

**UNC Workgroup 0607S Minutes
Amendment to the Gas Quality NTS Entry Specification at the ST
Fergus NSMP System Entry Point
Wednesday 22 March 2017
at Energy UK, 5-11 Regent Street, London SW1Y 4LR**

Attendees

Rebecca Hailes (Chair)	(RH)	Joint Office
Helen Bennett (Secretary)	(HB)	Joint Office
Amrik Bal	(AB)	Shell
Andrew Pearce	(AP)	BP
Chris Shanley	(CS)	Joint Office
David Reilly*	(DR)	Ofgem
David O'Donnell	(DOD)	NSMP
Graham Jack	(GJ)	Centrica
Jeff Chandler*	(JC)	SSE
Lee Bowerbank*	(LB)	Exxon Mobil
Lucy Manning	(LM)	Gazprom
Murray Kirkpatrick	(MK)	BP Gas
Phil Hobbins	(PH)	National Grid NTS
Richard Fairholme	(RF)	Uniper
Simon Bibby	(SB)	Shell UK
Terry Burke	(TB)	Statoil

*via teleconference

Copies of all papers are available at: <http://www.gasgovernance.co.uk/0607/220317>

The Workgroup Report is due to be presented at the UNC Modification Panel by 15 June 2017.

1.0 Introduction and Status Review

RH welcomed all to the meeting and highlighted the main focus of the meeting was to review the progress of the outstanding actions from previous meetings, in order to identify any further analysis requirements and inform the content of the Workgroup Report.

1.1 Approval of Minutes (28 February 2017)

The minutes of the previous meeting were approved.

2.0 Anticipated impact on gas quality.

Not specifically covered at the meeting. See discussion under section 6, update to Action 0106.

3.0 Carbon Cost Assessment (CCA)

MK talked through the statement provided for the Workgroup Report and highlighted the CCA provided for previous modifications 0498 and 0502 and its applicability or not to this modification in question.

MK highlighted that Modification 0498 and 0502 considered the following three scenarios, which are still relevant to this modification request from a CO₂ emissions perspective:

1. Non-removal of CO₂
2. Removal Offshore
3. Removal Onshore

However, MK explained that the costs and lead-time meant that options 2 and 3 were not viable for implementation this time round. GJ stated the Workgroup should be looking at the least cost solution to make the gas flow into GB.

CS commented that as Ofgem produce the guidance on how to conduct a CCA, could DR provide a view as to whether this statement is a suitable assessment. DR requested that references back to modifications 0498 and 0502 seem appropriate but it may benefit from drawing out the key conclusions from the previous assessment and these should be included in the Final Modification Report (FMR).

DR advised agreed that there is maybe no value in repeating the same carbon cost assessment if workgroup participants agree that the assessment for 0498 and 0502 is equally applicable to 0607 and conclude therefore that the CO₂abatement options are not viable. Covering this in the Final Modification Report with reference to the assessment for 0498 and 0502 and with words to the effect that the CO₂ removal options are not a cost effective/viable solution would be sufficient.

4.0 Alternative Options

Not specifically covered at the meeting. See discussion under section 6, update to Action 0105.

5.0 Development of Workgroup Report

During a brief onscreen review of the draft Workgroup Report (version 0.5, dated 21 March 2017), CS focused attention on the latest round of amendments based on the output of various actions discussed at the meeting.

CS highlighted that Impact on Consumers is not something that has been specifically covered yet, as the group were concentrating on analysing the frequency of occurrence of the higher CO₂ and the penetration into the NTS and suggested it could be addressed as part of the Consultation process if need be.

AP recalled that NG had contacted relevant consumers and PH confirmed that during the 0498/0502 mods the communication to consumers was made prior to the mods being made.

RF advised that this could mean additional emissions charges to the ultimate end-consumers generating electricity using the gas. Operationally it is hard/undesirable for end-consumers to make a statement on impacts, as this would reveal sensitive information such as age of turbines and maintenance to older turbines.

New Action 0301: Joint Office to contact various consumers/groups for views on the impacts on them from this proposal.

RF offered to provide a view in relation to the Holford Storage site in Cheshire and discuss potential impacts with the Gas Storage Operators Group. **Pending**

New Action 0302: RF to provide a statement on the Storage impacts for the WGR at the next meeting.

AB asked CS to elaborate on the 'Wider Considerations' part of the Workgroup Report and what would be included in this section. CS suggested this could include an Impact on Other Producers. AB took an action to provide some text for the Workgroup Report. **Pending**

New Action 0303: AB to provide some text for the Workgroup Report on the wider impacts on producers.

