

November 22th 2.019

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The maintenance dates that prevent loading / unloading, significantly limit the emission capacity of the Plant, or impose important restrictions on Transportation, must be made viable in the previous monthly schedule.

In general, operations that cause significant restrictions on the capacity of infrastructures to enter the System or Transportation during winter are not viable (November 1 to March 31); in these cases it is necessary that they be viable in the previous monthly programming and also in the dates prior to its realization.

Maintenances or restrictions involving pipelines or Infrastructures for gas entry into the system, located in the same area of influence, won't simultaneously be programmed.

In transport infrastructures operations that cause gas pipeline interception and also In Line Inspections, infrastructures for gas entry into the system may have to adjust their flows to the specific needs of these operations.

The user term refers indistinctly to the shipper, the direct customer in the market or the final customer. The condition of affection to users will be reviewed each month in the monthly update of this document.



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1.- REGASIFICATION PLANTS

1.1. BILBAO PLANT - BBG

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
11th or 18th May. 7 days	High voltage system revision	Maximum emission 400.000 Nm3/h.	No	155
October 4 hours	Annual preventive review of the relicuador	Maximum emission 400.000 Nm3/h.	No	156
Throughout the year	Preventive maintenance of unloading arms	No emission limitations. It will be coordinated to prioritize loading or unloading scheduled operations of vessels.	No	157
Throughout the year	Preventive maintenance of boil-off compressors GB-103B and GB-103C	No emission limitations. It will be coordinated to prioritize loading or unloading scheduled operations of vessels.	No	158
Throughout the year	Preventive maintenance at LNG trucks loading dock	No emission limitations. It will be coordinated to prioritize the LNG trucks operations.	No	159
Throughout the year	Preventive maintenance primary pumps	No emission limitations.	No	160
Throughout the year	Secondary maintenance preventive pumps	No emission limitations.	No	161
Throughout the year	Vaporizers coating maintenance	No emission limitations. It will be coordinated to prioritize scheduled productions. SCV as back-up.	No	162



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1.- REGASIFICATION PLANTS

1.2. MUGARDOS PLANT - REGANOSA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
21st January 12 hours	Remove pipe NG1103	Plant Stop	No	241
29th January 12 hours	Pipe installation NG1103	Plant Stop	No	242
January 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	243
January 1 day	Maintenance of control system LNG trucks loading dock	LNG trucks loading stop from 07:00 a.m. to 3:00 p.m.	Yes	244
February 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	245
January February 3 days	Terminal Control and Security Systems Maintenance	Plant stops for 12 hours_day	Yes	246
March 1 day	Inspection of LNG trucks loading dock scales	LNG trucks loading stop from 08:00 a.m. to 2:30 p.m.	Yes	247
April 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	248



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1.- REGASIFICATION PLANTS

1.2. MUGARDOS PLANT - REGANOSA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
May 1 day	Annual arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	249
June 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	250
From 3rd to 8th August	Seawater system review Safety ties test Maintenance of power supply line	Plant stops for 12 hours_day. 2 days LNG trucks loading stop for 12 hours	Yes	251
August 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	252
September 1 day	Calibration of LNG trucks loading dock scales	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	253
October 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	254
December 1 day	Arms maintenance at LNG trucks loading dock	From 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative.	No	255



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1.- REGASIFICATION PLANTS

1.3. SAGUNTO PLANT - SAGGAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
March 3 days	Maintenance at LNG trucks loading dock	2 days: from 05:00 a.m. to 1:30 p.m.; during this time one of the two bays will stand inoperative. 1 day: LNG trucks loading stop from 08:00 a.m. to 5:00 p.m.	Yes	163
1st quarter 1 week	ORV's review	Maximum emission 600.000 Nm3/h.	No	164
2nd Semester 2 weeks	Unloading arms revision	Without loading / unloading operations	Yes	165
3rd Quarter	Cleaning of catchment pool	2 days: Maximum emission 600.000 Nm3/h, from 08:00 a.m. to 5:30 p.m. 2 weeks: Maximum emission 800.000 Nm3/h. 2 weeks: Maximum emission 600.000 Nm3/h	No	166
3rd quarter 1 day	Periodic Tests ESD Matrix	Plant emission restricted to the use of the compressor for shipment to the transport network (from 8:00 a.m. to 1:00 p.m.)	No	164



