

**EXCERPT**

**of**

**INTERCONNECTION AGREEMENT**

between

**"BULGARTRANGAZ" EAD**

and

**TAGTAS**

for

**IP Strandzha 2 (BG) /Malkoclar (TR)**

## Article 1 – Definitions and interpretation

### 1.1 Definitions

The terms used in this IA shall have the meaning as follows:

**Agreement (Interconnection Agreement, IA)** means this Interconnection Agreement with all Annexes hereof.

**Allocated Quantity** means the quantity of gas attributed to a Pair of Network Users by the Parties as an input or an off-take, for the purpose of determining their daily imbalance quantity

**Common Data Exchange Solution** means the common data network, data exchange protocols and data formats for the electronic communications.

**Confidential Information** means the terms and conditions of this Agreement and all information given and received by the Parties under the terms of this Agreement.

**Confirmed Quantity** shall mean the quantity of Natural Gas confirmed for transmission on a Gas Day at the IP, taking into account the nominated quantities for that Gas Day at both sides IP and the matching process used for comparing and aligning the Natural Gas quantity requested by the Network Users to be transported at the IP.

**Consequential loss** shall mean any indirect loss, arising under or as a result of this Agreement (or termination thereof) being incurred not as a result of the breach itself, but due to the end or consequential result of the breach.

**Counterparty** means any party with whom any of the Parties exchanges data for the purpose of the implementation of Regulation (EC) No. 715/2009, unless specifically otherwise defined in this Agreement.

**Delivery Pressure** shall mean the pressure of the Gas delivered at the Interconnection Point and measured and recorded at the metering runs of GMS Strandzha.

**Delivery Temperature** shall mean the temperature of the Gas delivered at the Interconnection Point and measured and recorded at the metering runs of GMS Strandzha.

**DELORD** means delivery order document according to Edig@s.

**DELRES** delivery response document according to Edig@s.

**Dispute** means any dispute, controversy or claim arising out of, in relation to, or in connection with this Agreement or the operations carried out under this Agreement, including any dispute as to the validity, interpretation, enforceability, termination or breach of this Agreement.

**Downstream Operator** shall mean the Party physically receiving the natural gas. For the purpose of this IA, BULGARTRANGAZ is the Downstream Operator.

**Emergency Works** means all activities and works that a Party, acting as a Reasonable and Prudent Operator, considers necessary and reasonable in case of Emergency Situation.

**Emergency Situation** means any event or circumstance or combination of events or circumstances which have occurred or may occur and which, in the reasonable opinion of the Parties, adversely affects (or may adversely affect) the safety or operational integrity of BULGARTRANGAS's Transmission System or TAGTAS' Transmission System or any part thereof, or which results in risk to the safety of life, property or the environment, and (where the context so requires) includes the event or circumstance which gave rise to such Emergency situation.

**Gas Day** shall mean the period from 8:00 to 8:00 CET following day when daylight saving is applied. The reference date of any Gas Day is the date of the calendar day on which the Gas Day begins.

**Gas quantity expressed in energy units (kWh)** shall mean the energy content of a given volume of gas calculated as the product of the gas volume expressed at normal reference conditions ( $t=0^{\circ}\text{C}$ ) without decimals (truncated, not rounded), multiplied by the Gross Calorific Value (25/0), expressed at normal reference conditions, with 6 decimals.

**Gross (Superior) Calorific Value (GCV(25/0)) at Normal Reference Conditions** shall be calculated for real gas according to ISO 6976 taking into consideration the normal reference conditions and combustion reference temperature of  $25^{\circ}\text{C}$ . The Gross Calorific Value is expressed in  $\text{kWh}/\text{m}^3(0)$ . This data shall be applied between the Parties while performing all duties as stipulated in this IA.

For energy calculation, the GCV in  $\text{kWh}/\text{m}^3(0)$  shall be used with a rounding at 6 decimals, with rounding up if the 7<sup>th</sup> decimal is 5 or more, and with a rounding down if the 7<sup>th</sup> decimal is 4 or less.

