NDM Proposals 2010/11 – Representations and their responses

Introductory Comments:

- According to UNC Section H, Users may submit to the Transporters representations in respect of the proposed End User Categories and demand models for a gas year up to but not later than 15th July in the preceding year.
- Between 16th July and 14th August in the preceding gas year, the Transporters review the representations made by Users and will consult, so far as they deem appropriate, with any User in respect of representations made by them or any other User.
- Not later than 15th August in the preceding gas year, the Transporters need to submit their final proposals for End User Categories (EUC) definitions and demand models (and corresponding values of the derived factors) with such changes as the Transporters may determine appropriate on the basis of Users' representations and the consultation.
- The scope of this consultation covers the proposed EUC definitions and demand models and their derived factors for the defined EUCs i.e.
    - Annual Load Profiles (ALP),
    - Daily Adjustment Factor profiles (DAF) and
    - EUC load factors.
- This consultation does not cover the seasonal normal values of the composite weather variables or any matter not listed above.
- In response to the Transporters initial proposals for 2010/11, 3 representations have been received: from E.ON, Scottish and Southern Energy (SSE) and Scottish Power.
- This note reviews the 3 representations made and responds to the specific issues raised.

Explanatory background:

- NDM SND and WSENS used to compute DAFs (for each EUC) for 2010/11 have been derived using the same approach as for 2009/10:
    - Three gas years of historical aggregate NDM demand data were modelled.
    - An averaged demand model was determined from this historical data.
    - The holiday codes applied were equivalent to those used in EUC demand modelling (See Appendix).
        - Note that weekends and holidays are different.
        - Note that for "01B" EUCs holiday days are not treated separately but weekend days are.
        - Note that for all other EUCs holidays and weekend days are treated separately.
        - Historical modelling of aggregate NDM demand treated holidays and weekend days separately.
        - The holiday and weekend factors came out of the modelling (EUC and NDM).
        - Holiday codes for these various cases are stated in the file WKHOLDEF10.TXT (provided with NDM proposals).
    - In past years the values of SND and WSENS used to compute DAFs have come from models of NDM demand in each LDZ forecast for the future year in question.
    - There are 14 different holiday codes.
    - When a holiday code applies over a weekend the individual days comprising the weekend are not necessarily additionally differentiated (there is usually insufficient data to derive statistically significant and different values of weekend factors within individual holiday codes).
    - All holiday factors took on values as expressed by the results of modelling the aforementioned historical aggregate NDM data.
    - The historical aggregate NDM demand model was then applied to the pattern of days of the target gas year (2010/11).
    - The objective of this process is to remove from the computation of EUC DAFs any impact of the Transporters' forecasting process (DESC was very keen to achieve this disconnect from the Transporters' forecasting process).
- Note that in aggregate NDM demand modelling and in EUC demand modelling weather sensitivity (WSENS) and seasonal normal demand (SND) are NOT independent quantities.
- Specifically, when demand (i.e. SND) falls on weekend and holiday days, the corresponding weather sensitivity also falls (becomes less negative).
- The SND and WSENS terms provided with the NDM proposals for 2010 are NOT values applicable to the individual days of the gas year 2010/11 in the same sense as previously when forecast models for the target year have been used.

- Instead these SND and WSENS values are merely the values that came out of the aforementioned historical demand modelling and were used to compute the DAFs on each of the days of 2010/11.
- In 2008/09 (and earlier years) the values of SND and WSENS were the Transporters' forecasts of these values for each day of gas year 2008/09.
- For 2010/11, they have no such significance: they are the outputs of a historical modelling process equivalent to EUC demand modelling.
- WSENS and SND values (for 2010/11) have no significance apart from their use in computing DAFs. In addition WSENS is proportional to SND (not independent of SND). Therefore from the point of view of the impact on DAFs, it is the ratio WSENS/SND that is relevant.

Transporter Obligations and General Observations:

- Transporters' NDM obligations each year in respect of the NDM proposals are to provide:
  - A set of EUC definitions
  - Derived factors for the defined EUCs - this comprises ALP and DAF profiles and EUC load factors.
- Transporters have no specific obligation to derive and separately provide WSENS and SND values for aggregate NDM demand in each LDZ. Such data is provided for information only in so far as the ratio WSENS/SND for aggregate NDM forms the denominator of the computation of DAFs for EUCs.
- In this context it is interesting to note that in the E.ON representation, many of the comments relate to WSENS and SND values for aggregate NDM in the LDZs. Response to these specific points are contained within this document
- In addition, the representations from E.ON and SSE express a view that the treatment of the Christmas holiday period in the ALP and DAF profiles for 2010/11 is incorrect. This view was also supported by other shippers at the DESC meeting on 23rd July 2010. Although Transporters have no evidence to suggest that the treatment of holidays in the initial proposals was inappropriate and still recommend the initial NDM proposals, Transporters have decided to prepare an alternative set of ALPs and DAFs with amended values for non-domestic EUCs to take account of the views expressed. The details of this proposal are shown in Appendix 2. Users will be invited to express their views and preferences between these two options before the final proposals are published.
- There were also questions raised about the scaling factors and WAR band limits, to which responses have been prepared in the document.
- The representations from E.ON, SSE and Scottish Power also make reference to the seasonal normal basis (and the Scottish Power representation to historical weather). It should be noted that both of these matters lie outside of the scope of this consultation. The scope of this consultation covers the proposed End User Categories (EUC) definitions and demand models and their derived factors for the defined EUCs (ALP and DAF profiles and EUC load factors).