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1.- REGASIFICATION PLANTS

1.4. BARCELONA PLANT - ENAGAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
January 7 days	Dredge of seawater outlet catch basin (North side)	Maximum emission 1.500.000 Nm3/h.	No	168
March 15 days	Cleaning the collection drawer Nº 2	Maximum emission 1.800.000 Nm3/h.	No	169
April 3 days	Disassembly of the sampling chromatograph at LNG trucks loading dock	LNG trucks loading stop	Yes	170
April 7 days	Hot Tap entry Relicuador, new Chromatograph Samples	BOG management capacity (Ship Load Limitation)	Yes	171
April 3 days	Legal Inspection SUB 4 and SUB 2	Maximum emission 1.800.000 Nm3/h.	No	172
April 8 months	Compressor Replacement 35 Bar network C2002A with the new C6000	No reloading of L and XL ships	Yes	173
15th May 12 days	Installation of the new FMC A-263 arms frame	Without vesels operations at berth A-263.	Yes	174
May 18 days	Limpieza piscina 3 Sur Pool cleaning Nº 3 south.	Maximum emission 1.800.000 Nm3/h.	No	175



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1.- REGASIFICATION PLANTS

1.4. BARCELONA PLANT - ENAGAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
May 10 days	Revamping SUB 3	Maximum emission 1.500.000 Nm3/h.	No	176
June 7 days	Replacement of the valve MOV 3916 water inlet to E2200 E (ORV)	Maximum emission 1.050.000 Nm3/h.	No	177
September 21 days	Nº 5 drawer catchment cleaning	Maximum emission 1.500.000 Nm3/h.	No	178
September 10 days	Replacement of the MOV 6010 Valve of the Sea Water Circuit	Maximum emission 1.050.000 Nm3/h.	No	179
September 7 days	Replacement of the outlet pressure control valve from plant to R72: PIC 2261.1 (back up)	Maximum emission 1.500.000 Nm3/h.	No	180
October 15 days	Pool cleaning Nº 4	Maximum emission 1.800.000 Nm3/h.	No	181
December 10 days	Assembly of the 12 "1R1J LNG line to increase the volume of loading ships	Maximum emission 1.500.000 Nm3/h.	No	182



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1.- REGASIFICATION PLANTS

1.5. CARTAGENA PLANT - ENAGAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
2nd quarter 10 days	Seawater return: Shipment / Return of water to / from CTCC: Phase 1 Collector A	Maximum emission 750.000 Nm3/h.	No	183
2nd quarter 10 days	Seawater return: Shipment / Return of water to / from CTCC: Phase 2 Collector B	Maximum emission 900.000 Nm3/h.	No	184
No definite date 3 days	Revamping electrical panels and installation of emergency generator GE-201.	No ship unloading or loading. Emission and LNG trucks loading stop for 6 hours.	Yes	185
No definite date 60 days	arms review Small Scale berth. Adaptation against berth 2 (APC maritime works)	Without loading/unloading ships in 40 M berth.	No	186
No definite date 4 days	Biennial legal verification of LNG trucks loading dock scales	The reserve LNG trucks loading dock is unavailable from 08:00 a.m. to 05:00 p.m. Available 2 of 3 LNG trucks loading docks.	No	187
No definite date 30 days	Overhaul Pantalan Arms 263 M	Without loading/unloading ships in 263 M berth.	Yes	188
No definite date 30 days	Overhaul Pantalan Arms 40 M	Without loading/unloading ships in 40 M berth.	No	189