**Gross (Superior) Calorific Value (GCV(25/20)) at Standard Reference Conditions** shall be calculated for real gas according to ISO 6976 taking into consideration the normal reference conditions and combustion reference temperature of  $25^{\circ}\text{C}$ . The Gross Calorific Value is expressed in  $\text{kWh}/\text{m}^3(20)$ .

**Forecasted GCV at Normal Condition** shall mean the average GCV, calculated in the GMS Strandzha by using ISO 6976, on the Gas Day D-2, immediately preceding the Gas Day D-1 on which the matching process for the Gas Day concerned (D) takes place. The Forecast GCV at Normal Condition is expressed in  $\text{kWh}/\text{m}^3(0)$  (reference combustion temperature  $25^{\circ}\text{C}$ , reference volume temperature  $0^{\circ}\text{C}$ ).

**Forecasted GCV at Standard Condition** shall mean the average GCV, calculated in the GMS Strandzha by using ISO 6976, on the Gas Day D-2, immediately preceding the Gas Day D-1 on which the matching process for the Gas Day concerned (D) takes place. The Forecast GCV at Standard Condition is expressed in  $\text{kWh}/\text{m}^3(20)$  (reference combustion temperature  $25^{\circ}\text{C}$ , reference volume temperature  $20^{\circ}\text{C}$ ).

**Hydrocarbon dew point** means the temperature at which the hydrocarbons in gas begin to condense at a certain pressure.

**Initiating System Operator (ISO)** means the Party initiating the matching process by sending the necessary data to the Matching System Operator (**MSO**). For the purpose of this IA, BULGARTRANGAZ is the **ISO**.

**Interconnection Point Strandzha 2 (BG) / Malkoclar (TR) or IP** shall mean the DN 1200 interconnection between the BULGARTRANGAZ's Transmission System and the TAGTAS's Transmission System at the Turkish/Bulgarian state border near to Strandzha (BG) and Malkoclar (TR). The measuring and/or determination of quantities and quality of gas delivered at this IP shall be carried out at the Strandzha Gas Measuring Station.

**Lesser Rule** means that in case of different processed quantities at either side of the interconnection point, the confirmed quantity will be equal to the lower of the two processed quantities.

**Matching System Operator (MSO)** means the Party performing the matching process and sending the result of the matching process to the Initiating System Operator (ISO). For the purpose of this IA, TAGTAS is the MSO.

**Matching process** shall mean the process of comparing and Aligning processed quantities of network users at both sides of the interconnection points, which will result in confirmed quantities for the network users. Nominations given by the Network Users are expressed in kWh/d during the matching process.

**Measured Quantity** means the quantity of gas that BULGARTRNSGAZ determines from its measurement equipment at GMS Strandzha to have physically flowed across the IP per time period.

**Gas Measuring Station at IP Strandzha 2 (BG) / Malkoclar (TR)** (hereinafter referred to as Gas Measuring Station or GMS Strandzha) shall mean the border measuring station owned and operated by BULGARTRNSGAZ in Bulgarian territory around 11 km from the IP. GMS Strandzha has been designed, built and operated in accordance with the design specifications and operating standards and procedures, in accordance with sound and prudent gas industry practice, in accordance with international standards (for example EN and ISO) and in accordance with all laws, rules and regulations of any authority having jurisdiction above it. The GMS Strandzha shall be used for measuring and/or determination of the quantity and quality of gas delivered from Turkey to Bulgaria.

**Month:** shall be a period beginning at 8:00 CET on the first day of a calendar month and ending at the same time on the first day of the next calendar month.

**Natural gas or gas** is a mixture of hydrocarbons (principally methane) and non-combustible components in a gaseous state, prepared for pipeline transmission.

**Network User** shall mean a natural person or legal entity that holds transportation capacity at the IP, on the basis of a transportation contract concluded either with BULGARTRNSGAZ and/or TAGTAS. Each Network User is assigned a unique identification code by the respective Operator.

