

# **Demand assessment report for incremental capacity between *Romania* and *Bulgaria***

2020-03-26



This report is a joint assessment of the potential for incremental capacity projects conducted by

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## A. Demand indications

Currently Bulgaria and Romania have three interconnection points (IPs):

- Interconnection point (IP) Negru Voda 1/Kardam – a connection between the national gas transmission network (NGTN) in Bulgaria, operated by Bulgartransgaz EAD and the national gas transmission system in Romania, operated by Transgaz S.A. (Romania), located on the Bulgarian-Romanian border near Negru Voda (Romania) and near Kardam (Bulgaria), for gas transmission in the Romania-Bulgaria direction (up to now) and in the Bulgaria – Romania direction from 01.01.2020.
- Virtual interconnection point (IP) Negru Voda 2,3/Kardam – a connection between Bulgartransgaz EAD Gas transmission network for transit transmission (GTNTT) and the Isaccea 2 – Negru Voda 2 and Isaccea 3 –Negru Voda 3 gas transmission pipelines for gas transmission on the Russian Federation –Turkey, Greece and other countries, operated by Transgaz S.A. (Romania), located on the Bulgarian-Romanian border near Negru Voda (Romania) and near Kardam (Bulgaria). This VIP is a single point from Bulgartransgaz`s and from Transgaz`s point of view;
- Interconnection entry-exit point (IP) Ruse/Giurgiu – a connection between Bulgartransgaz EAD national gas transmission network and the national gas transmission system operated by Transgaz S.A. (Romania) on the Bulgarian-Romanian border near Ruse (Bulgaria) and near Giurgiu (Romania).

### 1.5. Aggregated non-binding demand indications received

- Non-binding demand indications received within 8 weeks after the start of the annual yearly capacity auction on 1 July 2019 in accordance with REGULATION EC 459/2017:

One demand indication was sent by a Network User for IP Negru Voda 1/Kardam in the direction from Bulgaria to Romania (reverse direction) for the period 2019/2020 – 2023/2024 and in the direction from Romania to Bulgaria (forward direction) for the period 2020/2021 – 2030/2031. In the frame of the indication, without capacity indication, a statement was made regarding IP Ruse-Giurgiu, that the annual capacity of 1.5 bcm/y in the direction from Romania to Bulgaria, as per the FID of the project, is enough.

- non-binding demand indications received later than 8 weeks after the start of the annual yearly capacity auction on 1 July 2019, which would have been considered in the current incremental capacity cycle

One demand indication by a network user regarding IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/Kardam in the direction from Bulgaria to Romania (reverse direction) for the period 2019/2020 – 2023/2024, which was sent only to Bulgartransgaz.

The following **aggregated non-binding demand indications** for firm capacity have been used as a basis for this demand assessment:

Non-Binding Incremental Capacity Demand Survey 2019 according to Regulation (EU) 2017/459					
Interconnection Point/Virtual Interconnection Point	Negru Voda 1/Kardam	Negru Voda 1/Kardam	Negru Voda 1/Kardam Negru Voda 2,3/Kardam	Ruse/Giurgiu	Ruse/Giurgiu
EIC Code	21Z000000000159I	21Z000000000159I	21Z000000000159I 21Z000000000160X	21Z0000000002798	21Z0000000002798
Flow Direction	RO>BG	BG>RO	BG>RO	RO>BG	BG>RO
Request is submitted to other TSOs [yes, TSO name] or [no]	Yes, BTG and Transgaz	Yes, BTG and Transgaz	No, only BTG	Yes, BTG and Transgaz	Yes, BTG and Transgaz
Additional Information (if any)					
Conditions*[please indicate the letter(s) a) to c) and describe the conditions in more detail below]				For the capacity of 1.5 bcma FID is already taken (FID Project), therefore only comment that 1,5 bcma is considered existing and no need beyond 1,5 bcma	
Current technical capacity, kWh/d	187 336 455	168 933 856		22 433 367	26 372 821

2019/2020		53 472 602	158 550 000	
2020/2021	14 452 054	53 472 602	158 550 000	
2021/2022	14 452 054	53 472 602	158 550 000	
2022/2023	14 452 054	53 472 602	158 550 000	
2023/2024	14 452 054	53 472 602	158 550 000	
2024/2025	14 452 054			
2025/2026	14 452 054			
2026/2027	14 452 054			
2027/2028	14 452 054			
2028/2029	14 452 054			
2029/2030	14 452 054			
2030/2031	14 452 054			

\* It is envisaged that as of 01.10.2020 the technical capacity of IP Negru Voda 1/Kardam will be 121 421 209 kWh/d.

## **B. Demand assessment**

### **i. Historical usage pattern**

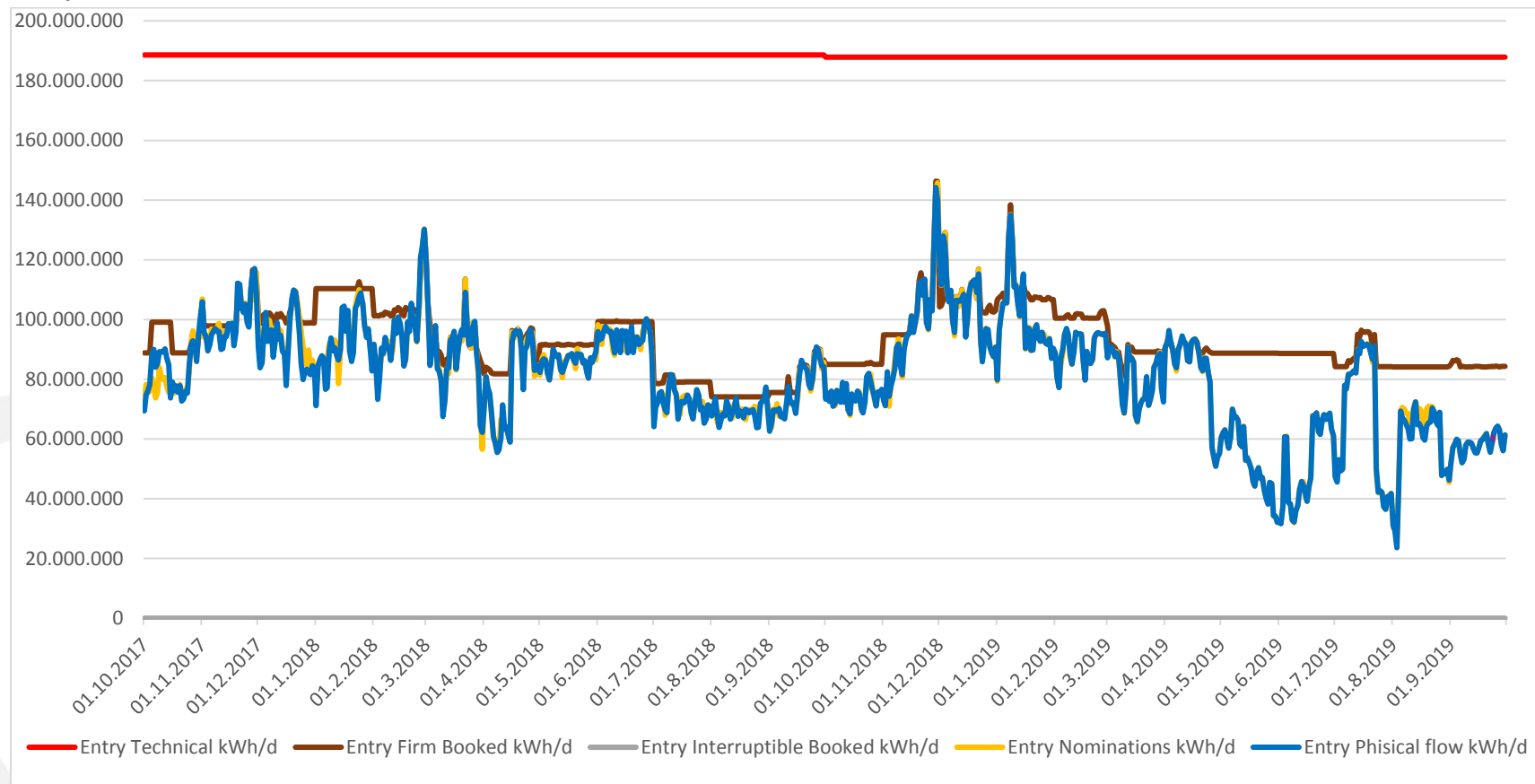
#### **i.1. Bulgartransgaz EAD Data:**

***According to ENTSOG recommendations included in the DAR Template, operational ENTSOG TP data is used for the following Graphs:***



