



RECOMMENDATION DOCUMENT ON THE IMPLEMENTATION OF WITHIN DAY OBLIGATION

**Based on
Commission Regulation (EU) No. 312/2014
of 26 March 2014 establishing a Network Code on
Gas Balancing of Transmission Networks**

September 2018

Table of contents

1. INTRODUCTION	3
2. WITHIN DAY OBLIGATION TO BE IMPLEMENTED BY THE TSO	4
2.1. Entry-exit point within day obligation	4
2.1.1. Gas flow variation limit.....	4
2.1.2. The entry and/or exit point or groups of entry and/or exit points to which the within day obligation shall apply	4
2.1.3. Conditions under which the limits referred to in 2.1.1 shall apply	5
2.1.4. Consequences of not complying with such limits.....	5
3. ANALYSIS, REFERRED TO IN ARTICLE 26.5 BAL NC	7
3.1. The analysis of the necessity of the within day obligation, taking into account the transmission network's characteristics and the flexibility available to the transmission system operator through purchase and sale of short term standardised products or use of balancing services in accordance with Chapter III of BAL NC.....	7
3.2. The information available to enable network users to manage in a timely manner their within day positions	9
3.3. The expected financial impact for network users	10
3.4. The effect on new network users entering the relevant market including any undue negative impact thereon	15
3.5. The impact on cross-border trade, including the potential impact on balancing in adjacent balancing zones	16
3.6. The impact on short term wholesale gas market, including the liquidity thereof	16
3.7. The Non-discriminatory nature of the within day obligation	17
4. SUMMARY	17

1. INTRODUCTION

Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks (hereinafter "Regulation" or "BAL NC") came into force on 16 April 2014. The Regulation sets out, among other things, the guidelines with respect to rules on gas balancing and settlements with Shippers in respect of their individual imbalance. Transmission System Operators in the European Union (hereinafter: "EU"), among them Gas Transmission Operator GAZ-SYSTEM S.A. (hereinafter "GAZ-SYSTEM" or the "TSO") are obliged to apply the Regulation as of 1 October 2015.

Chapter VI of the Regulation governs the implementation and application of within day obligations by the TSO. According to Article 24 of BAL NC, the within day obligations can be imposed on network users in order to incentivise them to manage their within day position so as to ensure the integrity of the transmission network and minimize the need for balancing actions undertaken by the TSO.

The present document „Recommendations on the Implementation of Within Day Obligation" (hereinafter the: „Recommendations") has been prepared by the TSO to implement the within day obligation in the high-methane gas (KSP_E) balancing area. Before elaboration of this document, the TSO consulted stakeholders, including network users, the President of the Energy Regulatory Office (hereinafter the "President of ERO"), distribution system operators and transmission system operators operating in the adjacent balancing zones on the within day obligation the methodology and assumptions used in arriving at the conclusion that the planned within day obligation meets the criteria set out in Article 26.2 of the Regulation. This document describes the mechanism of within day obligation and the analysis referred to in Article 26.5 of BAL NC.

This document includes terms and expressions as defined by the TSO in the current version of the TNC.

2. WITHIN DAY OBLIGATION TO BE IMPLEMENTED BY THE TSO

2.1. Entry-exit point within day obligation

The within day obligation planned to be implemented by the TSO is designed to provide incentives for network users to limit the gas flow or the gas flow variation under specific conditions at specific entry-exit points and sets out the following:

- a) the limits in the gas flow and/or the gas flow variation ;
- b) the entry and/or exit point or groups of entry and/or exit points to which such limits apply;
- c) the conditions under which such limits shall apply;
- d) the consequences of not complying with such limits.

The respective elements of the within day obligation mechanism are described below.

2.1.1. Gas flow variation limit

The TSO is planning to introduce the limit in the gas flow in the physical entry point to the transmission network at the border with non-EU countries in case when such entry point exclusively and directly supplies the interconnection physical exit point at the connection with the distribution system. Confirmed nominations, which predetermine the gas flow in such point, cannot be lower than the transportation forecast submitted by the distribution system operator (DSO) in line with the TNC concerning the interconnection physical exit point at the connection with the distribution system which is supplied exclusively and directly by the physical entry point to the transmission network affected by the limit.

The proposed gas flow variation limit will provide incentive for network users to ensure the appropriate gas flow in a given point so that the distribution network will be supplied with the gas volume notified by the distribution system operator

2.1.2. The entry and/or exit point or groups of entry and/or exit points to which the within day obligation shall apply

The within day obligation shall apply to those physical entry points to the transmission network at the border with non-EU countries, which supply exclusively and directly interconnection physical exit points at the interconnection with the distribution system. The obligation applies to those points only for which the TSO is not able to undertake balancing actions on market terms.

The within day obligation will be proportionately imposed on network users who have the capacity allocation (contracted capacity) in any physical entry point to the transmission network at the national border where the physical entry point to the transmission network is subject to the limit referred to in 2.1.1.

Such solution will ensure the necessary gas flow in order to appropriately supply the isolated area with gas. In case of such isolated area, a physical delivery of gas purchased on market terms at a virtual trading point (i.e. at the trading platform) is not possible. The within day obligation will apply to entities which use the capacity in physical entry points to the

transmission network at the border with the same country as the physical entry point which is affected by the within day obligation.

2.1.3. Conditions under which the limits referred to in 2.1.1 shall apply

The limit referred to in 2.1.1 shall apply on such condition that all network users using the entry point subject to the within day obligation submit aggregate nominations for a total quantity smaller than the transportation forecast submitted by the DSO in line with the TNC for an interconnection physical exit point to the distribution system (MFPWY_{OSD}) which is directly and exclusively supplied by the physical entry point (FPWE_{OSP}) at the connection with non-EU countries, which is subject to the limit.

If the sum of the nominations for the entry point covered with the obligation is higher than or equal to the transportation forecast of that DSO, the limit referred to in 2.1.1 will not apply and the network users will not be incentivised to provide the extra gas flow.

Notably, if the transportation forecast is not provided for such point, during such gas day the distribution system operator will not require any supply from the entry point covered with the within day obligation in order to ensure deliveries to customers who are connected to the distribution network supplied by such point.

