THE INSTITUTION OF GAS ENGINEERS AND MANAGERS

Gas Quality Standard Working Group

29th June 2016

PRIVATE AND CONFIDENTIAL **MINUTE NOS. 01 to 09.**

The 1st Meeting of the Gas Quality Standard Working Group of the Institution of Gas Engineers and Managers was held at 10.00 a.m. on Wednesday 29th June 2016 at IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA.

01
ATTENDANCE

There were present:

Angus McIntosh (AM)	Chairman
Steve Sutton (SS)	HHIC
Ross Anderson (RA)	ICOM
Graham McKay(GM)	BSI
Mark Crowther (MC)	Kiwa Gastec
Ian Redshaw (IR)	HSE
Stewart McEwen (SM)	HSE
Robyn Jenkins (RJ)	National Grid
Jamie, McAinsh (JM)	SGN
Sarah Kimpton (SK)	DNVGL
Damien Heylen (DH)	Isle of Gran, LNG, National Grid
Kevin Bradley (KB)	Isle of Grain, LNG National Grid
Ian McCluskey (IM)	IGEM Head of Technical Services, Secretary.

Apologies for absence were received from:

Phil Hobbins	National Grid
Dave Lander	Dave Lander Consulting

The Chairman welcomed everyone to the first meeting of the Gas Quality Standard meeting and introductions were made.

02
PAPERS

The following papers were circulated prior to the meeting:

- IGEM/TSP/16/217 ENTSOG Gas Quality Questionnaire
- IGEM/TSP/16/218 Gas Quality Presentation

03
OBAN PROJECT OPENNING UP THE GAS MARKET

Ref paper: IGEM/TSP/16/218

Report Angus McIntosh

(a) The presentation of the Oban Project by Angus McIntosh was introduced. As part of the Ofgem Network Innovation Competition stimulus the project received NIC funding and started in 2014. Titled the Opening up of the Gas Market, it is due to finish in August 2016, with the final report to be published within 3 months.

(b) AM explained the shift in gas supply in the UK and the potential for future shifts in the mix with greater reliance on imports, LNG, possible Shale, Biomethane and Hydrogen. The current UK spec is creating a barrier that needs to be addressed.

(c) The future network will therefore need to be asflexible as possible. Currently the spec requires ballasting of the upper end of the WI and propanation at the lower WI end for bio-methane before it can be injected. Ballasting costs alone estimated to be as much as £325M per cost to the UK consumer based on NG LNG.

(d) Across Europe there is a wider range of WI across the different countries of both the lower and upper end of the UK specification ranging from 46.44 to 54.00 MJ/M^3. By increasing the upper end only of the WI to 53.25MJ/M^3 would allow access to 90% of the LNG available. Only 10% of globally available LNG can be injected without processing currently.

(e) MC advised that the decision on the 90% for the upper range was based on technical reasons and largely around for some headroom. Also most premix burners will work on lower limits but will prove difficult for installers to set up accurately.

(f) The group discussed the changes that can be made to the specification now and what changes will be required in the future. SM mentioned that the smaller the change in the specification from schedule 3 of GSMR would be more acceptable as the key would be to have sufficient evidence to support any change.

(g) JM presented the three stages of the Oban project which started in 2014. Oban chosen as a discrete self-contained LNG fed network with 1100 properties connected to the network and around 2,500 appliances. Unique demographic representative of the wider UK domestic population.

(h) Appliances tested using three test gases; G20, G21 and G23 for the different WI. >90% of the appliances where tested. Faulty appliances where exchanged and sent for laboratory testing. The results showed there was no significant increased risk of CO build up

(i) GM asked about the types of tests carried out on the appliances. Results of testing showed slight increase in NOx though not dramatic. Incomplete Combustion and Soot Index where not an Issue at the upper end of the WI. Tests for Flame Picture, Noise, CO/CO_2 ratio etc were carried out

(j) RA raised the issue of the production of CO with older/poor appliances and the increase in WI. DNVGL/Kiwa Gastec results of QRA and appliance testing showed this was not an issue. Whilst CO can increase this does not necessarily translate into risk, i.e. flued/room sealed appliances.

(k) SM explained important to identify the HSE risks and that the case for any change in the gas specification will need to be evidenced based. QRA experts will need to be satisfied that the case for change has been supported.

(l) The group will need to consider the effects on large consumers/ industrial users, transmission and commercial performance. The effects on power stations performance needs to be considered as high ethane content can reduce efficiencies.

(m) Other European projects are currently looking at hydrogen mix. EON currently using 10% Hydrogen in the network in Germany.

(n) Marcogaz currently carrying out a mapping exercise. These will be circulated at the next meeting for discussion.

(o) MC stated consideration has been given to the performance on burner plaques with an increase in temperature of 3°C or 4°C. Tests have shown that an accelerated life test of 1,000 hours continuous use showed no detrimental effect. There was no evidence that burner seal life was affected though possible effects on process burners.