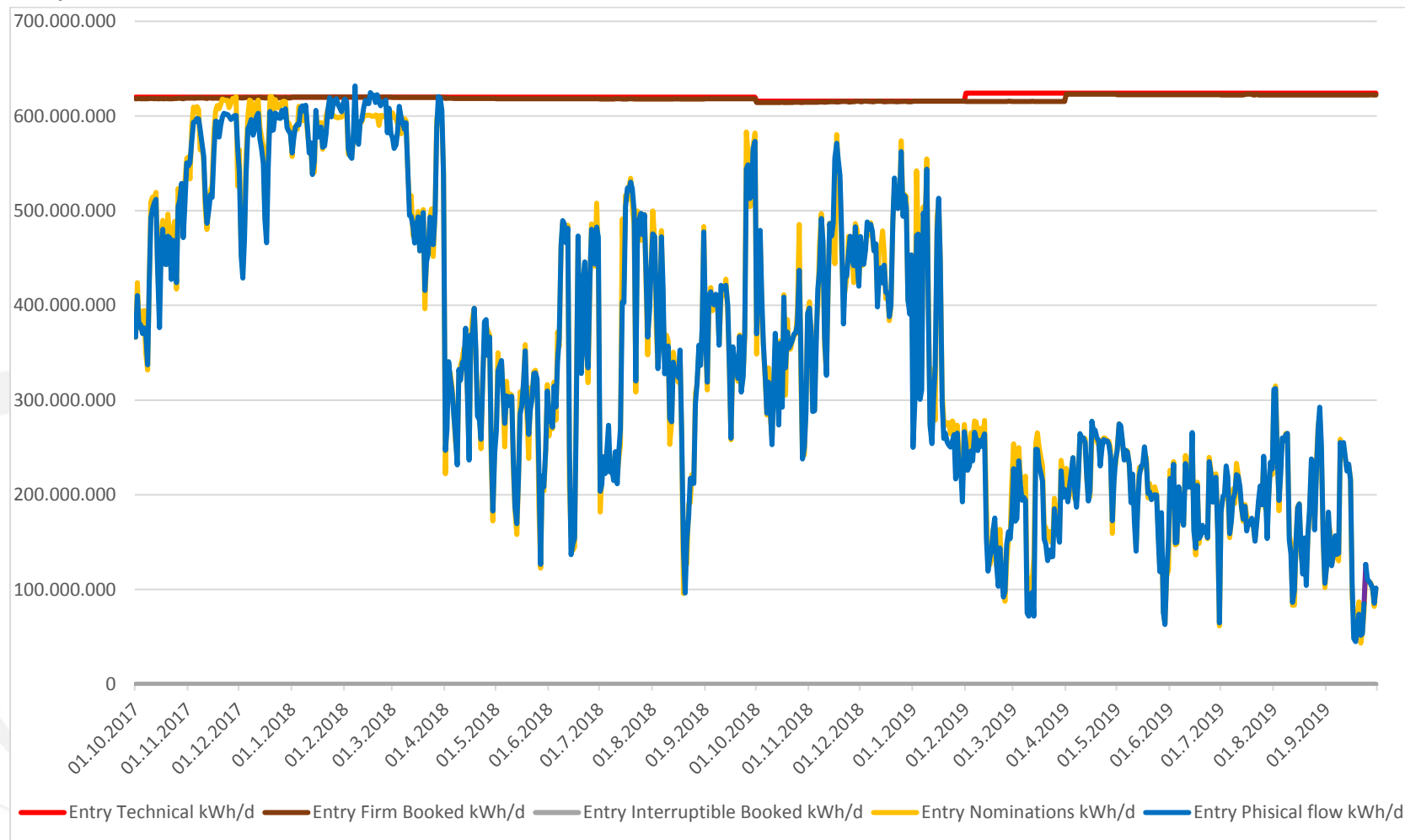
# IP Negru Voda 1/ Kardam – entry BG/ exit RO

kWh/d



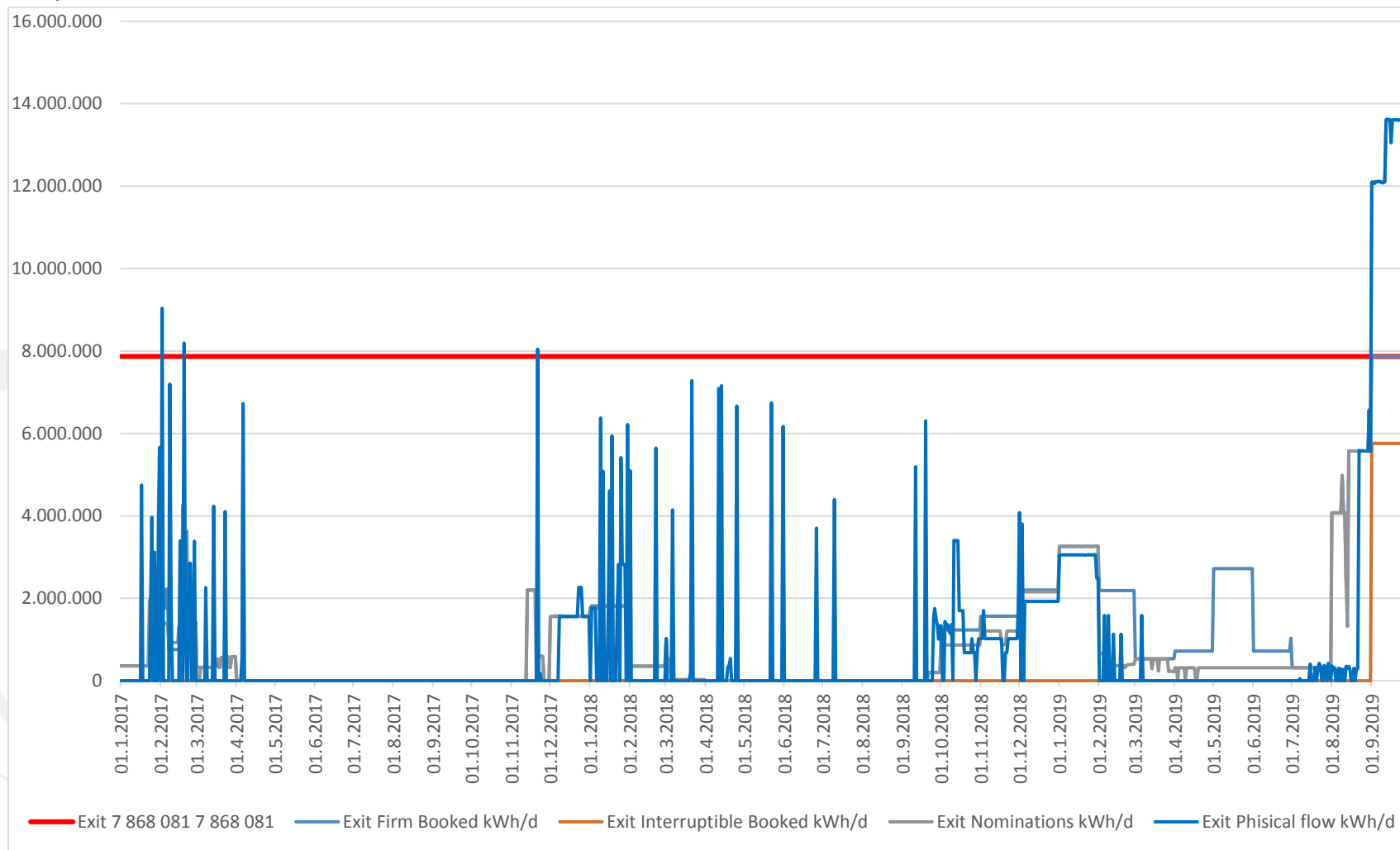
# VIP Negru Voda 2,3/ Kardam – entry BG/ exit RO

