# REPORT ON THE RESULTS OF THE MONITORING OF NATURAL GAS SUPPLY SECURITY 2018

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#### Introduction

This document has been prepared in accordance with Article 29 of the Treaty Establishing the Energy Community, Article 7 of the Law of Ukraine "On the natural gas market", as well as the National Action Plan and the Rules on the security of natural gas supply.

In compiling the Report for 2018 based on the results of monitoring of security of natural gas supply (hereinafter - the Report) the Guidelines of Energy Community Secretariat were taken into account on the preparation of the updated statement on security of energy supply in the member-countries of the Energy Community which were approved during the 19th meeting of the High Level Group of the Energy Community on March 23, 2011, as well as the requirements of Regulation (EC) No. 2017/1938 of the European Parliament and of the Council dated October 25, 2017 on the measures to ensure the security of natural gas supply and repealing Regulation (EC) No 994/2010.

In preparing the Report, JSC "Ukrtransgaz" was guided by the results of the collaboration with the Institute for Energy and Transport of the Joint Research Center (JRC-IET) of European Commission within the project "Improvement of legislation of Ukraine on the security of natural gas supply", which included the preparation of risk assessment on the security of gas supply, development of hydraulic model of the gas transportation system of Ukraine, as well as update and improvement of the National Action Plan and the Rules on the security of natural gas supply and training on the implementation of the National Action Plan, which took place in December 2018.

The Report covers gas sector, which is regulated by the EU Directives and Regulations set out in the Protocol on Ukraine's accession to the Treaty Establishing the Energy Community.

# 1. The status of measures implementation on the security of natural gas supply.

In 2018 during the most peak thirty-day period with the highest demand for natural gas lasted from February 5 to March 6. During that period the average daily demand for natural gas in Ukraine was at the level of 167.4 million cubic meters, while the average daily demand for natural gas in terms of domestic consumers and utility companies was amounted to 107.8 million cubic meters. The most active demand for a seven-day period was from February 24 to March 2, 2018. During that period, the average daily demand for natural gas in Ukraine was at the level 194.1 million cubic meters, while the average daily demand for natural gas in terms of domestic consumers and utility companies amounted to 126.5 million cubic meters. The daily description of peak consumption during the reporting period is provided in Table 1.

Table 1.

The thirty-day period of peak consumption of natural gas by Ukrainian consumers in 2018

Date	Consumptio n Ukraine, total	Consumption Utility companies + population	Average daily temperature	Supply from production	Supply from import	Withdrawal from underground gas storages	Maximum available level of daily withdrawal from underground gas storages
	million cubic meters	million cubic meters	°C	million cubic meters	million cubic meters	million cubic meters	million cubic meters
05.02.18	159,5	101,4	-5,2	56,7	12,7	84,2	117,6
06.02.18	164,5	106,4	-5,7	56,8	12,8	92,7	117,0
07.02.18	162,2	103,4	-1,7	57,0	13,0	89,5	116,4
08.02.18	154,6	98,1	-0,3	57,0	11,2	83,9	115,9
09.02.18	150,8	96,3	-0,2	56,8	11,0	83,8	115,3
10.02.18	149,5	96,0	0,1	56,9	12,7	78,4	114,9
11.02.18	150,6	95,9	-1,0	56,9	12,6	76,5	114,4
12.02.18	155,4	98,3	-2,2	56,7	14,9	81,2	113,8
13.02.18	158,0	99,9	-3,1	56,7	13,0	84,7	113,2
14.02.18	158,9	101,1	-2,9	56,9	9,5	88,6	112,5
15.02.18	158,0	99,8	-1,7	56,6	9,4	93,1	111,7
16.02.18	152,5	96,0	-0,9	56,4	10,7	94,3	110,9
17.02.18	149,7	94,6	-1,1	56,7	12,2	91,3	110,1
18.02.18	150,2	94,6	-1,1	56,9	12,3	86,6	109,3
19.02.18	153,6	97,0	-3,3	56,7	10,7	87,1	108,5
20.02.18	157,8	99,9	-3,6	56,9	9,7	88,7	107,7
21.02.18	160,9	100,4	-3,3	57,1	8,9	93,7	106,8
22.02.18	163,1	102,7	-3,5	57,0	8,9	94,3	105,9

Date	Consumptio n Ukraine, total	Consumption Utility companies + population	Average daily temperature	Supply from production	Supply from import	Withdrawal from underground gas storages	Maximum available level of daily withdrawal from UGS
	million cubic meters	million cubic meters	°C	million cubic meters	million cubic meters	million cubic meters	million cubic meters
23.02.18	169,9	107,9	-5,3	57,2	7,9	97,1	104,9
24.02.18	178,7	115,9	-7,2	57,2	15,6	98,7	103,9
25.02.18	189,7	124,0	-12,6	57,1	15,9	102,3	102,8
26.02.18	197,0	128,5	-12,2	56,9	15,9	107,1	101,7
27.02.18	202,7	130,9	-10,8	57,2	16,0	114,4	100,5
28.02.18	198,8	128,1	-9,6	57,2	15,9	115,7	99,2
01.03.18	199,9	131,7	-11,7	57,2	2,8	116,3	97,9
02.03.18	191,7	126,1	-7,8	57,0	4,4	114,6	96,8
03.03.18	174,4	117,6	-5,2	55,9	26,4	112,6	95,6
04.03.18	177,8	120,9	-6,7	55,6	26,4	110,5	94,4
05.03.18	171,6	114,2	-8,0	56,3	26,5	108,0	93,2
06.03.18	161,4	107,1	-1,4	55,9	24,9	102,9	92,1