**Network User Code** shall mean a unique identification code assigned by an Operator to a registered Network User to be used for identification in the procedures and systems administered by the Operator.

**Pair of Network Users** shall mean the mutually served, in line with corresponding transportation contracts, Network Users or group of Network Users at the both sides of the IP.

**Representative** shall mean a person authorized to act on behalf of TAGTAS, BULGARTRNSGAZ or a Network User.

**“Receiving Terminal”** means facility belonging to upstream operator of TAGTAS on the Black Sea coast of the Republic of Turkey including its gas metering stations.

**Normal cubic meter (m<sup>3</sup>(0)):** is the gas amount which at the temperature of 0 degrees Celsius (°C) and the absolute pressure of 1.01325 bar, in the absence of water vapours, occupies the volume of one cubic meter (1m<sup>3</sup>). For the purpose of this IA, this volume is calculated as per Annex 7.

**Normal reference conditions** of temperature, pressure and humidity to be used for measurement and calculations on natural gas are 273.15 K (=0 °C) and 101.325 kPa (= 1.01325 bar (absolute)) for real dry gas.

**Operational Balancing Account (OBA)** is a joint account where the Daily Balance Position of both TSOs at the IP is recorded. BULGARTRNSGAZ is the TSO responsible for calculating, on a daily basis, the Daily Balance Position and the Total Balance Position and update the Operational Balancing Account accordingly.

**Repair Works** means all activities and works necessary in order to ensure that Parties Facilities are functioning in a safe manner in accordance with good industry practice;

**Scheduled Maintenance** means the next year maintenance activities planned to be carried out in the Facilities and submitted by each Party to the other Party to assist planning and scheduling of delivery of Natural Gas during a specific Gas Year.

**“TAGTAS Facilities”** means the pipelines, pig launcher, block valve stations and related equipment located upstream of the Interconnection Point, including SCADA control room operated and/or controlled by TAGTAS (or by a third party acting on TAGTAS’s behalf) required or serving to enable a physical Natural Gas flow through the Interconnection Point.

**“Bulgartransgaz Facilities”** means the pipelines, pig launchers, pig receivers, compressor stations, gas metering stations, block valve stations and related equipment located downstream of the Interconnection Point, including SCADA control room operated and/or controlled by Bulgartransgaz (or by a third party acting on Bulgartransgaz’s behalf) required or serving to enable a physical Natural Gas flow through the Interconnection Point.

**“Facilities”** means Bulgartransgaz Facilities and the TAGTAŞ Facilities

**Unscheduled Maintenance;** means maintenance plan that is not deemed as Scheduled Maintenance and Emergency Works;

**Total Daily Allocated Quantity (TDAQ<sup>D</sup>)** shall mean a quantity defined as:

$$TDAQ^D = \sum_i Q_{A,i}^D$$

Where:

$Q_{A,i}^D$  is the Allocated Quantity, expressed in kWh for a given pair of NUs i, during the Gas Day D;

**Daily Balance Position (DBP)** shall mean a quantity calculated on a daily basis, for each Gas Day D of the period of implementation of the **Operational Balancing Account (OBA)** allocation procedure. The calculation of DBP for a specific Gas Day D is performed according to the following formula:

$$DBP^D = TDAQ^D - Q_M^D$$

Where:

$Q_M^D$  is the Measured Quantity, expressed in kWh of the physical flow through the IP during the Gas Day D;

**Total Balance Position (TBP)** shall mean the actual accumulation of DBP over a consecutive number of Gas Days. The calculation of TBP for each Gas Day D of the period of implementation of the OBA allocation procedure, is performed as follows:

1. For the first Gas Day D of implementation of the OBA allocation procedure, the TBP is set equal to the DBP calculated for this Gas Day D.
2. For each subsequent Gas Day D and up to (and including) the last Gas Day of the period of implementation of the OBA allocation procedure, the TBP for the Gas Day D shall be calculated as the algebraic sum of the TBP of Gas Day D-1 and the DBP for the Gas Day D concerned.

