



## **Demand Estimation Sub Committee**

Seasonal Normal Review 2020

10<sup>th</sup> December 2018

# Objective

- To discuss proposed high level approach for the review of i) Composite Weather Variable (CWV) formula and ii) basis for Seasonal Normal (SNCWV) and to review proposed timescales for completing this work in 2019
- Why do DESC need to do this ?
- Reminder of DESC's UNC Section H obligations:
  - *“1.4.3 The Committee will, at appropriate frequencies determined by it, **review** and where appropriate **revise** (with effect from the start of a Gas Year) the **formula** by which the **Composite Weather Variable** for an LDZ will be determined.”*
  - *“1.5.3 The Committee will, at appropriate frequencies determined by it, after consultation with the Uniform Network Code Committee, **review** and where appropriate **revise** (with effect from the start of a Gas Year) the **seasonal normal value** (for each Day in a year) of the **Composite Weather Variable** for an LDZ.”*

# Background

- The last review of the CWV formula and Seasonal Normal basis was completed by DESC in 2014. The revised values took effect from 1st October 2015 and remain in place today
- The CWV and SNCWV are key building blocks in the production of demand models, profiles, peak load factors and the NDM allocation formula
- For stability across the many industry processes impacted, DESC review the CWV and SNCWV, as a minimum, every 5 years. The current basis 'expires' on 30th September 2020
- The review of CWV and SNCWV needs to be completed during 2019 in order that the Spring modelling in 2020 can be performed using the new arrangements, when profiles for Gas Year 2020/21 will be produced

# Background - Timeline

## High Level Timeline of CWV / SNCWV Review

2018			2019												2020														
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
Industry discussions (UiG Task Force / MOD659) agreement on weather data items for CWV			Complete review of CWV Formula and Seasonal Normal Basis, Define methodology and calculate values for next period (2020-2025)																										
															New CWVs and SNCWVs approved by DESC														
			Develop Profiles for GY 2019/20 using existing CWVs and SNCWVs						Profiles in place for Gas Year 2019/20, using existing CWVs and SNCWVs																				
															Preparation for Modelling for GY 2020/21														
															Develop Profiles for GY 2020/21 using new CWVs and SNCWVs														
															Profiles go LIVE using new CWVs and SNCWVs														
			SYSTEM CHANGE - CWV Formula and Receipt of Additional Weather Data Items																										

Current CWVs and SNCWVs

Prep. for New CWVs and SNCWVs

# Approach – High Level activities – CWV 1

- Review of CWV formula:
  - Industry discussions and UIG Task Force support additional weather data items being used in the demand modelling. DESC have the responsibility to make this decision
  - DESC agree approach document for reviewing the effectiveness/performance of the CWV formula
  - DESC perform and review analysis of the CWV formula
  - **MILESTONE:** DESC decide whether to revise existing CWV
  - **TIMESCALES:** To complete above analysis by end of Q1 2019
- High level principles for approach:
  - CWV to continue to be a single measure of daily weather in an LDZ, and defined in a manner to provide a linear relationship between the daily aggregate NDM demand in the LDZ and the CWV
  - Use aggregate NDM demand for 4 gas years since last CWV review (2014/15 to 2017/18). Exclude June 2017 to September 2017 due to issues post Nexus
  - Review ‘performance’ of CWV by comparing aggregate NDM demand to CWV by season (typically evaluated using RMSE)
  - Output will provide a benchmark to review any alternative proposals

# Approach – High Level activities – CWV 2

- Change to CWV formula
  - Assuming DESC decide to change the CWV formula, agree approach document, analysis and criteria for revising CWV formula
  - DESC perform analysis and review options for revised CWV formula
  - **MILESTONE:** DESC define proposed CWV formula for next period i.e. GY 2020/21
  - **TIMESCALES:** To complete above analysis by end of Q2 2019
  - Output from this phase to be fed into XRN4772 i.e. change proposal for updates to SAP-ISU, weather contracts etc. which need to be in place for 2020
- High level principles for approach:
  - Analysis already performed by UIG Task Force and contributions from Shippers during MOD659 discussions to be referenced when looking at options for revising the CWV formula
  - Review performance of ‘revised CWV’ by comparing aggregate NDM demand to CWV by season (method to be agreed once proposed formula is known)
  - Compare output to benchmarked results to assess improvements