At the end of February – in the first half of March 2018, during a period of significant decrease of the environment temperature, both in Ukraine and in Europe, and in connection with the refusal of PJSC "Gazprom" to deliver the paid up volumes of natural gas to NJSC "Naftogaz of Ukraine" for consumers in Ukraine from 01.03.2018, the gas resource (production, imported gas, gas withdrawal from UGS) did not cover the peak consumption of natural gas by consumers in Ukraine.

Taking into account the complexity of the situation and in accordance with Article 6 of the Law of Ukraine "On the Natural Gas Market", "Rules on the Security of Supply of Natural Gas", approved by the Order of the Ministry of Energy and Coal of Ukraine dated 02.11.2015, No. 686, and the "National Action Plan" approved by the Order of the Ministry of Energy and Coal Industry of Ukraine dated 02.11.2015 No.687 by The Crisis Committee created by the Order of the Ministry of Energy and Coal of Ukraine dated 02.07.2016 No. 431 (hereinafter referred to as the "Crisis Committee"), on March 1, 2018, it was decided to declare the crisis situation of the emergency situation level for the period from 02.03.2018 till 06.03.2018.

After the introduction into the operation of the provisions of the National Action Plan by the Ministry of Energy and Coal Industry of Ukraine, JSC "Ukrtransgaz" has taken the number of urgent measures to avoid a possible crisis situation, namely:

- constant monitoring of the operation modes of the GTS was conducted;
- the level of gas consumption by consumers of Ukraine, gas production by production companies of Ukraine and receipt of imported gas from the EU countries, as well as the temperature of the environment were constantly monitored;

- atypical regimes to increase gas withdrawal from UGS of JSC "Ukrtransgaz" were developed;
- number of electric-powered gas-pumping units (hereinafter GPU) was loaded into operation instead of gas-powered GPUs in order to save fuel gas;
- series of telephone conversations on the crisis situation with the representatives of the Energy Community Secretariat and the European Commission, as well as the European Network of Transmission System Operators of the Member States of the EU ENTSOG;
- etc.

Due to the decisions and measures taken by the Ministry of Energy and Coal Industry of Ukraine, NJSC "Naftogaz of Ukraine" and JSC "Ukrtransgaz", incl. taking into account a significant increase of the imported gas supply from European countries, as well as a gradual increase in the temperature of the environment since 03.03.2018 there was the stable restoration of main gas pipelines linepack and there was no deficiency of natural gas.

In connection with the increase in natural gas consumption due to the repeated decrease of the temperature of the environment, during the period 17.03.-24.03.2018, the above-mentioned Crisis Committee made a decision on the occurrence of a crisis situation of the early warning level on 16.03.2018.

Despite the crisis situations of the emergency level (02.03.-06.03.2018) and the early warning level (16.03.-20.03.2018), JSC "Ukrtransgaz" provided an uninterrupted transit of Russian gas to the countries of Europe and the Balkan region, as well as reliable supply of natural gas to Ukrainian consumers.

#### 2. Status of the resources supply for the natural gas market.

In 2018, natural gas production in Ukraine amounted up to 20.96 bcm (Figure 1) while natural gas consumption amounted up to 32.31 bcm (Figure 2), thus the gas consumption was covered at 65% by own production of natural gas (in 2017 - 64%).

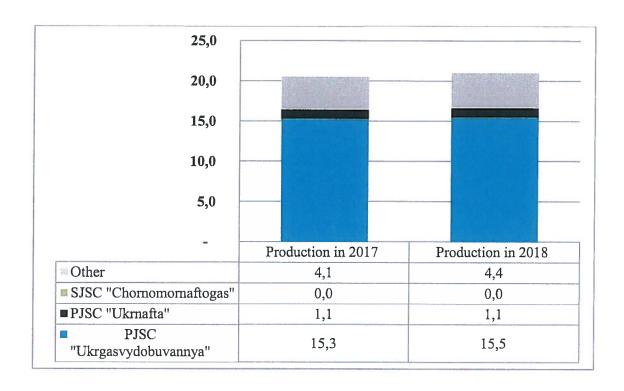


Figure 1: Volumes of natural gas production in 2017-2018 (billion cubic meters)