PLAN ANUAL DE MANTENIMIENTO 2020

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1.- REGASIFICATION PLANTS

1.6. HUELVA PLANT - ENAGAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
1st quarter 1 day	Renewal of electrical panels and switches in Substation I, II and III. Works on electrical panels NC-102	Maximum emission 1.500.000 Nm3/h. Without loading/unloading ships.	Yes	190
1st quarter 10 days	Renewal of electrical panels and switches in Substation I, II and III. Works on electrical panels NC-501	Maximum emission 1.500.000 Nm3/h. Without loading/unloading ships.	Yes	191
1st quarter 4 days	Cleaning of emissary I	Maximum emission 1.050.000 Nm3/h.	No	192
2nd quarter 4 days	Cleaning of emissary II	Maximum emission 650.000 Nm3/h.	No	193
2nd quarter 4 days	Cleaning of emissary III	Maximum emission 1.050.000 Nm3/h.	No	194
2nd quarter 10 days	Bunkering interconnections.	Without loading/unloading ships	Yes	195



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2.- TRANSPORT PIPELINES - DISTRIBUTION NETWORKS

2.1. TRANSPORT PIPELINES

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
2º quarter 7 days	León Oviedo Gas Pipeline: Pola de Lena Variant (AVE Works "León Oviedo")	"León Oviedo" intercepted pipeline. P. Reganosa must adapt its issuance to demand section Tuy-Oviedo-Pola	Yes	196
May 7 days	Pos. D07: Modification Pos. D07, to adapt and receive the ILI from Burgos	Without any planned limitation.	No	197
July_August 1 day	Position 38 Foronda: Replacement of ERM line A output valve	ERM Pos 38 unavailable. Supply to the Vitoria network through the ERM Pos 38X.01 Gamarra. 5 hours	No	198
January_Febr. 5 days	Southwestern semi-annular gas pipeline in Madrid: Insertion position T-08A Arroyomolinos.	Limitation to the capacity of transport in the half-ring of Madrid by isolation of the section.	No	199



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2.- TRANSPORT PIPELINES - DISTRIBUTION NETWORKS

2.2. DISTRIBUTION NETWORKS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
January_Febr. 30 days	TS Huelva-Ayamonte variant in Pontezuelas stream crossing (Cartaya, Huelva). Pos F00.3 ENCE	Without any planned limitation.	No	200
January_March 30 days	Conexión Getafe-Usera. Pos B22 Getafe.	Without any planned limitation.	No	201
January_March 30 days	Arroyomolinos antenna. Pos. T08A Arroyomolinos.	Without any planned limitation.	No	202
April_July 15 days	Displacement RAB-00 Montmeló - Rio Besós Pos. 4.07 Montmeló	Without any planned limitation.	No	203
June_August 21 days	ERP-07-01 Inquitasa Pos. 12 Reus	Without any planned limitation.	No	204
June_August 21 days	ERP-07-02 Vial Bellisens Pos. 12 Reus	Without any planned limitation.	No	205
June_August 21 days	VS-002-03 Torrelavit Pos. 6 Subirats	Without any planned limitation.	No	206