kWh/d

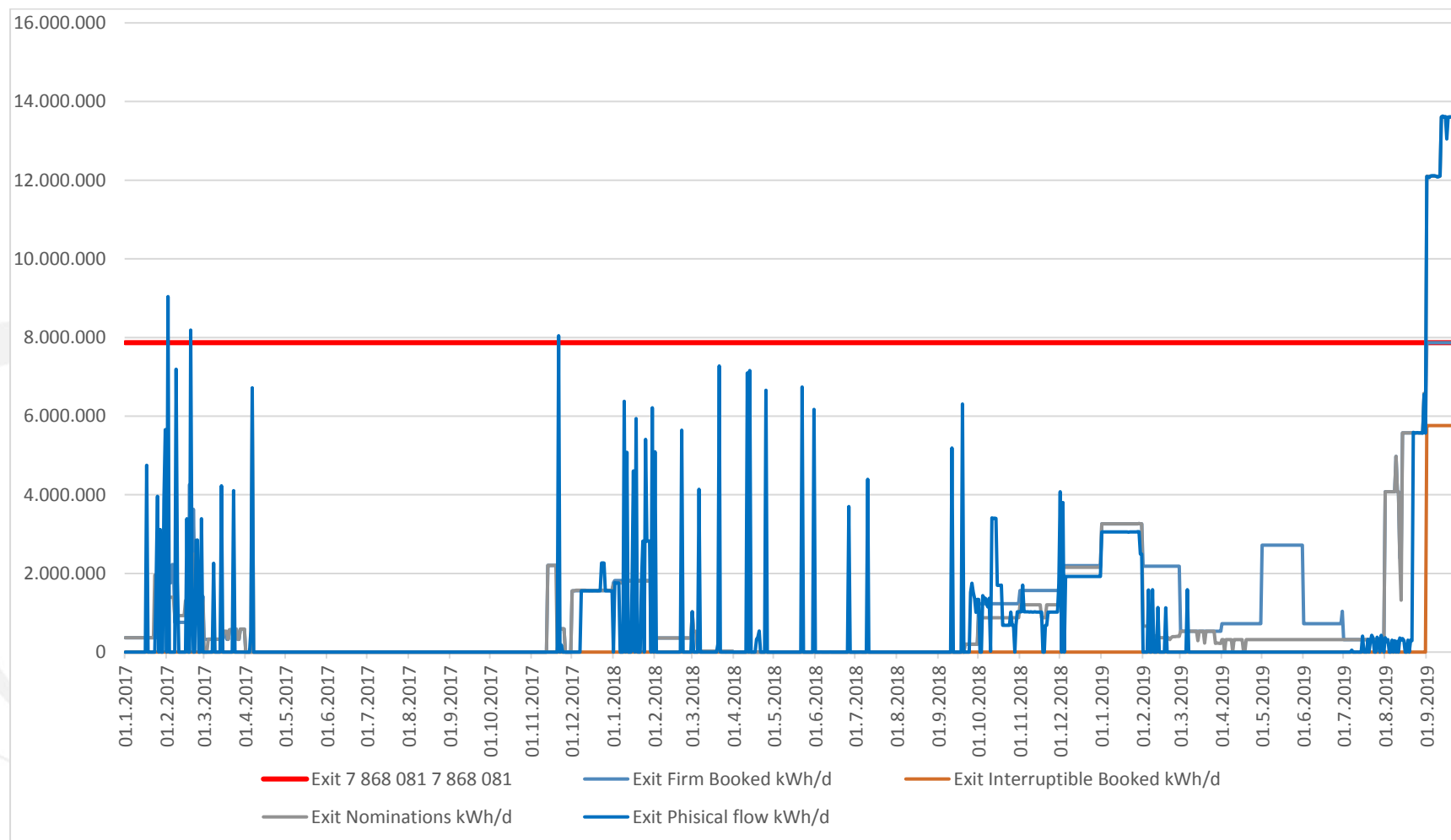


# IP Ruse/Giurgiu – entry BG/ exit RO

kWh/d



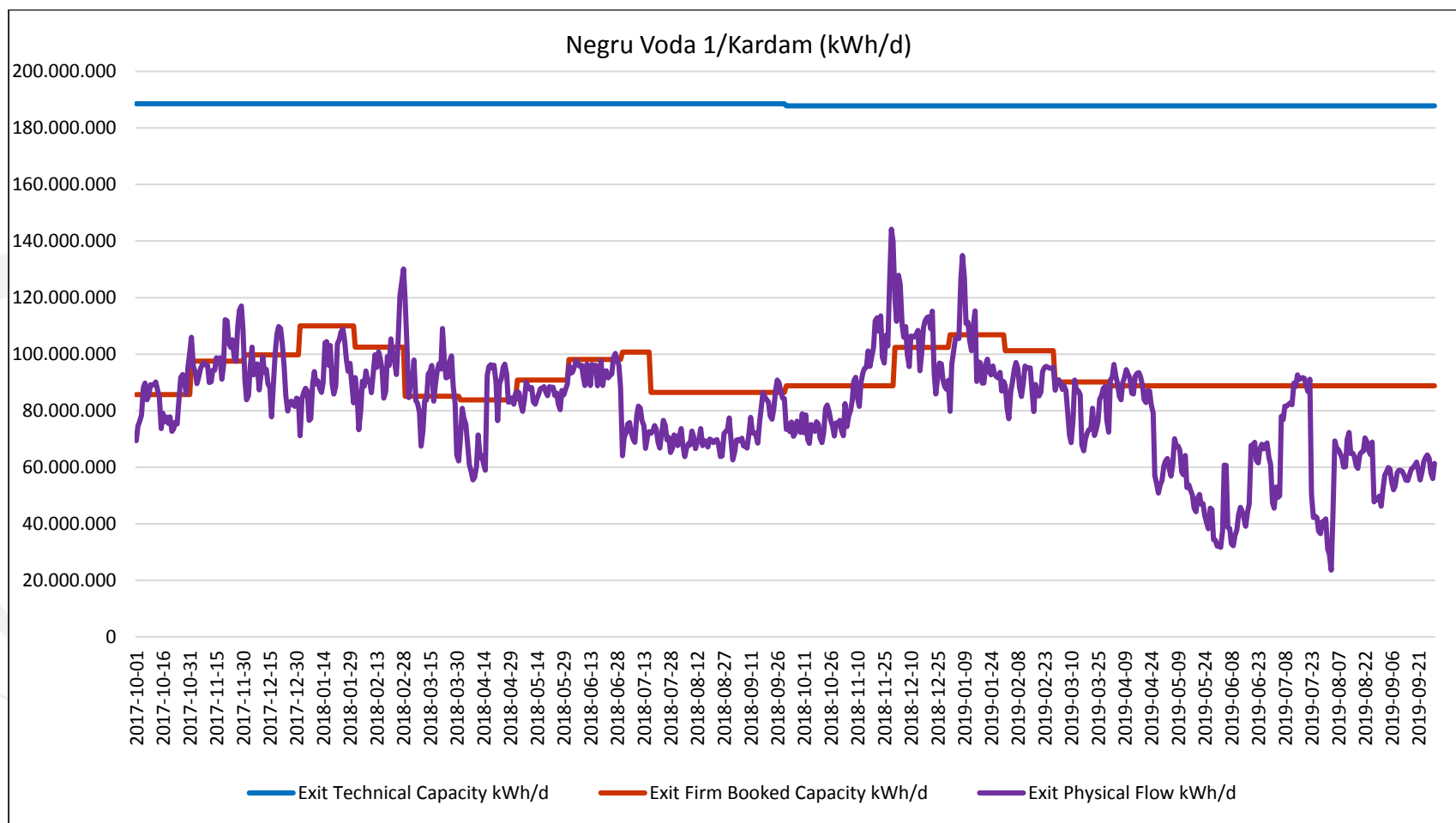
IP Ruse/Giurgiu – entry RO/ exit BG  
kWh/d



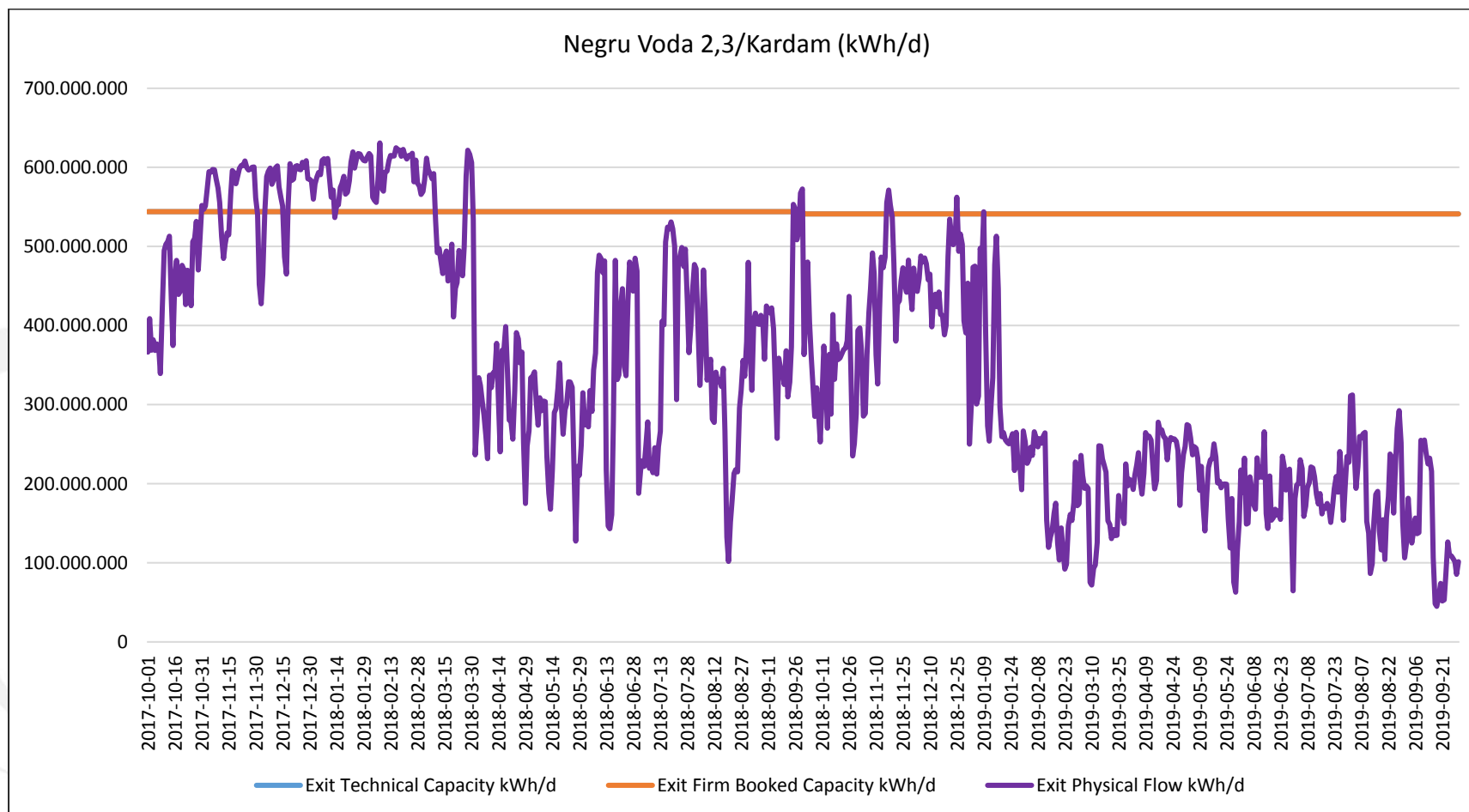
## i.2. Transgaz Data:

**According to ENTSOG recommendations included in the DAR Template, operational ENTSOG TP data is used for the following Graphs:**