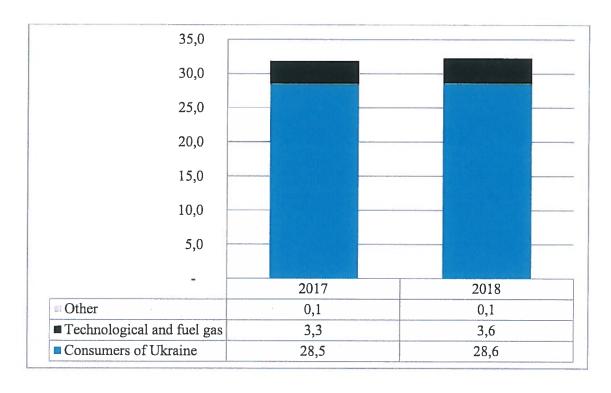


Figure 2: Volumes of natural gas consumption in 2017-2018 (billion cubic meters)

In 2018 the total volume of natural gas imports amounted to 10.6 billion cubic meters. In general, natural gas supply for the needs of Ukraine had been met at the expense

of domestic production and imports and amounted to 31.6 billion cubic meters. Sources of imported natural gas in 2018 are given in Figure 3.

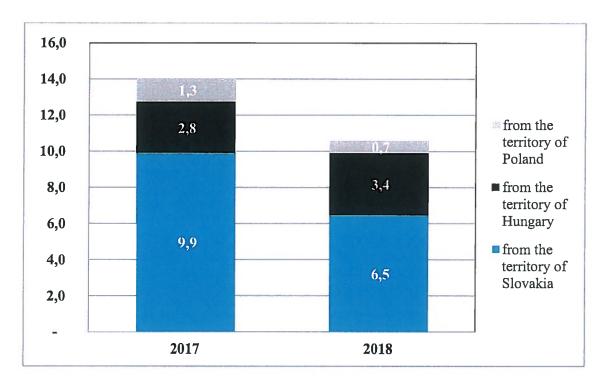


Figure 3: Supplies of imported natural gas according to their sources (billion cubic meters)

Due to the diversification of sources of natural gas supply to Ukraine from European countries in 2018, the amount of imported natural gas for consumers of Ukraine from the territory of the Russian Federation amounted up to 0.0 billion cubic meters of gas (2017-0.0) bcm; 2016-0.0 bcm; 2015-6.1 bcm; 2014-14.4 bcm), from European countries amounted up to 10.6 billion cubic meters of gas (2017-14.1) bcm; 2016-11.1 bcm; 2015-10.3 bcm; 2014-5.0 bcm), which comes up to 100.0% of the total imported natural gas. Thus, starting from December 2015 the main source of natural gas supply to Ukraine is the territory of European countries.

An important part of the gas transmission system functioning is a network of underground gas storage facilities aimed at overlapping of natural gas consumption in peak periods in the autumn and winter. The system of underground gas storage facilities of JSC "Ukrtransgaz" consists of 12 storage facilities (incl. 1 on the temporarily uncontrolled territory of Ukraine (TUT)) with total active capacity of 30.95 billion cubic meters (incl. 0.4 billion cubic meters on the TUT of Ukraine).

Table 3 shows the availability of natural gas at UGSF of JSC "Ukrtransgaz" at the beginning and end of the withdrawal seasons of  $2016-2017 \div 2018-2019$ .

#### Table 3: The availability of natural gas in UGSF of JSC "Ukrtransgaz" (bcm)

	2016-2017		2017	-2018	2018-2019p		
	At the start	At the end	At the start	At the end	At the start	At the end	
	of	of	of	of	of	of	
	withdrawal	withdrawal	withdrawal	withdrawal	withdrawal	withdrawal	
L	season	season	season	season	season	season	
	14,7	8,1	17,0	7,4	17,2	8,7	

Table 4 shows data on the actual maximum daily gas withdrawal from the UGSF and the average daily gas withdrawal from the UGSF during the season.

Table 4: Volume of level of gas withdrawal from UGSF (mcm)

2016-2017		2017-2018		2018-2019	
Maximum daily	Average daily	Maximum daily	Average daily	Maximum daily	Average daily
withdrawal	withdrawal	withdrawal	withdrawal	withdrawal	withdrawal
91,9	41,0	116,3	57,1	101,2	55,2

In 2018 the average working gas volume in underground gas storage facilities was 12,6 billion cubic meters.

The volumes of gas availability in UGSF system in 2018 are shown in Figure 4.

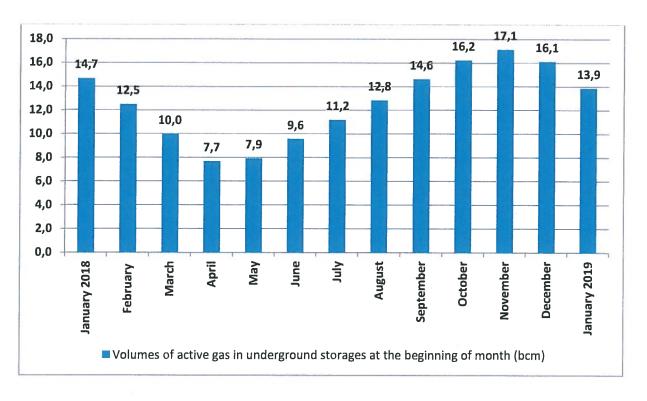


Figure 4: Volumes of gas availability in underground storage facilities at the beginning of the month (bcm)

The average daily level of withdrawal and injection of natural gas from/into UGSF in 2018 is given in Figure 5.

