Supporting Note: Action DE1077

Points to consider:

- In March 2009, DESC agreed the proposed CWV methodology was fit for purpose and that the number of years used to derive most of the parameters should be 13 (1996/97 to 2008/09).

- In autumn 2009, the CWV parameters and pseudo SNET profiles were calculated using the agreed methodology - they were derived from models of aggregate NDM demand and weather data over the 13 gas years. Maximum potential demand (MPD) data prior to 1996/97 was also included in the derivation of cold weather upturn parameters. As per the agreed methodology, demand during designated holiday periods was excluded from the analysis, suspect / unusual data for particular days or years was excluded or corrected, and demand on Fridays, Saturdays and Sundays was excluded from the analysis to derive some of the parameters. Note that suspect aggregate NDM demand data in a particular LDZ usually arises as a result of erroneous DM demand measurements in that LDZ (see Appendix 13 of the NDM report for some examples).

- The monthly average fit statistics shown in the tables were calculated from aggregate NDM demand models for Monday to Thursday days (excluding holidays and any days with suspect demand data). Therefore the number of days contributing to those values varied from month to month. In months containing holiday periods, the number of days contributing to the average was much smaller than in months containing no holiday periods. Care should therefore be taken in drawing conclusions from monthly average fit statistics derived from a relatively small number of data points. It is better to draw conclusions from average seasonal or annual fit statistics.

- The pseudo SNET profile was derived from models of aggregate NDM demand and weather. Its shape was designed to minimise seasonal bias *on average* over the years modelled (13 gas years, 1996/97 to 2008/09).

- Although the shape of pseudo SNET profile was designed to minimise *average* seasonal bias in the demand models over the years modelled, it did not necessary eliminate bias in all months/ seasonal quarters and all years for all LDZs - there may have been some months / seasons in some years in some LDZs where the demand models contained some bias, particularly if the weather in those months / seasons was significantly different from seasonal normal. There were some exceptional months / seasons in some LDZs over the 13 gas years e.g. in summer 2006, spring 2007 and spring 2009 which were significantly warmer than average - reducing demand below expected levels on a few days; and summer 2007 which was exceptionally wetter than average - increasing demand above expected levels on a few days.

- Both the current and revised CWV parameters were derived using the same methodology (albeit using a different number of gas years). It is therefore to be expected that both the current and revised CWVs have similar parameter values and fit statistics. It is unlikely the revised CWV will produce a better fit than the current CWV in all months in all years for all LDZs. A methodology designed to produce a better fit in one particular month / season, may produce a worse fit at other times of the year.

- The methodology aims to produce the best fit on average over the year as a whole, not for particular months / seasons. Looking at the results presented at DESC on December 22nd 2009, the revised CWVs did produce a better fit to aggregate NDM demand on average over the year as a whole than the current CWVs, particularly for the most recent 5 gas years. Both the current and revised CWVs produced a good fit to aggregate NDM demand (with average adjusted R-squared values greater than 99% for the majority of LDZs and greater than 98% for all LDZs).

- Similarly, models based on the revised CWVs showed little seasonal bias *on average* and displayed a better seasonal fit to aggregate NDM demand *on average* than the current CWV, particularly for the most recent 5 gas years.

- Clarification of monthly average fit statistics:

  MDAE (Mean daily absolute error): Sum of daily absolute errors (I actual demand – fitted demand I) divided by total number of contributing days over period

  MDRE (Mean daily residual error): Sum of daily residual errors (actual demand – fitted demand) divided by total number of contributing days over period