



Operation Report of the NNGS for the Year 2011

(In accordance with the provisions of the paragraph 2.z of Article 68 of the Law 4001/2011 on the operation of Energy Markets of Power Generation and Natural Gas, for Research, Production and Hydrocarbon Transportation Networks and other regulations)

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1 General description of the National Natural Gas System



The National Natural Gas System (NNGS) transports Natural Gas to consumers connected to the NNGS in the Greek mainland from the Greek-Bulgarian borders, the Greek-Turkish borders and the Liquefied Natural Gas (LNG) terminal, which is installed at Revythousa Island at Megara.

It consists of:

- The main pipeline, with 512 Km length and 36" & 30" diameter, and the branches of total length 706 Km, which connect various areas of the country to the main pipeline,
- The Border Metering Stations at Sidirokastro, Serres and at Kipi, Evros,
- The Liquefied Natural Gas (LNG) Station at Revythousa,
- The Natural Gas Metering and Regulating Stations,
- The Control and Dispatching Centers,
- The Operation and Maintenance Centers at the Sidirokastro Border Metering Station, Eastern Greece, Northern Greece, Central Greece and Southern Greece,
- The Remote Control and Communications system, and
- Two underwater pipes, each one a back-up of the other, of 24" diameter each and of 2x600 m length that connect the Revythousa LNG Station to the mainland.

The Revythousa LNG Station is the only installation in the National Natural Gas System which can temporarily store natural gas quantities, up to 130,000 m³ ≈ 882,700 MWh. In ten years of its operation, LNG Station has received more than three hundred (300) LNG loads arriving in our country by tanker.

It consists of:

- Two (2) Liquefied Natural Gas tanks of 65,000 m³ LNG each,
- LNG unloading installations of a total unloading capacity of 7,250 m³ LNG/h, and
- LNG gasification installations of total capacity of 1,000 m³ LNG/h in continuous working conditions and 1,250 m³/h LNG when the back-up gasifiers are in use.

The Natural Gas is delivered from the Users to three (3) Entry Points of the National Natural Gas Transmission System and it is off-taken by the Users via thirty-six (36) Exit Points in the Greek mainland.

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2 Report for the operation of NNGS

2.1 Technical Characteristics of the System

The Table 1 below shows the diameters and total lengths of the main pipeline and the branches of the National Natural Gas Transmission System (NNGTS).

N.G. Pipeline	DIAMETER (inch)	TOTAL LENGTH (Km)
Main Pipeline	36 & 30	512.42
Lavrion Branch	30	101.60
Keratsini Branch	30 & 24	24.42
Oinofyta Branch	10	20.57
Volos Branch	10.75	40.87
EKO Branch	10.75	9.74
Thessaloniki East Branch	24	24.73
Platy Branch	10	10.97
Kavala-Kipi-Komotini Branch	24 & 36	300.25
Aloyminion Branch	20	28.06
Korinthos-Motor Oil Branch	30 & 20	42.00
Trikala-Karditsa Branch	10	71.93
Thisvi Branch	20	28.13
Heron Branch	13	0.65
<i>TOTAL</i>		1,216.33
Revythousa - Agia Triada Underwater Pipeline		
East Pipeline	24	0.60
West Pipeline	24	0.60

Table 1: Diameters and lengths of the Natural Gas pipeline

2.2 Variations in Technical Characteristics of the System

During the Year 2011, in the NNGS, the Exit Point "MOTOR OIL II" was inducted in the area of Agioi Theodoroi at Korinthos (date of operation: 09.09.2011).

2.3 NNGS Entry/Exit Points Capacity

The Table 2, as follows, shows the Technical Capacities of the relative Entry/Exit Points of the NNGTS, and the Maximum Capacity of the relative Metering/Regulating Stations.

NATIONAL NATURAL GAS TRANSMISSION SYSTEM TECHNICAL CAPACITIES AT ENTRY/EXIT POINTS (RELATIVE POINTS)						
No.	ENTRY POINT	Technical Capacity [Nm ³ /Day] ⁽¹⁾	Technical Capacity [MWh/Day]	Transforming Factor [MWh/1000 Nm ³]	DESFA Metering/Regulating Station	Maximum Capacity of DESFA Metering/Regulating Station [Nm ³ /Day]
1	SIDIROKASTRO	9,767,000	109,000.000	11.16	M SIDIROKASTRO (U-2010)	15,892,800
2	AGIA TRIADA	12,469,296	139,656.115	11.20	M AGIA TRIADA (U-3020)	12,469,296
3	KIPI	2,724,000	30,400.000	11.16	M R KIPI (U-3900)	20,547,936
No.	EXIT POINT	Technical Capacity [Nm ³ /Day] ⁽¹⁾	Technical Capacity [MWh/Day]	Transforming Factor [MWh/1000 Nm ³]	DESFA Metering/Regulating Station	Maximum Capacity of DESFA Metering/Regulating Station [Nm ³ /Day]
1	ALOYMINION	2,400,000.000	26,784.000	11.16	M AdG (U-2820)	2,400,000.000
2	MOTOR OIL	2,400,000.000	26,784.000	11.16	M MOTOR OIL (U-7130)	2,400,000.000
3	ATHENS	10,339,224.000	115,385.740	11.16	M R ATHENS NORTH (U-2910)	2,645,256.000
					M R ATHENS EAST (U-2940)	2,645,256.000
					M R ASPROPYRGOS (U-2970)	2,403,600.000
					M R ATHENS WEST (U-2990)	2,645,112.000
4	ALEXANDROUPOLIS	672,000.000	7,499.520	11.16	M R ALEXANDROUPOLIS (U-3630)	672,000.000
5	VIPE LARISSA	240,000.000	2,678.400	11.16	M R VIPE LARISSA (U-2515)	240,000.000
6	VOLOS	1,239,432.000	13,832.061	11.16	M R VOLOS (U-2680)	1,239,432.000
7	VFL	583,416.000	6,510.923	11.16	M R VFL (U-2170)	583,416.000
8	DRAMA	672,000.000	7,499.520	11.16	M R DRAMA (U-2140)	672,000.000
9	ELPE	432,648.000	4,828.352	11.16	M R EKO (U-2250)	432,648.000
10	ENERGIAKI THESS. (ELPE)	2,400,000.000	26,784.000	11.16	M R ENERGIAKI THESSALONIKI	2,400,000.000
11	HERONAS	960,000.000	10,713.600	11.16	M HERONAS (U-6020)	960,000.000
12	HERON II	2,040,000.000	22,500.000	11.16	M HERON II (U-6030)	2,040,000.000
13	THESSALONIKI	3,481,296.000	38,851.263	11.16	M R THESSALONIKI NORTH (U-2240)	1,740,648.000
					M R THESSALONIKI EAST (U-2220)	1,740,648.000
14	THISVI ⁽²⁾	2,136,000.000	23,800.000	11.16		2,136,000.000
15	THRIASIO	1,216,920.000	13,580.827	11.16	M R THRIASIO (U-2960)	1,216,920.000
16	KAVALA	240,000.000	2,678.400	11.16	M R KAVALA (TM4-A)	240,000.000
17	KARDITSA	480,000.000	5,356.800	11.16	M R KARDITSA (TM3-A)	480,000.000
18	KATERINI	672,000.000	7,499.520	11.16	M R KATERINI (U-2340)	672,000.000
19	KERATSINI (PPC)	2,451,672.000	27,360.660	11.16	M KERATSINI (U-3090)	2,451,672.000
20	KILKIS	1,056,000.000	11,784.960	11.16	M R KILKIS (U-2260)	1,056,000.000
21	KOKKINA	240,000.000	2,678.400	11.16	M R KOKKINA (U-2670)	240,000.000
22	KOMOTINI (PPC)	2,592,000.000	28,926.720	11.16	M R PPC KOMOTINI (U-3570)	2,592,000.000
23	KOMOTINI	480,000.000	5,356.800	11.16	M R KOMOTINI (TM3-C)	480,000.000
24	LAMIA	672,000.000	7,499.520	11.16	M R LAMIA (U-2620)	672,000.000
25	LARISSA	1,243,680.000	13,879.469	11.16	M R LARISSA NORTH (U-2520)	621,840.000
					M R LARISSA SOUTH (U-2530)	621,840.000
26	LAVRION (PPC)	5,760,000.000	64,281.600	11.16	M LAVRION (U-3430)	5,760,000.000
27	SPATA	276,000.000	3,080.160	11.16	M R MARKOPOULO (TM2)	276,000.000
28	XANTHI	1,056,000.000	11,784.960	11.16	M R XANTHI (U-3530)	1,056,000.000
29	OINOFYTA	636,192.000	7,099.903	11.16	M R OINOFYTA (U-2880)	636,192.000
30	PLATY	515,712.000	5,755.346	11.16	M R PLATY (U-2410)	515,712.000
31	SALFA ANO LIOSSIA ⁽²⁾	240,000.000	2,678.400	11.16		240,000.000
32	SALFA ANTHOUSA ⁽²⁾	240,000.000	2,678.400	11.16		240,000.000
33	SERRES	1,056,000.000	11,784.960	11.16	M R SERRES (U-2110)	1,056,000.000
34	TRIKALA	480,000.000	5,356.800	11.16	M R TRIKALA (TM3-B)	480,000.000
35	MOTOR OIL II ⁽²⁾	1,920,000.000	21,427.200	11.16		1,920,000.000
36	ALOYMINION II ⁽²⁾	1,861,795.000	20,777.632	11.16		1,861,795.000