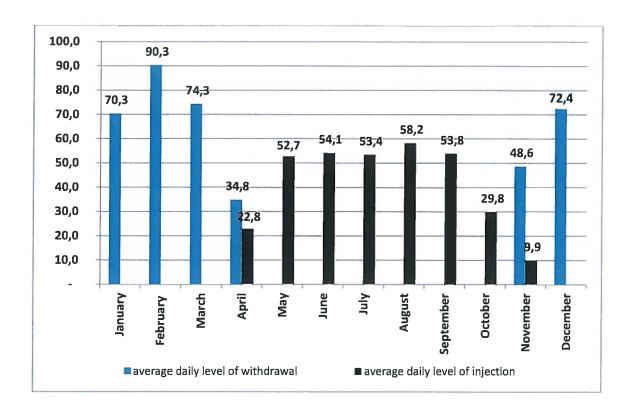


Figure 5: Average daily levels of withdrawal and injection

# 3. Status of the interconnections between Ukrainian gas transmission system and other countries gas transmission systems.

The capacity of the GTS at the entry and exit points located at the border of Ukraine is given in Table 5.

Table 5
The capacity of the GTS at the entry and exit points located at the border of Ukraine as of 01.01.2019

No.	Entry / exit point	mcm/day	
	ENTRY		
1	Sudzha	327.2	
2	Pysarivka	147.6	
3	Sokhranivka	140.0	
4	Serebrianka	39.6	
5	Valuiky	77.6	
6	Mozyr	18.3	

No.	Entry / exit point	mem/day
7	Kobryn	88.0
8	Platovo <sup>1</sup>	-
9	Hermanovychi <sup>2</sup>	4.3/6.4
10	Beregdarots	17.1
11	Budintse	42.5
12	Oleksiivka	26.5
13	Kaushany	82.2
14	Lymanske	4.6
15	Prokhorovka <sup>1</sup>	-
	EXIT	
1	Uzhhorod <sup>3</sup>	281.9
2	Berehovo <sup>3</sup>	40.2
3	Drozdovychi <sup>4</sup>	14.5 (10.5)
4	Orlovka	81.4
5	Tekovo	13.7
6	Ustylug	1.2
7	Oleksiivka	7.6
8	Grebinky	91.3
9	Lymanske	4.6
10	Ananiiv	30.4
11	Hermanovychi <sup>5</sup>	-
12	Beregdarots <sup>5</sup>	•
13	Budintse <sup>5</sup>	24.0
14	Prokhorovka <sup>1</sup>	-

#### Note:

- 1 as of 01.01.2019 are located on the temporary uncontrolled territory;
- 2 in the period from May 1 to August 31 4.3 million cubic meters per day, from September 1 to April 30, 6.4 million cubic meters per day;
- 3 in connection with the decrease of capacity by the Slovak operator at the entrance from Ukraine, the capacity at the Beregovo GMS may amount to 57.3 million cubic meters per day (due to a corresponding reduction in GMS Uzhgorod);
- 4 in parentheses the capacity only of MP Komarno Drozdovychy DN 700 being in operation
- 5 capacity at specified points will be determined after agreement with the operators of the adjacent GTS. The volumes are determined under standard conditions: P = 0.101325 MPa = 1.03323 kgf/cm2,  $t = 20 \,^{\circ} \text{ C}$

#### 4. Technical condition of the gas transmission system.

Characteristics of the gas transmission system of JSC "Ukrtransgaz" are given in the Table 6.

Table 6 "Characteristics of the gas transmission system of JSC "Ukrtransgaz" as of 01.01.2019"