2.1.4. Consequences of not complying with such limits

If the limit referred to in 2.1.1 is not complied with, the TSO will apply an incentive charge payable by the network users. The amount of the incentive charge shall be calculated based on the difference between the current gas flow limit and the nomination confirmed for a given network user (i.e. the difference between the transportation forecast for an interconnection physical exit point to the distribution system and nomination confirmed for a given physical entry point subject to the limit). The resulting difference is multiplied by the Average Balancing Settlement Price (CSRB) for a given gas day when the limit was not complied with.

The charge will be calculated according to the following formula:

$$O_{OS} = \left(P_{OSD} \times \frac{N_{US}}{\sum N} - N_{US} \right) \times CSRB$$

where:

O _{OS}	charge for not abiding the within day obligation [PLN]
P _{OSD}	Confirmed transportation forecast for a given hour for MFPWY _{OSD} which is directly and exclusively supplied from the FPWE _{OSP} [kWh]
$\sum N$	the aggregate confirmed nominations for a given hour of all the Shippers using the capacity of FPWE _{OSP} to which the obligation applies [kWh].
N _{US}	Shipper's confirmed nomination for a given hour for FPWE _{OSP} directly and exclusively supplying the MFPWY _{OSD} [kWh]
CSRB	Average Balancing Settlement Price (CSRB) for a given gas day when the within day obligation was not complied with [PLN/kWh]

In case $\sum N$, referred to above, equals zero (0) the charge shall be calculated according to the following formula:

$$O_{o\acute{s}} = \left(P_{OSD} \times \frac{PP_{ZUP}}{\sum PP} \right) \times CSRB$$

where:

$O_{o\acute{s}}$	charge for not abiding the within day obligation [PLN]
P_{OSD}	Confirmed transportation forecast for a given hour for $MFPWY_{OSD}$ which is directly and exclusively supplied from the $FPWE_{OSP}$ [kWh]
$\sum PP$	sum of the capacity allocation (contracted capacity) for $FPWE_{OSP}$, subject to the obligation [kWh/h].
PP_{ZUP}	Shipper's capacity allocation (contracted capacity) for $FPWE_{OSP}$ directly and exclusively supplying the $MFPWY_{OSD}$ [kWh/h]
$CSRB$	Average Balancing Settlement Price (CSRB) for a given gas day when the within day obligation was not complied with [PLN/kWh]

The above charge will not be applied even when the limit referred to in 2.1.1 is not complied with, if the sum of allocations in a physical entry point to the transmission network the limit refers to, for a given gas day is higher than or equal to the actual volume of gaseous fuel off-taken at the respective interconnection physical exit point to the distribution system. Such solution allows avoiding a situation when the charge is collected from the network users even though the required gas flow at the physical entry point to the transmission network was ensured at the level that enables to maintain the physical balance.

In a situation where the TSO incurs costs resulting from the Shipper's failure to meet the within day obligation (including but not limited to discounts for failure to keep the required pressure, compensation granted to third parties) exceeding the amount of the charge referred to above, the Shipper shall be charged for those costs.

3. ANALYSIS, REFERRED TO IN ARTICLE 26.5 BAL NC

3.1. The analysis of the necessity of the within day obligation, taking into account the transmission network's characteristics and the flexibility available to the transmission system operator through purchase and sale of short term standardised products or use of balancing services in accordance with Chapter III of BAL NC

When carrying out the analysis of the necessity of the within day obligation implementation, based on the nature of the transmission network and the flexibility available to the transmission system operator when buying and selling standard short-term products or when using balancing services (according to Chapter III of the Regulation), the TSO evaluated the possibilities for operation of market mechanisms and security of supply in terms of infrastructure, the structure of supply sources and the conditions of market mechanism functioning.

The analysis included evaluation which of the solutions (lack of the within day obligation and remedies attempted at by the TSO versus the implemented within day obligation) will be more advantageous in terms of more economic and efficient operation of the transmission network.

Notably, the points subject to the within day obligation belong to a larger balancing area (high-methane gas balancing area). The planned within day obligation will be in effect in a single balancing area only, i.e. the high-methane gas balancing area. It should be underlined, that the proposed within day obligation will apply only to isolated market areas i.e. such parts of the transmission network which are supplied only from one entry point.

Currently, such a part of the system is the area associated with the gas pipeline connecting Tietierowka entry point located on the border with the Belarus with the Grabówka interconnection physical exit point to the distribution system (MFPWY_{OSD}), in which the gaseous fuel is transferred to the DSO network. This gas pipeline with a nominal diameter of 250 mm has a total length of 47.42 km. The maximum allowable pressure for this gas pipeline is 5.5 MPa. The entry point is a gas station located on the territory of Belarus at a distance of 4,52 km from the state border. The minimum delivery pressure is 2.45 MPa and the technical capacity is 27,000 m³ /h. The state border is crossed in Bobrowniki. The only exit point supplied from this gas pipeline is the gas station in Grabówka, the minimum delivery pressure for this station is 1.5 MPa and the technical capacity is 34 560 m³ /h. There are two safety shut-off and release valves systems in Wality and Królowy Most on the route of the gas pipeline described above. Such a technical configuration of the gas pipeline causes the situation that the physical flow of gaseous fuel is determined solely by the gas off-takes at Grabówka. Grabówka is a typical reduction and metering station supplying the distribution network. The flow control at such stations is based on maintaining the pressure value on the supply side in the range agreed with the DSO. Thus, in the case where it is the only point of supply, gas flow depends exclusively on the customers' off-take from a given network and inertia of the system resulting from the hysteresis of pressure control both at the 1st stage reduction station in Grabówka and 2nd stage reduction stations in the DSO distribution network. An exemplary course of hourly quantities is presented in Figure 1. Due to the low linepack flexibility of the gas pipeline described above, the gas flow through the Tietierowka station also corresponds to the flow at the Grabówka exit point MFPWY_{OSD}. The gas flow in Tietierowka is presented in Figure 2.

Figure 1.