A revised draft of the Workgroup Report will be published for review at the next meeting. **Pending**

6.0 Review of Outstanding Actions

0104: Reliability of field plant/equipment - DOD to provide a statement to support the view of forecast unplanned outages (for inclusion in the Workgroup Report).

Update: DOD took the group through the statement submitted to this workgroup, to cover the

action related to the forecast of unplanned outages. and highlighted that since May 2016 there had been 13 trips, which equated to Laggan Tormore gas being unavailable only 4% of the time.

DOD explained that the reliability of the structure going forwards might be best assessed by looking at the reliability of another older infrastructure providing gas into the pipeline (existing FUKA entrant), which has been higher at over 98% over the last 1 – 2 years.

GJ suggested the issue of reliability may last a few years as the new equipment beds in and is likely to improve rather than deteriorate to which DOD agreed. SB asked if there had been any CO₂ spikes as a result of an unplanned outage and DOD confirmed that there had not been any as the Vesterled blending solution had been in place. **Closed**

0106: BP (MK) to clarify if other gas quality parameters are affected (CV, Wobbe and Dewpoint).

Update: DOD presented a number of charts on the correlation of CO₂ with other NEA gas quality specifications (WOBBE, Gross Calorific Value (GCV), Incomplete Combustion Factor (ICF) & Soot Index (SI)) and highlighted this data reflects the actual gas coming down the pipeline and is instantaneous data and not average.

With regards to Wobbe, the chart shows apparent breaches to the current CO₂ over the past 2 years, but DOD highlighted that the blending facility at Vesterled is being utilised to meet the overall 4% CO₂ limit.

On the chart, a highlighted green area shows that if a higher CO₂ % comes in, the Wobbe decreases which means the Wobbe lower limit may be breached. DOD advised the group that by modifying the conditions of the plant to change the amount of energy that goes in to the gas, the 5.5% CO₂ content can be reached and not breach the Wobbe minimum limit.

GJ asked how quickly this change in plant mode could be done and DOD explained that operational procedures would be in place to monitor the gas quality and instigate the change well ahead of any potential breach.

LB asked for clarification of how the plant operates at the right Wobbe level whilst achieving the correct CO₂ levels and liquids. DR stated that it is worth clearing up the understanding of taking out more liquids and the effects it has on the CO₂ levels. **Carried Forward** – awaiting Dewpoint issue to be clarified. DOD to also confirm if there are any known issues with regards to introducing water through the application of this process at higher CO₂ level.

New Action 0304: DOD to seek a more detailed understanding of how the plant operates at the right Wobbe level and the effect on the CO₂ levels/liquids.

The other gas quality parameters were reviewed with no major questions being raised but CS mentioned that the workgroup felt there might be some risks around water dewpoint. DOD agreed to clarify but believed that this change in CO₂ would not create an issue with respect to water dewpoint/corrosion advising that the gas is dehydrated prior to processing as the presence of water is incompatible with the cryogenic processes involved in gas processing.

Pending

0105: BP and National Grid NTS to consider if any adaptations can be made (from both an NEA change perspective and a change to operational procedures) to the operating arrangements between the terminals and the NTS, to manage out of specification gas resulting from an unplanned outage.

Update: PH advised that the alternate option envisaged leaving the CO₂ level at 4% in the NEA and amending the operational procedure aspects. He believes that as BP and NSMP do not need a 5.5% CO₂ limit all the time, that the CO₂ levels could stay at 4% in the NEA and an amendment to the current operation procedure could be implemented to cover what would happen if an unplanned event occurred. PH then said that this approach could not guarantee that higher CO₂ level could be accepted and this may be an issue for BP.

RF and AB suggested this would open the floodgates and requests to change procedures to

allow out of spec' gas into the NTS could become more and more regular, to which PH advised NG NTS would need to consider a change in operating procedures on a case by case basis.

PH confirmed to the group that National Grid NTS already manages gas quality breaches at entry and that National Grid NTS will work with Operators to resolve the issues via a Terminal Flow Advise (TFA).

TB advised the Workgroup that it has previously been noted that amending operating procedures is not something that Statoil would support, as they did not offer the transparency provided by a Modification. CS highlighted that this proposal was a facilitating modification and expected that the UNC Modification could still be used to facilitate this type of change to the NEA.

AB asked the Workgroup to consider item number 6 on today's Agenda, Consideration of wider impacts/costs on various parties (*including consumers*), advising that there is a need to be clear on each separate occasion when such a procedure change will be granted. PH reiterated that decisions would only be made on a case by case basis and that the procedure would ensure that the blend of gas that goes out to the NTS feeders is at 4%.

CS asked MK if BP felt it is worth pursuing this alternative solution, to which MK advised he will consider this approach further and provide a view at the next meeting.