Table 2: Technical and Maximum Capacities of the NNGTS Entry/Exit Points

Comments on Table 2:

1. "Technical Capacity" is the maximum invariable capacity that the Operator is able to offer to the Transmission Users, considering the operational demands of the NNGTS.
2. Given that the Operator has not completed the installation works for the measuring device, through which gas is injected from the Transmission System to the relative Natural Gas Extraction Installation and until the completion of the measuring device, Exit Point will be considered the connection point of the last link on the pipeline feeding, where Natural Gas is injected to the Natural Gas Extraction Installation inside a site, which has been given to the Operator for the construction of the corresponding measuring device.

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Finally, the Table 3 below depicts the NNGTS Average Natural Gas Deliveries and Off-takes for the year 2011.

NNGTS Average Natural Gas Deliveries and Off-takes at the Entry and Exit Points			
Year 2011			
Entry Point Name	Technical Capacity [MWh/Day]	Annual Average of Natural Gas Delivery for the Point [MWh/Day]	Technical Capacity Use [Percentage]
AGIA TRIADA	139,656.115	36,077.946	25.83%
KIPI	30,400.000	20,855.919	68.60%
SIDIROKASTRO	109,000.000	82,961.921	76.11%
Exit Point Name	Technical Capacity [MWh/Day]	Annual Average of Natural Gas Delivery for the Point [MWh/Day]	Technical Capacity Use [Percentage]
ATHENS	115,385.740	10,145.415	8.79%
ALEXANDROUPOLIS	7,499.520	14.110	0.19%
ALOYMINION	26,784.000	11,306.265	42.21%
ALOYMINION II	20,777.632	8,114.606	39.05%
VIPE LARISSA	2,678.400	142.751	5.33%
VOLOS	13,832.061	2,147.107	15.52%
VFL	6,510.923	4,744.332	72.87%
DRAMA	7,499.520	254.316	3.39%
ELPE	4,828.352	1,554.586	32.20%
ENERGIAKI THESS. (ELPE)	26,784.000	12,284.293	45.86%
HERON II	22,500.000	14,201.892	63.12%
HERONAS	10,713.600	159.798	1.49%
THESSALONIKI	38,851.264	7,450.557	19.18%
THISVI	23,800.000	12,583.170	52.87%
THRIASIO	13,580.827	1,349.324	9.94%
KAVALA	2,678.400	41.184	1.54%
KARDITSA	5,356.800	106.096	1.98%
KATERINI	7,499.520	154.327	2.06%
KERATSINI (PPC)	27,360.660	1,939.809	7.09%
KILKIS	11,784.960	865.721	7.35%
KOKKINA	2,678.400	477.934	17.84%
KOMOTINI	5,356.800	139.125	2.60%
KOMOTINI (PPC)	28,926.720	7,831.167	27.07%
LAMIA	7,499.520	138.272	1.84%
LARISSA	13,879.468	1,769.349	12.75%
LAVRION (PPC)	64,281.600	24,058.775	37.43%
MOTOR OIL	26,784.000	10,864.351	40.56%
MOTOR OIL II	21,427.200	1,179.105	5.50%
XANTHI	11,784.960	205.022	1.74%
OINOFYTA	7,099.903	2,776.979	39.11%
PLATY	5,755.346	460.229	8.00%
SAFLA ANTHOUSA	2,678.400	214.280	8.00%
SALFA ANO LIOSSIA	2,678.400	288.764	10.78%
SERRES	11,784.960	826.106	7.01%
SPATA	3,080.160	324.002	10.52%
TRIKALA	5,356.800	35.511	0.66%

Table 3: Annual Average Natural Gas Deliveries/Off-takes at the Entry/Exit Points for the Year 2011

2.4 Load Balancing

Balancing Gas is considered the Natural Gas quantity that the Operator injects to the National Transmission System, during a certain period, so as to create a balance between Natural Gas deliveries and off-takes (during the same period) so as in every case the safe, reliable and efficient operation of the NNGS will be considered secure. As part of his responsibilities and obligations, the Operator ensures the above balance, taking into account the losses and the stored Natural Gas quantities in the National Transmission System. As for now, the balancing needs of the National Transmission System are covered solely by using the Liquefied Natural Gas (LNG) Installation at Revythousa. During the Year 2011, the Operator obtained the appropriate Natural Gas quantities for the load balancing of the NNGTS to the relative agreements signed with the Public Gas Corporation (DEPA) S.A. for the supply of Liquefied Natural Gas Quantities.