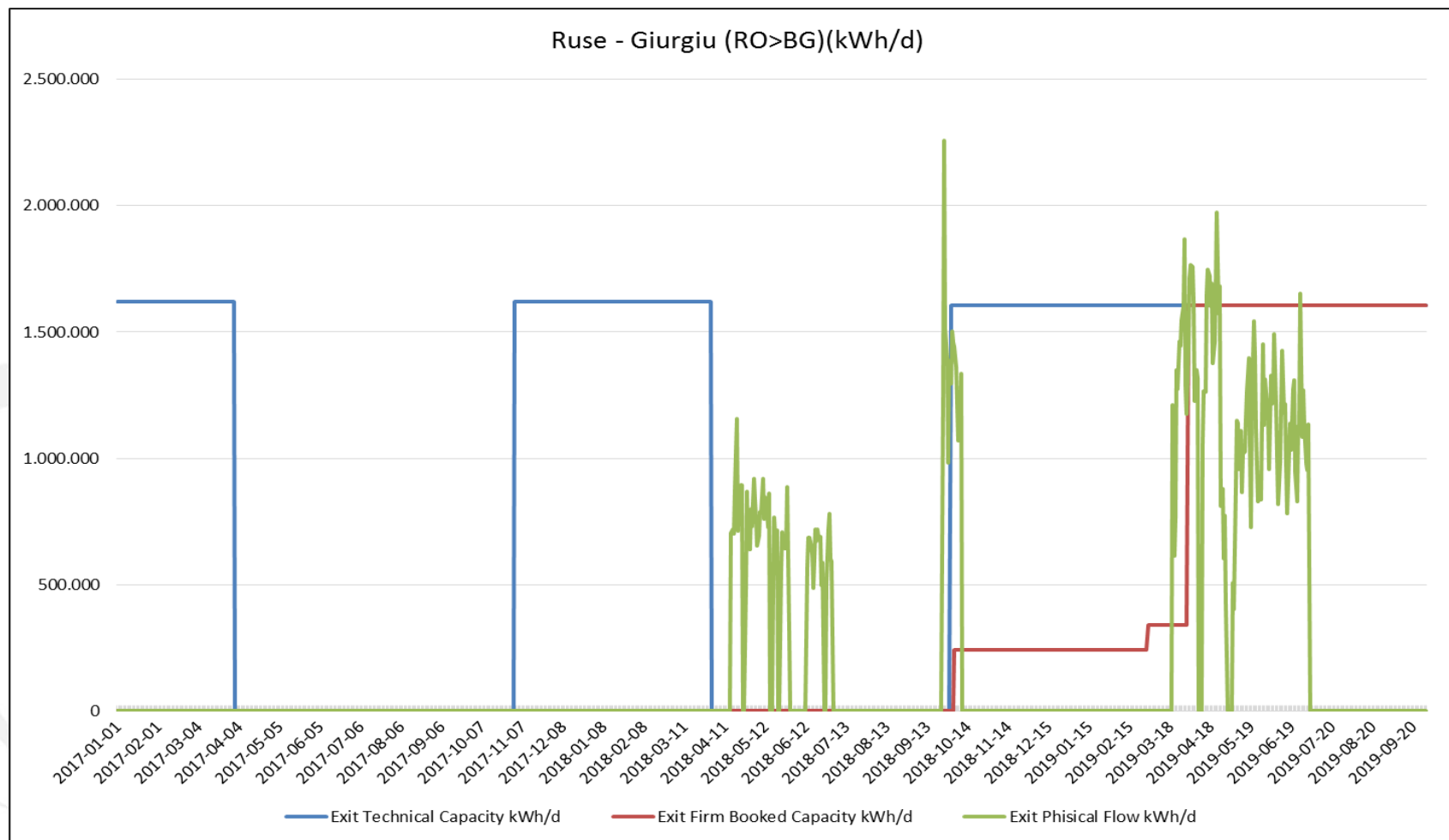
**IP Negru Vodă 1/ Kardam – exit RO /entry BG (kWh/d)**



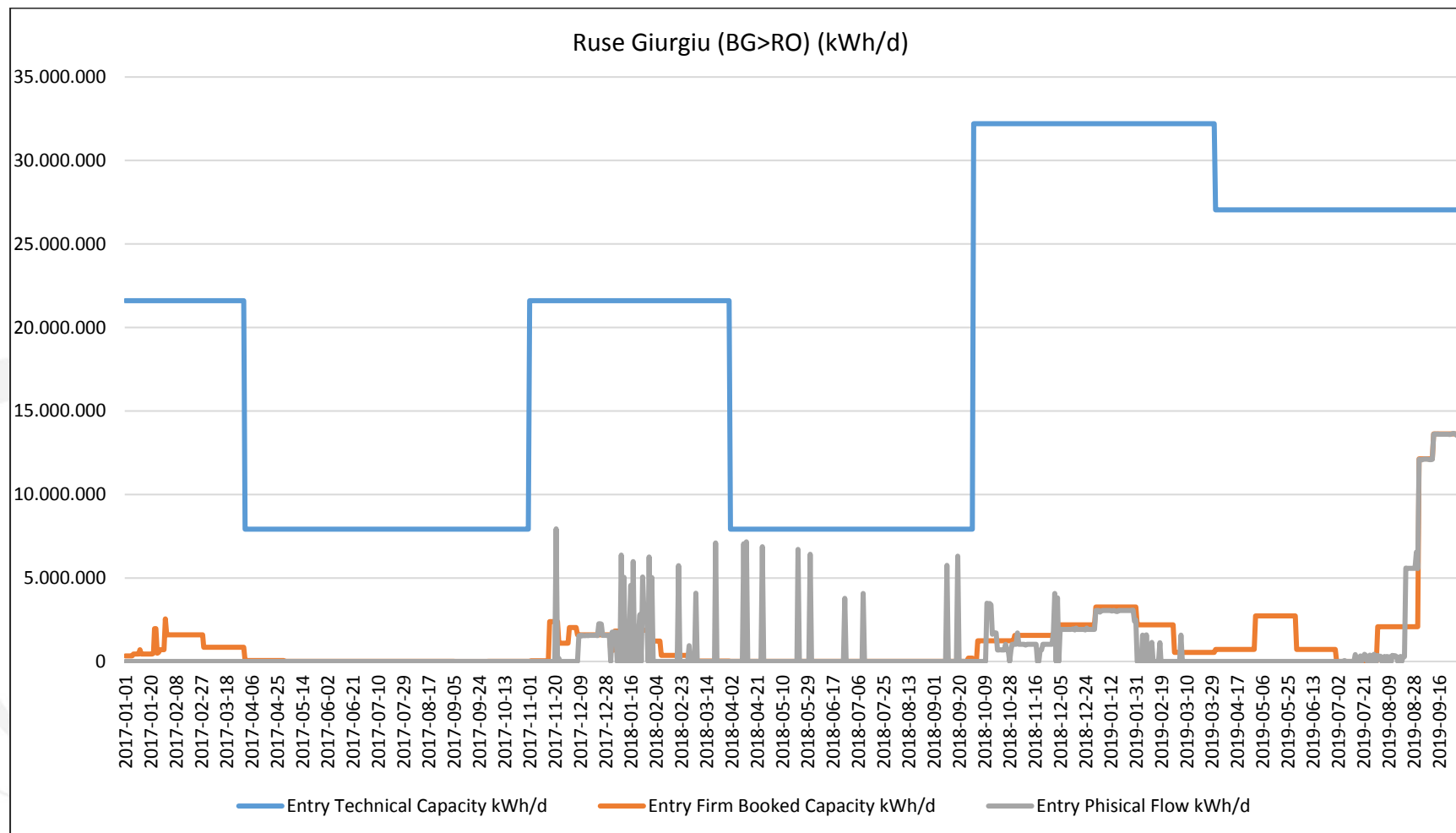
# VIP Negru Voda 2,3/ Kardam – exit RO /entry BG (kWh/d)



IP Ruse-Giurgiu – exit RO/ entry BG (kWh/d)



IP Ruse-Giurgiu – exit BG/ entry RO/ (kWh/d)





## ii. Results of current annual yearly auction

### ii.1. Bulgartransgaz EAD Data:

#### ii. 1.1. Results of current annual firm capacity yearly auction

In the recent RBP annual yearly firm capacity auction taking place on 01.07.2019 for the joint IPs the following results were achieved:

IP/VIP name	Interconnection point EIC	Flow direction	Gas year	Offered capacity Amount, kWh/d	Booked allocated Amount, kWh/d
Negru Voda 1/ Kardam	21Z000000000159I	RO>BG	2019/2020 - 2023/2024	192 644 780	0
Negru Voda 2,3/ Kardam	21Z000000000160X	RO>BG	2019/2020 - 2023/2024	0	0
Ruse/Giurgiu	21Z0000000002798	RO>BG	2019/2020	1 477 520	1 460 000
Ruse/Giurgiu	21Z0000000002798	RO>BG	2020/2021	1 477 520	360 000
Ruse/Giurgiu	21Z0000000002798	RO>BG	2021/2022 - 2023/2024	1 477 520	0
Ruse/Giurgiu	21Z0000000002798	BG>RO	2019/2020	7 067 293	7 067 000
Ruse/Giurgiu	21Z0000000002798	BG>RO	2020/2021 - 2023/2024	7 067 293	0