AB asked if National Grid could provide the Workgroup with further information on how they would evaluate any future/further requests to amend the operational procedures to deal with gas quality breaches, taking in to account his earlier point. **Carried Forward**

New Action 0305: PH to investigate what would the procedure be for assessing a "super TFA" request and how any wider impacts would be considered.

CS reminded the Workgroup that a decision will need to be made at the next meeting to fit to the timescales of presenting the Workgroup Report to UNC Panel in June. **Pending**

0108: *National Grid NTS to consider if an assessment of its operational risks* is required - PH and DB to provide a statement for inclusion in the Workgroup Report (if required).

Update: PH advised that NTS still need to conduct the assessment. **Carried Forward**

0109: MK and DOD to provide a statement in respect of discussions/involvement of the Oil and Gas Authority (OGA), for inclusion in the Workgroup Report.

Update: MK confirmed that a supporting statement directly from OGA has been provided and he talked the Workgroup through the statement, which covers new legislation/maximising economic recovery.

CS commented that the statement shows a lot of encouragement has been provided by OGA and would add the statement to the WGR.

MK confirmed to the Workgroup that this is an OGA statement and nothing has been added or taken away from what OGA provided. **Closed**

0110: *Carbon Cost Assessment (CCA)* - MK and DOD to define the different realistic options for a CCA and explain (if needed) why any could not be pursued (e.g. not viable time limits) and consider what relevant analysis would need to be undertaken to demonstrate the material/immaterial impacts of the proposal.

Update. See discussion under item 3. **Closed**

0111: *Workgroup Report Appendix 1* - PH to update and add to the information (graphs) as appropriate.

Update: the 'Heat Map' analysis performed by NTS had been updated to include flow information from the different terminals and the workgroup agreed that no further information was required at this point. **Closed**

0201: BP (MK) to look to further explain the rationale behind selection of the 5.5% CO₂ level.

Update: MK agreed to provide a statement for inclusion in to the WGR. **Carried Forward**

0202: National Grid NTS (PH) to look to provide another 'worst case' scenario based on the Shell low flow period in June 2016 (using actual CO₂ data and NEA upper limits) and update the analysis to include the weighted average CO₂ positions and the max/min daily CO₂ levels.

Update: PH explained that he had provided another worst-case scenario but the analysis has still to be updated to include the weighted average CO₂ positions and the max/min daily CO₂ levels, as requested.

PH took the group through the presentation submitted for this meeting, and highlighted that the Workgroup previously asked National Grid NTS to provide another worst-case scenario based on the Shell low flow period in 2016. PH advised the calculations were based around each of BPs 4 previously submitted scenarios but the Shell low flow from the Summer of 2016 had been used, along with an increased CO₂ content to (max of 2% CO₂).

The results show an increase above 4% CO₂ content entering the NTS under two of the scenarios. PH confirmed to the Workgroup that the period of low flow was due to a planned outage.

CS asked SB if using 2% CO₂ content as worst case scenario was realistic and asked if we could ever expect it to get close to this limit? SB advised that this is difficult to answer as the current mix is always within 2% but looking ahead (to 2023 onwards) the current fields are starting to tail off and other fields are coming on that may have a higher CO₂ content.

LB asked for clarification on the analysis from Segal and whether it showed actual processing or if this was an outage. SB confirmed it would probably have been a major producer taking a planned gas field outage.

There was then a discussion regarding what happens if the CO₂ limit went above 4% and whether 2% the right CO₂ limit for Segal going forward.

CS asked if liquids are managed the same as any other parameter? SB answered this could be driven by a constraint and that different ways can be modelled according to whether it is a system constraint or production problem.

SB asked the group what would happen if, on an unplanned outage basis, these low flow levels were seen and DOD advised that the NSMP gas would not be allowed to flow in these circumstances.

CS suggested the workgroup had found a good 'extreme' scenario that shows a breach of 4% but it needed to show how such a scenario would be mitigated to ensure it never occurred. GJ agreed that the risk of going above the 4% CO₂ level is pretty low.

DOD reminded the workgroup that the BP scenarios included a number of worst case scenarios and confirmed that if there is high CO₂ gas that cannot flow on to the NTS this causes Shippers major problems with their nominations and contractual obligations. **Carried Forward**

New Action 0306: MK/DOD to provide a statement to put the new scenario in to context and/or explain why it is an extreme scenario that is unlikely to occur.

SB asked if BP have explored all upstream commercial options with Norwegian suppliers and MK advised that BP have explored numerous options with them.

At the last meeting, the Workgroup requested further information on flow patterns. In answer PH then talked through the remaining slides from the NG Actions update. The percentages shown indicate the contribution to total demand from each supply source. **Pending**

This concluded the update on Action 0202 from PH.