The Table 4 below presents the monthly Operator's predictions for the necessary Balancing Gas quantities, according to the modification of the Annual Planning of Load Balancing of the NNGTS for the Year 2011, which is approved from the Regulatory Authority for Energy (RAE) and the total quantities of the Balancing Gas actually needed for the Year 2011.

	Balancing Gas Predictions according to the modification of the Annual Planning of Load Balancing	Balancing Gas (Outturn)
Year 2011	(MWh)	(MWh)
January	171,775.00	320,769.00
February	161,941.00	229,455.00
March	154,644.00	177,744.00
April	140,953.00	178,887.00
May	111,719.00	153,446.00
June	177,281.00	89,051.00
July	223,237.00	79,691.00
August	229,863.00	87,502.00
September	127,227.00	128,011.00
October	155,381.00	113,459.00
November	183,102.00	327,457.00
December	288,914.00	182,212.00
Total	2,126,037.00	2,067,684.00

Table 4: Monthly Operator's predictions according to the modification of the Annual Planning of Load Balancing of the NNGTS and the total Balancing Gas quantities for the Year 2011

The Diagram 1 shows the monthly Balancing Gas quantities, related to the monthly Natural Gas Deliveries in all the NNGTS Entry Points.

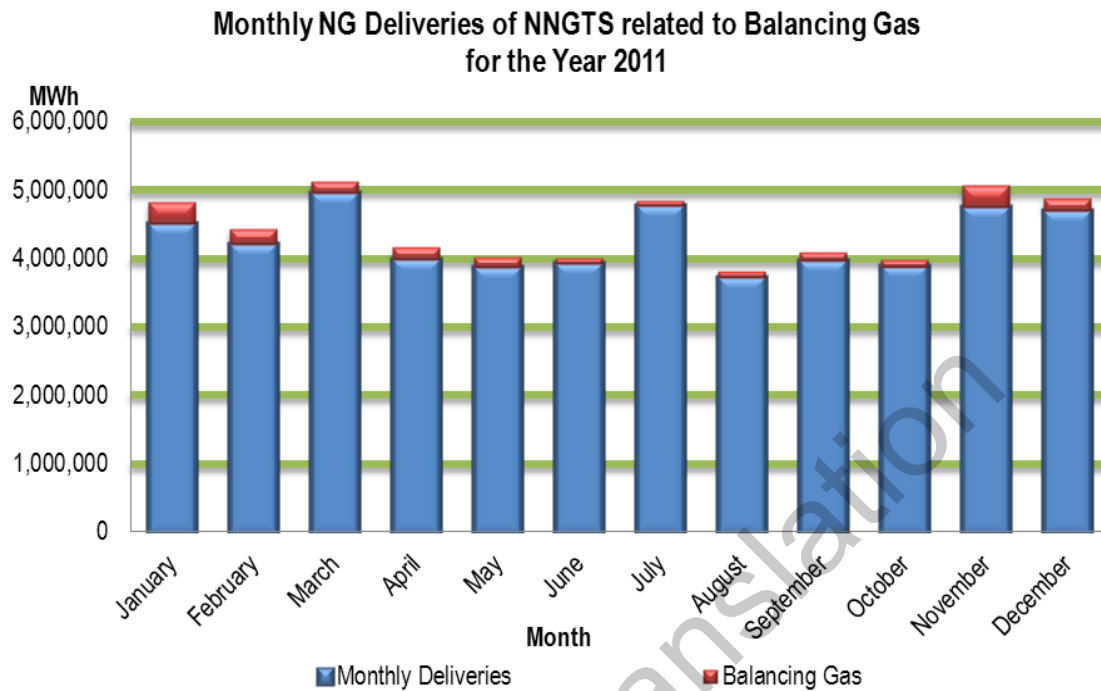


Diagram 1: Monthly Natural Gas Deliveries related to Balancing Gas for the Year 2011

In the year 2011 the Natural Gas quantity that the Transmission Users delivered at the Entry Points is lower than the Natural Gas quantity received from the Exit Points of NNGTS, leading to Transmission Users had an average negative Daily Imbalance (DGI).

Worth noting is the Day 10.03.2011, as it was the maximum quantity of the Natural Gas Deliveries for the Year 2011, which was in the level of 208,527.381 MWh with DGI -11,009.34 MWh (which is the 5,3 % of the Natural Gas Total Deliveries). The same Day, the Balancing Gas injected in the NNGS was 5,750.978 MWh. It is noted that the maximum Balancing Gas quantity that was demanded during the Year 2011 does not concur with the Maximum Delivery Day above, but took place on 26.04.2011 and was about 42,489.075MWh.

The Diagram 2 shows the total DGI of the Users for the Year 2011.

