DELIBERATION NO. 2019-177

Deliberation of the French Energy Regulatory Commission of 17 July 2019 adopting a decision on the mid-term implementation report of Teréga's storage investment programme for 2019

Present: Jean-François CARENCO, Chairman, Christine CHAUVET and Catherine EDWIGE, Commissioners.

Translated from the French: only the original is authentic

1. BACKGROUND AND LEGAL FRAMEWORK

Article L. 421-3-1 of the French Energy Code states that *"underground natural gas storage infrastructure facilities that ensure the country's security of supply in the medium and long-term, together with compliance with bilateral agreements on security of supply of natural gas [...] are provided for in a Multiannual Energy Programme referred to in Article L. 141-1. These facilities are maintained in service by the operators"*.

Decree No. 2018-1248 of 26 December 2018[1] has withdrawn the "Lussagnet Phase 1" Project from the list of facilities in the Multiannual Energy Programme (PPE) which consists of increasing withdrawal rates at the facility. The project in question will continue to be regulated until the agreed two-year notice period expires provided for by the Order[2], i.e. until 31 December 2020.

According to Articles L. 134-3, 3° and L. 421-7-1 of the French Energy Code, underground natural gas storage facility operators must submit their annual investment programmes to the French Energy Regulatory Commission (CRE) for approval. As such, CRE "*ensures that the necessary investments are made to effectively develop storage facilities and that access to them is transparent and non-discriminatory*".

In its deliberation of 19 July 2018[3], CRE approved Teréga's investment programme for 2018, amounting to €54.4 million and requested the operator to provide it with a final implementation report on its 2018 investment programme by mid-2019.

In its deliberation of 31 January 2019[4], CRE approved Teréga's investment programme for 2019, amounting to €36.9 million, and requested the operator to submit a mid-term progress report by mid-2019 for its 2019 investment programme.

Teréga submitted a final implementation report to CRE on 4 June 2019 for its 2018 investment programme, together with an interim progress report on its 2019 investment programme. The operator indicated variances recorded between approved levels of investment and actual investment made in 2018. It also presented updated forecasts for 2019.

[1] Decree No. 2018-1248 of 26 December 2018 on gas storage facilities required for security of supply
[2] Order of 19 February 2019 on the notice period provided for in Article L. 421-3-1 of the French Energy Code
[3] Deliberation of the French Energy Regulatory Commission of 19 July 2018 approving Teréga's investment programme for 2018
[4] Deliberation of CRE of 31 January 2019 approving Teréga's investment programme for 2019

2. MAIN FINDINGS FROM TERÉGA'S 2018 STORAGE INVESTMENT PROGRAMME IMPLEMENTATION REPORT

In its deliberation of 19 July 2018, CRE approved investment expenditure for 2018, amounting to €54.4 million. Actual expenditure for 2018 amounted to €57.6 million, i.e. an additional 5.9% compared to the approved budget.

The breakdown per investment goal for 2018 is as follows:

Budget lines (€M)	Approved for 2018	Achieved in 2018
Development	21.4	20.4
- *Lussagnet Phase I - Reboiler*	*4.5*	*4.2*
- *Lussagnet Phase I – Wells + Slab*	*14.2*	*13.7*
- *Research & Innovation*	*0.6*	*0.5*
- *Others*	*2.1*	*2.0*
Safety and maintenance	25.1	30.0
- *Cushion gas*	*9.3*	*13.0*
- *Compressor power supply and maintenance*	*7.1*	*5.9*
- *Ancillary installations*	*2.4*	*3.3*
- *Wells*	*6.3*	*7.9*
General investments	7.9	7.3
- *IT systems*	*4.9*	*6.0*
- *Others*	*3.0*	*1.3*
Total	**54.4**	**57.6**

The variances are mainly due to additional costs of €3.7 million to purchase the 0.5 TWh of cushion gas, acquired at an average price of €28 per MWh as opposed to €20 per MWh when the investment programme was developed.

3. KEY COMPONENTS OF TERÉGA'S 2019 STORAGE INVESTMENT PROGRAMME

The deliberation of 31 January 2019 approved investment expenditure for 2019, amounting to €37.0 million. For its mid-term investment programme implementation report, Teréga transmitted an updated trajectory of its expenditure, amounting to €53.4 million (€41.3 million excluding the cushion gas). This is an increase of 44.5% (11.7% excluding the cushion gas) compared to the approved budget.