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2.- TRANSPORT PIPELINES - DISTRIBUTION NETWORKS

2.3. COMPRESSION STATIONS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.



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2.- TRANSPORT PIPELINES - DISTRIBUTION NETWORKS

2.4. IN LINE INSPECTIONS (ILI)

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
3rd February 1 weeks	Redexis. ILI SEGAVI. Pos. B-14.03 Palazuelos de Eresma	(Calibrated plate, Cleaning, Caliper, MFL). Gas pipeline pressure needs to be lowered	No	207
17th February 5 days	Almería - Lorca 42": Inspection ILI	Optimum speed 1 - 3 m $/$ s. Possible entry regulation by C.I. Almeria during the inspection. Stable flow.	No	208
24th February 5 days	Lorca - Moratalla 42": Inspection ILI	Optimum speed 1 - 3 m $/$ s. Possible entry regulation by C.I. Almeria during the inspection. Stable flow.	No	209
2nd March 5 days	Moratalla - Chinchilla 42": Inspection ILI	Optimum speed 1 - 3 m $/$ s. Possible entry regulation by C.I. Almeria during the inspection. Stable flow.	No	210
9th March 5 days	Almendralejo - Caceres 26": Inspection ILI	Optimum speed 1 - 3 m / s. Possible flow regulation through the Ruta de la Plata gas pipeline during the inspection. Stable flow.	No	211
16th March 5 days	Cáceres-La Granja 26": Inspection ILI	Optimum speed 1 - 3 m / s. Possible flow regulation through the Ruta de la Plata gas pipeline during the inspection. Stable flow.	No	212
23th March 5 days	Pedrola - Castelnou 26": Inspection ILI	Optimum speed 1 - 3 m / s. Possible flow regulation through the Villar de Arnedo - Tivisa gas pipeline and adjustment of the injection in UGS Serrablo during the inspection. Stable flow.	No	213
April 1 week	Redexis. ILI CALIBI. Pos. 15.20.5 Sant Antoni de Portmany (Ibiza)	(Calibrated plate, Cleaning, Caliper, MFL).	No	214



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2.- TRANSPORT PIPELINES - DISTRIBUTION NETWORKS

2.4. IN LINE INSPECTIONS (ILI)

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
April 1 week	Redexis. ILI SANSON San Juan de Dios- Son Reus (SANSON-01 a SANSON-02) Pos. 15.20.5 Sant Antoni de Portmany (Ibiza)	(Calibrated plate, Cleaning, Caliper, MFL). Date based on CTCC SON REUS consumption input	No	215
27th April 5 days	Aranda de Duero-Boecillo 20": Inspection ILI	Optimum speed 1 - 3 m / s. It will require bypass in EC Coreses aspiration to avoid minimum speed during low demand hours.	No	216
04th May 5 days	Boecillo-Coreses 20": Inspection ILI	Optimum speed 1 - 3 m $/$ s. It will require bypass in EC Coreses aspiration to avoid minimum speed during low demand hours.	No	217
11 Mayo 5 days	León - Oviedo 20": Inspection ILI	Optimum speed 1 - 3 m / s. P. Reganosa will have to adapt its emission to the needs of the Northwest area. Very linked to CCGN Soto consumption (speed decrease at that point) and entries by EC Coreses (high speed initial sections).	No	218
18 Mayo 5 days	Villalba-Santiago 20": Inspection ILI	Optimum speed 1 - 3 m / s. P. Reganosa isolated until exceeding pos. I13 (2.5 hrs) and will have to adapt its emission to the needs of the ILI. Necessary flow through Tuy (Spain> Portugal, from $20,000$ to $40,000$ Nm3 / h).	No	219
25 Mayo 5 days	Santiago Tuy 20": Inspection ILI	Optimum speed 1 - 3 m / s. Necessary flow through Tuy (Spain> Portugal, at least 50,000 Nm3 / h). P. Reganosa will have to adapt its emission to the needs of the ILI.	No	220
1 Junio 5 days	Sea Line Barcelona 20": Inspection ILI	Optimum speed 1 - 3 m / s. Pressure adaptation in Montmeló and Papiol + P. Bna 36 bara to get correct flow in the ILI.	No	221



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3.- UNDERGROUND GAS STORAGES

3.1. UGS GAVIOTA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
June 15 days	Offshore Platform: Wireline G-6 installation anti-return fund and change Xmas Tree G-10 and G-7. Plant: Torch shutdow	Total unavailability Injection / Extraction.	Yes	222
October 2 days	Offshore Platform: Tightness Testing Bottom Valves and Wellhead	Total unavailability Injection / Extraction.	No	224



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3.- UNDERGROUND GAS STORAGES