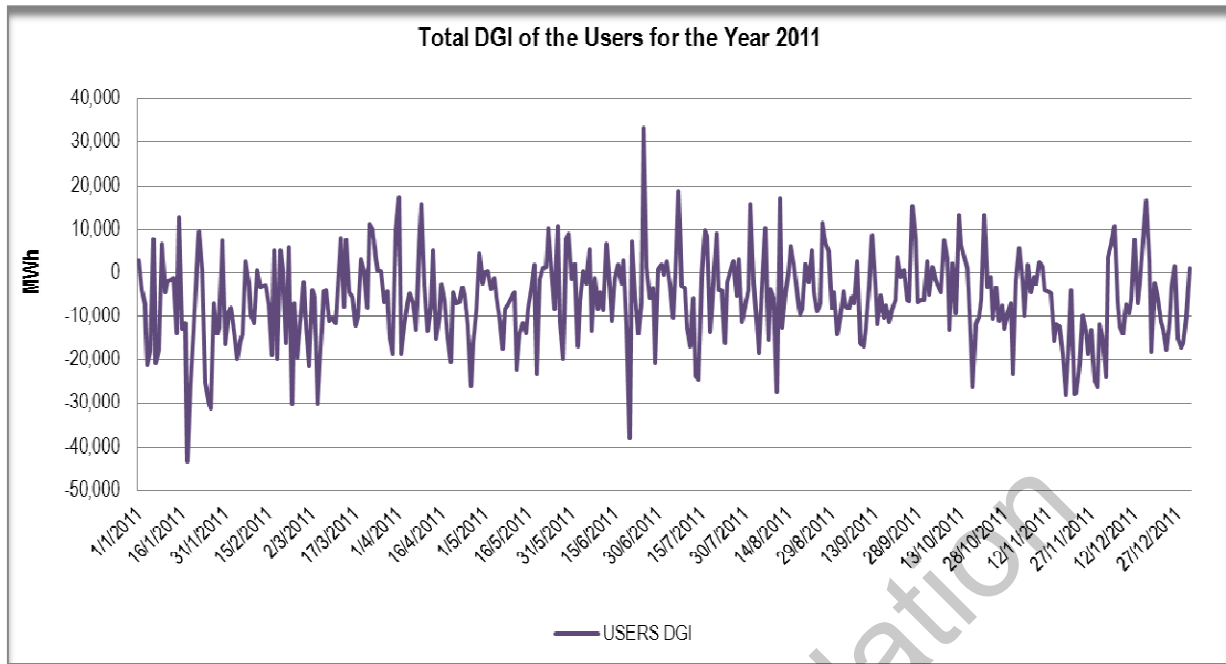


Diagram 2: Total Users DGI for the Year 2011

The Operator, so as to offset the relatively frequent negative DGI of the Users, while ensuring continuous, normal, safe and efficient operation of the NNGS, used the smallest possible Balancing Gas quantities, considering the current pressure level of the network system, functional limitations as well as the estimated Natural Gas demand.

2.5 Maintenance Standard and Quality

The Table 5 shows the Maintenance Program of NNGS for the year 2011 as well as the revision of maintenance work that already had taken place. Preventive maintenance and repair of all electrical and mechanical installations, the inspections, the management and control of the cathodic and lightning protection of the pipeline and installations were done according to the provided in the maintenance manuals, the legislation in use and the so far gained experience due to the running of the system for years.

The calibration of the measuring systems was done according to the Annual Calibration Program with only minor time deviations.

The Operator is certified with ISO 9001:2008, OHSAS 18001:2004 & EN ISO 14001:2004 for all his activities, including the procedures of preventive and repairing maintenance and calibration of measuring systems.

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NATIONAL NATURAL GAS SYSTEM MAINTENANCE PROGRAM - YEAR 2011

No.	NNGS POINT	WORK DESCRIPTION	TRANSMISSION CAPACITY LIMITATION	WORKS PERIOD	WORKS DURATION	NOTES
1	LNG Terminal	1) MATCHING OF S/W PUMPS 2) SEA WATER GASIFIERS THICKNESS MEASUREMENT (ORV A + B)	Available Regasification Capacity at LNG Terminal 117,000 MWh/Day Available Transportation Capacity at Entry Point "AGIA TRIADA": 117,000 MWh/Day	JANUARY	3	The maintenance was postponed after revising the situation of the unloading pier.
2	"NEA MESIMVRIA" Line Valve	VALVE REPLACEMENT	Available Transportation Capacity at Line Valve "NEA MESIMVRIA": 0.00 MWh/day	JANUARY-MARCH 2011	2	Took place with a limitation of the Available Transportation Capacity at Line Valve "NEA MESIMVRIA" (0 MWh/day) for 2 day (from 29/3 to 30/3).
3	LNG Terminal	HEAT GASIFIERS INSPECTION (SCVs C + D)	Available Regasification Capacity at LNG Terminal: 97,500 MWh/Day Available Transportation Capacity at Entry Point "AGIA TRIADA": 97,500 MWh/Day	MARCH	1	Took place without limitations at Entry Point "AGIA TRIADA".
4	LNG Terminal	HEAT GASIFIERS INSPECTION (SCVs A + B)	Available Regasification Capacity at LNG Terminal: 117,000 MWh/Day Available Transportation Capacity at Entry Point "AGIA TRIADA": 117,000 MWh/Day	APRIL	1	Took place without limitations at Entry Point "AGIA TRIADA".
5	LNG Terminal	1) MATCHING OF S/W PUMPS 2) SEA WATER GASIFIERS THICKNESS MEASUREMENT (ORV A + B)	Available Regasification Capacity at LNG Terminal: 117,000 MWh/Day Available Transportation Capacity at Entry Point "AGIA TRIADA": 117,000 MWh/Day	MAY	3	The maintenance was postponed after revising the situation of the unloading pier.
6	"VIPE LARISSA" Line Valve	HEAT CELLS SETTING AT THE STATION U-2515	Available Transportation Capacity at Exit Point "VIPE LARISSA": 0.00 MWh/Day	JULY - AUGUST	2	Took place with a limitation of the Available Transportation Capacity at Exit Point "VIPE LARISSA" (0 MWh/day) for 1 day (28/8).
7	"KOKKINA" Line Valve	HEAT CELLS SETTING AT THE STATION U-2670	Available Transportation Capacity at Exit Point "KOKKINA": 0.00 MWh/Day	JULY - AUGUST	2	Took place with a limitation of the Available Transportation Capacity at Exit Point "KOKKINA" (0 MWh/day) for 1 day (23/8).
8	LNG Terminal	1) MATCHING OF S/W PUMPS 2) SEA WATER GASIFIERS THICKNESS MEASUREMENT (ORV A + B)	Available Regasification Capacity at LNG Terminal: 117,000 MWh/Day Available Transportation Capacity at Entry Point "AGIA TRIADA": 117,000 MWh/Day	SEPTEMBER	3	The maintenance was postponed after revising the situation of the unloading pier.
9	LNG Terminal	PREVENTIVE MAINTENANCE OF UNLOADING ARMS	Unavailable LNG Unloading Pier	DECEMBER	5	The maintenance was postponed after revising the situation of the unloading pier.

Table 5: NNGS Maintenance Standard and Quality for the Year 2011

2.6 Congestion and Congestion Management

According to the paragraph [3] of Article 20 of the Network Code for the regulation of National Natural Gas System, "congestion" occurs when the Transmission available Capacity at an Entry or Exit Point is not sufficient in order to fulfill User's request for Transmission Capacity Booking at that point to the effect of servicing a new Natural Gas Consumer (Congestion). Furthermore, in accordance with paragraph [2] Article 20 of the Network Code for the regulation of NNGS, the above notification obligation shall not apply in case of an Exit Point serving exclusively one (1) Natural Gas Consumer.

