

AUG UNCC Sub-committee

Modified AUGS Summary

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15 March 2019

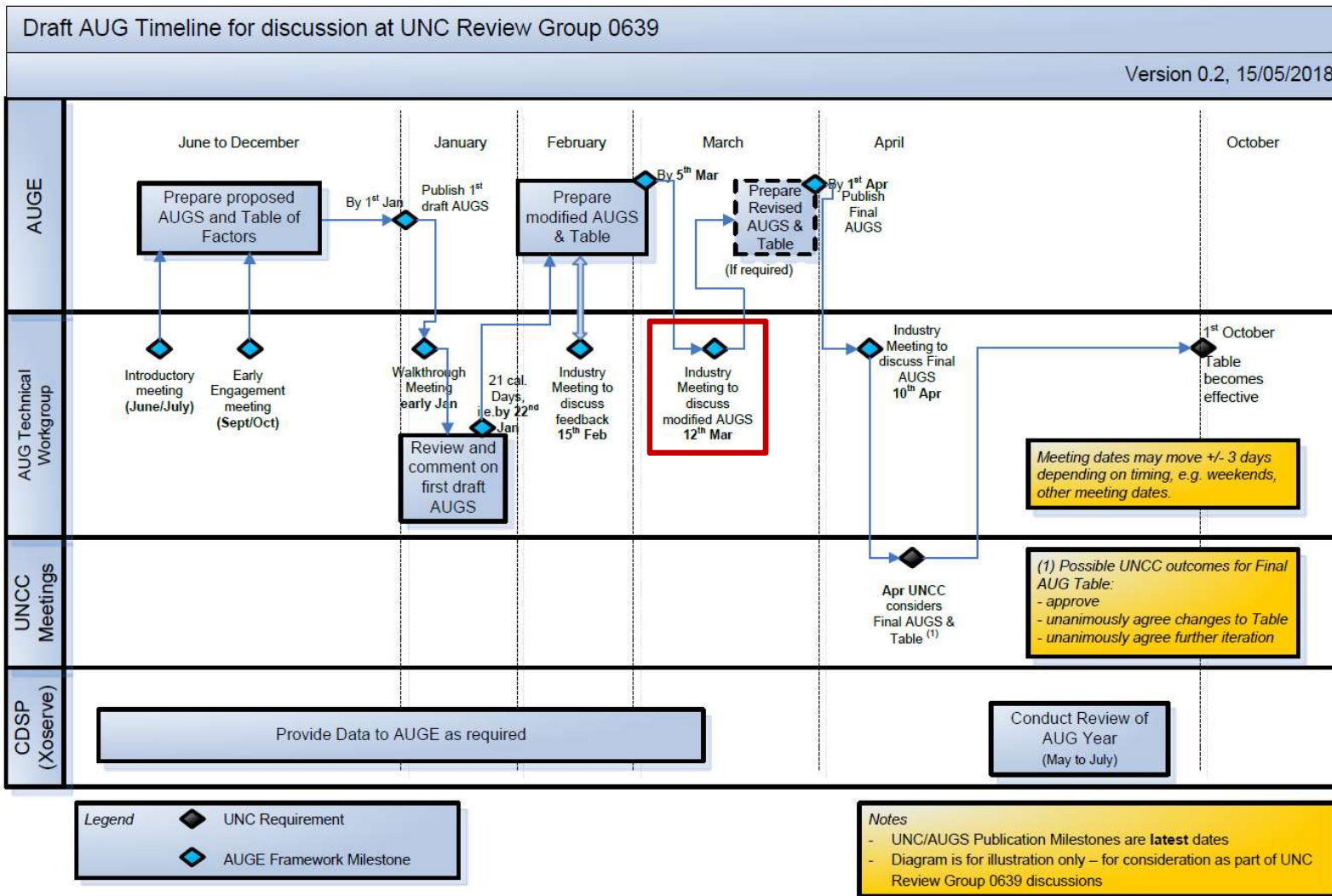
Agenda

- Meeting Purpose
- Project Status
 - UIG Issues Status
 - Data Status
- Overview of Modified AUG Statement
 - Changes from Proposed AUG Statement
 - Updated UIG Factors
- Next Steps
- AOB
 - Gas Meter Temperature Measurement
 - New EUC Bands: XRN4665

Meeting Purpose

- Present Modified AUG Statement & UIG Factors
 - Changes from Proposed AUG Statement
- Opportunity to raise specific concerns with the Modified AUG Statement

