National Grid Gas

Constraint Management Scenario

Guidance Notes for Speaker

Please be aware that every situation is different. This scenario is fictional and should only be used for the purposes of playing out an example.

In some situations; different commercial actions may be taken, or, similar actions taken but in a different order. This activity has been put together to encourage thinking in the instance where a ***potential*** constraint is forecast. The scenario has been written specifically to encompass certain commercial actions. Please be mindful that some commercial actions have been discounted in this example and that, on some occasions, a constraint occurs quickly, and so will require different commercial steps.

Resources to prepare the scenario:

There are two resources required for this scenario:

A4 sheet to show National Grid Gas Transmission "System Operator Actions"

9 x A6 cards with options on them

Guidance to be stated to the audience to prepare the scenario:

Separate the audience into groups; the group size will be dependent on overall audience size.

All members of the audience must put themselves into the position of the National Grid Gas Transmission National Control Centre (GNCC). **The scenario must be played out as if they are the GNCC.**

Advise that there is an A4 sheet showing National Grid Gas Transmission System Operator Actions and this may assist when going through the scenario.

Advise there are 9 x answers cards for each group. Each answer card has a different answer on it. Each card may only be used **once** during the scenario and there may be some cards that aren't used at all.

Advise the audience that, as the scenario is played out, the speaker may pause and facilitate a discussion within teams to help them decide which option(s) they want to choose. There is no right or wrong answer(s) for the purposes of this exercise, and more than one option can be chosen.

Each team will have between [2 and 5] minutes to discuss each question (time chosen is up to the speaker). When the time is over, a representative from each team will put forward their choice of options and discuss with the room. When all options have been discussed, the speaker can advise what considerations could be factored in to choosing the options and discuss as a whole group.

The Scenario:

Firstly, give a little bit of background on the type of day it is…

Background

"It is a cold morning in December.

Your assumption is that demand for gas will be higher than previous days due to a dip in temperature overnight.

As we work through this scenario, you will be concentrating on a specific site or region (speaker to name an entry site / region).

On this particular day, there is a concern that one of the compressors in the area/region of choice has a fault and may fail.

This compressor is required in order to ensure that pressures are maintained to ensure capability is available to accommodate nominated flows."

Question 1

"At 5am, the compressor shows a fault. You can maintain safe pressures at this moment in time to accommodate flows but think there may be a constraint later on in the day meaning flows may need to be lowered for a period of time. To avoid costs to the end consumer, you should consider the most economical tools first. To minimise the impact on gas flows, what **two** actions, at this moment in time, would you consider taking?"

Scripted Answers:

1. Reconfigure the physical network, optimising the capability to allow nominated flows
2. Scale back interruptible entry capacity

END.

"You have configured the physical network to optimise capability in the area in question. After a period of time, a constraint is still forecast so you also scale back interruptible entry capacity to reduce any flows against the interruptible capacity product and protect existing firm capacity rights."

Question 2

"An hour after the scale back, you are still forecasting a constraint as pressure is rising, but still within safe operation limits. The forecast constraint isn't immediate. What would be the next commercial action that you take?"

Scripted Answer:

- Withhold entry capacity in the within-day auction

END.

"You have withheld within-day capacity in the next hourly auction. This has prevented the sale of further firm entry capacity.

The situation is stable following the scale back of interruptible capacity and withholding of within-day firm capacity. You continue to withhold capacity in the hourly auctions as a preventative measure as the constraint risk is still apparent and the compressor fault is still ongoing."

Question 3

"At midday, investigative work identifies that the compressor fault is likely to continue until the end of the gas day. Pressure has not yet built up to the point of a pressure breach but the capability at [entry site of choice] has reduced and you need to try to avoid a constraint by reducing physical gas flow. What do you do in the first instance?"

Scripted Answer:

- Go out to the market and request that Shippers post offers to buy gas from National Grid (locational sell actions) at [site of choice]

END.

"You have gone out to the market to request that Shippers post offers to buy gas from National Grid (locational sell actions) at [site of choice]. The purpose of doing this is to help relieve or avoid the constraint by reducing the nominated flows. The locational sell actions should be completed until the flow rate at [site of choice] is within, or predicted to soon fall within, the revised capability."

Question 4

"Even though the locational sell actions seem to have alleviated the issue at [site of choice] for a couple of hours, the pressure continues to increase and this results in a pressure breach. What is your immediate action to ensure the [site] reduces its gas flow?"

Scripted Answer:

- Issue a Terminal Flow Advice (TFA) to reduced flows at [site].

END.

Closing Wording:

Thank you for taking part in this scenario. There may have been various tools and processes discussed that you may not be aware of. If you would like to find out more about what National Grid GNCC do to manage constraint risks, please take them time to listen to our webinar which you will find on our website:

http://www2.nationalgrid.com/UK/Industry-information/Gas-transmission-operational-data/Webinars/