

**Draft Project Proposal for the Incremental  
Capacity Project at IP Isaccea1/Orlovka1  
Located at the Border between Ukraine and  
Romania Gas Transmission Systems**

**2024-01-31**



This document is a joint draft project proposal for the incremental capacity project on the border between Ukraine and Romania jointly conducted by:



**LLC “Gas Transmission System Operator  
of Ukraine”**

Liubomyra Huzara av. 44

03065 Kyiv

Ukraine

E: [commercial@tsoua.com](mailto:commercial@tsoua.com)

**SNTGN TRANSGAZ S.A.**

C.I. Motas Square Nr.1

551130 Medias/Sibiu,

Romania

E: [cabinet@transgaz.ro](mailto:cabinet@transgaz.ro)

The Market Demand Assessment Report (MDAR) assessed the non-binding capacity indications received from 3 July 2023 until 28 August 2023. Based on the outcome of the MDAR for the incremental capacity process starting in 2023 between the Ukrainian gas transmission system and the Romanian gas transmission system and published on both TSOs websites on 23 October 2023 ([https://tsoua.com/wp-content/uploads/2023/10/2023\\_10\\_23\\_MDAR\\_UA-RO\\_ENG.pdf](https://tsoua.com/wp-content/uploads/2023/10/2023_10_23_MDAR_UA-RO_ENG.pdf), <https://www.transgaz.ro/en/demand-assessment-reports>) the two TSOs concerned have begun the design phase based on Article 27 of COMMISSION REGULATION (EU) No 2017/459 of 16 March 2017 establishing a network code concerning capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013 (NC CAM).

This document is the result of the technical studies and calculations conducted by “Gas Transmission System Operator of Ukraine” LLC (hereinafter referred to as **GTSOU**) and SNTGN TRANSGAZ S.A. and may be subject to change, based on feedback received via the public consultation.

The public consultation will be conducted during 1 February 2024 - 29 February 2024.

Please provide your replies by 29 February 2024 by email to [commercial@tsoua.com](mailto:commercial@tsoua.com) and to [demand.assessment@transgaz.ro](mailto:demand.assessment@transgaz.ro).

## Table of contents

|   |    |
|---|----|
| 1. Description of the incremental capacity project.....   | 5  |
| 1.1. Description of the project on the Ukrainian side (GTSOU).....  | 7  |
| 1.2. Description of the project on the Romanian side (SNTGN TRANSGAZ S.A.).....   | 8  |
| 1.3. Cost estimation on the Ukrainian side (GTSOU) .....  | 8  |
| 1.4. Cost estimation on the Romanian side (SNTGN TRANSGAZ S.A.) .....   | 8  |
| 2. Offer level for harmonized capacity products .....   | 8  |
| 3. Allocation mechanism for incremental capacity .....  | 9  |
| 4. Provisional timeline .....   | 9  |
| 5. General rules and conditions for participating in the capacity auctions .....  | 10 |
| 6. Information on the fixed price approach for the allocation of incremental capacity.....  | 11 |
| 7. Estimation of the f-factor .....   | 11 |
| 8. Information on additional demand indications .....   | 11 |
| 9. Information on a possible impact on other non-depreciated gas infrastructure in the same and adjacent entry-exit systems ..... | 11 |
| 10. Contact information .....   | 12 |

## 1. Description of the incremental capacity project

This section describes the common draft project proposal for incremental capacity on the border between Ukraine and Romania, at IP Isaccea1/Orlovka1, based on the relevant technical studies conducted by GTSOU and SNTGN TRANSGAZ S.A. The description also includes a cost estimation.

The demands for incremental capacity have been indicated in the direction from Romania to Ukraine. Currently there is no existing firm capacity between the entry-exit system of Ukraine and Romania, at this IP, in the requested direction.

The exit capacity from the NTS through the Isaccea 1/Orlovka 1 point is currently offered by SNTGN Transgaz SA as interruptible capacity.

The interruptible nature of the capacity offered at the Isaccea 1/Orlovka 1 point, on the Romania → Ukraine transmission direction, is conferred by the fact that the minimum natural gas quality requirements in Romania and Bulgaria are different from the quality requirements in Ukraine.

In order to ensure offering firm capacities by GTSOU, the firm capacities must be established further downstream, via interconnection points Kaushany and Grebenyky between GTSOU and Vestmoldtransgaz (VMTG - gas transmission system operator of Moldova).<sup>1</sup>

Based on MDAR conclusions GTSOU and SNTGN TRANSGAZ S.A. have conducted studies to prepare a project for incremental capacity on the Ukrainian-Romanian border at IP Isaccea1/Orlovka1 in the (RO-UA) flow direction.