Pursuant to paragraph [1] of Article 2 of Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009, "congestion management" means the management of the capacity of transmission system operator with a view to optimal and maximum use of technical capacity and the timely detection of future congestion and saturation points. Moreover, under the same Article of the above Regulation, contractual congestion means a situation where the level of firm capacity demand exceeds the technical capacity, and physical congestion is a situation where the level of demand for actual deliveries exceeds, at some point in time, the technical capacity.

The Table 6 below presents the Technical Capacities of the NNGTS Entry/Exit Points, the Booked Transmission Capacity (BTC) of the Points, the Maximum Allocated Quantity of the Points, the Contractual Percentage of the Maximum Booking of the Technical Capacity, the Percentage of the Maximum Usage of the Technical Capacity and notes about the congestion of the Points for the Year 2011.

Technical Capacity at the Points of the National Natural Gas Transmission System							
ENTRY POINT	Technical Capacity [MWh/Day]	Maximum Booked Transmission Capacity of Point [MWh/Day]	Maximum Allocated Natural Gas Quantity of Point [MWh/Day]	Contractual Percentage of the Maximum Booking of the Technical Capacity	Percentage of the Maximum Usage of the Technical Capacity	Congestion (Contractual)	Congestion (Operational)
SIDIROKASTRO	109,000.000	109,000.000	107,186.990	100%	98%	yes	yes
AG. TRIADA	139,656.115	93,019.000	150,041.120	67%	107%	possible congestion	yes
KIPI	30,400.000	26,575.000	27,849.830	87%	92%	possible congestion	yes
EXIT POINT	Technical Capacity [MWh/Day]	Maximum Booked Transmission Capacity of Point [MWh/Day]	Maximum Allocated Natural Gas Quantity of Point [MWh/Day]	Contractual Percentage of the Maximum Booking of the Technical Capacity	Percentage of the Maximum Usage of the Technical Capacity	Congestion (Contractual)	Congestion (Operational)
ALOYMINION	26,784.000	21,524.000	18,453.123	80%	69%	-	-
ALOYMINION II	20,777.632	20,000.000	20,122.271	96%	97%	-	-
MOTOR OIL	26,784.000	22,000.000	13,008.713	82%	49%	-	-
MOTOR OIL II	21,427.200	19,809.470	17,217.081	92%	80%	-	-
ATHENS	115,385.740	57,900.000	32,218.778	50%	28%	no	no
ALEXANDROUPOLIS	7,499.520	1,000.000	100.423	13%	1%	no	no
VIPE LARISSA	2,678.400	1,344.000	246.148	50%	9%	no	no
VOLOS	13,832.061	6,936.000	5,118.981	50%	37%	no	no
VFL	6,510.923	6,250.000	5,390.538	96%	83%	no	no
DRAMA	7,499.520	1,000.000	656.916	13%	9%	no	no
ELPE	4,828.352	3,500.000	3,269.031	72%	68%	-	-
ENERGIAKI THESS. (ELPE)	26,784.000	18,553.560	17,494.542	69%	65%	-	-
HERON II	22,500.000	19,385.106	18,436.316	86%	82%	-	-
HERONAS	10,713.600	8,500.000	7,892.366	79%	74%	-	-
THESSALONIKI	38,851.263	28,000.000	21,139.391	72%	54%	possible congestion	no
THISVI	23,800.000	19,621.000	18,458.368	82%	78%	-	-
THRIASIO	13,580.827	6,816.000	2,076.149	50%	15%	no	no
KAVALA	2,678.400	1,000.000	186.189	37%	7%	no	no
KARDITSA	5,356.800	2,600.000	442.647	49%	8%	no	no
KATERINI	7,499.520	350.000	325.555	5%	4%	no	no
KERATSINI (PPC)	27,360.660	24,423.465	22,051.230	89%	81%	-	-
KILKIS	11,784.960	4,200.000	1,458.707	36%	12%	no	no
KOKKINA	2,678.400	1,344.000	1,043.043	50%	39%	no	no
KOMOTINI (PPC)	28,926.720	24,102.300	22,263.596	83%	77%	-	-
KOMOTINI	5,356.800	1,800.000	297.378	34%	6%	no	no
LAMIA	7,499.520	1,400.000	258.997	19%	3%	no	no
LARISSA	13,879.469	6,960.000	5,193.103	50%	37%	no	no
LAVRION (PPC)	64,281.600	58,664.762	47,353.386	91%	74%	-	-
XANTHI	11,784.960	1,700.000	913.489	14%	8%	no	no
OINOFYTA	7,099.903	6,700.000	4,149.936	94%	58%	possible congestion	no
PLATY	5,755.346	4,582.000	3,243.668	80%	56%	possible congestion	no
SALFA ANTHOUSA	2,678.400	1,000.000	336.379	37%	13%	no	no
SALFA ANO LIOSSIA	2,678.400	1,000.000	452.976	37%	17%	no	no
SERRES	11,784.960	4,970.000	2,411.188	42%	20%	no	no
SPATA	3,080.160	1,296.000	684.214	42%	22%	no	no
TRIKALA	5,356.800	2,600.000	76.450	49%	1%	no	no

Table 6: Technical Capacities of Entry/Exit Points, Maximum Booked Transmission Capacity (BTC) of the Points, Contractual Percentage of the Maximum Booking for the Technical Capacity, Percentage of Maximum Usage of the Technical Capacity and notes about the congestion of the Points in the Year 2011

Notes on Table 6:

1. As for the congestion at the Entry Point "SIDIROKASTRO" and the forthcoming congestion at the Entry Point "KIPI", there shall be a partial decongestion with the operation of the Compressor Station at NEA MESIMVRIA of Thessaloniki, provided that the restrictions of capacity will be obviated from the upstream networks (BULGARTRANGAZ and BOTAS, respectively).
2. Concerning the forthcoming congestion that can be seen at the Entry Point "AGIA TRIADA", the Operator will increase the Technical Capacity of the Point, after the upgrade of the Revythousa LNG Station (as it is provided in the "NNGS DEVELOPMENT PROGRAM, PERIOD 2010 – 2014").
3. Concerning the Exit Point "OINOFYTA", it is not expected to have congestion during the Year 2012, because during that Year the Metering/Regulating Station at Thiva will start its operation and will supply the distribution network of Oinofyta-Schimatari-Thiva along with the existing Metering/Regulating station at Oinofyta.
4. Concerning the forthcoming congestion that can be seen at the Exit Point "THESSALONIKI", the Metering/Regulating Stations of Thessaloniki North & East will be upgraded according to the "NNGS DEVELOPMENT PROGRAM, PERIOD 2010 – 2014".
5. Concerning the possible congestion that could appear at the Exit Point "PLATY", it is not expected during the Year 2012.
6. Finally, at the Exit Point "VFL" congestion is not expected to occur, because the number of end consumers and the gas consumption at that Exit Point are not expected to increase.