### ii.2. Transgaz data:

#### ii. 2.1. The results of the annual firm capacity yearly auction

In the recent RBP annual yearly firm capacity auction taking place on 01.07.2019 for the joint IPs the following results were achieved:

IP/VIP name	Interconnection point EIC	Flow direction	Gas year	Offered capacity Amount, kWh/d	Booked allocated Amount, kWh/d
Negru Voda 1/ Kardam	21Z000000000159I	RO>BG	2019/2020 - 2023/2024	168 602 809	0
Negru Voda 2,3/ Kardam	21Z000000000160X	RO>BG	2019/2020 -	0	0

Kardam			2023/2024		
Ruse/Giurgiu	21Z0000000002798	RO>BG	2019/2020	1 461 937	1 460 000
Ruse/Giurgiu	21Z0000000002798	RO>BG	2020/2021	1 477 520	360 000
Ruse/Giurgiu	21Z0000000002798	RO>BG	2021/2022 - 2023/2024	1 477 520	0
Ruse/Giurgiu	21Z0000000002798	BG>RO	2019/2020	24 344 176	7 067 000
Ruse/Giurgiu	21Z0000000002798	BG>RO	2020/2021 - 2023/2024	24 344 176	0

### iii. Relations to GRIPS, TYNDP, NDPs

Current and forecasted entry/exit capacity of the interconnection points of Bulgartransgaz EAD and SoS analysis can be found in the Bulgartransgaz NDP for the period 2019-2028 at the following link:

<https://www.bulgartransgaz.bg/files/useruploads/files/amd/tyndp%202017/TYNDP%202019%20-%202028.pdf>

The current and forecasted entry/exit capacity of the interconnection points of Transgaz and the analysis of the security of supply are included in Transgaz NDP for the period 2019-2028 at the following link:

<https://www.transgaz.ro/sites/default/files/uploads/users/admin/Plan%20dezvoltare%202019%20-%202028.pdf>

### iv. Expected amount, direction and duration of demand for incremental capacity

#### **iv. 1. Bulgartransgaz EAD Data:**

According to the received non-binding incremental capacity requests received from the Network User, natural gas flow is expected in both directions of IP Negru Voda 1/Kardam and in the

direction from Bulgaria to Romania at VIP Negru Voda 2,3/Kardam. The expected direction of the net demand for incremental capacity is from Bulgaria to Romania at IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/Kardam.

The data on IP level are as follows:

#### **iv.1.1. IP Negru Voda 1/Kardam:**

At the moment of receiving the incremental capacity demand indications, no capacity was offered at the IP Negru Voda 1/Kardam in the direction from Bulgaria to Romania. Such capacity is offered as of 01.01.2020.

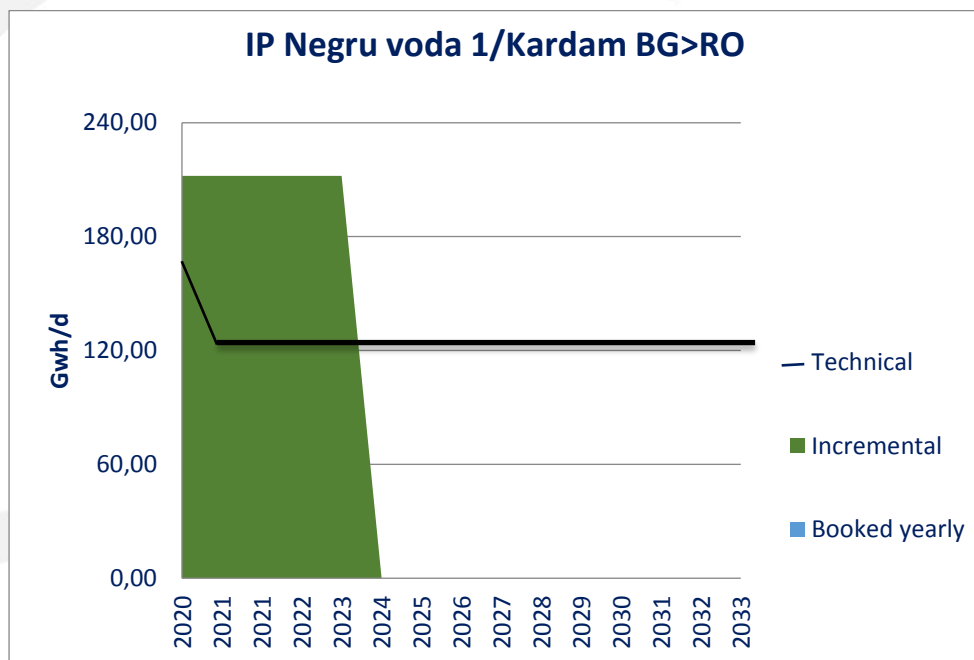
With reference to the realization of the project for reversing the Transbalkan Pipeline, the Interconnection Agreement and the existing Joint method for calculation and maximization of the IP capacity under Art.6 of Regulation (EC) 2017/459 establishing a network code on capacity allocation mechanisms in gas transmission systems were updated. A capacity was secured in the direction from Bulgaria to Romania in the amount of 168.9 GWh/d as of 01.01.2020 and 121.4 GWh/d as of 01.10.2020. This capacity is offered as short term products as of 01.01.2020 and as an yearly product as of 01.10.2020.

One Network User submitted, within 8 weeks after the start of the annual yearly capacity auction, a capacity demand indication in the direction from Bulgaria to Romania and in direction from Romania to Bulgaria for IP Negru Voda 1/Kardam.

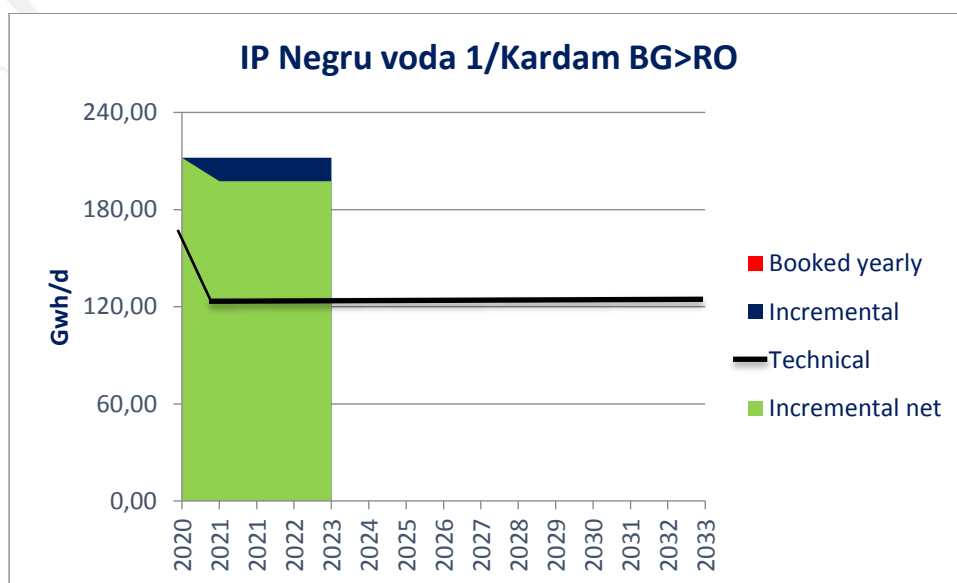
One Network User submitted, later than 8 weeks after the start of the annual yearly capacity auction a demand indication jointly for IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/ Kardam.

Currently there is no technical capacity in the direction from Bulgaria and Romania at VIP Negru Voda 2,3/Kardam. In this regard the comparison of the available capacity in the direction from Bulgaria to Romania and the demand indication received jointly for IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/ Kardam is presented in iv.1.1. IP Negru Voda 1/Kardam section.

#### **iv.1.1. IP Negru Voda 1/Kardam**



The chart shows the technical capacity of IP Negru Voda 1/Kardam in the direction from Bulgaria to Romania (168.9 GWh/d as of 01.01.2020 and 121.4 GWh/d as of 01.10.2020), the booked capacity at the moment and the received demand indications for capacity in the direction from Bulgaria to Romania. The available technical capacity as of 01.01.2020 is not enough to cover the demand indicated in the current demand assessment process.

