

# **The scope and method of metering and billing data exchange between GAZ-SYSTEM S.A. and customers and cooperating entities**

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## 1. Definitions

**GAZ-SYSTEM/GAZ-SYSTEM S.A.** – Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.

**Real-time metering data** – metering data derived from devices monitoring the actual physical parameters of the plant / facility, read in real time at a specified frequency. Real-time data is read and distributed using SCADA systems.

**Recorded metering data** – archived data, recorded in the memory of electronic volume converters or electronic recorders installed in the Facility's measurement systems.

**Hourly aggregate data** – metering data from the entry/exit point (quantities of gaseous fuel transmitted through the entry/exit point in a given hour, expressed in m<sup>3</sup> and kWh)

**Billing data** – metering data from the entry/exit point (hourly quantities), constituting the basis for determining the daily and monthly quantities of gas transmitted at the entry/exit point used for billing allocations in accordance with the Transmission Network Code (TNC).

**Transmission Network Code (TNC)**, version currently in force is published on the company website at [www.gaz-system.pl](http://www.gaz-system.pl)

**Entry point** – a gas facility into which gaseous fuel is supplied by a network user (into the transmission system)

**Exit point** – a gas facility from which gaseous fuel is off-taken by a network user (from the transmission system)

**TelWin SCADA/TelWin system** – a system providing real-time data on the GAZ-SYSTEM side. This term refers to the TelWin system together with additional modules or programmes/systems acting as intermediaries in data transmission.

**Information Exchange System (IES)** – an application provided by GAZ-SYSTEM for customers and gaseous fuel recipients connected to the transmission network, used for the publication and exchange of information and data relating to transmission contracts and connection agreements in force.

## **2. Data exchange method**

- 2.1. Technical (physical and logical) method of connection between GAZ-SYSTEM and the cooperating entity.
  - 2.1.1. Dedicated VPN channel. Data exchange from the TelWin SCADA system via a dedicated data exchange server.
  - 2.1.2. IES– a browser-based Information Exchange System used for the publication and exchange of information between GAZ-SYSTEM S.A. and market participants.
  - 2.1.3. AS4 data exchange protocol.
  - 2.1.4. ExtranetGAS 2.0 network. TASE-2 protocol.

## **3. Real-time metering data**

On the GAZ-SYSTEM side, data is transmitted via a VPN tunnel established through the TelWin SCADA system gateway. Access parameters (address, port and, where applicable, username/password) and the list of signals will be provided during the coordination phase between SCADA administrators.

Three data exchange protocols are available:

Server-to-Server – a proprietary communication protocol between TelWin system servers. Both real-time and historical data can be exchanged. The gateway at GAZ-SYSTEM provides only real-time data. Access authentication via username and password. For a single protocol session, one-way write-only or read-only communication is possible. The TelWin system needs to be in place on both sides for correct integration. GAZ-SYSTEM will only provide the data that the receiving system is authorised to see.

GAZ-MODEM v1 and v2 – an open communication protocol for facility-level transmission. The server on the GAZ-SYSTEM side enables meter emulation. The exchange of real-time and recorded data is possible. The gateway at GAZ-SYSTEM provides only real-time data. No authentication mechanisms. For a single session, one-way read-only communication is possible. GAZ-SYSTEM will provide a single virtual meter for each client, containing in its DP table the data that the receiving system should be able to see. Protocol frames are encapsulated in TCP or UDP packets.

ModBus TCP – an open communication protocol for facility-level transmission over IP-based networks. The exchange of real-time data is possible. No authentication mechanisms. Either two-way or one-way communication is possible during a single session. GAZ-SYSTEM will provide each client with a single virtual controller generating the signals that the receiving system should be able to read.

TASE.2 – a communication protocol from the ICCP (IEC 60870) family, described in the IEC 60870-6 standards, is used for data exchange between SCADA systems.

Both real-time and historical data can be exchanged; however, GAZ-SYSTEM currently only supports the transmission of real-time data. No authentication mechanisms. Data using this protocol may also be distributed via the ExtranetGAS 2.0 network.

## **4. Recorded metering data**

On the GAZ-SYSTEM side, metering data recorded in the gas volume converters installed at the entry/exit points of the transmission system and stored in the metering data collection system may be shared with an entity via a data bus (B2B instance) using the AS4 information exchange standard. Guidance on data exchange using the AS4 protocol and a technical description of the solution is published on the GAZ-SYSTEM website: <https://www.gaz-system.pl/pl/dla-klientow/informacje-rynkowe/wymiana-danych.html>

## **5. Hourly aggregated data (operational data)**

5.1. These are published and shared via the IES three times a day:

- after first 4 hours of the gas day (06:00 A.M. - 10:00 A.M.) published by 11:00 A.M. on each calendar day
- after 8 hours of the gas day (06:00 A.M. - 02:00 P.M.) published by 03:00 P.M. on each calendar day
- after 24 hours of the gas day (06:00 A.M. - 06:00 A.M.) published by 08:00 A.M. on the following calendar day

5.2. The data is shared via the IES after logging into a user account.

5.3. To create a user account with the IES, the user shall submit a power of attorney for registration with IES (using the template published on the GAZ-SYSTEM website at): <https://www.gaz-system.pl/pl/dla-klientow/informacje-rynkowe/system-wymiany-informacji.html>

5.4. The data is available in the Information Exchange System (IES) under the 'Measurements/Operational Data' tab

## **6. Billing data**

6.1. Billing data is published in the Information Exchange System by the end of the 5th working day of the month following the month to which the billing relates.

6.2. The data is available in the IES under the 'Measurements/Billing Data' tab, broken down into monthly, daily, and hourly intervals.

## 7. Frequency of metering data publication

### 7.1. Real-time metering data.

Real-time metering data is made available in accordance with technical capabilities of the metering system, minimum once every 5 minutes for each parameter.

### 7.2. Recorded metering data

Recorded (archived) metering data is made available once a day.

### 7.3. Aggregated hourly data

Data from the Information Exchange System is available for download from the time of their publication, i.e. the hours specified in section 5.1. until publication of the monthly billing data (then hourly data becomes unavailable for download).

### 7.4. Billing data

Billing data is published in the Information Exchange System by the end of the 5th working day of the month following the month to which the billing relates.

## 8. Direct connections

Direct exchange of communication data via so-called 'direct hard-wired' connections is not recommended. Such a solution shall be agreed upon with the Cybersecurity Division regarding the technical method of its implementation. Requesting this specific measurement signal connection requires a formal business case and a technical justification explaining why the alternative methods presented herein are not feasible. **In each case, such a solution must be included in technical proposals subject to review and approval.**