The breakdown per investment goal for 2019 is as follows:

Budget lines (€M)	Approved for 2019	2019 revised budget requested by Teréga
Development	1.3	1.6
- *Lussagnet Phase I - Reboiler*	*0.3*	*0.4*
- *Lussagnet Phase I – Wells + Slab*	*0.6*	*0.8*
- *Research & Innovation*	*0.4*	*0.4*
- *Others*	-	-
Security and upkeep	27.6	42.3
- *Cushion gas*	-	*12.1*
- *Compressor power supply and maintenance*	*3.3*	*4.7*
- *Ancillary installations*	*7.0*	*5.1*
- *Wells*	*17.3*	*20.5*
General investments	8.0	9.4
- *Information systems*	*5.7*	*6.9*
- *Others*	*2.3*	*2.6*
Total	**36.9**	**53.4**

The variances recorded are primarily due to:

- expenditure deferrals from 2018 to 2019 for the Lussagnet Phase I development projects;
- a variance in security and upkeep expenditure resulting in higher costs than the original estimates, mainly due to:
    - expenditure deferrals from 2018 to 2019 for compressor power supply and maintenance as well as additional costs of €0.4 million for this programme due to working being more complex than anticipated;
    - additional costs of €1.5 million in the "Wells" programme related, in particular, to renovation work on wells (*workovers*) that was more complex than anticipated.
- a request to purchase 0.46 TWh (40 MNm³) of cushion gas for the Lussagnet facility in 2019, at a price estimated by Teréga of €26 per MWh, i.e.€12.1 million for 2019;
- and a rise in expenditure for general investments, in particular an additional €1.2 million in IT costs. Teréga explains these changes by numerous alterations to interfaces, cyber security expenditure and the addition of *Cloud* storage systems, whose costs were higher than those submitted by Teréga when it received approval for its 2019 investment programme budget in January 2019.

4. CRE'S ANALYSIS

CRE recalls that to ensure security of supply, the PPE sets a performance targets for withdrawal rates and usable capacity for the entire perimeter of the storage facilities regulated by the three storage operators. Achieving these targets must be fulfilled at the lowest cost for the community, while storage operator investment programmes must contribute to this objective.

4.1 Development

CRE notes that Teréga has not undertaken any new activity to build its storage capacity.

The development investment programme also includes the following research and innovation (R&I) projects:

- the GAIA Project to develop a geological structure model to store gas, which comes to an end in 2019. Its costs upon completion will be €2 million, 0.4 million of which is covered by the ATS storage tariff, while the remainder has been secured from external funding;
- the RINGS Project to test the potential impacts of injecting biomethane, hydrogen and synthetic methane into underground storage facilities. Completion costs for this project are estimated to be €0.6 M, identical

to that submitted by Teréga when its 2019 investment programme was approved. Teréga has also scheduled trials and related analysis for late 2019.

4.2 Safety and maintenance

The Safety and maintenance programmes mainly focus on expenditure to replace equipment at Lussagnet and well renovation work costs (*workovers*):

- the "compression" programme consists of replacing the current power supply substation that powers compressors at Lussagnet. Teréga estimates the cost to complete this programme at €11.4 million. This €0.4 million increase compared to the approved 2019 investment programme budget due to work being more complex than expected. Teréga expects the facilities to be commissioned in 2019;
- the "wells" programme primarily consists of renovation work to wells, inspections to check that the wells are sound and carrying out any necessary repairs. CRE notes that the additional costs on the main projects in this programme are mostly related to difficulties encountered with work activities. These difficulties do not affect the commissioning dates for these projects, scheduled for 2019 and 2020.

4.3 Cushion gas injections

Low gas storage levels in late winter 2017-2018 resulted in withdrawal difficulties due to low pressure levels having been reached and water infiltration in certain wells. Based on these findings, together with an initial geoscience study which also identified a drop in the aquifer, Teréga estimates that 0.46 TWh of cushion gas must be injected each year from 2018 to 2027 in the Lussagnet storage facility to offset the annual drop in the water table. This programme equates to an investment of approximately €8 million per year until 2027, based on a price of €20 per MWh.

In its deliberation to adopt a decision on the investment programme for 2018, CRE approved a rise in cushion gas volumes for €9.3 million. The expenditure incurred by Teréga rose to €13 million due to purchases of gas made in early September and October 2018 at a price close to €28 per MWh. This rate was markedly higher than the initial price assumption which was pegged to average prices recorded in April 2018, the date of referral. CRE notes that the injection timetable was constrained. This was partly due to Teréga needing to inject cushion gas before the start of the withdrawal period (October-November) and partly due to related costs that were approved by CRE in July 2018. The high purchase price for cushion gas mirrors rates observed on the market at the time this programme began.

In its deliberation of 31 January 2019 approving Teréga's investment programme for 2019, CRE deemed additional cushion gas injections to be premature without necessary feedback. CRE justified its decision due to the situation observed in spring 2018 being exceptional, especially given the low storage filling rates at the start of winter and the cold snap in spring.

As a result, and in accordance with its deliberation of 19 July 2018, CRE commissioned an external audit to assess the effectiveness of these new cushion gas investments. The audit findings helped identify that the drop in the level of the aquifer coupled with greater demand on withdrawal rates recorded in winter 2017-2018 affected the usable volume and required the injection of 400 MNm^3 of cushion gas to guarantee Teréga's commercial offer.

Given the audit findings, CRE considers that there is a need to inject cushion gas into the Lussagnet storage facility due to aquifer constraints but that this need is also due to high withdrawal rates.

CRE consequently approves the 2019 request by Teréga to inject 0.46 TWh (40 MNm^3) of cushion gas. However, CRE also considers that the purchase price proposed by Teréga of €26 per MWh is not consistent with the prices observed on the market. As a result, it adopts the average price on *Trading Region France* (TRF) for the month of August and September respectively of €13.3 per MWh and €3.8 per MWh, i.e. €13.5 per MWh, amounting to a budget of €6.1 million for 2019.