# Approach – High Level activities – CWV 3

- Optimising CWV formula:
  - DESC agree approach document for optimising weightings within proposed CWV formula
  - DESC perform and review CWV optimisation analysis
  - **MILESTONE:** DESC confirm parameters for use in proposed CWV formula for Gas Year 2020/21
  - **TIMESCALES:** To complete above analysis by end of Q3 2019
- High level principles for approach:
  - Using historical aggregate NDM demand for [x] years (to be determined by DESC) and historic weather variables for same [x] period produce a set of revised parameters which represent the optimum performance in terms of linear fit between weather and demand
  - Review the performance of ‘optimised CWV’ by comparing aggregate NDM demand to CWV by season
  - Compare output to benchmarked results to assess improvements
  - CWV history re-stated using agreed formula (back to 1960)

# Approach – High Level activities – SNCWV 1

- Review of SNCWV:
  - Agree approach document for reviewing the SNCWV values
  - DESC perform and review analysis of the SNCWV values
  - **MILESTONE:** DESC decide whether to revise existing SNCWV
  - **TIMESCALES:** To complete above analysis by end of Q1 2019
- High level principles for approach:
  - DESC agreed to use datasets from Climate Change Methodology (CCM) procured in 2014 for Seasonal Normal Review 2020
  - Analyse the SNCWV values compared with CWVs for 4 gas years since last SNCWV review (2014/15 to 2017/18)
  - Review suitability of SNCWV ‘levels’ and ‘shape’ across the LDZs
  - Output will provide a benchmark to review any alternative proposals



# Approach – High Level activities – SNCWV 2

- Update of SNCWV:
  - Agree approach document for creating the SNCWV values
  - DESC create and review the SNCWV values
  - DESC consult with UNCC on revised SNCWV values
  - **MILESTONE:** DESC confirm revised SNCWV values
  - **TIMESCALES:** To complete calculations by end of Q4 2019
- This final milestone would conclude DESC's Seasonal Normal Review activities during 2019
- The modelling in Spring 2020 would then be performed on the new basis for demand models required for Gas Year 2020/21

# Timetable for Seasonal Normal Review – DESC and TWG

- **MILESTONE:** DESC decide whether to revise existing CWV (1<sup>st</sup> April)
- **MILESTONE:** DESC define proposed CWV formula for next period i.e. GY 2020/21 onwards (8<sup>th</sup> July)
- **MILESTONE:** DESC confirm parameters for use in proposed CWV formula for Gas Year 2020/21 (7<sup>th</sup> October)
  
- **MILESTONE:** DESC decide whether to revise existing SNCWV (1<sup>st</sup> April)
- **MILESTONE:** DESC confirm revised SNCWV values (9<sup>th</sup> December)
  
- The approach documents and analysis work will require additional Technical Workgroup meetings in order to provide recommendations to DESC
  
- Can we establish who on the current list of Technical Workgroup Representatives wish to be involved ?

# Seasonal Normal Review Timetable 2019

## High Level View of Seasonal Normal Review in 2019 - Key Checkpoints

PHASE	JAN'19	FEB'19	MAR'19	APR'19	MAY'19	JUN'19	JUL'19	AUG'19	SEP'19	OCT'19	NOV'19	DEC'19
TWG REVIEW CWV and SNCWV												
Update on Seasonal Normal Review (DESC)		11th Feb										
DESC MILESTONE												
DESC to decide on CWV and SNCWV Review			1st Apr									
TWG REVIEW OPTIONS FOR CWV FORMULA												
Update on review of CWV formula (TWG)				24th Apr								
Update on review of CWV formula (TWG)					15th May							
DESC MILESTONE												
DESC define proposed CWV Formula (DESC)							8th Jul					
TWG COMPLETE CWV OPTIMISATION												
Adhoc Meetings												
DESC MILESTONE												
DESC confirm parameters in CWV formula (DESC)										7th Oct		
TWG CALCULATE SNCWV												
Adhoc Meetings												
DESC MILESTONE												
DESC confirm SNCWV values (DESC)												9th Dec