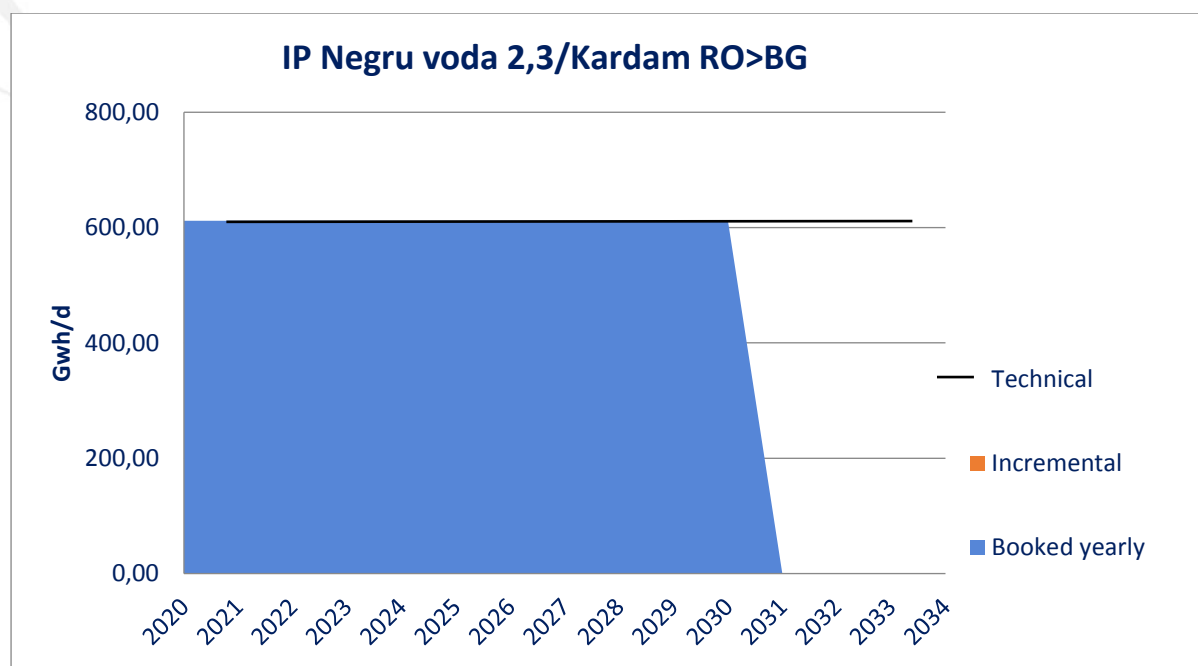


The chart shows the technical capacity of IP Negru Voda 1/Kardam in the direction from Bulgaria to Romania (168.9 GWh/d as of 01.01.2020 and 121.4 GWh/d as of 01.10.2020), the booked capacity at the moment and the received demand indications for capacity in the direction from Bulgaria to Romania. The available technical capacity as of 01.01.2020 is not enough to cover the net demand in this direction (the difference between the demand in the two directions), indicated in the frame of the current demand assessment process.

It should be noted that in the period between receiving the non-binding indicative demands and the preparation of the present report Bulgartransgaz and Transgaz ensured an increase in the technical capacity from Bulgaria to Romania covering a significant part of the demand indications.

With regard to the indication received from a Network User for the direction from Romania to Bulgaria amounting to 14.45 GWh/d, with regard to the updated Interconnection Agreement and Joint method, the indication can be covered by the existing capacity for the direction RO-BG (214.0 GWh/d until 31.12.2020, and after that date - 68.0 GWh/d in case of no flow from Ukraine and minimum pressure 41 barg and 214,0 GWh/d in case there is flow from Ukraine and minimum pressure 31,5 barg).

#### **iv.1.2. VIP Negru Voda 2,3/Kardam:**

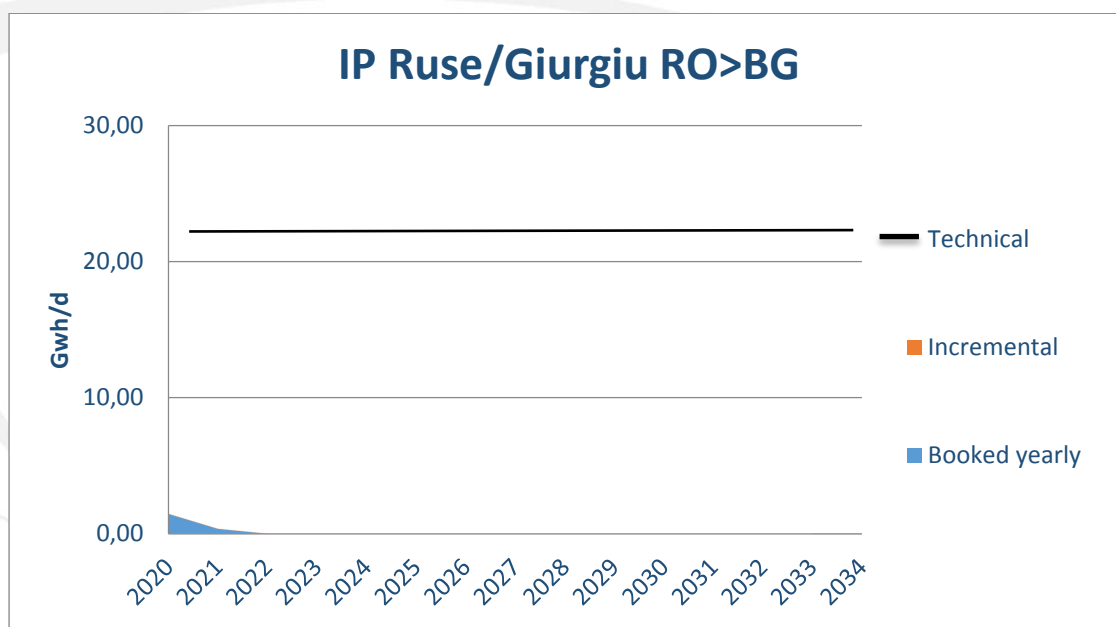


**Chart 2**

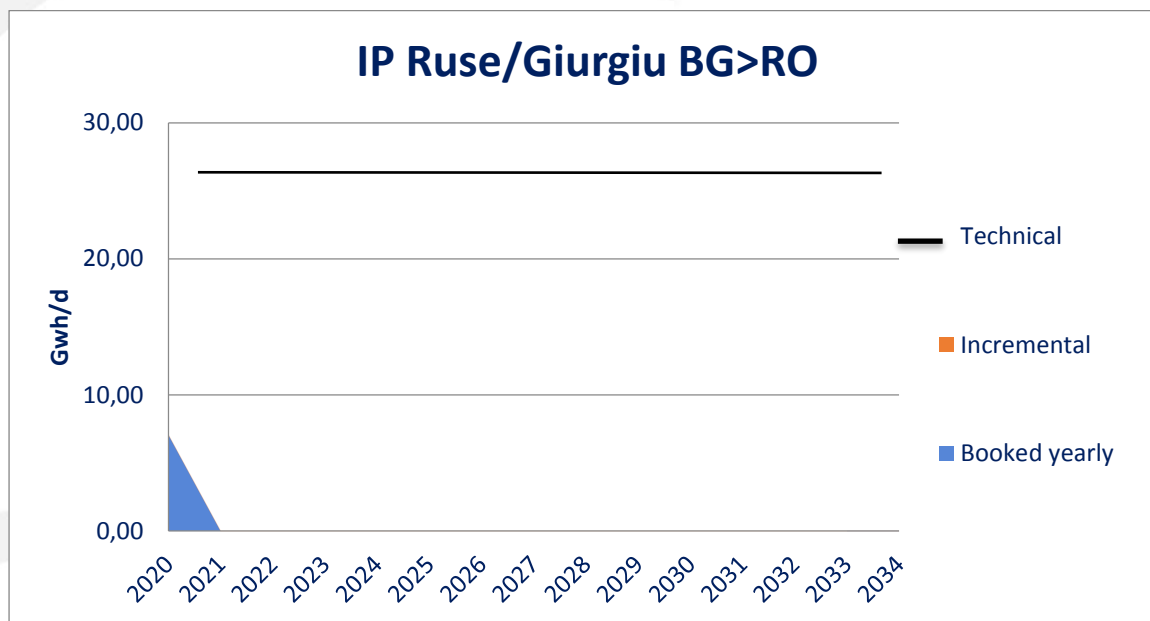
The chart shows the technical capacity of VIP Negru Voda 2,3/Kardam in the direction from Romania to Bulgaria and the booked capacity at the moment. In the frame of the current demand assessment process no demand indications have been received for this IP.

Currently there is no technical capacity in the direction from Bulgaria and Romania at VIP Negru Voda 2,3/Kardam. In this regard the comparison of the available capacity in the direction from Bulgaria to Romania and the demand indication received jointly for IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/ Kardam is presented in iv.1.1. IP Negru Voda 1/Kardam above.

**iv. 1.3. IP Ruse/Giurgiu:**



The chart shows the technical capacity of IP Ruse/Giurgiu in the direction from Romania to Bulgaria (as of 01.11.2019) and the booked capacity at the moment. In the frame of the current demand assessment process no demand indications have been received for this IP in the direction from Romania to Bulgaria. In the frame of the current demand assessment process a statement by a network user is expressed that the yearly capacity of 1.5 bcm/y in IP Ruse/Giurgiu in the direction from Romania to Bulgaria in accordance with the FID is enough.