(p) The group discussed the potential of a wide ranging WI which could cause an issue for billing and also for installers with regards appliance settings. This would be more significant in the lower Wobbe range. RJ advised Grid are looking at FWACV for CV and billing. The issues being the network modelling of flow with volume and energy in the system and reacting to gas flows.

(q) RJ advised the NIA funded project for National Grid which investigates the impact on the NTS assets, compressors, turbines, pipework and valves. Delivery early 2017.

Action : Robyn Jenkins

(r) AM advised a key area the group would need to consider is the impact of the gas quality on the large industrial users. RA advised that ICOM have contacts with the large burner manufacturers and can support tests required.

(s) There is a wealth evidence on the effects of gas quality on Power Stations. The group discussed the need to be clear on what was available and to consider evaluating the studies.

(t) SM explained that from a regulatory perspective any changes proposed will require a supporting impact assessment as part of the study.

(u) There would be a significant benefit with respect to the costs of operating the LNG Terminals as a consequence of not nitrogen ballasting. This would be similar across Dragon and South Hook. DH advised IOG would be willing to coordinate engagement with the other LNG importers.

(v) Similarly the effects on the interconnector and impact in southern and norther Ireland will need to be considered.

04
MEMBERSHIP AND TERMS OF REFERENCE

(a) Terms of Reference

i) To determine the justification for the changes to the gas quality in the specification in schedule 3 of GSMR.

ii) To collate all the relevant evidence which will support a case for change to the upper levels of the Wobbe Index. Identify any areas of further work or research that are appropriate to support the changes to the upper WI.

iii) The case for change will include the production of an IGEM standard with robust stakeholder engagement across the wider gas industry.

iv) Consider evidence for widening in the lower range of Wobbe at an appropriate stage. This will include the production of a framework to consider hydrogen, unconventional and renewable gas.

v) The group raised the question on how biomethane will be considered in the scope of the production of a standard.

vi) A number of exemptions exist for Oxygen content. How will the O_2 be treated in the new standard? HSE to circulate current exemptions.

Action : Stewart McEwen

vii) HSE stated that a balance of all the opinions and evidence will be required by the project with QRA supporting where appropriate.

viii) National Grid agreed to review the emergency specification

Action : Robyn Jenkins

(b) Membership

i) The group discussed the membership and agreed essential to have informed relevant experts on gas quality across the wider gas industry. Different levels of engagement will be required from different sectors.

ii) In addition to those already on the group the following were identified;

- Energy UK – Julie Cox
- Gas Shippers – engagement will be sought at the launch of the Oban project

Action : Angus McIntosh

- Representatives from the metering and gas measurement sector
- Catering Appliance manufacturers
- LNG Terminal Operators, IOG agreed to liaise and represent

Action : Damien Heylen/Kevin Bradley

- Gas Storage Operators RJ to liaise and provide a contact.

Action : Robyn Jenkins

05
TIMESCALES AND FREQUENCY OF MEETINGS

(a) The group discussed that we would perhaps need to meet monthly but this should be reviewed and the next meeting should take place once the Oban Project was finished which is anticipated on 7th August. A date for the next meeting was to be set for 23rd August to allow for the report to be circulated and findings discussed by the working group.

Action : Ian McCluskey

(b) The timescales for a successful role out of an IGEM Standard was discussed and the group were of the opinion that a target set for completion in 2018. This would then feed into the new price control period.

(c) The group also agreed that we would need approximately 9 months for the work on the Industrial and Commercial users to be completed which would take the timescales up to Summer 2017. Evidence could then be submitted and request for formal change could then be made to the new standard.

(d) Evidence will be available from SGN's SIUs covering a 12 month operating period of data which will feed into the case for change.

06
FUNDING FOR THE GAS QUALITY STANDARDS WORKING GROUP

(a) The group discussed mechanisms for the funding of the working group and the areas of further work and research that will be required. This will need to cover IGEM overheads, HSL review, research, and working group independent consultants.

Action : Ian McCluskey

(b) The project costs will then feed into a NIA funding with proposal submitted from National Grid and SGN.

Action : Gus/Robyn

(c) KB asked for clarity on the work of ENA and the GSMR review. AM explained the structure highlighting IGEM's Working Group as the lead role in the whole process with ENA facilitating the wider GS(M)R review process.

07
ENTSOG QUESTIONNAIRE

Ref paper: IGEM/TSP/16/218

Report: A McIntosh

The group discussed the ENSTOG questionnaire with a closing date of 15th July. RJ/AM advised Grid/SGN where planning on submitting a response. The responses would be circulated within the group.

Action : Gus/Robyn

08
DATES OF MEETINGS FOR 2016

Tuesday 23rd August date for next meeting

09
ANY OTHER BUSINESS

There was no other business.

END