Consequently, as a result of the technical studies, GTSOU and SNTGN TRANSGAZ S.A suggest initiating an **incremental capacity project at the current interconnection point Isaccea1/Orlovka1 between Ukraine and Romania.**

**Based on the demand indications received in the demand assessment phase GTSOU and SNTGN TRANSGAZ S.A propose the increase of technical capacity to the level of maximum demand i.e. of 206 520 746 kWh/d/year<sup>2</sup>.**

GTSOU proposes to consider two options depending on the stability of the physical flow via IP Grebenyky:

- Option 1, short-term solution. Stable physical flow via CS Pivdennobuzka (UA) in the range (113 848 000 – 176 465 000 kWh/d/year<sup>3</sup>);
- Option 2, long-term solution. Stable physical flow via CS Pivdennobuzka (UA) in the range (22 770 000 – 176 465 000 kWh/d/year<sup>4</sup>).

---

<sup>1</sup> GTSOU and VMTG are conducting separate incremental process on respective interconnection points, for details please see their websites.

<sup>2</sup> which corresponds 19.3 mcm/d (20°C)

<sup>3</sup> which corresponds 10.0-15.5 mcm/d (20°C)

<sup>4</sup> which corresponds 2.0-15.5 mcm/d (20°C)

**Option 1. Summary of project proposal technical parameters (the border pressure at IP Negru Voda1/Kardam 48.5 bar<sup>5</sup>):**

| Parameter                    | RO Section   | UA Section   |
|------------------------------|--|--|
| Technical capacity           | 206 520 746 kWh/d/year                                 | 206 520 746 kWh/d/year   |
| Capacity type (quality)      | Firm*  | Firm**   |
| Interconnection Point        | Isaccea (Exit)   | Orlivka (Entry)  |
| Flow direction               | RO→UA  | RO→UA  |
| Border pressure              | <b>44.1 bar</b><br>(current minimum pressure 35.4 bar) | <b>44.1 bar</b> (45 kgf/cm <sup>2</sup> ), pipeline Kardam - Isaccea1.<br>Minimum pressure requirement – 35 bar      |
| New pipeline length          | -  | -  |
| Required technical equipment | -  | Reverse piping system of the unit Orlivka - 2 of CS Orlivka and CS Pivdennobuzka (use of existing gas pumping units) |
| Estimated Cost               | -  | 2 600 000 EUR <sup>6</sup>   |
| Cost estimate accuracy       | -  | ± 10%  |

\* Subject to the harmonization of the minimum natural gas quality requirements of Bulgaria, Romania and Ukraine prior to the publication of the auction notification

\*\*Subject to establishment of firm capacities on IPs Kaushany and Grebenyky between GTSOU and VMTG

**Option 2. Summary of project proposal technical parameters (the border pressure at IP Negru Voda1/Kardam 48,5 bar):**

| Parameter               | RO Section             | UA Section             |
|-------------------------|------------------------|------------------------|
| Technical capacity      | 206 520 746 kWh/d/year | 206 520 746 kWh/d/year |
| Capacity type (quality) | Firm*                  | Firm**                 |

<sup>5</sup> which corresponds 49,6 kgf/cm<sup>2</sup>

<sup>6</sup> the average monthly exchange rate of the NBU for November 2023 was used to calculate the cost in euros (1 EUR = UAH 39.01)

| Interconnection Point        | Isaccea (Exit)  | Orlivka (Entry)  |
|------------------------------|---|--|
| Flow direction               | RO→UA   | RO→UA  |
| Border pressure              | <b>44.1 bar</b><br>(current minimum pressure<br>35.4 bar) | <b>44.1 bar</b> (45 kgf/cm <sup>2</sup> ).<br>Minimum pressure requirement<br>– 35 bar   |
| New pipeline length          | -   | -  |
| Required technical equipment | -   | Reverse piping system of the unit Orlivka-2 of CS Orlivka. Reconstruction of CS Pivdenobuzka: <ul style="list-style-type: none"> <li>• 2 gas pumping units (3 MW installed capacity);</li> <li>• 2 gas pumping units (6 MW installed capacity).</li> </ul> |
| Estimated Cost               | -   | 68 444 000 EUR <sup>5</sup>  |
| Cost estimate accuracy       | -   | ± 10%  |

\* Subject to the harmonization of the minimum natural gas quality requirements of Bulgaria, Romania and Ukraine prior to the publication of the auction notification

\*\* Subject to establishment of firm capacities on IPs Kaushany and Grebenyky between GTSOU and VMTG

### 1.1. Description of the project on the Ukrainian side (GTSOU)

New infrastructure required to be implemented on the GTSOU side.