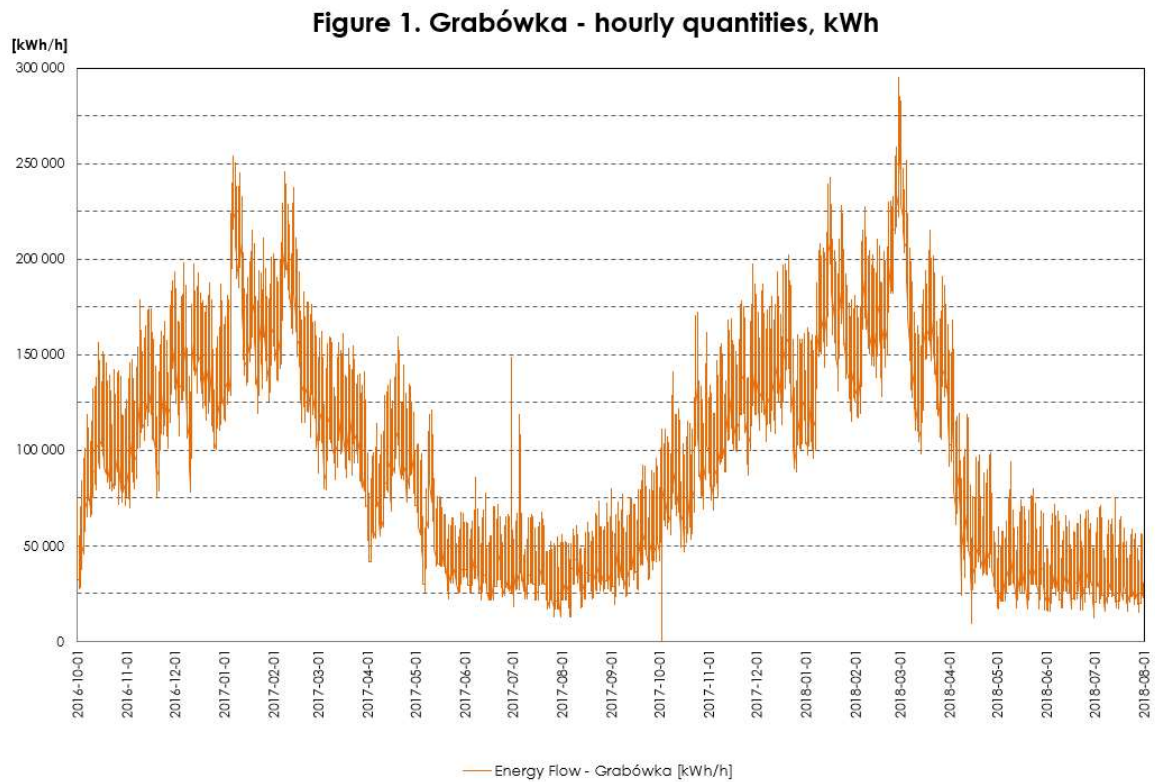
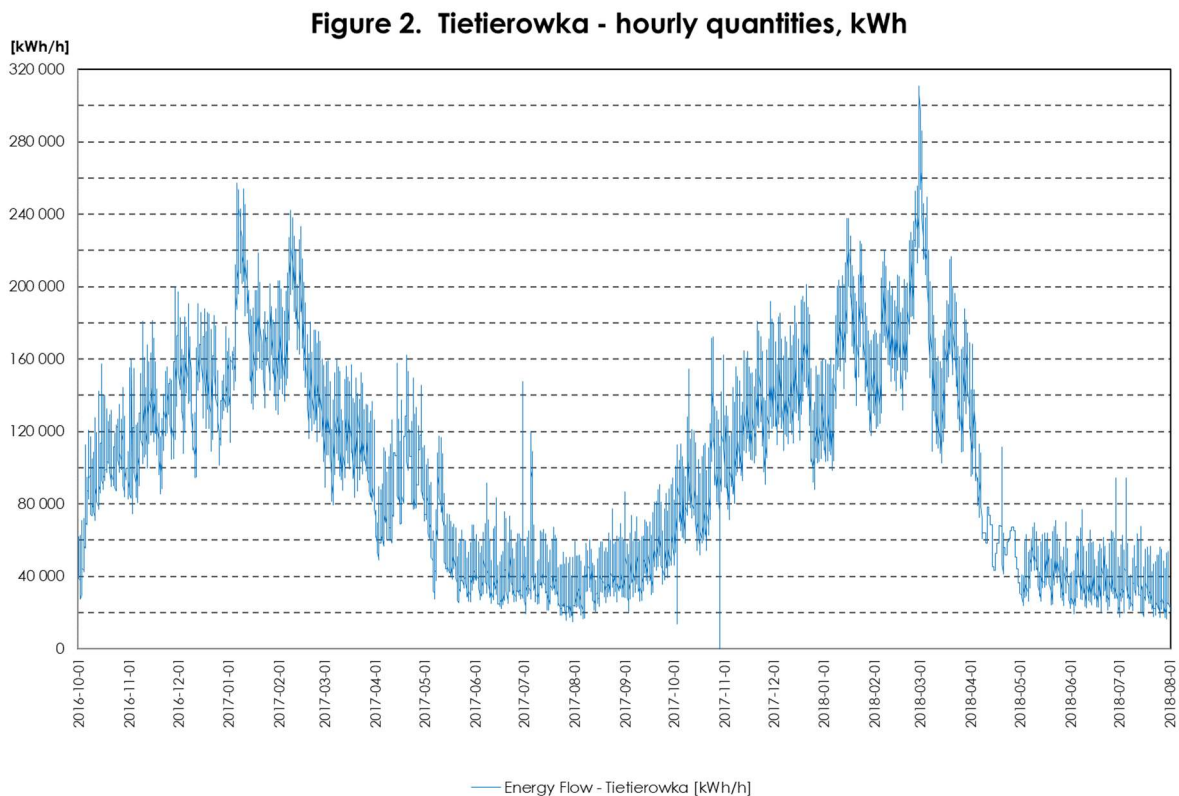


Figure 2.



The instruments for physical balancing of the transmission system available to the TSO on such areas are limited. These can be: locational products dedicated for the Tietierowka entry point,

transactions concluded in the neighboring balancing area, separation of a dedicated balancing area, or the application of the within day obligation. Locational products dedicated to the analyzed entry points are currently not available to the TSO. Due to the fact that the analysis of the legitimacy of the application of the within day obligation concerns the entry point from Belarus, there is also no possibility of making transactions in the neighboring balancing area. Notwithstanding it should be indicated that Belarus is neither a member of the EU, nor a member of the Energy Community. The EU Regulations are not applied on Belarusian gas market - neither those guaranteeing the third-party access to the transmission system nor the detailed regulations like BAL NC. Gas market in Belarus has not undergone a liberalization process, there is no trading platform in this area. It should be emphasized that the owner of the Belarusian TSO is Gazprom and transmission service is provided to the entities from Gazprom capital group exclusively.. In GAZ-SYSTEM opinion, there is no possibility to undertake market actions that could ensure the gas supply from Belarusian market to Tietierowka entry point.