2.7 Emergencies and Dealing with Emergencies

During the Year 2011 there was one case of Emergency in the National Natural Gas System. Specifically on 23.02.2011, at 10:50, during planned restoration works of the scrapper availability transit (piggability) for cleaning and checking the Main Natural Gas Pipeline at the position "DION" there was a large, uncontrolled leak from the bottom of the valve, which had been placed during the previous day. The leak occurred due to hardware failure (gasket).

DESFA staff was removed immediately and safely from the leak point. The measures taken to manage the situation were according to the DESFA's Emergency Manual and included the isolation of the section of the pipeline between the Valve Station "KATERINI" and the Valve Station "LITOKHORO", the notification of Public Authorities – i.e. Police, Fire Brigade –, the expansion of the pipeline section between the two (2) valve stations as above, repair of the problem and finally the gradual refilling of the isolated pipeline section with Natural Gas. At the same time, the Dispatching Center of DESFA, at Patima Elefsina, carried out a hydraulic simulation of the NNGTS, to check the stability of the system, and

increased the flow of Natural Gas Deliveries at the Entry Point “AGIA TRIADA” and decreased the flow of Natural Gas Deliveries at the Entry Point “SIDIROKASTRO”, so as not to disturb the Natural Gas Off-Takes downstream of the Line Valve “LITOCORO” and upstream of the Line Valve “KATERINI”.

When the operation of the pipeline section between the Line Valves “LITOCORO” and “KATERINI” was restored on 24.02.2011, at 2:00, DESFA declared the lifting of the Emergency and the Dispatching Center gradually commanded increase of the flow of Natural Gas Deliveries at the Entry Point “SIDIROKASTRO” and a corresponding decrease of the flow of Natural Gas Deliveries at the Entry Point “AGIA TRIADA” to adapt, as far as practicable, to the Natural Gas Deliveries at those Entry Points that were Booked by the Users for the Day 23.02.2011, without endangering the safety of the NNGS operation.

2.8 Operating characteristics of NNGS

According to the NNGS Measurements Regulation of DESFA, the Minimum Inlet Pressure at Entry Points “SIDIROKASTRO” and “KIPI” is 47.75 and 50.00 barg respectively. The Diagram 3 below shows the average Daily Inlet Pressure at Entry Points “AGIA TRIADA”, “SIDIROKASTRO” and “KIPI” for the Year 2011.

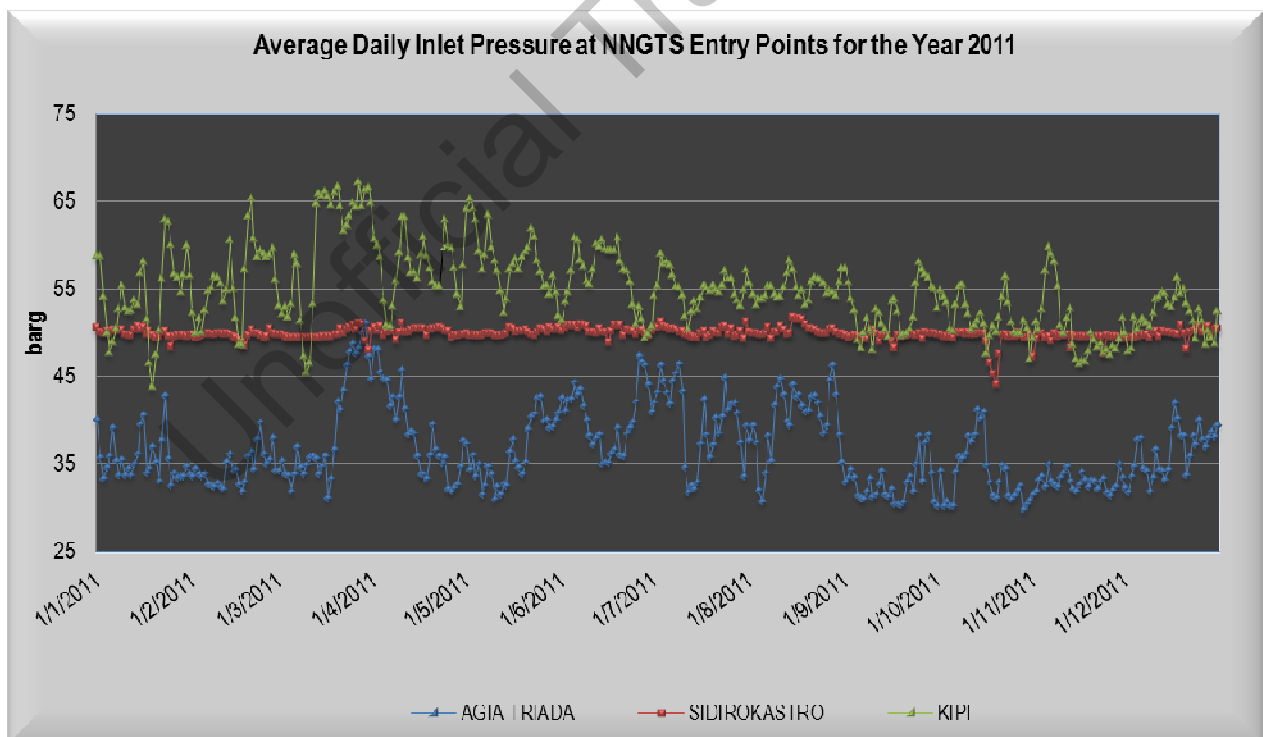


Diagram 3: Average Daily Inlet Pressure at NNGTS Entry Points for the Year 2011

Furthermore, the Diagram 4 below shows the average Daily Pressure of the NNGTS for the Year 2011, as recorded by DESFA’s SCADA system.