In order to ensure the possibility of gas transmission in the direction from Romania to Ukraine (minimum pressure level of 35.4 bar from the Romanian side at the RO-UA border) with a maximum capacity level of 206 520 746 kWh/d/year, the following investments are required on the Ukrainian side:

1. Option 1. Reverse piping system of the unit Orlivka-2 of CS Orlivka and CS Pivdenobuzka.

Expected commissioning: Quarter 4/2025.

2. Option 2. Reverse piping system of the unit Orlivka-2 of CS Orlivka. Reconstruction of CS Pivdenobuzka:

- 2 gas pumping units (3 MW installed capacity);
- 2 gas pumping units (6 MW installed capacity).

Expected commissioning: Quarter 4/2028.

The firm capacities must be established further downstream, via interconnection points Kaushany and Grebenyky between GTSOU and VMTG.

## 1.2. Description of the project on the Romanian side (SNTGN TRANSGAZ S.A)

In order to ensure the maximum capacity at the minimum pressure of 35.4 bar at the border (Isaccea exit to UA) no investments are needed on the Romanian side. To ensure the pressure of 44.1 bar it is necessary for Bulgartransgaz to make investments in their transmission system to ensure the entry pressure at IP Negru Voda 1/Kardam (BG-RO) of 48.5 bar. The provision of the capacity of 206 520 746 kWh/day/year at Isaccea IP, in the exit direction to Ukraine, is conditional on the provision of at least the same capacity at Negru Voda 1/Kardam IP, in the entry direction to Romania.

## 1.3. Cost estimation on the Ukrainian side (GTSOU)

The preliminary cost estimation for the implementation of the above-mentioned investment objectives on the Ukrainian side is approx.:

- Option 1. EUR 2.6 million (CAPEX);
- Option 2. EUR 68.4 million (CAPEX).

## 1.4. Cost estimation on the Romanian side (SNTGN TRANSGAZ S.A.)

There are no estimated costs on the Romanian side as there is no need for investment objectives.

# 2. Offer level for harmonized capacity products

The table below shows the common offer-level for the capacity marketing in the yearly capacity auction in 1 July 2024 of GTSOU and SNTGN TRANSGAZ S.A. taking into account the obligations of the set aside capacity for short-term products of NC CAM.

Based on the above-mentioned description of the incremental capacity project and considering the capacity for short-term products required to be set-aside from the existing capacity, i.e. 10% for the first five years and 20% for the next ten years, according to Article 8(6) of NC CAM, and for the incremental capacity 10% over the whole period, the levels of the offer for bundled capacity products at **IP Isaccea1/Orlovka1 in the (RO-UA) flow direction**, are as follows:



| No. of years | Gas year         | Offer of existing available capacity (kWh/h/year) | Offer of incremental capacity (kWh/h/year) | Level of the harmonized offer in the direction RO→UA for the existing capacity and the incremental capacity (kWh/day/year) <sup>7</sup> |
|--------------|------------------|---|--|---|
| 1            | 2024/2025        | 109.279.087                                       |  | 109.279.087   |
| 2            | 2025/2026        | 109.279.087                                       |  | 109.279.087   |
| 3            | 2026/2027        | 109.279.087                                       |  | 109.279.087   |
| 4            | <b>2027/2028</b> | 109.279.087                                       | 76.589.584                                 | 185.868.671   |
| 5            | <b>2028/2029</b> | 109.279.087                                       | 76.589.584                                 | 185.868.671   |
| 6            | <b>2029/2030</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 7            | <b>2030/2031</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 8            | <b>2031/2032</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 9            | <b>2032/2033</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 10           | <b>2033/2034</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 11           | <b>2034/2035</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 12           | <b>2035/2036</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 13           | <b>2036/2037</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 14           | <b>2037/2038</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |
| 15           | <b>2038/2039</b> | 97.136.966  | 76.589.584                                 | 173.726.551   |

The capacity offer (existing plus incremental) made available to the market at the Isaccea 1/Orlovka 1 IP, on the transmission direction Romania → Ukraine, remains interruptible until harmonization of the quality requirements in Romania, Bulgaria and Ukraine.

### 3. Allocation mechanism for incremental capacity

Both transmission system operators involved offer incremental capacity together with the corresponding available capacity in the annual yearly capacity auction as standard products in ascending clock price auctions.

### 4. Provisional timeline

The incremental capacity project will generally follow this timeline. However, the implementation phase will only start if there is a firm commitment by the market to acquire sufficient incremental capacity in the yearly auction on 1 July 2024 so that the economic test for the GTSOU is positive and the incremental capacity allocation process is successfully completed.