The separation of a given area as a separate market/balancing area might be an alternative solution. However, such a solution would require organizing for this area many additional instruments required for autonomous balancing areas, including a dedicated virtual trading point with the possibility of concluding transactions both on the trading platform and bilateral trades. Taking into consideration the specificity of the area, the lack of connections with other areas within the EU and the amount of gas consumed in this area, such measures would not ensure the balance of a given sub-area and security of supply on market terms.

Considering the above, in the opinion of the TSO, the implementation of within day obligation is an optimal solution from among the available regulatory mechanisms in terms of economics and efficiency of the transmission network operation.

3.2. The information available to enable network users to manage in a timely manner their within day positions

As regards access to the information for network users to timely manage their within day positions, the TSO plans to provide the network users with the necessary information concerning the confirmed transportation forecast of the DSO for an interconnection physical exit point to the distribution system which is directly and exclusively supplied by the physical entry point affected by the within day obligation at an interconnection with non-EU countries. The transportation forecasts provided to the TSO are prepared by the DSO based on the forecasted demand of customers connected to the grid, taking into account the expected configuration of the distribution network operation. Depending on the type of customers, their demand may be determined on the basis of forecasted meteorological data, customers' characteristics including calendar data or information received directly from customers or their suppliers. The second option concerns mainly customers, whose demand depends solely on the production plan with negligible influence of weather factors. Ultimately the decision how to prepare transportation forecasts belongs only to the DSO which prepares and submits this information to the TSO. If the point of entry affected by the within day obligation is used by only one network user, the user will be required to adapt its nominations accordingly, without any additional request from the TSO. However, if the entry point subject to the within day obligation is used by more than one network user, then, as long as the within day obligation is in force (the condition referred to in 2.1.3 has been fulfilled), the TSO not only provides such network users with the information of the confirmed transportation forecast but calls the network users to adjust the gas flow accordingly by modifying their nominations, as well. In such case, the TSO indicates

the level of the renomination (respecting the pro-rata basis as referred to in 2.1.2.) that each network user shall submit to the TSO .

Currently, network users do not have access to information on transportation forecasts of the distribution system operator for particular exit points to the DSO.

Considering the above, the TSO will provide the network users affected by the within day obligation with information on the confirmed transportation forecast for a given exit point (MFPWY_{OSD}) within one hour of its confirmation with the use of the IES or via e-mail.

In addition, considering the specificity of such solution, the TSO will prevent changes to the DSO's transportation forecast confirmed for a given gas day for a given interconnection physical exit point to the distribution system. It means that a network user affected by the obligation will have both the information as well as sufficient time in order to use it and undertake the necessary actions in order to fulfill such obligation.

3.3. The expected financial impact for network users

The planned within day obligation includes a charge which will be applied in case when pre-defined limits are not met. The compliance with the within day obligation limits is verified based on the respective gas days – the charge will depend on the level of nominations submitted by network users for a given gas day. If the nomination submitted by a network user for a given gas day for a given physical entry point affected by the obligation at the interconnection with non-EU countries at least equals the individual hours in such day as the DSO's transportation forecast for a given interconnection physical exit point to a distribution system, then the within day obligation will not apply and the charge will not be applicable. In addition, the within day obligation includes a situation when the charges will not be applicable in case when, despite the limit not being conformed to, the sum of allocations at the physical entry point to the transmission network subject to the limit is higher than the daily volume measured for the relevant interconnection physical exit point to a distribution system.

The expected financial consequences for network users which are affected by the obligation was analyzed. The analysis takes into account the calculation of the potential charge for not abiding the within day obligation, assuming a different degree of failure to fulfill the obligation by the network user (from 1% to 100%). The calculations were carried out for data at the level corresponding to the gas flow at Grabówka point referred to in 3.1, according to the formula:

$$O_{O\acute{s}} = \left(P_{OSD} \times \frac{N_{US}}{\sum N} - N_{US} \right) \times CSR B \times k$$

O _{Oś}	charge for not abiding the within day obligation [PLN]
P _{OSD}	Confirmed transportation forecast for a given hour for MFPWY _{OSD} which is directly and exclusively supplied from FPWE _{OSP} [kWh]
$\sum N$	aggregate Shippers' confirmed nominations for a given hour for the entry point (FPWE _{OSP}) affected by the obligation [kWh].
N _{US}	Shipper's confirmed nomination for a given hour for FPWE _{OSP} directly and exclusively supplying the MFPWY _{OSD} [kWh]

CSRB Average Balancing Settlement Price (CSRB) for a given gas day when the limit was not complied with [PLN/kWh]

k Coefficient - adopted successively at levels 4, 3, 2, 1

The following assumptions were made:

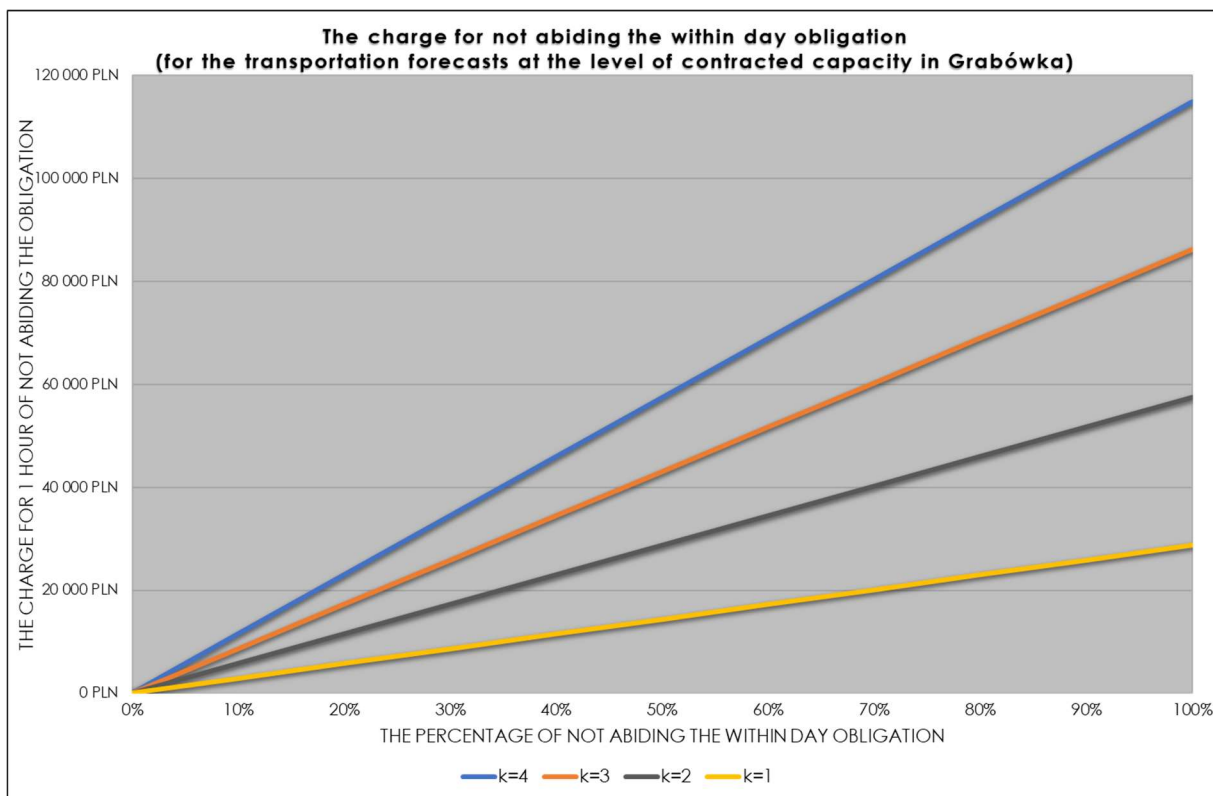
The physical entry point affected by the within day obligation is used by only one network user

- 1) The value of the DSO's transportation forecast (P_{OSD}) is equivalent to:
 - a) the contracted capacity in Grabówka (304 290 kWh/h)
 - b) the average value of the hourly gas flow in Grabówka in gas year 2016/2017, i.e. 100 717 kWh/h,
 - c) the average value of the hourly gas flow in Grabówka in the winter season (October 2016 - March 2017), i.e. 143 606 kWh/h,
 - d) the average value of the hourly gas flow in Grabówka in the summer season (April - August 2017), i.e. 58 063 kWh/h.
- 2) confirmed nomination of the network user affected by the within day obligation in PWE_{OSP} at the level of 99, 98, 97, 95, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0 percent of the transportation forecast value (it is respectively: 1, 2, 3, 5, 10, 20, 30, 40, 50, 60, 70, 80, 80, 100% failure to fulfill the within day obligation),
- 3) CSRB at the level of the average CSRB value from the period 1st October 2017 – 31 August 2018, i.e. 0,09441 PLN/kWh (the CSRB value was taken based on the current gas year due to the increase in prices in this period compared to the previous gas year).

The potential amount of the charge for not abiding the within day obligation is presented in the tables below (depending on the adopted level of transportation forecast indicated in point 2a-2d) above):

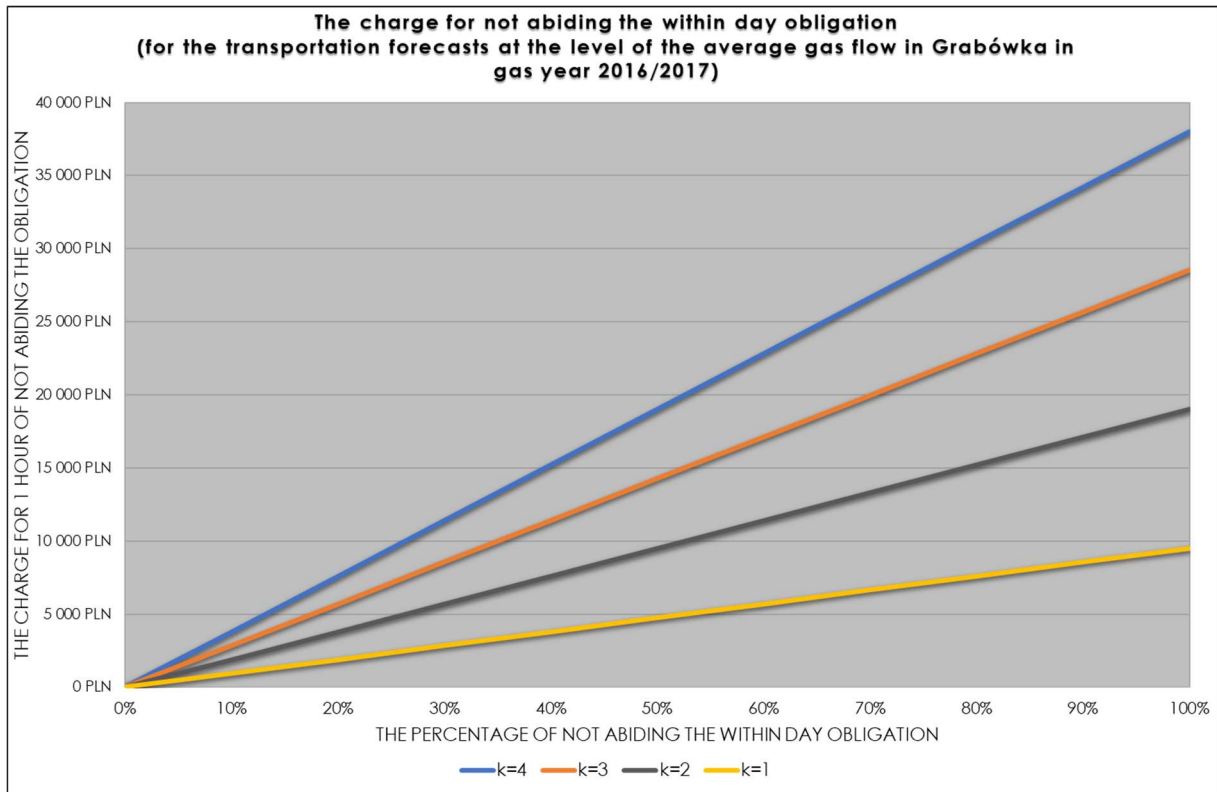
- a) for the transportation forecast at the level corresponding to the contracted capacity at Grabówka (304 290 kWh / h)