**Negative** TBP indicates that BULGARTRANGAZ is indebted towards the zero balance position, with a quantity equal to the absolute value of TBP. **Positive** TBP indicates that TAGTAS is indebted towards the zero balance position, with a quantity equals to the value of TBP.

**Limitation range (LR)** shall mean the allowed range of values of the **Total Balance Position (TBP)**.

**Processed quantity** means the quantity of natural gas assessed by Parties, which takes into account the network user's nomination (respectively re-nomination) and contractual provisions as defined under the relevant transport contract;

**Reasonable and Prudent Operator** is used herein to describe the standard of care to be exercised by a Party in performing its obligations hereunder means that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced pipeline owner complying with all applicable law engaged in the same type of undertaking under the same or similar circumstances and/or conditions having due consideration for the interests of the other Party to this Agreement with a priority for the safety and the stability of the Facilities.

**Standard reference conditions** of temperature, pressure and humidity to be used for measurement and calculations on natural gas are 293.15 K (=20 °C) and 101.325 kPa (= 1.01325 bar (absolute)) for real dry gas.

**Standard cubic meter (m<sup>3</sup>(20))** is the gas amount which at the temperature of 20 degrees Celsius (°C) and the absolute pressure of 1.01325 bar, in the absence of water vapours, occupies the volume of one cubic meter (1 m<sup>3</sup>).

**Steering difference** means the difference between the quantity of gas that the Parties has scheduled to flow and the measured quantity for the Interconnection Point.

**Upstream Operator:** shall mean the Party delivering physically the natural gas. For the purpose of this IA, TAGTAS is the Upstream Operator.

**Water dew point** means the temperature at which the water vapours in gas begin to condense at a certain pressure.

## Article 7 - Business Rules

### 7.1 Network Users' setup and update

On a regular basis and as soon as possible but before the new Network User plans the transmission, new Network User's codes for the BULGARTRANGAZ's Transmission System and/or the TAGTAS's Transmission System, respectively shall be discussed:

- BULGARTRANGAZ shall communicate to TAGTAS the list of Network User codes (according to Annex 1A), which shall be used by the Network Users for nominating gas quantities for transportation in the BULGARTRANGAZ's Transmission System. The codes for the Network Users shall be given by BULGARTRANGAZ. In case a code was assigned to a Network user and such Network User cancels its booking or the validity of the booking contract expires, this code shall not be assigned to another Network User. If that original Network User books capacity again, the respective code shall be reassigned; whilst
- TAGTAS shall communicate to BULGARTRANGAZ the list of Network User codes (according to Annex 1B), which shall be used by the Network Users for nominating gas quantities for transportation in the TAGTAS's Transmission System. The codes for the Network Users shall be given by TAGTAS. In case a code was assigned to a Network user and such Network User cancels its booking or the validity of the booking contract expires, this code shall not be assigned to another Network User. If that original Network User books capacity again, the respective code shall be reassigned.

### 7.2 Matching procedure

- a) The Network Users active on both sides of the IP shall be entitled to submit to TAGTAS and BULGARTRANGAZ the nominations (in kWh) for Gas Day D no later than CET 14:00 of the Gas Day D-1.
- b) By CET 14:15 of the Gas Day D-1, TAGTAS shall send to BULGARTRANGAZ the preliminary DELORD (PRE-DELORD) message according to Edig@s-XML format regarding quantities nominated for delivery/offtake for Gas Day D at IP by the Network Users.
- c) Not later than 45 minutes after the expiration of the nomination deadline set out in paragraph a) above, BULGARTRANGAZ shall send to TAGTAS the DELORD message according to Edig@s-XML format regarding the Processed Quantities for delivery/offtake for Gas Day D at IP by Network User pairs. The Processed Quantities are accepted to be equally allocated per hours during Gas Day D.
- d) TAGTAS shall carry out a matching procedure of the Processed Quantities for delivery/offtake at the IP per Network User pairs and within 45 minutes after the receipt of the message under item c) a DELRES message shall be sent to BULGARTRANGAZ according to Edig@s-XML format. If there is a difference in the Processed Quantities at both sides of the IP, then the "lesser rule" shall be applied.
- e) By CET 16:00 of Gas Day D-1, the Parties shall inform their Network Users about the Confirmed Quantities.
- f) Network Users active on both sides of the IP shall have the right to re-nominate between CET 14:00 of Gas Day D-1 and CET 05:00 of Gas Day D. The Parties shall start a re-nomination cycle in the beginning of every hour, between CET 15:00 of Gas Day D-1 and