Project Status



Project Status

- On Target
 - Modified AUGS published including updated factors
 - Consultation Issues published with AUG Expert responses
 - Theft data request for SPAA sent to CDSP
 - Meeting arranged with British Gas Revenue Protection Unit

Project Status

- **UIG Issues Status**
 - 6 Issues remain open and will be considered next AUG year (4 ongoing)
 - 1 Issue added

- **Data Status**
 - Issue with CSEP invoicing data for 2014 and 2015
 - Offline Adjustment data
 - Unknown CSEP Projects
 - Unregistered sites on known CSEPs
 - Theft: TRAS Qualified Outliers and ETTOS
 - Missing Meter Reads

Modified AUGS – Document/Methodology Updates

- Figures updated to reflect UIG terminology
- New Theft Methodology incorporated
- Temperature Analysis
 - Additional detail added
 - Example data moved to Appendix
- Use of Standard CF for 04B and above
 - Methodology updated to include an element of permanent UIG
- Final UIG/Reconciliation Analysis – update using latest data
- Inclusion of IGT Modification References

Modified AUGS – Updates to UIG Factors

- Methodology Changes
 - Permanent UIG arising where standard CFs are used for 04B and above
 - New Theft split methodology
 - Subject to data restrictions
 - Interpolation of missing years in consumption calculations

- Data Changes/Updates
 - Latest Product Class snapshot
 - Updated CFs
 - Updated list of MPRs with volume conversion
 - Updated Meter Reads
 - Exclusion of suspect CSEP data for gas years 2014 & 2015

Product Class Snapshot Update

- Meter Point Population and Aggregate AQ, April 2020

Number of Sites

	01B	02B	03B	04B	05B	06B	07B	08B	09B	Total
Product 1	0	0	0	0	0	0	0	0	309	309
Product 2	14	10	14	34	53	175	178	201	0	679
Product 3	62,824	20,108	8,997	2,246	419	125	44	20	0	94,783
Product 4	23,764,072	179,074	35,672	16,777	4,312	1,402	503	190	0	24,002,002
Total	23,826,910	199,192	44,683	19,057	4,784	1,702	725	411	309	24,097,773

Aggregate AQ (GWh)

	01B	02B	03B	04B	05B	06B	07B	08B	09B	Total
Product 1	0	0	0	0	0	0	0	0	39,672	39,672
Product 2	0	2	8	48	225	1,834	3,699	8,427	0	14,244
Product 3	1,130	3,147	3,985	2,616	1,402	1,121	881	789	0	15,070
Product 4	318,855	23,932	16,045	20,198	14,608	12,535	10,201	7,496	0	423,870
Total	319,985	27,081	20,038	22,862	16,235	15,490	14,781	16,712	39,672	492,855

Volume Conversion Data Update

- Updated Volume Conversion Data Received
 - 2 PC1 meters without volume conversion being investigated by CDSP
 - All PC2 meters have volume conversion

	PC1	PC2	PC3	PC4
01B	100.00	100.00	0.02	0.00
02B	100.00	100.00	0.08	0.15
03B	100.00	100.00	0.15	0.86
04B	100.00	100.00	2.33	6.79
05B	100.00	100.00	20.64	31.74
06B	100.00	100.00	29.14	57.99
07B	100.00	100.00	64.65	75.45
08B	100.00	100.00	77.68	80.79
09B	99.86	100.00	100.00	88.06
Overall	99.87%	100.00%	12.85%	6.51%

Use of Standard CF for 04B and above

- 4,023 Meters with standard CF but 04B or above in asset data provided in 2018
 - Total AQ = 6,288GWh
- 1,766 of these (~44%) have had CF updated since 1 June 2018
 - UIG reduced by ~47GWh/annum as a result (estimate based on AQ)
- Assume similar impact from uncorrected meters
 - Remaining UIG ~60GWh
- Assume a further 44% (of remaining meters with standard CF) are corrected prior to 2019/20 gas year
 - Permanent UIG = 33.53GWh

Use of Standard CF for 04B and above

- Permanent UIG = 33.53GWh split by AQ but only for
 - meters without volume conversion
 - meters 04B and above
 - meters with standard CF (1.02264)

	PC1	PC2	PC3	PC4
01B	0.00%	0.00%	0.00%	0.00%
02B	0.00%	0.00%	0.00%	0.00%
03B	0.00%	0.00%	0.00%	0.00%
04B	0.00%	0.00%	5.66%	52.95%
05B	0.00%	0.00%	2.86%	17.15%
06B	0.00%	0.00%	1.26%	10.89%
07B	0.00%	0.00%	1.60%	5.17%
08B	0.00%	0.00%	0.00%	2.44%
09B	0.00%	0.00%	0.00%	0.00%