New Action 0307: SB to look at the low flow period (8 days in June 2016) to clarify the background to the event and how relevant it is to this analysis/development of further scenarios. **Pending**

7.0 Next Steps

RH reminded the group that the Workgroup's report is due for consideration at the UNC Modification Panel meeting on 15 June 2017 (submission date 02 June 2017).

At the next Workgroup meeting, the Workgroup will consider:

- *any amendments to the modification if provided (further background to the proposed change)*
- *additional analysis provided*
- *assessment of NTS operational risks*
- *anticipated impact on gas quality*
- *wider impacts/costs on various parties (including consumers)*
- *alternative options*
- *development of the Workgroup Report.*

8.0 Any Other Business

RH reminded the group that the consultation on the Joint Office Website Refresh is due to close on 31 March 2017. The link to Website Refresh Consultation can be found here:

<http://www.gasgovernance.co.uk/webconsultation>

9.0 Diary Planning

Workgroup meetings will take place as follows:

Time/Date	Venue	Workgroup Programme
10:30, Tuesday 25 April 2017	Consort House, 6 Homer Road, Solihull B91 3QQ	<ul style="list-style-type: none"> • Development of Workgroup Report
10:30, Tuesday 23 May 2017	Elexon, 350 Euston Road, London NW1 3AW	<ul style="list-style-type: none"> • Development of Workgroup Report

Action Table (as at 22 March 2017)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0104	27/01/17	4.0	<i>Reliability of field plant/equipment</i> - DOD to provide a statement to support the view of forecast unplanned outages (for inclusion in the Workgroup Report).	NSMP (DOD)	Closed
0105	27/01/17	4.0	BP and National Grid NTS to consider if any adaptations can be made (from both an NEA change perspective and a change to operational procedures) to the operating arrangements between the terminals and the NTS, to manage out of specification gas resulting from an unplanned outage.	BP (MK) and National Grid NTS (PH)	Carried Forward
0106	27/01/17	5.0	BP (MK) to clarify if other gas quality parameters are affected (CV, Wobbe and Dewpoint).	BP (MK)	Carried Forward
0108	27/01/17	5.0	<i>National Grid NTS to consider if an assessment of its operational risks is required</i> - PH and DB to provide a statement for inclusion in the Workgroup Report (if required).	National Grid NTS (PH) and (DB)	Carried Forward
0109	27/01/17	6.0	MK and DOD to provide a statement in respect of discussions/involvement of the Oil and Gas Authority, for inclusion in the Workgroup Report.	BP (MK) and NSMP (DOD)	Closed
0110	27/01/17	7.0	<i>Carbon Cost Assessment (CCA)</i> - MK and DOD to define the different realistic options for a CCA and explain why any could not be pursued (e.g. not viable time limits) and consider what relevant analysis that would need to be undertaken to demonstrate the material/immaterial impacts of the proposal.	BP (MK) and NSMP (DOD)	Closed
0111	27/01/17	9.0	<i>Workgroup Report Appendix 1</i> - PH to update and add to the information (graphs) as appropriate.	National Grid NTS (PH)	Closed
0201	28/02/17	2.0	To look to further explain the rationale behind selection of the 5.5% CO ₂ level.	BP (MK)	Carried Forward
0202	28/02/17	10.0	To look to provide another 'worst case' scenario based on the Shell low flow period in June 2016	National Grid NTS	Carried Forward

			(using actual CO ₂ data and NEA upper limits) and update the analysis to include the weighted average CO ₂ positions and the max/min daily CO ₂ levels.	(PH)	
0301	22/03/17	5.0	Joint Office to contact various consumers/groups for views on the impacts on them from this proposal.	Joint Office (RH)	Pending
0302	22/03/17	5.0	To provide a statement from Storage for the WGR for next meeting	Uniper (RF)	Pending
0303	22/03/17	5.0	To provide some text for the Workgroup Report on the wider impacts on producers.	Shell (AB)	Pending
0304	22/03/17	6.0	DOD to seek a more detailed understanding of how the plant operates at the right Wobbe level and the effect on the CO ₂ levels/liquids. Ref Action 0104	NSMP (DOD)	Pending
0305	22/03/17	6.0	PH to investigate what would the procedure be for assessing a “super TFA” request and how any wider impacts would be considered. Ref Action: 0105	National Grid NTS (PH)	Pending
0306	22/03/17	6.0	MK/DOD to provide a statement to put the new scenario in to context and/or explain why it is an extreme scenario that is unlikely to occur.	BP Gas (MK) NSMP (DOD)	Pending
0307	22.03.17	6.0	SB to look at the low flow period (8 days in June 2016) to clarify the background to the event and how relevant it is to this analysis/development of further scenarios.	Shell (SB)	Pending