CET 05:00 of Gas Day D. During each re-nomination cycle the notification and matching procedure according c) and d) shall apply. For re-nominations a lead time of two hours prior to the start of implementation of the nomination shall apply.

- g) Upon receiving a re-nomination from a Network User, not later than 15 minutes after the beginning of the re-nomination cycle, TAGTAS shall send to BULGARTRANGAZ the preliminary DELORD (PRE-DELORD) message according to Edig@s-XML format regarding quantities nominated for delivery/offtake for Gas Day D at IP by the Network Users.
- h) Not later than two hours after the full hour following the Network Users' re-nomination request(s) receipt, the Parties shall inform their Network Users about the Confirmed Quantities.
- i) In case a re-nomination has been rejected by a transmission system operator, the Parties shall use the Network User's last Confirmed Quantity, if any.
- j) In case BULGARTRANGAZ has not sent to TAGTAS, until the expiration of the deadline specified in paragraph c) above, the Processed Quantities (DELORD) for a Gas Day D, these shall be considered, by TAGTAS, equal to the Network Users' last Confirmed quantities, for the implementation of the matching process.
- k) In case BULGARTRANGAZ has not sent to TAGTAS, in a given re-nomination cycle until the expiration of the deadline specified in paragraph f) above, the Processed quantities (DELORD) for a Gas Day D, TAGTAS shall consider, for the implementation of the matching process, the last Processed quantities for the Gas Day D, which were sent by BULGARTRANGAZ to TAGTAS.
- l) In case TAGTAS has not sent the Confirmed quantities (DELRES) as a result of the Day-ahead nomination matching process for a Gas Day D to BULGARTRANGAZ, until the expiration of the deadline specified in paragraph d) above, the Confirmed quantities (DELRES) shall be considered equal the Network Users' last Confirmed quantities.
- m) In case TAGTAS has not sent a Confirmed Quantities (DELRES) for a Gas Day D to BULGARTRANGAZ in a given re-nomination cycle, until the expiration of the deadline specified in paragraph f) above, the last Confirmed quantities (DELRES) shall be considered as Confirmed quantities (DELRES) for that re-nomination cycle, as a result of the matching process.
- n) For avoidance of doubt BULGARTRANGAZ and TAGTAS shall take into consideration for matching purposes only the last nomination / re-nomination submitted within the deadlines, mentioned above.
- o) The matching processes under Article 7.2 shall be performed in line with the requirements for common data exchange solution set out in Article 21.(2)(a) of Regulation (EU) N°2015/703 and shall be carried out using the Edig@s-XML data format and the AS4 communication protocol.

The Parties shall endeavour to provide a backup data exchange method for the purposes of the matching process via web interface with the HTTP/S protocol or Excel file as provided in the form in Annexes 2 and 3 which shall be used in case of failure of the above-mentioned main data exchange solution. Excel files shall be exchanged via e-mail and in case that option is unavailable, fax will be used.



## Article 8 - Allocation

8.1. In respect of the allocation of gas quantities, BULGARTRANGAZ and TAGTAS establish allocation procedure ensuring consistency between the allocated quantities at both sides of the IP. This allocation procedure shall be based on the Operation Balancing Account (OBA), specified below.