Theft

- Of 9000 confirmed thefts since Nexus go-live
 - 0 from PC1, PC2
 - 2 from PC3
- 307 confirmed thefts from Smart/AMR
 - All but 2 in PC4 despite having the technology to be in different PC
- 78% of all confirmed thefts are from ETM
 - ETMs overwhelmingly PC4 EUC 01B

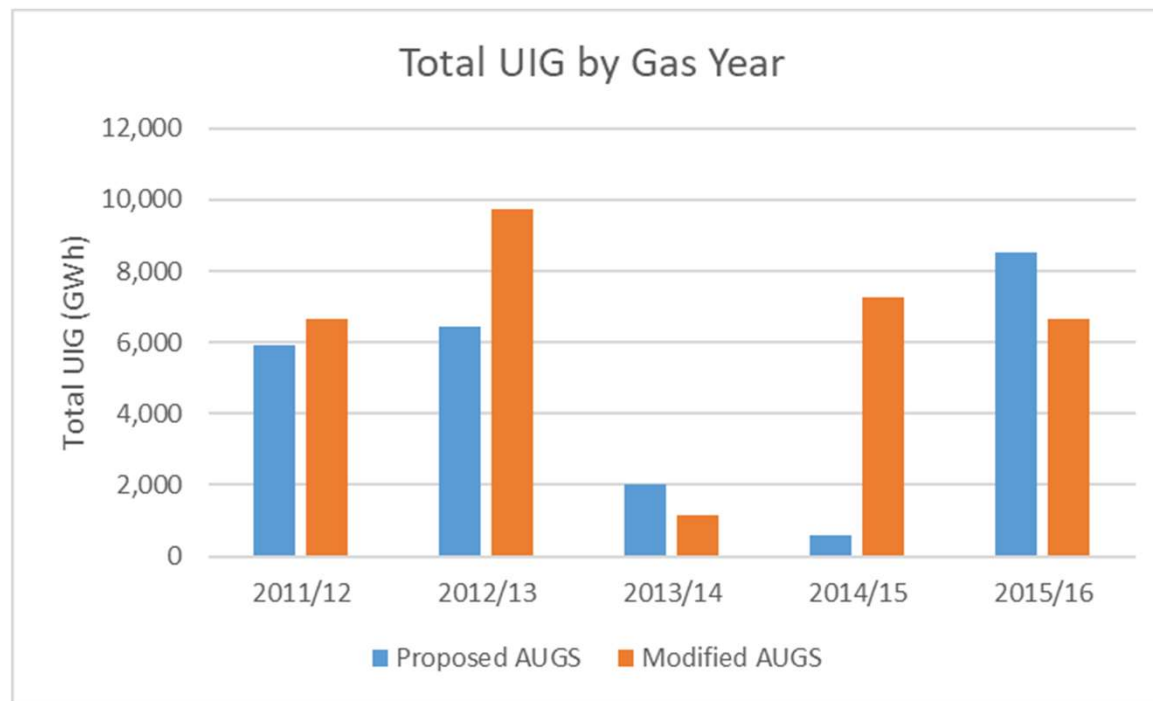
Theft

- This results in the following Balancing Factor split

	01B	02B	03B	04B	05B	06B	07B	08B	09B
Product 1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Product 2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Product 3	0.01%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Product 4	95.20%	4.70%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Updated UIG Factors

- Total Unidentified Gas recalculated using
 - Latest Meter Read data
 - Latest Asset data
 - Estimated CSEPs for 2014 and 2015 (~0.5% change in CSEP AQ)



Updated UIG Factors

- UIG Factors based on latest available data
- Updated theft methodology is biggest contributor to changes

Supply Meter Point Classification	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0.20	4.07	24.23	163.68
EUC Band 2	0.20	4.07	15.33	110.79
EUC Band 3	0.20	4.07	10.20	17.92
EUC Band 4	0.20	3.89	7.71	12.51
EUC Band 5	0.20	3.50	6.75	7.87
EUC Band 6	0.20	2.86	6.20	4.31
EUC Band 7	0.20	1.96	4.93	2.14
EUC Band 8	0.20	0.78	1.82	1.70
EUC Band 9	0.20	0.20	0.20	0.20

Next Steps

- AUG Expert to publish Final AUGS & Table by 1 Apr
- AUG Expert to present Final AUGS & Table on 12 Apr
- UNCC to consider Final AUGS & Table at April meeting
- Annual review of process with CDSP

- Start next year's process.....

