



TAQA believes that it is important to inform the market of the causes of significant outages through notes published on its Gas Storage Bergermeer (GSB) website¹ or more extended market briefs. As a result of the persistent technical unavailability during 2021 which is related to GSB's compressors, TAQA considers it timely and necessary to inform the market again in more detail on these current challenges and the expected way forward.

This document will cover the following topics:

1. Compressor status
2. Technical update
3. Potential impact on customers

1. Compressor status

Injection

At the moment of writing this letter, GSB has three compressors available for injection and one additional compressor will become available in August. With three compressors, GSB can deliver the sold firm injection rights of our customers at the beginning of the injection period.

Withdrawal

As communicated in the previous GSB updates, to keep the compressors clean and available for injection, it was decided to not switch to withdrawal mode using compression. For now, withdrawal availability will remain on free flow withdrawal.

As a reminder, free flow withdrawal is GSB's normal mode of operation above and up to a reservoir fullness of about 40% when the reservoir pressure is high enough to enter the grid without compression support. Below that reservoir fill level, free flow rates are dependent on how high the fill level is (currently relatively low), GTS network pressure and availability of the compressors. In combination with actual customer nominations, GSB then either continues with free flow or requires compression.

For further explanation on the technical process, this [Compressor update](#) of Feb-21 can be useful.

2. Technical update

In the past several investigations have been conducted on the failures of the compressor motors and the failure of the transformer. These concluded that wet gas during withdrawal in the compressor motors, in combination with other contributing factors, caused the issues during withdrawal.

After winter 17/18, various changes were implemented to the compressors and compressor motors. The 20/21 winter production season was the first opportunity to fully test these changes in production mode. The success of these changes has been evaluated and demonstrate that the volume of fluids entering the compressor motors has been reduced significantly (95%). However, with the motor failures experienced last winter, it has become evident that the motor cooling gas needs to be completely dry.

During the past months, several additional modifications have been made and operational measures taken to prevent failures during compression withdrawal, thus reducing the risk of further failures. However, that work is not finalized yet.

¹ www.gasstoragebergermeer.com/news-archive



For this winter TAQA plans to have a minimum of two compressors available for withdrawal. Engineering work is ongoing to create a solution to supply the compressor motors with completely dry cooling gas. In addition, modifications will be made to increase capacities on free flow rates, even when compressors are in maintenance. The latter will lengthen the duration that the reservoir can be produced in free flow withdrawal, without requiring compression. Once this is successfully installed, it will increase withdrawal capacity together with the (at least) two available compressors beginning next year.

The above solutions are part of a larger, full solution package to further decrease unavailability during compression withdrawal for coming winter. In the medium term, TAQA will continue to improve withdrawal availability with structural long term solutions.

3. Potential impact on customers

Till the start of the winter, withdrawal availability will remain based on free flow withdrawal. The current fill level of GSB limits the technical availability of this withdrawal capacity until the reservoir pressure is above 40% fullness. GSB REMIT reported technical unavailability is based on the current fill level and forecasted fill rates in the coming storage year. The actual fill level is continuously monitored and updated into these forecasts. Beginning July we have adjusted and lowered our forecasted fill rate based on customer usage.

GSB continues to publish *technical* unavailability as per REMIT obligations at <https://agsi.gie.eu/#/unavailability>.

Technical unavailability does not necessarily equate to contractual unavailability. In other words, during a technical unavailability, as published on the AGSI+ website; GSB can opt to either keep customers whole or (partly) curtail contractually.

Customers can check their *contractual* rights via [myGSB](#).