Transmission system characteristics	Unit	Number
1 The length of the pipelines, in total, including:		37 664,058
- gas main pipelines	km	22 035,595
- gas pipeline branches		13 155,049
- distribution pipelines	9	2 473,414
1.1. The length of the pipelines located on the temporarily occupied territory of Ukraine (hereinafter - TOT Crimea), total		518,890
including.: - gas main pipelines	km	323,739
- gas pipeline branches		173,535
- distribution pipelines		21,616
1.2. the length of the pipelines located on the temporarily uncontrolled territory of Ukraine (hereinafter – TUT of Ukraine), total		1 551,413
including.: - gas main pipelines	km	658,726
- gas pipeline branches		844,595
- distribution pipelines		48,092
2 Capacity of gas transmission system:		
- entry to GTS at interconnection points	bcm/year	304,0
- exit from GTS at interconnection points		145,8
3 Number of compressor stations (compressor shops) including	pcs.	73 (111)
- TUT of Ukraine	pcs.	3 (3)
- decommissioned	pcs.	0 (2)
- property of PJSC "GASTRANZIT" (referential)	pcs.	1 (1)
4 Number of gas pumping units including	pcs.	705
- TUT of Ukraine	pcs.	35
- decommissioned	pcs.	28
- property of PJSC "GASTRANZIT" (reference)	pcs.	3
5 Capacity of compressor stations including	MW	5 496
- TUT of Ukraine	MW	175
- decommissioned	MW	129,1
- property of PJSC "GASTRANZIT" (reference)	MW	48
6 Number of underground gas storage facilities (UGS)	pcs.	12
- including TUT of Ukraine	pcs.	1
7 Project active capacity of UGS, operating in cycles	bcm	30,95
- including TUT of Ukraine	bcm	0,4
8 Number of gas distribution stations (GDS)	pcs.	1 473
8.1. Number of GDS at TOT Crimea	pcs.	13
8.2. Number of GDS at TUT of Ukraine		
6.2. Namber of GDO at 101 of ordanic	pcs.	70

# 5. Measures to ensure the diversification of sources of natural gas supply, as well as to ensure the reliable operation of the gas transmission system.

#### 5.1. Conclusion of Interconnection Agreements

During 2018 JSC "Ukrtransgaz" continued its active policy of concluding Interconnection Agreements at all cross-border points, where such Agreements are absent:

- Drozdovychi (Poland);
- Velke Kapushany/Uzhgorod (Slovakia);
- Mediesu Aurit/Tekovo (Romania);
- Isaccea II-III/Orlovka (Romania).

The number of meetings was also held in the course of which the main priorities for signing Interconnection Agreements in the next 2019 were identified.

#### 5.2. Gas Transmission Infrastructure Expansion Measures

#### 5.2.1. Poland-Ukraine

In order to diversify gas supplies to Ukraine and to integrate the Ukrainian GTS into the European System of GTS, JSC "Ukrtransgaz" is working on "Construction of Gas Interconnector Ukraine – Poland".

In the framework of the project implementation, the following events were carried out:

- at the end of 2015 the Parties have completed the development of a joint feasibility study of gas Interconnector construction "Ukraine Poland".
- On December 6, 2016 the Rules of Cooperation were agreed for implementation of the project to establish the principles of cooperation between GAZ-SYSTEM S.A. and PJSC "UKRTRANSGAZ" during the design and construction of the pipeline.
- Planned Gas Interconnector Poland Ukraine Project includes: on the Polish side construction of the pipeline DN700 Hermanovychi-Strakhotsina (72 km) and the pipeline DN1000 from Hermanovychi to the Poland-Ukraine border (1.5 km) on the Polish side, including the border metering station and compressor station in Strakhotsina; on the Ukrainian side construction of the pipeline DN1000 from the Poland-Ukraine border to Bilche-Volytsya on the Ukrainian side (99.3 km) including the control metering station.
- In July 2016, GAZ-SYSTEM S.A. received the corporate approval to proceed to the design stage and started the engineering works in Poland.

- On the Ukrainian side: the positive report of the State expertise on the stage of Feasibility Study "Construction of Gas Interconnector "Drozdovychy Bilche-Volytsya" was made (Ukrainian part of the Gas Interconnector between the Ukraine and Poland).
- The design documentation for the object "Construction of Gas Interconnector "Drozdovychy Bilche-Volytsya (stage P)" was developed and the positive report of the State expertise was received.
- 742 Contracts of land servitudes on private property were signed. Work on signing of servitude contracts and preparation for state registration in the Ministry of Justice are underway.
  - Land of state-owned legal entity.
- The Contracts of servitude with the Main Directorate of the State Service of Ukraine on Geodesy, Cartography and Cadastre in the Lviv region on land plots in the Drogobych district were concluded. The technical documentation on the inventory of agricultural land in the Mykolayiv region was developed and data were entered into the state land cadastre. The technical documentation on inventory of agricultural land plots in the Starosambirsky district has been developed.
- Land management projects have been developed for the provision of land on lease for the placement of temporary pipe-welding bases in the village Girske (Mykolayiv district, TZB No.3) and Kaliniv village (Sambir district, TZB No.2)
  - Preparatory works on land acquisition are ongoing.
- On the land procurement, it is planned to conclude an Agreement with the Samborsky District State Administration on financing activities for the procurement of 6 land plots.
- The approval of the sites location of linear valves No. 5, 6, 7, the discharge-measurement site and the installation of drainage protection was obtained from all the District State Administrations.
- The materials are formed and the request for a decision on the land plots purchase for the valve No. 5 for public needs in the Starosambir district and the discharge-measurement site in the Starosambir district is submitted. The order was issued by the Starosambirsk and Drogobych District State Administrations on the purchase of privately owned land plots for the construction of main gas pipeline. Lviv Region State Administration has made the decision on the purchase of land for public needs for the construction of main gas pipeline in the Sambir district.
- Written consents were signed by private owners for the purchase of land plots, for placement of ground sites in the Starosambir, Sambir and Drogobych districts. Technical documentation for establishing the boundaries of areas for procurement at the site of the drainage protection plant and valve No. 6 was developed. The division of land plots for the valve unit No. 6 and the sites for the installation of drainage protection in the Sambir

district. Negotiations were held with owners of land regarding conditions for the purchase of land from owners.