AOB – Gas Meter Temperature

- Industry issues related to the use of a standard temperature for volume conversion
 1. Is the current standard temperature conversion factor of 12.2C appropriate?
 2. What should the standard temperature conversion factor be?
 3. Should different factors be used for each LDZ, EUC, Season?
 4. What would be the wider impact of using a different conversion factor e.g. billing, reconciliation, NDM allocation etc? i.e. what are the unintended consequences of changing this?

- Items 3 & 4 are probably best dealt with through a cross industry work group
- Items 1 & 2 require a more detailed study to better inform the industry

AOB – Gas Temperature Measurement Study

- AUG Expert proposing a way forward to determine gas meter temperatures with more confidence

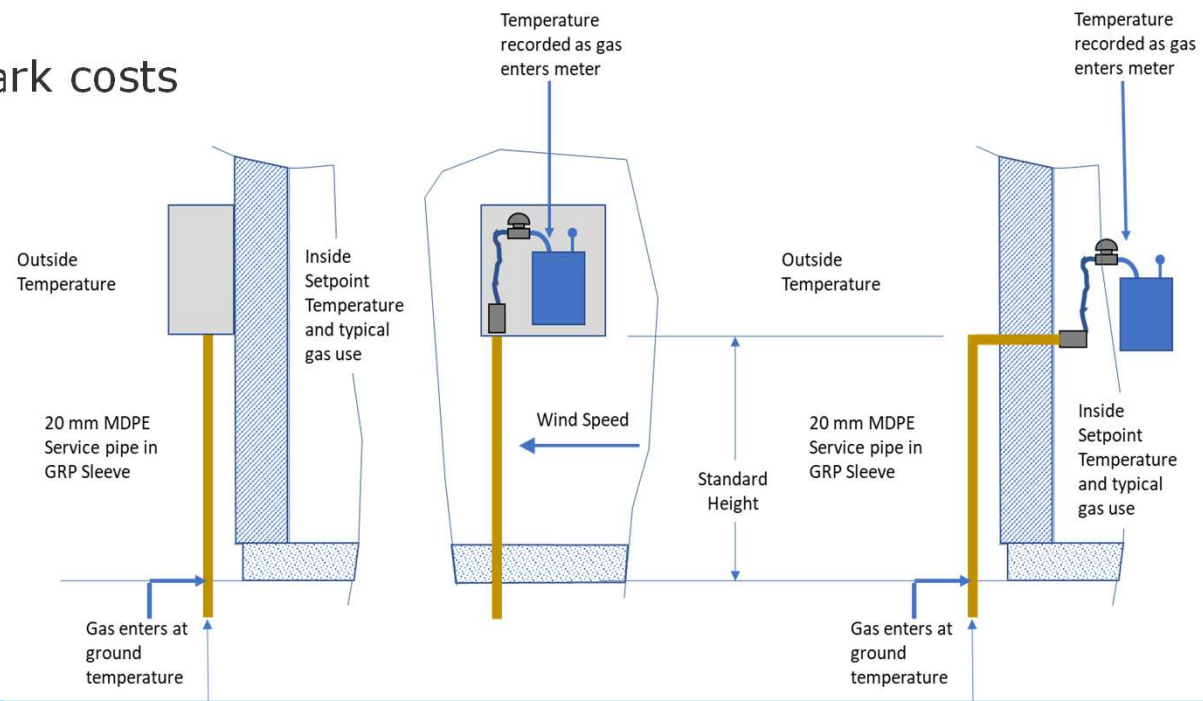
- Recommending mix of lab tests and field trials
 - Lab tests allow a wider range of scenarios to be tested at lower cost
 - Field trials will be used to validate lab tests
 - May combine with data from existing equipment for I&C meters

- Lab tests designed to provide enough evidence to either support 12.2°C or an alternative value as quickly and cost-effectively as possible

- Field trial is a longer-term project to verify lab results in practice

AOB – Gas Temperature Lab Tests

- Control of conditions – define set of run scenarios
 - Ground temp, air temp, meter location, etc
- Run trials and gather data far more quickly than in the field
- Develop equations linking air temperature to gas temperature
 - Ability to estimate gas temperature under different weather conditions
- Engaging with Kiwa
 - Feasibility and ball-park costs



