operator (for storages and LNG terminals) is then performed. Our system checks whether the shipper pair, the quantities and the directions match.

> **Note:** Our system does not check whether the NNO counter shipper is valid. Sending an incorrect NNO counter shipper will not lead to a rejection from the GTS system, but it will lead to a mismatch since the information sent by the NNO will not match.

If the NOMINT is accepted and consequently processed and matched, GTS sends a NOMRES which contains the processing and matching results.
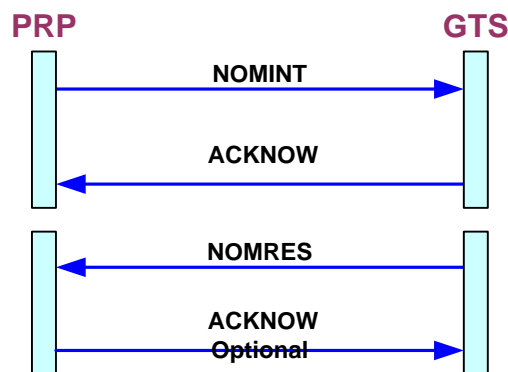
Expected content of the NOMINT

|	
Period:	Current or Next gas day
Network point:	Preferably a point the BRP will be using in reality
	Example: VIP TTF-THE-H (21Z0019743987060 / VIPTHEH)
Counter party:	Shipper code as used by the corresponding Neighbouring Network Operator
	Example: THE0BFH000123000

5.3 Scenario 3: Balancing relations (TTFB)

Purpose

In case a shipper transports gas to domestic physical network points, he has the possibility to transfer (a part of) his imbalance risk to another shipper. For this he must enter in a Balance Agreement with another shipper and both shippers (the supplier and the receiver) must send BALDOC messages to GTS.

Message scenario 3: Balancing relations (TTFB)		
Message	*Edig@s type*	*Message direction*
Balance Document	BALDOC	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Balance Confirmation	BALCON	GTS >> BRP

The scenario

The BRP sends a BALDOC. If the BALDOC is valid and has been accepted, GTS will send an ACKNOW. If the BALDOC is accepted and processed, it is then matched with the counter BALDOC. GTS sends a BALCON which contains the results of the matching.
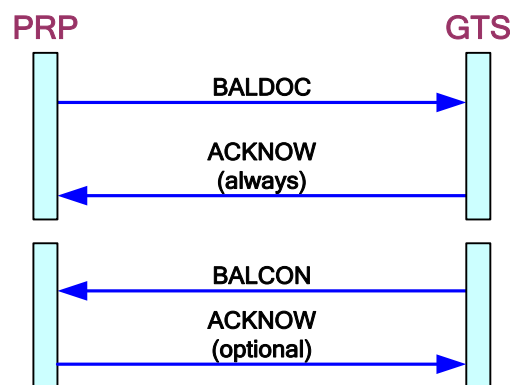
Expected content of the BALDOC

Preferably the content of the test message is similar to the content of the message you will be sending in production. If this content is not known (yet), the details below can be used.

Period: Next gas day
Category: Choose one or more: G1A / G2A / G2C / GGV / GXX
Percentage: 100
If role is supplier (another BRP transfers their imbalance to you):
        IssuerRole: ZTZ
        Direction: Z02
If role is balance receiver (you transfer your imbalance to another BRP):
        IssuerRole: ZTY
        Direction: Z03

5.4 Scenario 4: Programs

There are three types of programs: trade, entry and exit.

If you (as the BRP) are delivering[1] to protected users (Dutch: "Kleinverbruikers"), you can send an exit program which includes damping. The damping profile is taken into account when calculating the hourly values for your Portfolio Imbalance Signal (POS).

If you (as the BRP) do not use damping, the calculation of your POS is simply the difference between your total hourly exit and total hourly entry.

Program documents can be sent in between 9:00 and 22:00 LET the day ahead of the relevant gas day. If you (as a BRP) do not send a program to GTS, GTS will create an empty program for you at 22:00 LET. This empty program has no damping.

Message scenario 4: Programs		
Message	*Edig@s type*	*Message direction*
Program	PRODOC	BRP >> GTS
Acknowledgement	ACKNOW	GTS >> BRP
Program Confirmation	PROCON	GTS >> BRP

What program type should I use?
  1. BRP with only physical entry
BRP can send in an entry program and no exit program. In this case GSBRP (in the entry program) must be zero (no transfer to exit program); GSTPTRADE must be ZO3 (exit) and equal to GSTPENTRY, denoting that the BRP will sell all entry and no exit profile will be used. See 5.4.2

  2. BRP with only physical exit
A BRP with only physical exit and no physical entry can send in an exit program and no entry program. In this case GSBRP (in the exit program) must be zero (no transfer from entry program), GSTPENTRY (Z02) and GSTPTRADE (Z03) must contain the same values, denoting that all entry will be sold (exit). see 5.4.3

  3. BRP with no physical entry or exit (pure trader)
BRP can send in a trading program (containing only zero's); see 5.4.1

  4. BRP with both physical entry and physical exit
BRP can send in an entry and an exit program. GSBRP in both programs denote the transfer from entry to exit and must contain the same values (Z03 in Entry and Z02 in Exit program). See 5.4.2 and 5.4.3

Expected generic content of the PRODOC
Period: Next gas day
Network point: VPPV

Timing of the program process
The processing of programs starts at 14:05 LET the day ahead, and is repeated as necessary every hour. For example, a PRODOC sent at 11:00 LET on D -1 will trigger a PROCON at 14:05 LET.