In terms of the anticipated need for cushion gas for subsequent years (Teréga asked for a total of 400 MNm^3 over 10 years), CRE requires Teréga to undertake supplementary work on the attributes of its offer and to provide CRE with this prior to any new request for cushion gas injections. Teréga will ensure it studies the degree of need for cushion gas according to different withdrawal scenarios during the winter.

4.4 General investments

CRE questions the regular additional costs observed in the IT system project expenditure compared to planned budgets. It consequently requires Teréga to provide it with a comprehensive financial report on these projects at the time of the approval process for 2020 investment budgets

CRE'S DECISION

According to Articles L. 134-3 and L. 421-7-1 of the French Energy Code, storage operators must submit their annual investment programmes to the French Energy Regulatory Commission for approval.

For 2018, CRE notes the variance of 5.9% between actual investment expenditure and the revised investment programme for 2018 is primarily linked to the high price of the cushion gas bought by Teréga.

CRE notes that the implementation of Teréga's investment programme complies with the approved programme. This is broken down as follows:

Budget lines (€M)	Approved for 2018	Achieved in 2018
Development	21.4	20.4
- *Lussagnet Phase I - Reboiler*	*4.5*	*4.2*
- *Lussagnet Phase I – Wells + Slab*	*14.2*	*13.7*
- *Research & Innovation*	*0.6*	*0.5*
- *Others*	*2.1*	*2.0*
Safety and maintenance	25.1	30.0
- *Cushion gas*	*9.3*	*13.0*
- *Compressor power supply and maintenance*	*7.1*	*5.9*
- *Ancillary installations*	*2.4*	*3.3*
- *Wells*	*6.3*	*7.9*
General investments	7.9	7.3
- *IT systems*	*4.9*	*6.0*
- *Others*	*3.0*	*1.3*
Total	**54.4**	**57.6**

CRE notes the 44.5% rise (11.7% excluding cushion gas) compared to the approved programme for 2019. This is mainly due to the purchase of cushion gas in 2019, deferrals of expenditure from 2018 to 2019, additional costs on security and upkeep programmes and additional expenditure on information system projects.

CRE requires Teréga to provide it with a comprehensive financial report on information system projects at the time of the approval process for 2020 investment budgets

As concerns cushion gas, CRE approves Teréga's 2019 request to inject 0.46 TWh (40 MNm3) of cushion gas. However, CRE also considers that the purchase price proposed by Teréga of €26 per MWh is not consistent with the prices observed on the market. As a result, it adopts the average price on Trading Region France (TRF) for the month of August and September respectively of €13.3 per MWh and €3.8 per MWh, i.e. €13.5 per MWh, amounting to a budget of €6.1 million for 2019.

CRE approves the revised investment budget for 2019 presented as follows:

Budget lines (€M)	Approved for 2019	2019 revised budget requested by Teréga	2019 revised budget approved by CRE
Development	1.3	1.6	1.6
- *Lussagnet Phase I - Reboiler*	*0.3*	*0.4*	*0.4*
- *Lussagnet Phase I – Wells + Slab*	*0.6*	*0.8*	*0.8*
- *Research & Innovation*	*0.4*	*0.4*	*0.4*
- *Others*	-	-	-
Security and upkeep	27.6	42.3	36.3
- *Cushion gas*	-	*12.1*	*6.1*
- *Compressor power supply and maintenance*	*3.3*	*4.7*	*4.7*
- *Ancillary installations*	*7.0*	*5.1*	*5.1*
- *Wells*	*17.3*	*20.5*	*20.5*
General investments	8.0	9.4	9.4
- *Information systems*	*5.7*	*6.9*	*6.9*
- *Others*	*2.3*	*2.6*	*2.6*
Total	**36.9**	**53.4**	**47.4**

In terms of the anticipated need for cushion gas for subsequent years (Teréga asked for a total of 400 MNm³ over 10 years), CRE requires Teréga to undertake supplementary work on the attributes of its offer and to provide CRE with this prior to any new request for cushion gas injections. Teréga will ensure it studies the degree of need for cushion gas according to different withdrawal scenarios during the winter.

CRE requires storage operators to provide an alternative investment-free scenario with all project approval requests for maintaining or improving performance. This must include the subsequent effects on performance at the relevant facility together with assessments of alternative options, such as technical solutions, heightened maintenance, alternative scales for projects or a revised commercial offer.

The approval of the investment programme does not prejudice the tariff treatment of this expenditure.

Any amendment to the investment programme must be submitted to CRE for approval.

CRE requires Teréga to provide it with a final implementation report on its 2019 investment programme before July 2020. This report will also include a progress update on the main ongoing projects.

The present deliberation will be published on CRE website and Teréga will be notified. It will also be sent to the Minister of Ecological and Inclusive Transition and the Minister of Economy and Finance.

Deliberated in Paris on 17 July 2019

For the Energy Regulatory Commission,

The Chairman

Jean-François CARENCO