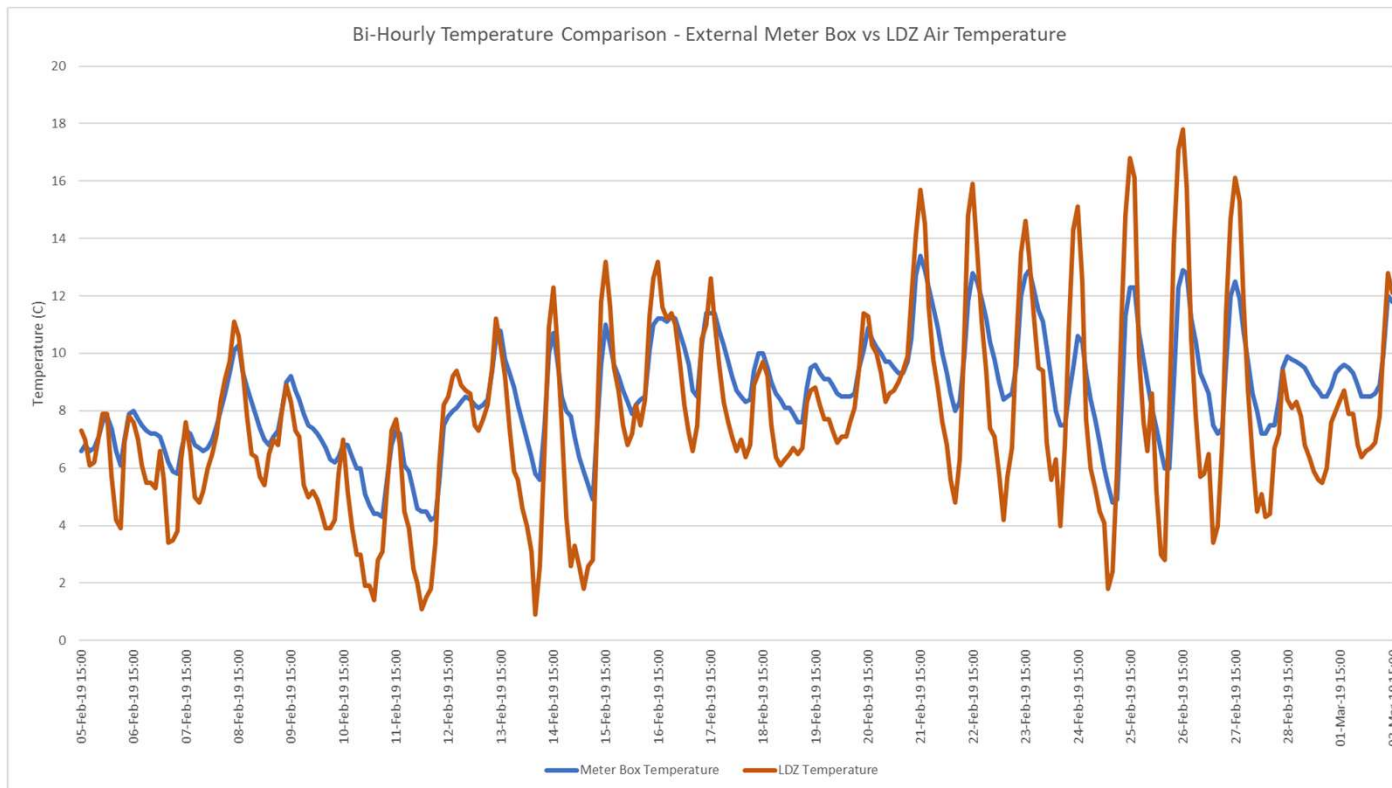
AOB – Gas Temperature Field Trial

- Using non-intrusive temperature measurement
 - Taken from surface of the pipe
 - Insulation to protect from ambient temperature
 - Easier to install and more accurate
 - Does not interfere with gas flow
 - “Experimental Research into the Measurement of Temperature in Natural Gas Transmission Metering Systems” – DNVGL, October 2014

- Maximise sample size to fit available budget
 - Recommend a minimum sample of 400 sites for 1 year
 - Dom/Non-Dom, large/small, Indoor/Outdoor meter

AOB - External Meter Temperatures

- Comparison of LDZ Air Temperature to Meter Box Temperature
 - Significant damping of temperature extremes
 - On average, meter box 0.9C warmer (~18miles away)



AOB - Meter Locations

- More detailed information on meter locations may be useful



XRN4665 – Creation of New End User Categories

- AUGE calculates factors by EUC Category
 - UNC and/or framework change would be required to estimate factors by new EUC bands
- UIG sharing remains by EUC band
 - All EUC band sub-EUCs treated the same
 - Currently no distinction between credit and pre-payment meters in AUG factors
 - Should this change, especially in light of theft findings?

Thank you

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