a)	Charge for 1 hour depending on the level of the Coefficient k [PLN]			
% of not abiding the within day obligation	k=4	k=3	k=2	k=1
1%	1 149	862	575	287
2%	2 298	1 724	1 149	575
3%	3 447	2 586	1 724	862
5%	5 745	4 309	2 873	1 436
10%	11 491	8 618	5 746	2 873
20%	22 982	17 237	11 491	5 746
30%	34 474	25 855	17 237	8 618
40%	45 965	34 474	22 982	11 491
50%	57 456	43 092	28 728	14 364
60%	68 947	51 710	34 474	17 237
70%	80 438	60 329	40 219	20 110
80%	91 930	68 947	45 965	22 982
90%	103 421	77 566	51 710	25 855
100%	114 912	86 184	57 456	28 728



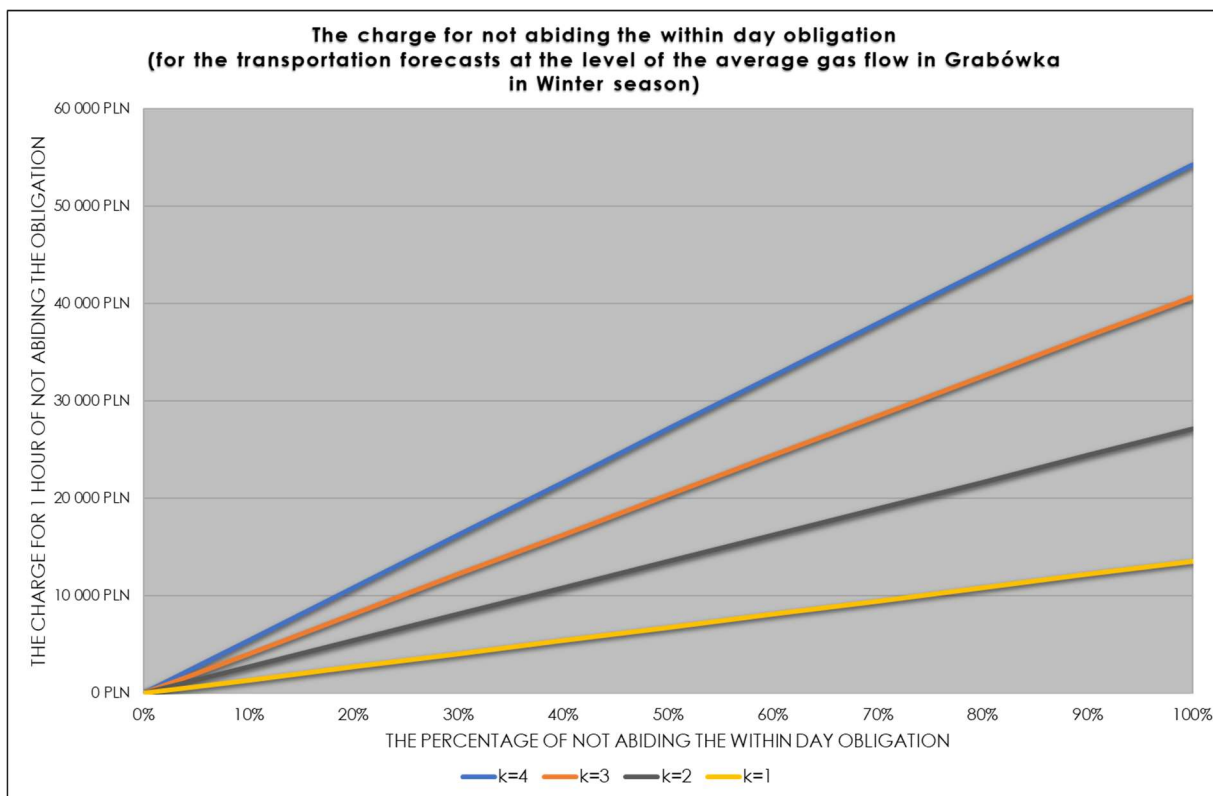
b) for the transportation forecast at the level corresponding to the average value of the hourly gas flow in Grabówka in gas year 2016/2017, i.e. 100 717 kWh/h,

b) % of not abiding the within day obligation	Charge for 1 hour depending on the level of the Coefficient k [PLN]			
	k=4	k=3	k=2	k=1
1%	380	285	190	95
2%	761	570	380	190
3%	1 141	856	571	285
5%	1 902	1 426	951	475
10%	3 804	2 853	1 902	951
20%	7 607	5 705	3 803	1 902
30%	11 410	8 558	5 705	2 853
40%	15 214	11 410	7 607	3 803
50%	19 017	14 263	9 509	4 754
60%	22 821	17 116	11 410	5 705
70%	26 624	19 968	13 312	6 656
80%	30 428	22 821	15 214	7 607
90%	34 231	25 673	17 116	8 558
100%	38 035	28 526	19 017	9 509