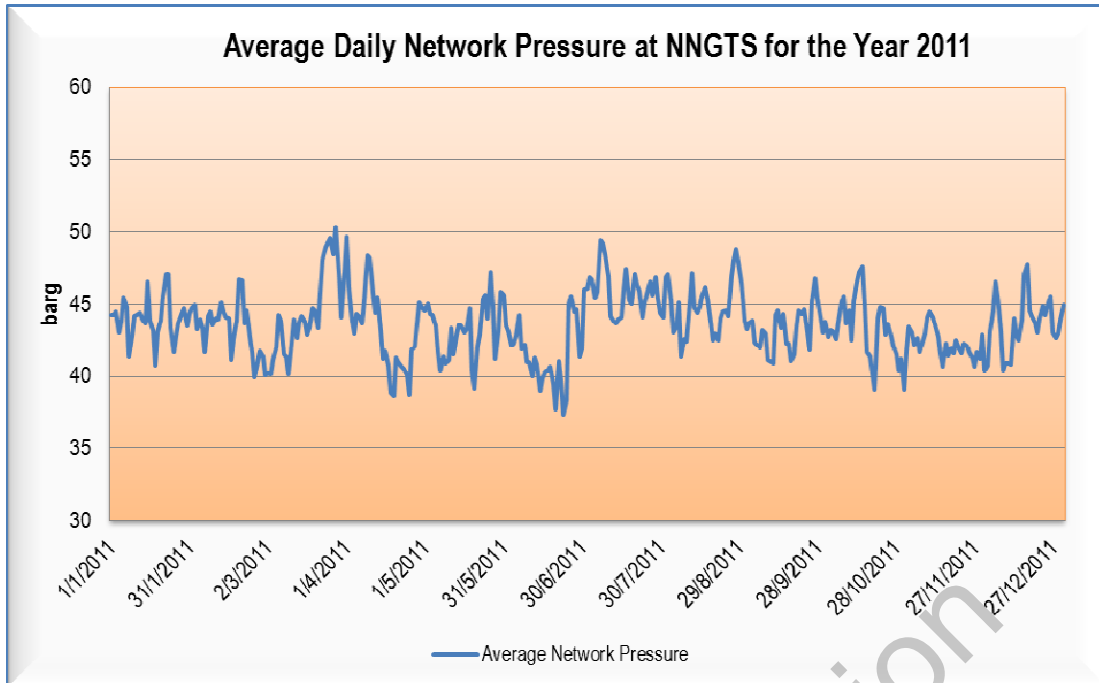


Diagram 4: Average Daily Network Pressure at NNGTS for the Year 2011

2.9 Natural Gas Quantities historical data

During the Year 2011 the total Natural Gas Off-Takes at NNGTS Exit Points was 51,232,759 MWh (compared to 41,547,309 MWh during the Year 2010). The Diagram 5 below shows the Daily Natural Gas Off-Takes of all the NNGTS Exit Points (as a sum) for the Year 2011. It is worth mentioning that the Day 10.03.2011, the maximum Natural Gas consumption was recorded, i.e. 208,527 MWh (compared to 192,844 MWh of the Day 17.12.2010).

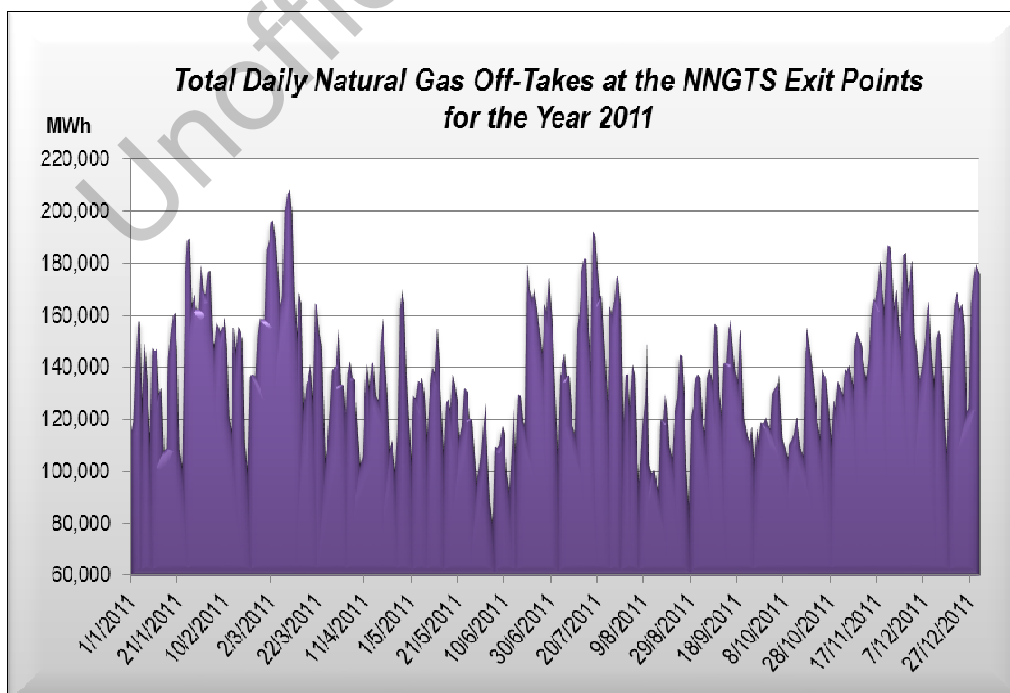


Diagram 5: Total Daily Natural Gas Off-Takes at the NNGTS Exit Points for the Year 2011

During the Year 2011 the total Natural Gas Deliveries at NNGTS Entry Points was 51,061,962 MWh (compared to 41,480,276 MWh during the Year 2010). The Diagram 6 below shows the Cumulative Daily Natural Gas Deliveries of all the NNGTS Entry Points (as a sum) for the Year 2011.