- On the land plots of the forestry, the Cabinet of Ministers of Ukraine has considered a request for granting permission for the development of project documentation for the reservation of land plots for forestry purposes. The approval of the Ministry of Energy and Coal Industry and the Ministry of Economic Development was obtained. Additional documents are provided on request of the Ministry of Finance, the Ministry of Environment and Natural Resources. Additional comments from the Ministry of Finance and the Ministry of Agrarian Policy are re-worked out.
- Agrochemical passports are made on land plots to be rehabilitated along the whole length of the main gas pipeline route.
- The request was sent to the RSA and the order was issued regarding obtaining permits for the development of working drafts on the restoration of the land of private property.
- The project for the restoration of land plots has been developed, final conclusion of servitude agreements on land plots of state ownership is expected for further harmonization of the restoration project in the established order.
- According to the results of the archaeological surveys at the stage of "Project", the significant number of cultural and archaeological heritage sites requiring additional examination and study were identified in the land acquisition zone. Number of archaeology facilities 18 pieces. Currently, pursuant to the requirements of the authorized bodies (the Ministry of Culture and the Department of Culture of the Lviv Regional State Administration), the Company conducts procedures for the procurement of archaeological survey services. (Expected cost of procurement is UAH 48 million.). The term of archaeological surveys is 18 months from the moment of conclusion of the agreement.
- During April-June 2018 the non-binding procedure for investigating the market demand for natural gas at the Ukrainian-Polish border was conducted, which will form the basis for the final decision on the project implementation.

#### 5.2.2. Slovakia-Ukraine

Currently, guaranteed capacities for importing natural gas from Slovakia to Ukraine (27.0 million cubic meters per day) have been established. However, GTS Operators of Ukraine and Slovakia are considering options for a possible increase in capacity in the direction of Slovakia-Ukraine. In particular, during the last meeting in November 2018 between the GTS Operators of Ukraine and Slovakia, under the auspices of the Directorate General for Energy of the European Commission, the Parties discussed possible options for increasing capacities in the direction of Slovakia-Ukraine. Operators have agreed to continue work on the solution of the issue of providing additional

opportunities for increasing the guaranteed transportation capacities from Slovakia to Ukraine.

#### 5.2.3. Romania-Ukraine

During 2018, work continued on ensuring bilateral transportation through the Trans-Balkan pipeline.

In April 2018, the evaluation of the demand for transportation in the direction of Romania-Ukraine was carried out, that showed considerable interest of market participants of Ukraine, as well as non-resident companies in this transportation direction. In particular, 11 companies submitted applications, and the maximum demand level reached 10 billion cubic meters per year. The evaluation procedure was non-binding and, accordingly, did not bear any financial implications for participating companies. However, the result of the procedure makes it possible to make a conclusion about significant interest of the gas market participants in the gas pipeline and the need to intensify further work towards ensuring the bilateral flow in the Trans-Balkan direction along with the GTS Operator of Romania SNTGN Transgaz SA and PJSC "Moldovagaz", which is carried out within the framework of work of the joint working group of GTS Operators of the region with the support of the Directorate General for Energy of the European Commission.

On October 23, 2018, the meeting of the High-Level Group on Energy Cooperation CESEC was held in Brussels, where an updated version of the Concept on the use of the Trans-Balkan Gas Pipeline (hereinafter - TBG) was proposed, which provides for the organization of the physical transportation of natural gas by TBG in the direction from Greece to Ukraine from January 1, 2020 in the amount of 1.5 billion cubic meters per year, as well as the mutual obligations of GTS Operators of the respective countries were discussed.

### 5.3. Measures to ensure the reliable operation of the gas transmission system

In order to ensure efficient and reliable operation of the objects and facilities of the GTS in the autumn-winter period the branches of JSC "Ukrtransgaz", each year, from May to September, prepare objects of JSC "Ukrtransgaz" for work in the autumn-winter period according to the approved Action Plan.

According to the schedule of preparation of PJSC "UKRTRANSGAZ" facilities for work during the autumn-winter period 2018/2019 as of 01.10.2018 the significant range of works was carried out, including:

the linear part of main gas pipelines:

repairs of 19.1 km of pipelines linear part;

- an instrumental diagnostics of 320,2 km of pipelines;
- repair of 1 water crossing of pipelines;
- 208 items of underwater and 359 items of above water crossings of the pipelines were inspected;

#### Gas distribution stations:

- reconstruction and repairs of 40 GDSs;
- repairs of 996 of systems of automatic fire control, alarm and fireextinguishing.