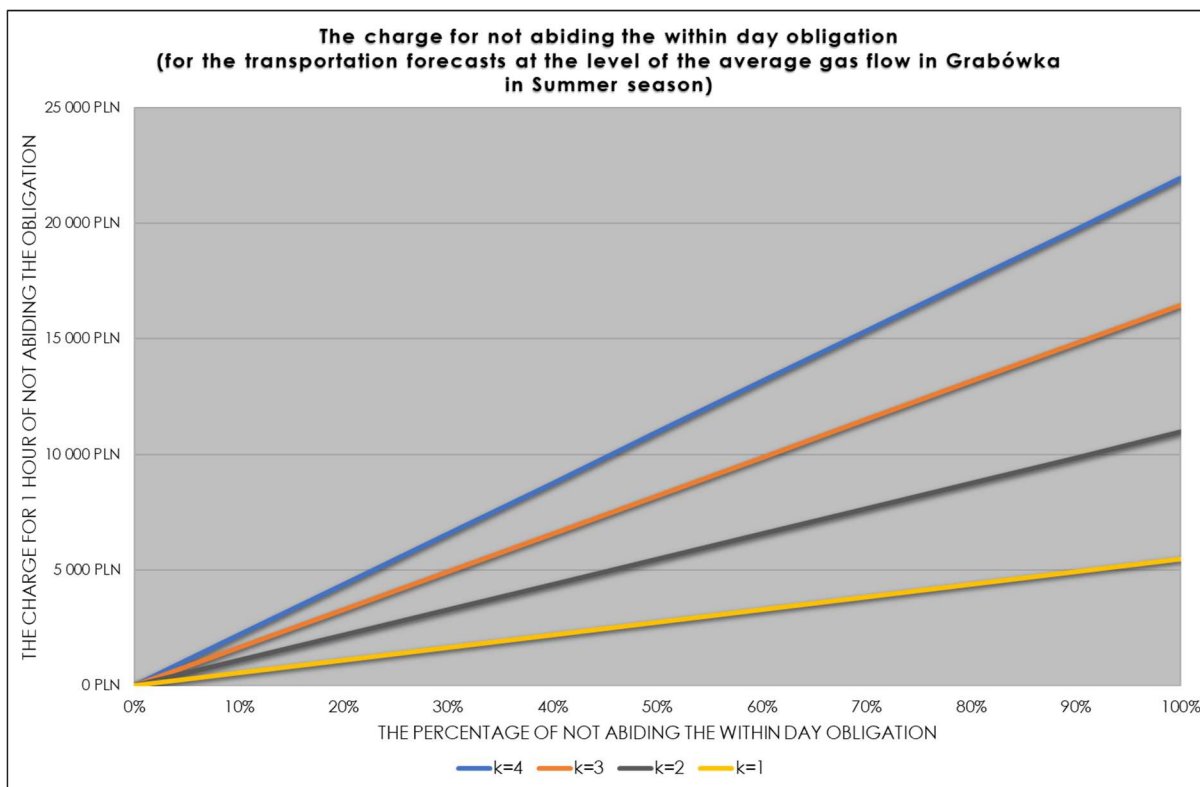
- c) for the transportation forecast at the level corresponding to the average value of the hourly gas flow in Grabówka in the winter season (October 2016 - March 2017), i.e. 143 606 kWh/h,

c) % of not abiding the within day obligation	Charge for 1 hour depending on the level of the Coefficient k [PLN]			
	k=4	k=3	k=2	k=1
1%	542	407	271	136
2%	1 085	813	542	271
3%	1 627	1 220	813	407
5%	2 711	2 034	1 356	678
10%	5 423	4 067	2 712	1 356
20%	10 846	8 135	5 423	2 712
30%	16 269	12 202	8 135	4 067
40%	21 692	16 269	10 846	5 423
50%	27 116	20 337	13 558	6 779
60%	32 539	24 404	16 269	8 135
70%	37 962	28 471	18 981	9 490
80%	43 385	32 539	21 693	10 846
90%	48 808	36 606	24 404	12 202
100%	54 231	40 674	27 116	13 558



d) for the transportation forecast at the level corresponding to the average value of the hourly gas flow in Grabówka in the summer season (April - August 2017), i.e. 58 063 kWh/h.

d) % of not abiding the within day obligation	Charge for 1 hour depending on the level of the Coefficient k [PLN]			
	k=4	k=3	k=2	k=1
1%	219	165	110	55
2%	438	329	219	110
3%	658	493	329	164
5%	1 096	822	548	274
10%	2 193	1 644	1 096	548
20%	4 386	3 289	2 193	1 096
30%	6 578	4 934	3 289	1 645
40%	8 771	6 578	4 385	2 193
50%	10 963	8 222	5 482	2 741
60%	13 156	9 867	6 578	3 289
70%	15 349	11 512	7 674	3 837
80%	17 541	13 156	8 771	4 385
90%	19 734	14 801	9 867	4 934
100%	21 927	16 445	10 963	5 482



The level of the charge for not abiding the within day obligation proposed by GAZ-SYSTEM depends solely and directly on the degree of non-fulfillment of the obligation by the network user.

GAZ-SYSTEM analyzed the potential charges based on the example of MFPWY_{OSD} Grabówka which is supplied directly from PWE_{OSP} Tietierowka. The different levels of the coefficient k were analyzed (4, 3, 2 and 1). Considering the consequences of not abiding the obligation, i.e. the threat to the security of gas supply to protected customers connected to the distribution network in such an island area, the risk of uncontrolled pressure drops and airlocked network, it is reasonable to set the charge at a level motivating to comply with the obligation.

Taking into account the above results, the coefficient k is assumed at the level of 1.

3.4. The effect on new network users entering the relevant market including any undue negative impact thereon

First of all, it should be pointed out that "the relevant market" within the meaning of BAL NC is the gas market. In addition, due to the impact of the within day obligation, this market can be limited only to the high-methane gas balancing area. Furthermore, the relevant market, which will be affected by the within day obligation may be restricted geographically to the gas market in the Republic of Poland.

The within day obligation concerns only the areas of the transmission network that are supplied from non-EU countries (i.e. Belarus). Considering the total lack of access to the Gazprom Transgaz Belarus network by third parties on transparent market terms, it can be stated that possible additional obligations resulting from the analyzed within day obligations are negligibly small for entities potentially interested in entering the gas market in the Republic of Poland using the Belarusian transmission system.

It should be emphasized that the within day obligation will not affect the main/ major import

locations of gaseous fuel to Poland. It should be pointed out that there is no intensive bilateral trade being carried out in points subject to the within day obligation, both in terms of the entity (only one Shipper introduces gas to Poland via the Tietierowka entry point) as well as in terms of volume (volume of gas possible to enter through the entry point Tietierowka is very small and constitutes no more than 0.5% of import possibilities to Poland).

Nevertheless, the planned within day obligation concerns the introduction of gas to the Polish transmission system and as such will not restrict potential market entry by new entities on the Polish gas market.

After analyzing the impact on the new user entry to the relevant market including the potential excessively negative influence on such entry, the results show that the proposed within day obligation will not create any barriers for the cross-border trade or for the entry of new network users on Polish high-methane gas market.