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[1] Delivery to PU users that is not covered by a balancing relation

5.4.1 Trade programs

Purpose

Trade programs can be used by pure traders (with no physical entry of exit) to denote that the net traded values will be zero for each hour. If GTS does not receive a program, GTS will create a trading program containing all zero's at 22:00 LET.

Every trade program must contain the same information every day: counter portfolio GSTPTRADE with hourly quantities of zero.

Messages

- Program Document   PRODOC   type: ALH
- Program Confirmation Document   PROCON   type: ALK
- Acknowledgement message   ACKNOW

The scenario

The BRP sends a PRODOC containing a trade program. If the PRODOC is valid and accepted, GTS sends an ACKNOW. If the PRODOC is accepted and consequently processed, GTS sends a PROCON which contains the results of processing.
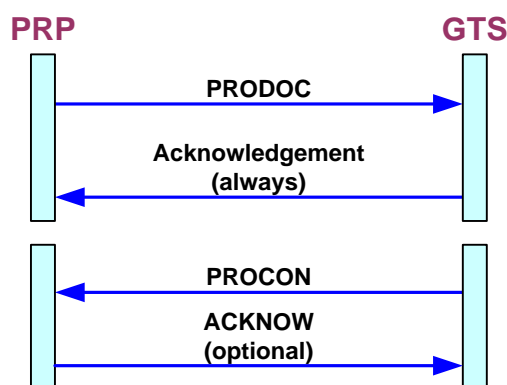
Required counter parties in the PRODOC

Only the following counter parties are allowed in the Trade PRODOC.

Counter party	Direction	Mandatory?	Quantity
GSTPTRADE	Z02 or Z03	Yes	0 (*total of all trades must be zero*)

Counter parties in the PROCON

Our system generates a confirmation that can contain the following counter parties.

Counter party	Direction	Quantity
GSTPD	Z02 or Z03	0
GSTPTRADE	Z02 or Z03	0
GSTPVPPVEN	Z02 or Z03	0
GSTPVPPVEX	Z02 or Z03	0

5.4.2 Transport programs: entry

Purpose

A BRP with physical entry but no physical exit can send in an entry program message only.
In this case GSBRP (in the entry program) must be zero (no transfer to exit program); GSTPTRADE must be ZO3 (exit) and equal to GSTPENTRY, denoting that the BRP will sell all entry and no exit profile will be used.

A BRP with both physical entry and physical exit can send in an entry program message and an exit program.
In this case GSBRP in both programs denote the transfer from entry to exit and must contain the same values (Z03 in Entry and Z02 in Exit program). It is advised to use the exit program to include the net trade values and keep GSTPTRADE as zero in the entry program.

Messages

- Program Document PRODOC type: ALI
- Program Confirmation Document PROCON type: ALL
- Acknowledgement message ACKNOW

The scenario

The BRP sends a PRODOC of type ALI (entry). If the PRODOC is valid and accepted, GTS sends an ACKNOW. If the PRODOC is accepted and processed, GTS sends a PROCON which contains the results of the processing.
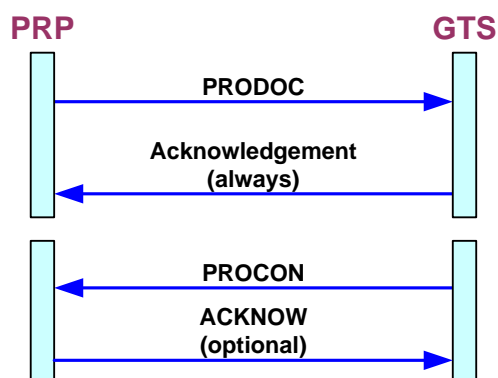
Required counter parties in the PRODOC

Only the following counter parties are allowed in the Entry PRODOC.

Counter party	Direction	Mandatory?	Quantity
GSBRP (*your GS-code*)	Z03	Yes	Sum of trade (GSTPTRADE) plus physical entry (GSTPENTRY), to be transferred to the corresponding exit program
GSTPTRADE	Z02 or Z03	No	Total of all trades; If BRP also sends an exit program, it is advised to use the exit program for trades.
GSTPENTRY	Z02	Yes	Total of physical entry

For every hour, the sum GSTPTRADE (net trade) and GSTPENTRY (physical entry) must be equal to GSBRP (transfer of entry to exit program).

