



**MOD 0644:
Temperature sensitivity of Algorithm**

1st May 2018

EUC Band Changes – MOD 0644

- MOD0644 proposes some changes to the weather correction element of the daily NDM algorithm, proposal in MOD below:
 - Expanding the data items included in the CWV to improve the WCF applied to all EUCs
 - Create wider parameters for the DAF and/or WCF where the CWV and SNCWV are > [1] % tolerance
- The 'weather correction element' of the current NDM Algorithm is highlighted below:
- Supply Meter Point Demand = $(AQ/365) * ALPt * (1 + [DAFt * WCFt])$
- The DAF is an EUC model parameter, derived by the EUC modelling system ahead of the gas year. The formula is $WSENSt / SNDt$
- The WCF is an LDZ parameter, calculated daily in Gemini and SAP-ISU. The formula is $CWVt - SNCWVt$

Governance and System considerations ?

References to Calculation Formula and/or data Items used in it	Governance			
	UNC Section H	Demand Estimation Methodology	Spring Approach / NDM Algorithms Booklet	Approach to Seasonal Normal Composite Weather Variable
Change Mechanism	Modification	UNCC Approval	DESC Approval	DESC Approval
WCF	-	✓	-	-
CWV	✓	✓	✓	-
SNCWV	-	-	-	✓
DAF	-	✓	-	-
WSENS	-	-	✓	-
SND	-	-	✓	-

Calculation of....	Systems		
	Gemini	SAP-ISU	Dem. Est. Modelling
WCF	✓	✓	-
CWV	-	✓	-
SNCWV	-	-	✓
DAF	-	-	✓
WSENS	-	-	✓
SND	-	-	✓

- The above table shows where there are references in industry documents to either the formula definition and/or data items which must be used
- The table to the left shows which systems calculate the parameters in the first instance

Weather Correction Factor (WCF): CWV

- The formula for the CWV is reviewed every 5 years, in addition the parameters which are used within the formula are revised to seek the optimum fit to gas demand
 - The next review is scheduled to take place in 2019, to take effect in Gas Year 2020
 - This would need to be informed by any analysis / conclusions which suggested a change to the formula is required (i.e. new weather data items) and not just a revision to the parameters used within existing formula
- The lead time needed to ensure changes are made to SAP-ISU need to be considered plus any amendments to DN's contracts with weather providers
- This assumes that detailed analysis has been carried out to identify the improvement and produced a set of clear conclusions / rules
- Short Term Fix: Look at existing parameters within CWV formula and review whether any could be changed to improve allocation ?
e.g. Max CWV ?

Weather Correction Factor (WCF): **SNCWV**

- The formula for the SNCWV is reviewed every 5 years
 - The next review is scheduled to take place in 2019, to take effect in Gas Year 2020
 - It currently relies upon the use of the output from the Weather Station Substitution Methodology (WSSM) and Climate Change Methodology (CCM) (as per Section H UNC)
- DESC have already approved the use of the CCM output procured in 2014, this decision may need to be reviewed if it is felt the CWV should be based on additional data items ?
- The calculation of the SNCWV is all off-line and so no impact to mainframe systems as only the SNCWV 'value' is required
- Short Term Fix: No real options