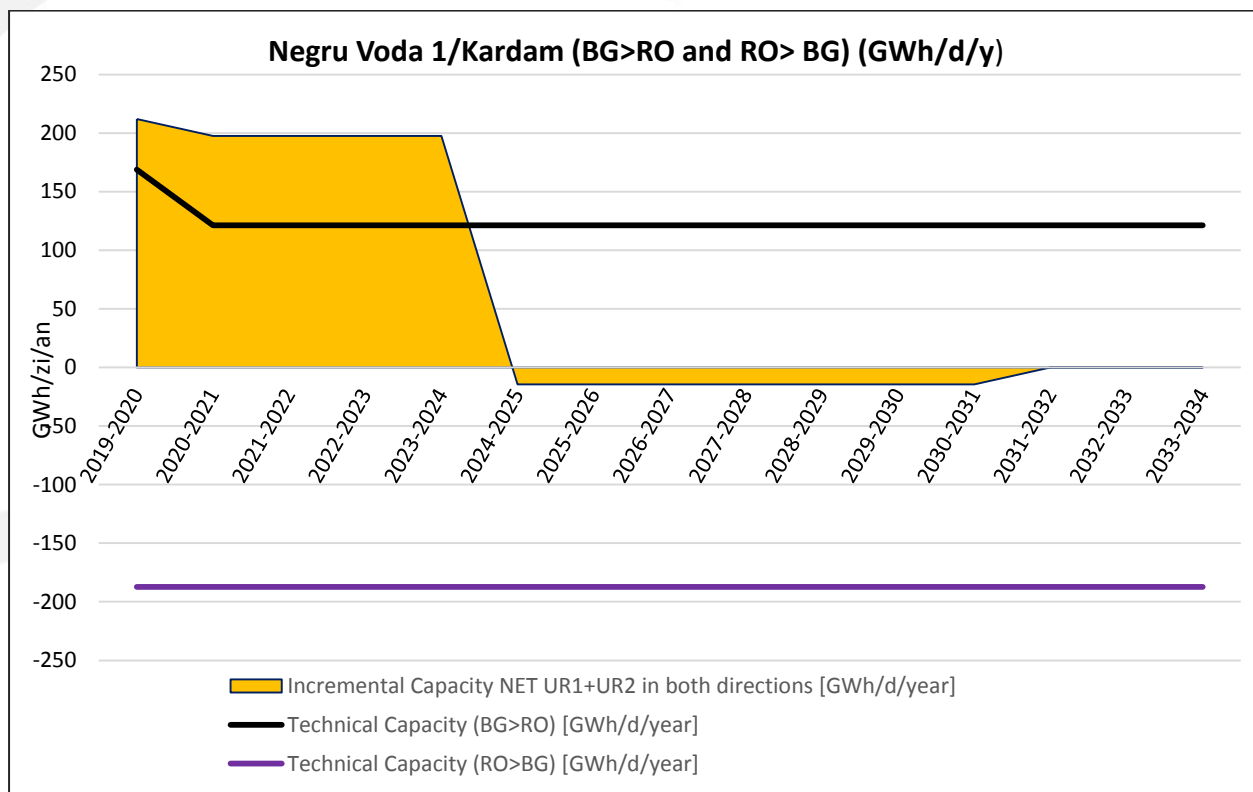
The chart shows the technical capacity of IP Ruse/Giurgiu in the direction from Bulgaria to Romania (as of 01.11.2019) and the booked capacity on yearly basis at the moment. In the frame of the current demand assessment process no demand indications have been received for this IP in the direction from Bulgaria to Romania.

#### **iv. 2. Transgaz data:**

According to the non-binding incremental capacity demand indications received from Network Users, gas flows are expected in both directions of the IP Negru Vodă 1/Kardam. The transmission direction expected at the IP Negru Vodă 1/Kardam for the net incremental capacity demand is from Bulgaria to Romania.

The data regarding the requested level of the aggregated demand indications compared to the capacity of the IP in both transmission directions are as follows:

#### **iv.2.1. IP Negru Vodă 1/Kardam:**

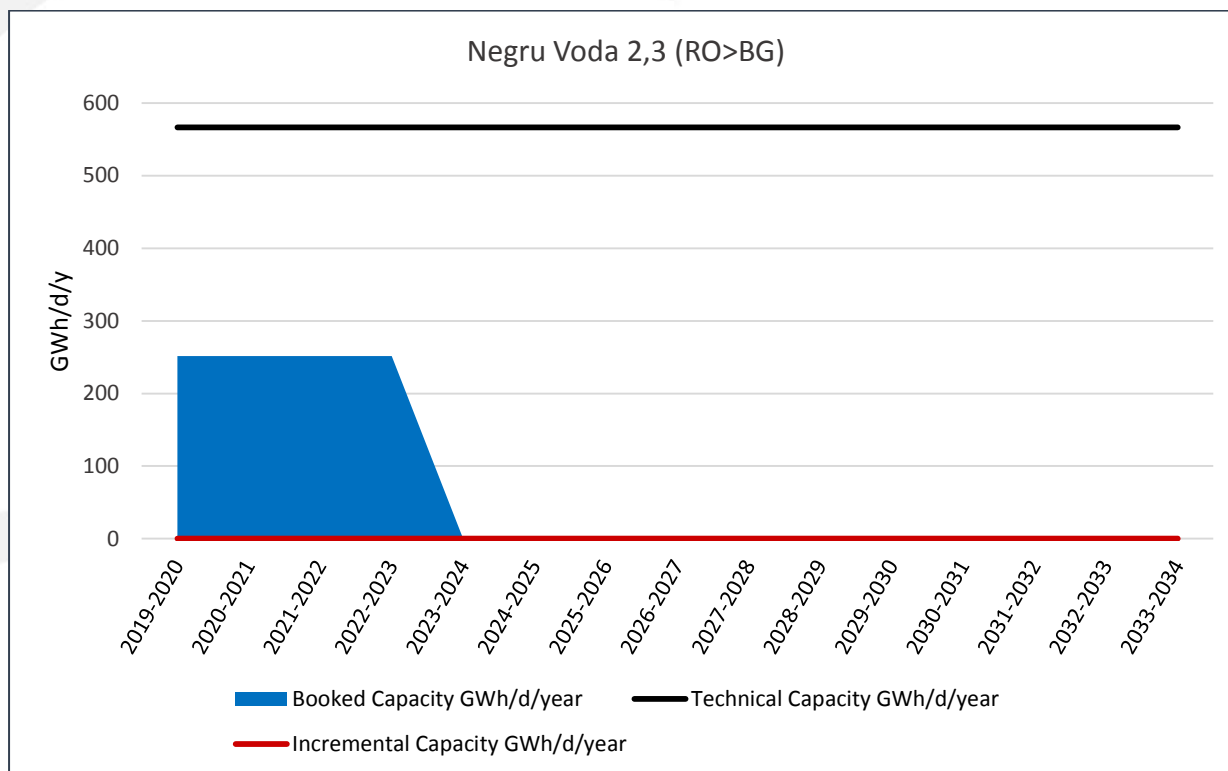


Regarding the joint demand received from a Network User in the Romania-Bulgaria flow direction and amounting to 14.45 GWh/d, with regard to the updated Interconnection Agreement and Joint method as of 31.12.2020 the indication can be covered by the available technical capacity for the RO-BG direction (68.0 GWh/d in case of no flow from Ukraine and minimum pressure 41 barg and 187.3 GWh/d in case there is flow from Ukraine and minimum pressure 31,5 barg).

It should be noted that in the period between receiving the non-binding demand indications and the preparation of the present report Bulgartransgaz and Transgaz took actions and provided an increase in the technical capacity offer from Bulgaria to Romania starting with 01.01.2020 which is meant to cover a significant part of the demand indications.

#### **iv.2.2. VIP Negru Vodă 2,3/Kardam:**



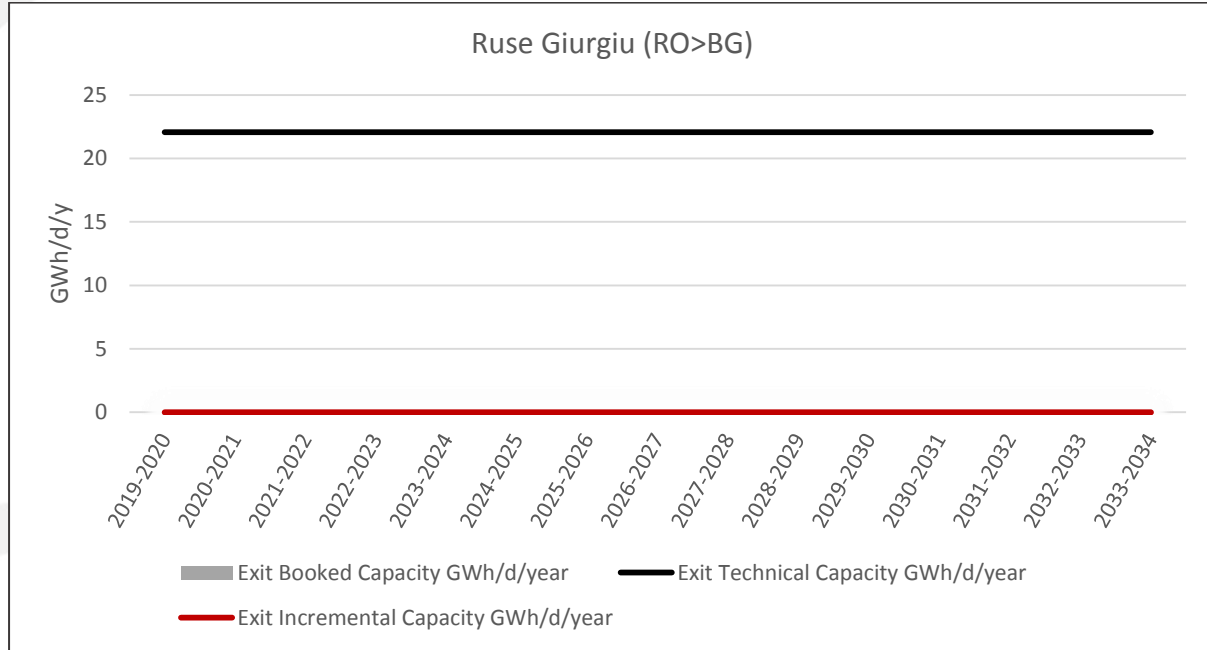


The chart presents the technical capacity of VIP Negru Voda 2,3/Kardam in the Romania-Bulgaria direction (566.5 GWh/d/y) and the capacity booked at present (at the level of 251.52 GWh/d/y, until December 2023).