8.2. Under the OBA allocation procedure the Natural Gas quantity allocated for a Gas Day D to a pair of Network Users at the IP shall be equal to the Natural Gas quantity confirmed for delivery/off-take, for that Gas Day D, to the said pair of Network Users, according to Article 7.2.

$$Q_{A,i}^D = Q_{C,i}^D ,$$

where:

$Q_{C,i}^D$  is the Confirmed Quantity, for a given Pair of Network Users i, during the Gas Day D;

$Q_{A,i}^D$  is the Allocated Quantity, to a given pair of Network Users i, during the Gas Day D;

8.3. The OBA allocation procedure shall not be applied in the event that:

8.3.1. The pressure is not according to the requirements of the Article 6.1 and the Parties are not able to perform their daily nominations.

8.3.2. The provisions of paragraph 9.3, item (b) are implemented;

8.4 For each Day D, when any of the conditions in paragraph 8.3 is in effect, the daily measured quantity is allocated to the pairs of NUs proportionally to their Confirmed Quantities in both directions of the IP. The OBA allocation procedure shall be re-applied on the next Day D+1 after the Day D in which all of the conditions in paragraph 8.3 are no longer in effect, unless both Parties mutually agree to postpone the application of the OBA for a specific period. Pro-rata allocated quantities shall be calculated by using the following formulas:

$$Q_{A,i}^D = Q_{C,i}^D + Q_{SD}^D * \frac{Q_{C,i}^D}{\sum_i Q_{C,i}^D}$$

Where:

$Q_{SD}^D$  is the steering difference during the Day D:

$$Q_{SD}^D = Q_M^D - \sum_i Q_{C,i}^D$$

Each Day for which the pro-rata allocation procedure applies, the OBA is updated by calculating the TBP, considering DBP that equals to zero (0).

## Article 14 - Constraints

Whenever a limit for the gas quality specification according to [Annex 5](#) is approached or exceeded, BULGARTRANGAZ and/or TAGTAS shall inform each other thereof and shall take appropriate measures to shut off such gas or organize the flow in a way accepted by BULGARTRANGAZ, provided that BULGARTRANGAZ shall use best endeavors to accept Natural Gas which does not conform to the gas quality specification (Annex 5) if the acceptance of such non-conforming Natural Gas does not jeopardize the safety and/or integrity of the BULGARTRANGAZ Pipeline Transportation System. Depending on the position of the BULGARTRANGAZ, the gas will be interrupted or not, whilst the TAGTAS shall undertake immediate actions to bring the gas properties back on spec or to contact their Upstream Operator and requests for corrective actions to bring the gas properties back on spec as soon as possible.

If during any Gas Day (D) an Emergency Situation occurs, which causes capacity reductions, (e.g. compressor outage, or leakage, etc.) BULGARTRANGAZ and/or TAGTAS shall react promptly in order to minimize the impact of such an event by using best efforts and all reasonable measures.

Both Parties shall undertake to assure prompt exchange of all relevant information (exchange within 1 hour after occurrence of an emergency), which may affect the quantity of gas being transported in the future and the quality parameters of the gas.

- (a) The communication shall be performed by means of telephone call for information, followed by a written confirmation;
- (b) where an Emergency Situation occurs on a contracting party's network affecting the interconnection point, the relevant contracting party shall without delay inform and keep informed the other contracting party in respect of the possible impact on the quantities of gas that can be transported over the interconnection point.
- (c) where a contracting party considers there is an evident danger to system security and/or stability and an Emergency Situation event may have an impact on the confirmed quantities of its network users, as soon as reasonably practicable, each contracting party shall inform its respective affected network users that are active at the concerned interconnection point of the consequences for the confirmed quantities;
- (d) once the Emergency Situation ends, the relevant affected contracting party(ies) shall inform the other contracting party as soon as reasonably practicable and each contracting party shall inform its respective affected network users accordingly.

Contact data of the Parties related to emergency activities are listed in [Annex 6A](#), [Annex 6B](#).