#### Compressor stations:

- repairs of 21 GPUs;
- repairs of 260 of systems of automatic fire control, alarm and fire-extinguishing.

#### Underground gas storage facilities:

overhaul of 30 wells;

It was inspected technical condition of gas drying units, regeneration and gas drainage pumps, chemical pumps, as well as repaired and inspected pipelines and valve components, maintained and cleaned processing tanks.

#### Maintenance of heating, energy and water supply objects:

- repairs of 22,98 km of electricity transmission lines;
- inspection of 2 boiler houses and 25 boilers;
- repairs of 13 boiler houses and 13 boilers;
- repairs of 8,96 km of heating mains;
- repairs of 1,4 km of external fire-extinguishing mains.

#### Repair of fleet vehicles:

- 1013 pcs. of motor vehicles.

#### Repair of communication objects:

- 4704,2 km of cable lines.

#### Procurement:

- 1880,2 t of combustive and lubricating materials;
- 256,5 t of chemical reagents, incl. 150,0 t of diethylene glycol and 106,5 t of odorant.

According to the orders of JSC "Ukrtransgaz" and branches, the committees have been formed to verify the execution of works on the preparation of industrial facilities and social and cultural facilities for work in the autumn-winter period.

Based on the analysis of the implementation of organizational and technical measures for preparation of the industrial facilities and social and cultural facilities for work in winter conditions and also based on the reports and acts of committees inspections, in general, the committee of JSC "Ukrtransgaz" has indicated satisfactory measures implementation for JSC "Ukrtransgaz" facilities in preparation works for

autumn and winter periods of 2018/2019 and the readiness of JSC "Ukrtransgaz" gas transmission system for operation in the autumn and winter periods of 2018/2019. The committee issued certificates of readiness for all branches.

#### Reconstruction of CS

JSC "Ukrtransgaz" continues implementation of the investment project "Reconstruction of compressor station "Bar" of the "Soyuz" gas pipeline", for financing of which the loan agreement under the guarantees of the Government of Ukraine has been concluded between "Deutsche Bank AG" and PJSC "UKRTRANSGAZ" on 11.12.2012. According to the procurement agreement the "Feasibility Study" (FS) was developed between PJSC "UKRTRANSGAZ" and "Ferrostaal Industrieanlagen GmbH", which was approved by the Cabinet of Ministers of Ukraine regulation No.1403-p dated 30.12.2015.

In accordance with the terms of the Agreement with "Ferrostaal Industrieanlagen GmbH" the main (GPU type PGT-25 in number of 2 units) and auxiliary technological equipment was supplied. The stage of preparatory construction work is completed, and the installation of the main (GPU) and auxiliary technological equipment is carried out.

JSC ""Ukrtransgaz" and State Company "Zoria-Mashproekt Research and Production Complex for Gas Turbine Building" have entered into an agreement on reconstruction of the CS "Yagotyn" on a turnkey basis. Works on the development of working project documentation and preparatory construction works are underway.

Reconstruction of the main gas pipeline Urengoy – Pomary - Uzhgorod:

On December 1, 2014 the Financing Agreement was signed between Ukraine and the EIB to grant the loan for implementation of the Project in the amount of up to EUR 150.00 million and the Project Agreement between PJSC "UKRTRANSGAZ" and the EIB on the implementation of the Project. On 31.08.2015 the Financial Agreement was entered into force.

On December 15, 2014 the Loan Agreement was signed between Ukraine and the EBRD amounting up to EUR 150.00 million, as well as the Project Agreement between PJSC "UKRTRANSGAZ" and EBRD. The entry into force of such an agreement is carried out following the fulfilment of the prerequisites for the entry into force of the agreement with the EBRD (Section 5.01 of the Agreement).

May 29, 2015 the sub-loan agreements for a loan with EBRD and EIB were signed between the Ministry of Finance of Ukraine, the Ministry of Energy and Coal Industry of Ukraine, NEURC, NJSC "Naftogaz of Ukraine" and PJSC "UKRTRANSGAZ".

The Law of Ukraine dated 23.11.2018 No. 2629-VIII «On the State Budget of Ukraine for 2019» provides for the attraction of loans from the EIB and the EBRD for the implementation of the Project in the amount of UAH 157 968 million.

In pursuance of the above-mentioned agreements PJSC "UKRTRANSGAZ" the PIU Consultant was involved by means of Grant funds TF 0A 4498 from the EC,

administered by the IBRD. On 07.10.2017, the contract with Su-Yapi Engineering and Consulting Inc. was signed on the continuation of providing consultancy services on Procurement and Management of Project (services of the PIU Consultant). The contract with the PIU Consultant has terminated on 31.07.2018. The duration of the EC-WB Grant TF0A4498 has been extended until 31.07.2019 to use the Grant and to attract a Consultant on procurement support of materials and equipment, construction works on the sections of the linear part of the Project, as well as on the development of tender documentation and procurement of goods and works for the reconstruction of the CS Romny.