3.2. UGS SERRABLO

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
May 5 days	Jaca Wells: Substitution Choke Production J-2	Without extraction Jaca 2	Yes	225
October 5 days	Aurin Wells and Jaca Wells: Tightness Testing Bottom Valves and Wellhead	Partial Unavailability Injection / Extraction.	No	226



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3.- UNDERGROUND GAS STORAGES

3.3. UGS YELA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
March 3 days	Electrical Substation Discharge	Injection Unavailability	Yes	227



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3.- UNDERGROUND GAS STORAGES

3.4. UGS MARISMAS

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
From 1st to 30th April	Annual Periodic Maintenance	Total unavailability Injection / Extraction.	Yes	228
From 1st June to 15th July	Workover in the wells of Marismas 3 y Rincon 1	Total unavailability Injection / Extraction.	Yes	229
From 1st to 30 October	Annual Periodic Maintenance	Total unavailability Injection / Extraction.	Yes	230



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4.- GAS FIELDS AND BIOMETHANE

4.1. VIURA FIELD

Propane chiller review. Regulatory			
inspections. HIPPS review.	Gas field unavailable	Yes	231
	nspections. HIPPS review.	nspections. HIPPS review.	nspections. HIPPS review.



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4.- GAS FIELDS AND BIOMETHANE

4.2. POSEIDÓN FIELD

Date Period	Maintenance	Limitations	Users Affection l	Refer. Numb.
	There aren't planned mainte	enance operations with impact on the emission.		



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4.- GAS FIELDS AND BIOMETHANE

4.3. VALDEMINGÓMEZ BIOMETHANE

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
From 17th to 28th February	Scheduled maintenance operations	Without production.	Yes	232
From 15th to 21st June	Scheduled maintenance operations	Without production.	Yes	233
From 14th to 20th September	Scheduled maintenance operations	Without production.	Yes	234



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5.- INTERNATIONAL CONNECTIONS

5.1. C.I. TARIFA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
No definite date 1 to 2 days	Mov-100 by-pass replacement	Without flow through C.I. Tarifa. It will be carried out in a period with low nomination, which will be managed with the use of OBA prior agreement between operators. 24 to 48 hrs	No	235



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5.- INTERNATIONAL CONNECTIONS

5.2. C.I. ALMERIA

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
2nd fortnight of September 3 days	Mantenimiento de la subestación eléctrica y UPS. Interconexiones para el TK-40.	Transport stop for a maximum of 48 hours and may affect 3 days of gas.	Yes	236



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5.- INTERNATIONAL CONNECTIONS

5.3. C.I. LARRAU

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
From 4th to 15th May	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	237
From 2nd June to 24th July	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	238
From 31st August to 2nd October	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	239
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5.- INTERNATIONAL CONNECTIONS

5.4. C.I. IRÚN

Date Period	Maintenance	Limitations	Users Affection	Refer. Numb.
From 4th to 15th May	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	237
From 2nd June to 24th July	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	238
From 31st August to 2nd October	Various works of GRTGaz in the French system.	Maximum capacity of the VIP Pyrenees in the direction France > Spain is 175 GWh/day.	Yes	239
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5.- INTERNATIONAL CONNECTIONS

5.5. C.I. BADAJOZ

Maintenance	Limitations	Users Affection	Refer. Numb.
REN. Inspection in line in Campo Mayor	No operational impact is expected, but it will be necessary to maintain constant flow during the inspection. OBA regularization will be agreed if necessary between Operators.	No	240
	REN. Inspection in line in Campo	REN. Inspection in line in Campo Mayor No operational impact is expected, but it will be necessary to maintain constant flow during the inspection. OBA regularization	REN. Inspection in line in Campo Mayor No operational impact is expected, but it will be necessary to maintain constant flow during the inspection. OBA regularization No



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5.- INTERNATIONAL CONNECTIONS

5.6. C.I. TUY

Date Period	Maintenance	Limitations	Users I Affection N	Refer. Numb.