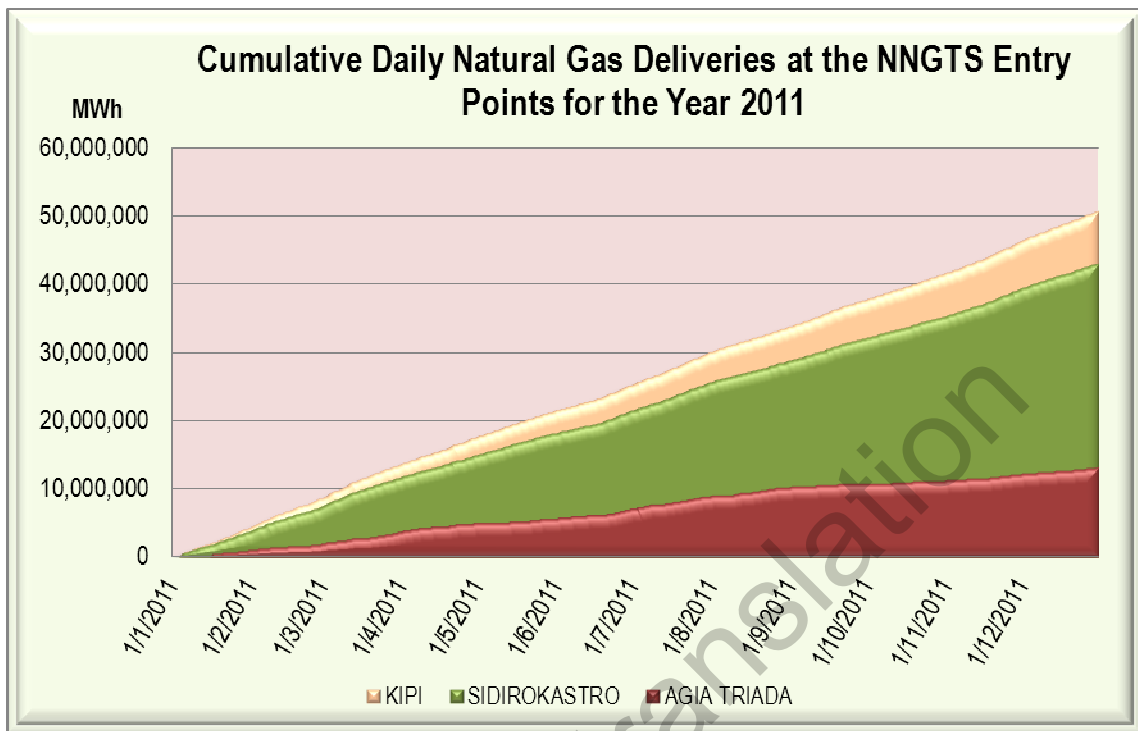


Diagram 6: Cumulative Daily Natural Gas Deliveries at the NNGTS Entry Points for the Year 2011

The Diagram 7 below shows the Daily variation of the Natural Gas quantity stored in the network of NNGTS (Line Pack) for the Year 2011.

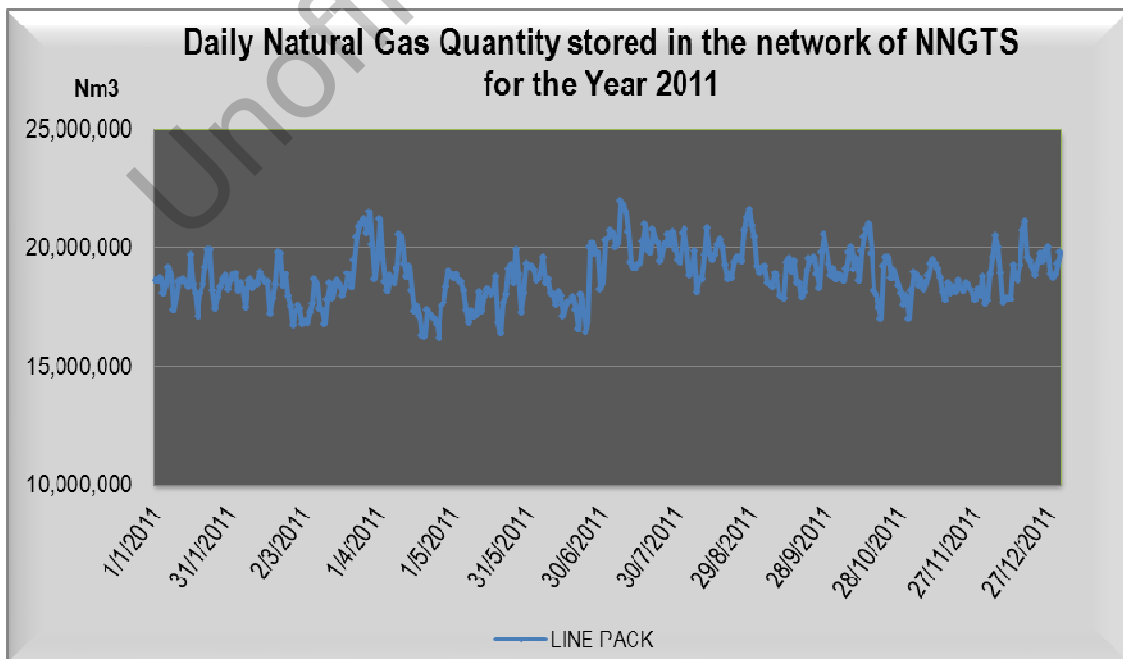


Diagram 7: Daily Natural Gas Quantity stored in the network of NNGTS for the Year 2011

The Diagram 8 below shows the total Daily configuration of the inventory of LNG Facility Users for the Year 2011. It is worth mentioning that the level of 66,700 MWh is practically the minimum reserve held by DESFA to ensure the protected customers.

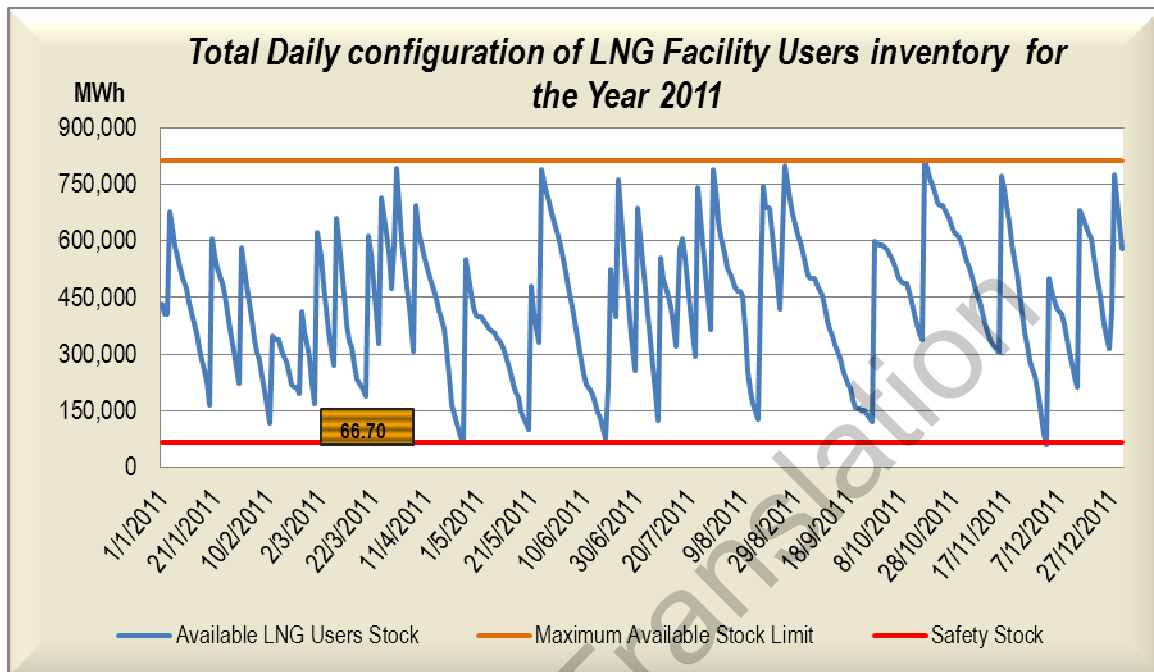


Diagram 8: Total Daily configuration of LNG Facility Users inventory for the Year 2011