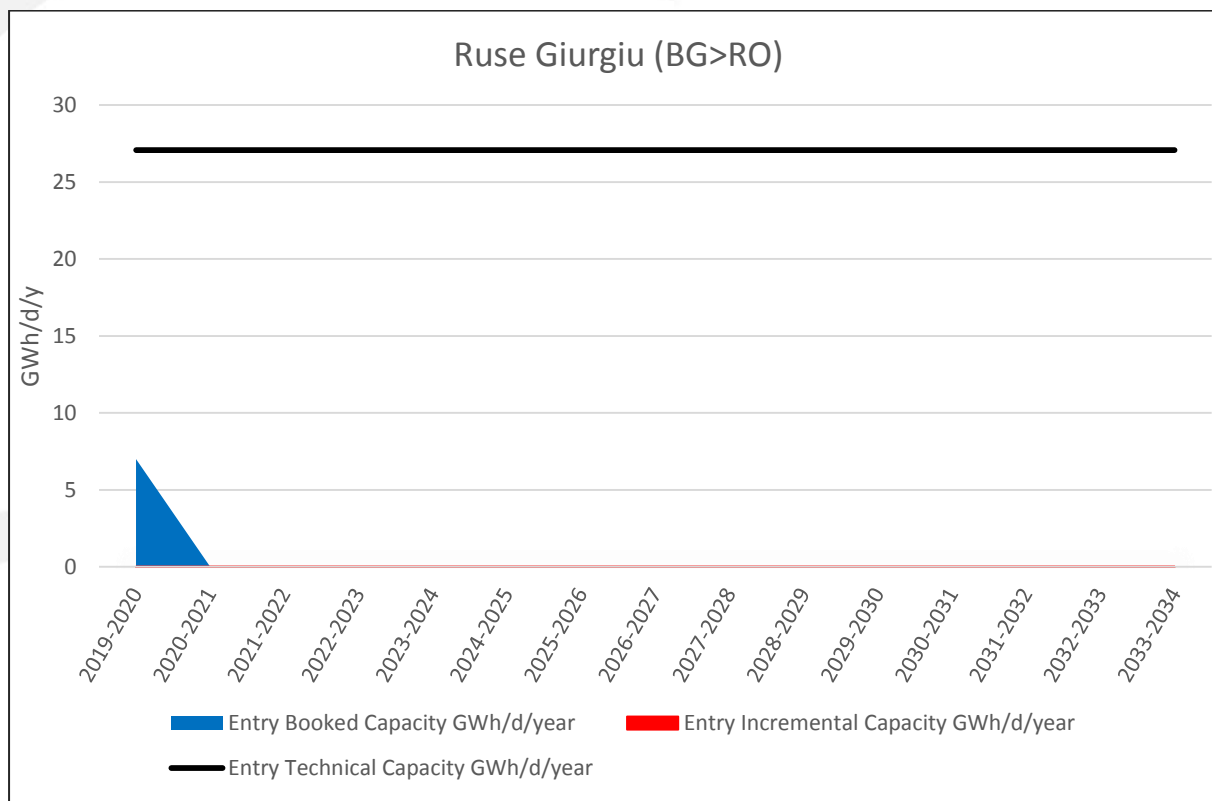
Under the current demand assesment process, Transgaz has not received any non-binding incremental capacity demand for VIP Negru Vodă 2,3/Kardam.

Currently there is no technical capacity at the VIP Negru Voda 2,3 / Kardam in the Bulgaria – Romania direction.

#### **iv.2.3. IP Ruse/Giurgiu:**



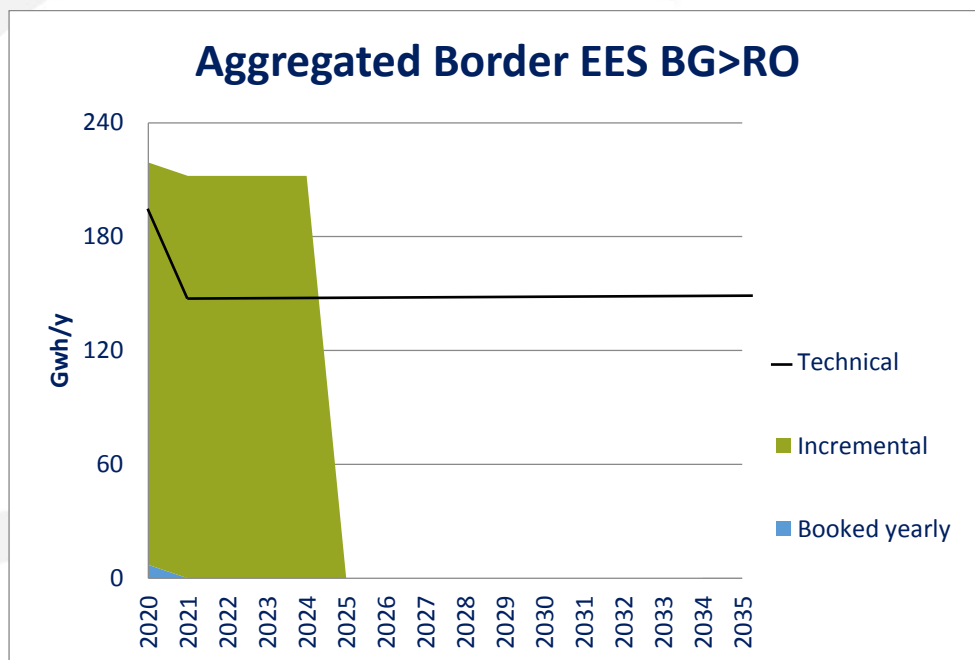
The chart presents the technical capacity of the IP Ruse/Giurgiu in the Romania - Bulgaria direction (from 01.11.2019) and the capacity currently booked (zero). **Within the current demand assessment process no indicative demands were received for this IP in the Romania – Bulgaria direction**, except for a statement of a Network User according to which considering the Final Investment Decision the yearly capacity of 1.5 bcm/y is enough at the IP Ruse/Giurgiu, in the Romania-Bulgaria direction.



The chart presents the technical capacity of the IP Ruse/Giurgiu in the Bulgaria-Romania direction (from 01.11.2019) and the capacity currently booked at the annual level. **Within the current demand assessment process no indicative demands were received for this IP in the Bulgaria-Romania direction.**

### **iv.3. Aggregated data**

In order to assess the total incremental capacity demand vs the available capacity on the IPs located on the border between Bulgaria and Romania, the chart below represents aggregated data for the technical, booked and incremental capacity non-binding demand in the direction from Bulgaria to Romania for IP Ruse-Giurgiu, IP Negru Voda 1/Kardam and VIP Negru Voda 2,3/Kardam, located on the border between the two countries.



The total available firm capacity of all IPs on the border of the two entry-exit systems, which has not been booked on long term (yearly) basis is not enough to cover the demand, indicated during the current demand assessment process.

It should be noted that in the period between receiving the non-binding demand indications and the preparation of the present report Bulgartransgaz and Transgaz took actions and provided an increase in the technical capacity from Bulgaria to Romania covering a significant part of the demand indications.

### C. Conclusion for the (non)-initiation of an incremental capacity project

After reviewing the non-binding incremental capacity demand indications received on IP level for IP Negru Voda 1/ Kardam and VIP Negru Voda 2,3/Kardam a capacity requested in the Bulgaria-Romania direction, higher than the existing one, has been identified.

However, it is worth pointing out that even if the aggregated indicative capacity demands in the direction Bulgaria-Romania amount to 212 022 602 kWh/day and the aggregated capacity offered by the two TSOs **for January 2020** amounted to 168 933 856 kWh/day – capacity which was fully booked, its actual use level was lower compared to the booking (the nomination represented 0.6 % of the booking and a physical flow was registered only for 6 days at a maximum level of 4.4% of the booked capacity).

Moreover, **for February 2020** the aggregated capacity offer for the direction Bulgaria-Romania was at the same level with the offer for January 2020 (168 933 856 kWh/day), but the capacity booking had a very low level, i.e. 1 255 769 kWh/day which represents a percentage below 1% of the offer (0.74%) and by the time the report was concluded no demand for daily capacity at this point in the direction Bulgaria-Romania had been recorded.

Such aspects indicate that **the bookings and the actual use of the capacities for the direction Bulgaria-Romania have a decreasing trend and that they did not raise to the aggregated level of unbinding capacity demand indications received from the two Network Users.**

It should be noted that in the period between receiving the non-binding demand indications and the preparation of the present report Bulgartransgaz and Transgaz took actions and provided a technical capacity from Bulgaria to Romania covering a significant part of the demand indications.

In this context, the two TSOs reached the conclusion that for the moment an **incremental capacity project will not be initiated.**

Based on the conclusion above no technical studies will be conducted for incremental capacity projects.

In case that during the current gas year a capacity demand for the following quarters, months will be higher than the capacity made available, the Operators can start a new additional Demand assessment process immediately after the start of the annual yearly capacity auction in July 2020 as per the CAM NC provisions.

## **D. Fees**

### **Bulgartransgaz EAD**

Bulgartransgaz EAD did not introduce a fee for the evaluation and processing of non-binding demand indications.

### **Transgaz S.A.**

Transgaz SA did not introduce a fee for the evaluation and processing of non-binding demand indications.

## E. Contact information

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