UIG Task Force Investigation Findings

12.2 : Use of Standard Conversion Factor for all NDM sites with AQ <732,000 kWh

Summary of Findings

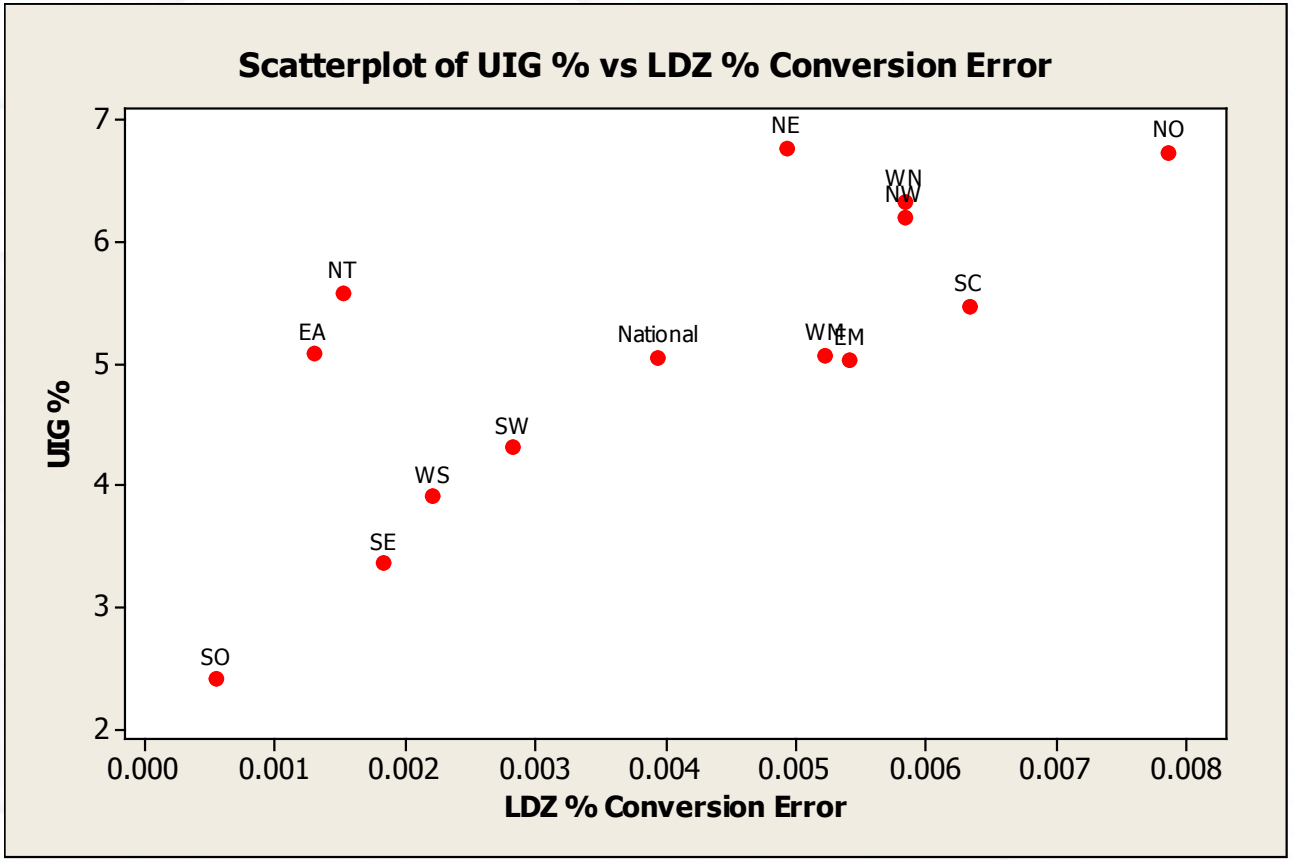
Area & Ref #	Use of a non-standard conversion factor for all NDM sites with AQ <732,000 (Ref#12.2)
UIG Hypothesis	All sites under 732,000 AQ have a single industry standard conversion factor specified in legislation. Any difference between the standard value and a more accurate value would mean that gas was under- or over-metered and would contribute to UIG. Once the reads have been used to calculate an AQ, Nominations and Allocations would also be affected.
Data Tree References	Meter Asset Details

Findings Status	**Closed**
UIG Impact Peak Volatility %	**5%**
UIG Impact Annual Average %	**0.45%**
Confidence in Percentages	**Medium**

Findings	**Approach to analysis**
Legislation specifies a standard volume-to-energy conversion factor of 1.02664 for all sites with an AQ under 732,000. This factor aims to convert for the effects of temperature, atmospheric pressure and gas pressure. The AUGE is also investigating this topic and has assessed temperature to have the greatest sensitivity in the formula The Task Force's main finding is that using a standard temperature of 12.2°, rather than the actual temperature, will tend to understate measured energy in colder weather and overstate it in warmer weather. Although measured energy is not used for NDM sites on a daily basis, it is used in the NDM demand estimation sample, so this would result in the NDM profiles being too low in winter and too high in summer, which would contribute to daily UIG. In addition, if the sum of the annual differences does not come to zero, AQs will be affected by that error. The scatterplot on the following slide appears to show a reasonable correlation between higher temperature-related conversion errors and average LDZ UIG, **for the 12 months post-Nexus**.	For each LDZ for the 12 months post-Nexus, we have simulated the difference between original allocated energy using standard conversion and an allocation using actual temperatures. We have weighted the 12 within-day temperatures using the same proportions as the CWV formula. We have produced daily graphs and calculated a net annual figure. We have also mapped the % error against UIG for the same period, to asses whether there is a correlation between high UIG and high conversion-related errors. **Confidence levels are medium, as the analysis is based on a single historic year's weather – actual impacts depend on actual weather experienced.**

Supporting Evidence (1/2)

Graph shown here plots the observed D+5 UIG by LDZ for the first 12 months post-Nexus, against the simulated error in gas usage for the same period, using actual LDZ temperatures. The error has been scaled down by the proportion of Class 3 and 4 sites with AQ < 732,000 compared to the total population.



Supporting Evidence (2/2)

Graph showing daily observed UIG v output from this analysis for WM LDZ, scaled down to 74%, because NDM EUCs 1 to 3 make up 74% to total AQ for WM LDZ.

For WM LDZ, for instance, differences varied between +3.5% and -4.2%.

The graph shows an approximate inverse correlation between the % conversion error and the daily UIG levels in WM LDZ.