<sup>7</sup> This offer level is only viable if the concerned national regulatory authorities publish a coordinated and positive decision on the project proposal by 26.04.2024.

The dates shown below are subject to change.

| Start Date                                  | End Date   | Description   |
|---|------------|---|
| 01.02.2024                                  | 29.02.2024 | One month public consultation   |
| 01.03.2024                                  | 15.03.2024 | Further development of the project proposal, potential adjustments of the project parameters based on public consultation feedback    |
| 16.03.2024                                  |            | Submission of the project proposal to the NRAs  |
| 17.03.2024                                  | 26.04.2024 | Period for national regulatory authorities to publish coordinated decisions on the project proposal                                   |
| 01.05.2024                                  |            | Publication by the TSOs of the parameters approved by NRAs and of a template of the contract(s) related to the capacity to be offered |
|   |            | Final date for publication of auction notice for the incremental capacity offer   |
| 01.07.2024                                  |            | Conducting the yearly capacity auction/incremental capacity auction   |
|   |            | Publication of incremental capacity auctions result (aggregated)  |
| 2 days after auction closure                |            | Economic test   |
| 1 day after the result of the economic test |            | Allocation/or not of the requested incremental capacity and publication of the results  |

## 5. General rules and conditions for participating in the capacity auctions

During the binding capacity allocation phase GTSOU and SNTGN TRANSGAZ S.A. will offer the incremental capacities in an annual yearly auction on the RBP Platform.

For GTSOU general rules and conditions have been developed for the participation in the capacity auctions for incremental capacity in 2024. These are attached to this consultation document.

### GTSOU

The general rules and conditions that a network user shall accept to participate and access capacity in the binding capacity allocation phase of the incremental capacity process are set out in Annex 1 of this consultation document and in the [Network Code](#) and in the [Gas Transportation Agreement](#) of GTSOU.

### SNTGN TRANSGAZ S.A.

The general rules and conditions that a network user has to accept in order to participate and have access to capacity in the binding capacity allocation phase of the incremental capacity process are those set out in ANRE Order No 130/2020, as amended, available [here](#).

## 6. Information on the fixed price approach for the allocation of incremental capacity

GTSOU and SNTGN TRANSGAZ S.A. do not choose the application of a fixed price approach for the acquisition of incremental capacity in 2024 (Article 28 (1) lit. g) NC CAM).

## 7. Estimation of the f-factor

GTSOU proposes that the level of the f-factor shall be 1. The project assumptions are based on the non-binding demand indication received in the demand assessment phase. This f-factor was estimated based on the assumption that the given incremental capacity project is purely a market driven project and that the full cost of the project shall be covered by the capacity bookings in the relevant binding capacity auction.

SNTGN TRANSGAZ S.A. proposes the level for the f-factor to be 0.85. This f-factor level was estimated based on the assumption that 85% of the TSO allowed revenue is recovered from the capacity booking products, and 15% is recovered by applying of the commodity tariff for the transmitted quantity.

## 8. Information on additional demand indications

Neither GTSOU or SNTGN TRANSGAZ S.A. has received any additional demand indications for IP Isaccea1/Orlovka1 in the (RO-UA) flow direction in accordance with Article 26(7) of NC CAM.

## 9. Information on a possible impact on other non-depreciated gas infrastructure in the same and adjacent entry-exit systems

The realization of this incremental capacity project will not lead to a sustained and significant decrease in the utilization of other existing gas infrastructures in the two and adjacent entry-exit systems.

## 10. Contact information



### LLC “Gas TSO of Ukraine”

Andrii Yefanov

Head of Auction Platforms Support Unit

Telephone:  
+38 044 298 69 56

Email:  
[yefanov-av@tsoua.com](mailto:yefanov-av@tsoua.com)

Liubomyra Huzara av. 44  
03065, Kyiv  
Ukraine

Telephone:  
+38 044 239 78 43  
Email:  
[commercial@tsoua.com](mailto:commercial@tsoua.com)



### Gas Transmission Operator SNTGN TRANSGAZ S.A.

Barbu Teodora

Head of Transmission Capacities  
Management Department

Telephone:  
+400269/803125

Email:  
[teodora.barbu@transgaz.ro](mailto:teodora.barbu@transgaz.ro)

C.I. Motas, Nr 1. Square  
551130, Medias, Sibiu,  
Romania

Fax:  
+4 0269 841181  
Email:  
[cabinet@transgaz.ro](mailto:cabinet@transgaz.ro)