Counter parties in the PROCON

Counter party	Direction	Quantity
GSBRP (*your GS-code*)	Z03	"
GSTPTRADE	Z02 or Z03	"
GSTPENTRY	Z02	"
GSTPVPPVEX	Z03	Total exit as specified in the exit PRODOC
GSTPD	Z02 or Z03	Damping profile: The difference between the total hourly entry and the total hourly exit. . The sum of all hourly values will be zero.

5.4.3 Transport programs: exit

Purpose

An Exit program contains the total of all planned exit and can contain damping.

Messages

- Program Document   PRODOC   type: ALJ
- Program Confirmation Document   PROCON   type: ALM
- Acknowledgement message   ACKNOW

The scenario

The BRP sends two PRODOCs; one entry and one exit. If the PRODOC is valid and has been accepted, GTS will send an ACKNOW. If the PRODOC is accepted and processed, GTS will send a PROCON which contains the results of processing.
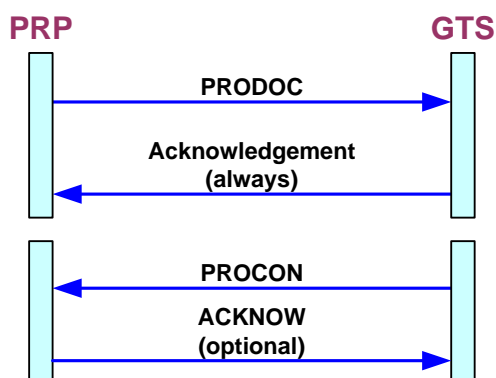
Required counter parties in the PRODOC

Only the following counter parties are allowed in the Exit PRODOC.

Counter party	Direction	Mandatory?	Quantity
GSBRP (*your GS-code*)	Z03	Yes	Equal to the corresponding values in the entry program. For a portfolio without damping, this is equal to the sum of all other counter parties. For a portfolio with damping the difference between GSBRP and all other counter parties must be equal to the damping profile which can be calculated using the damping formula.

			GTS provides an excel sheet with examples on how to calculate the damping.
GSTPTRADE	Z02 or Z03	No	Total of all trades (*does not need to be 0*)

Of the following counter parties at least one must be present:

Counter party	*Direction*	*Mandatory?*	*Quantity*
GSTPOTHER	Z03	No	Total of planned exit nominations, excluding the part that is covered by a balancing relation
GSTPPU	Z03	No	Total exit for protected users (<40 m3/hour), excluding the part of the PU portfolio that is covered by a balancing relation
GSTPPUB	Z03	No	Total exit for protected users as part of a balance agreement (BALDOC) where you are the supplier
GSTPOTHERB	Z03	No	Total exit for other users as part of a balance agreement where you are a supplier

If you make use of damping, your total entry and total exit may differ on an hourly level according to the damping formula but must add up to a daily total of zero. If you have a balance agreement for 100% of your PU portfolio, damping is not relevant.

Counter parties in the PROCON

Counter party	*Direction*	*Quantity*
GSBRP (*your GS-code*)	Z03	
GSTPTRADE	Z02 or Z03	"(*if present in PRODOC*)
GSTPOTHER	Z03	" (*if present in PRODOC*)
GSTPPU	Z03	" (*if present in PRODOC*)
GSTPPUB	Z03	" (*if present in PRODOC*)
GSTPOTHERP	Z03	" (*if present in PRODOC*)
GSTPD	Z02 or Z03	Damping profile (zero if no damping is applied). The difference between the total daily entry and the total daily exit.
GSTPVPPVEN	Z02	Total entry as specified in the entry PRODOC
GSTPEXIT	Z03	The total of exit

The daily values for GSTPEXIT and GSTPVPPVEN must add up to zero. Any difference is added as value under GSTPD (this can be a small rounding difference, allowed up to 10 kWh).

5.5 Scenario 5: Within day balancing actions

Purpose

The correct exchange of clearing confirmation messages. If the GTS System Balance Signal (SBS) moves out of the dark green zone, the Within Day Market provided by ICE Endex is called to buy or sell the excess on behalf of the BRP's causing the imbalance.

Any BRP that has a POS in the same direction as the SBS receives a Clearing Confirmation containing the amount that will be allocated.
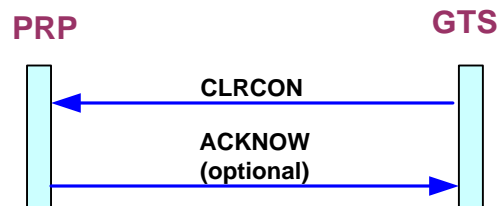
Message scenario 4: Within day balancing actions

Message	Edig@s type	Message direction
Clearing Confirmation	CLRCON	GTS >> BRP

Messages

- Clearing confirmation message   CLRCON   type: ALS

The scenario

GTS sends a CLRCON. The BRP must be able to process this message correctly.

Process timing

This process can be triggered at any time during the gas day but only once per hour.