3.5. The impact on cross-border trade, including the potential impact on balancing in adjacent balancing zones

When examining the consequences of the within day obligation, the TSO analyzed whether its implementation will restrict gas flow between countries (cross-border trade restriction). The analysis demonstrated that the planned within day obligation involving the minimum gas flow limit will not restrict the cross-border flows in any way, and even in certain situations resulting from the application of this obligation, it may increase such flows.

The proposed within day obligation does not create barriers to cross-border trade, as it only concerns the areas of networks supplied from non-EU countries. The within day obligation will be imposed on all entities that use capacity at physical entry points to the transmission network located at the border with the same country as the physical entry point to the transmission network to which the obligation applies (i.e. in this case all other entry points located at the Polish border with Belarus). The implementation of the proposed obligation will not lead to a reduction or even stop the use of points of entry on the connection with Belarus

Due to the geographic location of the area affected by the planned within day obligation, it has no impact on the balancing in the adjacent balancing zones located in both the European Union and the member countries of the Energy Community.

3.6. The impact on short term wholesale gas market, including the liquidity thereof

The analysis of impact which the within day obligation will have on spot market transactions on the wholesale gas market, including its liquidity, should include the evaluation of its impact from the perspective of the safety of network operation in the case of shortage of liquidity related to locational products. The proposed within day obligation has the advantage of ensured supply to customers who are supplied exclusively from an adjacent area, regardless of the locational products available on the trading platform. This solution will protect the transmission and the distribution networks against uncontrolled pressure drops and air locks. Possible information about such events could adversely affect the behavior of participants in the wholesale gas market resulting in a potential possibility of increasing prices unjustified due to the very limited - local - nature of possible shortages of gaseous fuel. Due to the fact that the total annual quantities introduced into the KSP_E market area in the analyzed points constitute less than 0.5% of the quantities introduced at all entry points to this area (gas quantities at Tietierowka entry point in the 2016/2017 gas year: 886.53 GWh, representing 0.47% of the

amount of gas introduced at all entry points, excluding UGS) and taking into account the factors affecting the daily quantities described above, it can be determined that the application of the analyzed obligation has a negligible effect on the liquidity of the wholesale gas market. The limits specified in the within day obligation have no impact neither on the volume traded on the trading platform (the above indicated local nature of the within day obligation and the negligible volumes constituting 0.6% of the quantities traded on TGE in 2017) nor on the type of products available on the trading platform.

3.7. The non-discriminatory nature of the within day obligation

The within day obligation planned to be implemented is not discriminatory. The within day obligation will apply to entities which use the capacity in physical entry points to the transmission network at the border with the same country as the physical entry point which is affected by the within day obligation (i.e. in this case all other entry points located at the Polish border with Belarus). This condition implies that the Shipper using the Wysokoje entry point will also be subject to the within day obligation in relation to the Tietierówka entry point.

It should be indicated that the Shipper's charges related to implementation of the proposed within day obligation will be relatively small due to low supply and off-take volumes to areas which are supplied only from one entry point to the transmission network at the connection with not-EU countries in relation to total imported volumes by the Shipper from a given supply direction.

The implementation of the within day obligation will not lead to an excessive burden on the network users due to supply and off-take volumes to areas where this obligation will apply. At the same time, such an action will guarantee the security and certainty of gas supplies in the isolated gas areas. There are no other market tools providing the TSO's physical balance of the network.

Notably, the proposed mechanism is in the TSO's opinion the only tool enabling energy security in this area of the transmission network. Implementation of the planned within day obligation will be characterized by a low nuisance to the Shipper due to relatively low volumes of supply and off-take to areas which are supplied only from one entry point in relation to the total quantities imported by the Shipper from a given supply direction. The charges indicated in 2.1.4 will be applied pro rata to all market participants involved in those points, based on the capacity allocation values in particular points affected by the obligation.

The proposed within day obligation, including charges referred to in point 2.1.4 will apply to all market participants active in the physical entry points covered by the obligation. Additionally, in order to avoid discriminatory character of the obligation, it was assumed that both the burden resulting from the obligation as well as the charges for not abiding the obligation will be imposed on the Shippers in proportion to their use of entry points affected by the obligation. The TSO assumed that the level of use of a given entry point will be based on the capacity booked by given Shipper at a given entry point, which the obligation applies to.

4. SUMMARY

When analyzing the need to implement the within day obligation, based on the nature of the transmission network and the flexibility available to the transmission system operator when buying and selling standard short-term products or when using balancing services (according to Chapter III of the Regulation), the TSO evaluated the opportunities for operation of market

mechanisms and safety of supplies in terms of infrastructure, the structure of supply sources and the conditions of market mechanism operation.

The analysis included evaluation which of the solutions (lack of the within day obligation and remedies attempted at by the TSO versus the implemented within day obligation) will be more advantageous in terms of more economic and efficient operation of the transmission network.

Notably, the points affected by the within day obligation belong to a larger balancing area (high-methane gas balancing area). The planned within day obligation will be in effect in a single balancing area only, i.e. the high-methane gas balancing area). It should be underlined, that the proposed within day obligation will apply only to isolated market areas i.e. such parts of the transmission network which are supplied only from one entry point. The instruments for physical balancing of the transmission system available to the TSO on such areas are limited. According to the TSO, among the available regulatory mechanisms the within day obligation is currently the optimal solution from the perspective of economic and efficient operation of the transmission network.

An alternative to the within day obligation could be to isolate another balancing area, however it would require a new virtual trading point, dedicated tools of the trading platform and precise rules of balancing to be developed for such new balancing area. In the opinion of the TSO, the local nature (low supply/off-take volumes) as well as the supply from non-EU countries only make this area void of any conditions that would allow implementing safety mechanisms and solutions.

The analysis of impact which the within day obligation will have on spot market transactions on the wholesale gas market, including its liquidity, should include the evaluation of its impact from the perspective of the safety of network operation in case of shortage of liquidity related to locational products. The proposed within day obligation has the advantage of ensured supply to customers who are supplied exclusively from a neighbouring area, regardless of the locational products available on the trading platform. This solution will protect the transmission and the distribution networks against uncontrolled pressure drops and air locks. Notwithstanding the above, the implemented obligation will not influence the liquidity of the wholesale market. The limits specified in the within day obligation have no impact whatsoever on the volume traded on the platform (see the above argument related to the local nature of the obligation and the low volume being traded) or on the type of products used to sell the gas on the platform.