As of 26.11.2018, the Loan Agreement between Ukraine and the EBRD and the Project Agreement between EBRD and PJSC "UKRTRANSGAZ" dated December 15, 2014 (Agreements with EBRD) have not entered into force.

The deadline for the entry into force of the Agreements with EBRD is extended until January 31, 2019.

10.12.2018 EBRD sent an official letter to the Ministry of Finance and JSC "Ukrtransgaz" stating that the Bank is ready to announce the entry into force of the Agreements subject to 1) the signing by the Ministry of Finance of the Letter of Refusal to present the requirements under the Loan Agreement; 2) signing by JSC "Ukrtransgaz" of the Letter of Refusal to present requirements under the Project Agreement; 3) the signing by the Minister of Finance of Ukraine of the Amendments to the Loan Agreement.

On behalf of JSC "Ukrtransgaz", the relevant Letter of Refusal was signed on 20.12.2018 and transferred to the EBRD (and copy to the Ministry of Finance).

#### Environmental and social issues.

The agreements with the EBRD and the EIB also provide for the implementation of a separate complex of environmental and social measures for each bank, in particular those that are the prerequisite for the first drawdown of the facility.

PIU Consultant with the participation of PJSC "UKRTRANSGAZ" has developed a complete package of environmental and social documents on the Project, in particular environmental and social protection, labor safety, human resources management, land allocation and compensation, interaction with stakeholders (about 20 documents in total) required by the EBRD and the EIB.

Based on the results of the joint work of the PIU Consultant, the EBRD and the EIB, and the specialists of JSC "Ukrtransgaz", on 21.09.2018 the banks have agreed the above-mentioned environmental and social documents, in particular, that is necessary for the implementation of the first sample of credit funds. The list of specified environmental and social documents is an additional information package for creditors.

#### Procurement.

JSC "Ukrtransgaz" has completed the procedure for purchasing consulting services for the supervision of construction works under the Project according to EBRD rules, financing of which is expected to be carried out at the expense of EBRD loan funds. On 08.12.2017, the Contract was signed between PJSC "UKRTRANSGAS" and ILF Consulting Engineers Polska Sp. z.o.o.

During 27-28.09.2018, the bid opening for the procurement of goods for the sections of the linear part of the project were held. The EBRD has agreed on the award of a contract for the supply of pipes and hot bends. The procedure for evaluating opened applications for the selection of the valves supplier has been completed, and the evaluation report is in consistent with the EBRD. The conclusion of contracts is scheduled for I quarter of 2019.

On 26.09.2018, the procurement of construction works on the line part of the Project has begun. On 29.11.2018, the bid opening took place. The evaluation of proposals is ongoing. The conclusion of contracts is scheduled for I quarter of 2019.

Within the framework of Grant TF0A4498, following procurements were made:

- consultant for the provision of services for the procurement support of MTRs, construction works on the sections of the linear part of the investment project, as well as the development of tender documentation and procurement of goods and works on the reconstruction of the CS Romny.
- services for auditing the use of grant funds. As a result of the procurement according to the rules of the World Bank, PJSC "Deloitte & Touche USC" is selected as the company to perform the audit.

The conclusion of relevant contracts with the winners is underway.

#### Status of design documentation for the Project

- 1. The design documentation on sections of capital repairs of linear part of the pipeline is approved in accordance with the procedure established by legislation in line with the orders of the Cabinet of Ministers of Ukraine (km 3364,5-3391,2 dated 22.07.2016 No. 523-p; km 3488,36-3519,87 dated 22.09.2016 No. 680-p; km 3974,77-4008,45 dated 23.12.2015 No.1368-p and km 4101,3-4128,4 dated 23.12.2015 No.1367-p).
- 2. The Cabinet of Ministers of Ukraine approved the project documentation at the stage of "Feasibility Study" for the project "Reconstruction of the compressor station "Romny" of the main gas pipeline "Urengoy Pomary Uzhgorod" by the order dated 31.05.2017 No. 365-p. The development of the project documentation is in process.

#### 6. Measures of JSC "Ukrtransgaz" directed to meet peak demand.

In order to prepare JSC "Ukrtransgaz" branches for the autumn-winter period of 2018/2019, planned and preventive maintenance services have been performed having an impact on Russian gas transit to European countries and being mutually coordinated by PJSC "Gazprom" and shipping countries. During 2018, 13 complexes of planned services and preventive maintenance were carried out in line with the approved time schedule.

Among key organizational and technical measures for JSC "Ukrtransgaz" operation in 2018/2019 autumn-winter period, there is an essential component – natural gas injection into the underground storage facilities. The measures envisaged the injection of 7.5 billion cubic meters of gas for 2018. In general, in 2018 9.8 billion cubic meters of natural gas were injected into UGSF of JSC "Ukrtransgaz" which is 0.7 billion cubic meters more compared to 2017. At the same time, storage level of natural gas in UGSF of JSC "Ukrtransgaz" at the beginning of withdrawal season was about 17.2 billion cubic meters, which is 0.2 billion cubic meters more than in 2017.