Responses to Specific Points in E.ON Representation:

1. **Representation:** We have looked at the seasonal normal values that have been issued and believe these understate the impact of summer warming. We are pleased that the EP2 shape has, in the main, been used for deriving the seasonal normal CWV values and are hopeful that this will improve allocation during the early part of the year. However, the summer period still causes concern with both the seasonal normal and the CWV in general.

   Response: The seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

   However, it should be noted that the linearly adjusted EP2 increments across the whole year (and not just the winter period) were used in the derivation of the new seasonal normal CWV values. The summer shape also reflects the EP2 increment values

2. **Representation:** In addition the obscure method used to smooth the weather stream is also concerning as this makes replication of any kind impossible and loses an opportunity to enable clarity of definition across the industry. These points were made by a number of Shipper organisations during the past year and we are disappointed that the comments were not taken on board

   Response: As previously stated, the smoothing used to derive the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

   However, the Transporters do not believe that the methodology is obscure – the Loess method is a well-established methodology implemented in a variety of mathematical and statistical packages. The new seasonal normal CWV values were derived using the SAS procedure "Proc Loess" with a smoothing parameter of 0.005. Documentation can be found at http://support.sas.com/rnd/app/papers/loesssugi.pdf . This method of smoothing was chosen because it retains the bumps in the profile (Buchan spells). This issue was discussed during the EP2 project and there was a view that these features should be retained and not smoothed out. Reference was made to work undertaken by David Parker from the Met Office.

3. **Representation:** During the discussions on seasonal normal basis we gave agreement for an interim set of values – those now due to go live in October – on the clear understanding that a review would take place for full implementation of the EP2 weather stream. Conversations over the past few months have made this clear that this is now unlikely and on this basis we are still reserving judgement on whether to request disallowal of the proposals. We are extremely uncomfortable that Transporters may be preparing to use the seasonal normal basis for the full five year timeframe. Given the significant concerns we have over the questionable methodology used in the derivation we would not be happy to see this length of time before a full review and would urge the Transporters to ensure that work takes place to update the values within a two year maximum period.

   Response: As previously stated, the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

   Transporters have made progress in making all data available to shippers to replicate the SNCWV values

   Transporters engaged with the Met Office to discuss the possibility of variable EP2 increments which they were advised would not produce a materially different outcome for the industry. Transporters invited the Met Office to the June DESC meeting who at the meeting proposed a way forward.

   Transporters have stated at DESC on 4th June 2010 they would be prepared to update the seasonal normal basis within the 5 year timeframe if and when an agreed industry methodology becomes available. It would be beneficial to both Transporters and Shippers to be part of industry discussions in this area to ensure an outcome suitable to all parties.

   It should be noted that in UNC section H, disapproval (disallowal) applies to the EUC definitions and their "derived factors" (ALPs, DAFs and load factors) and not to the seasonal normal basis, composite weather variables and AQ review. A disapproval would introduce inconsistencies into demand attribution in 2010/11 since the ALPs, DAFs and load factors for 2010/11 would be based on the current seasonal normal basis while the revised seasonal normal basis and CWVs and the revised AQs would still apply in 2010/11. In addition, the EUC WAR band limits would be based on winter 2008/09 values while the WAR values on the live systems would be calculated from winter 2009/10 consumptions.

4. **Representation:** Having reviewed the files issued by xoserve we have a number of queries about ALP/DAF behaviour that are centred around holiday periods. We would like to emphasise that very similar issues were raised last year, and again during discussion of the methodology for this year. E.ON had concerns that the methodology missed the issues raised in previous years and had refused to sign off the application of a similar methodology during DESC discussions. Despite this we note that the methodology has been followed with no amendment and that issues are again present in the ALP/DAF profiles.

   Response: A response was made to the issues raised in last year's representation. In addition, presentations have been loaded onto the Joint Office website responding to specific DESC actions relating to these issues (e.g. action DE0202). For further comments relating to this, please see below.

   Under current UNC arrangements, the methodology to be applied is decided by the Transporters although the Transporters recognise that this arrangement could change in future.

5. **Representation:** December 20th has a much higher ALP and therefore higher anticipated load than subsequent days in this week. Given that all these days are in the run up to Christmas it is not expected that there will be such a step change as produced here. While this may relate to the holiday factors chosen we would expect to see a more sensible application that removed such obvious step changes by flexing application of factors to appropriate periods rather than fixing dates and would suggest that factors used on the 21st be applied to the 20th for December 2010.

   A similar impact is seen in reverse on January 4th where ALP and DAF levels are low despite this day not being a bank holiday next year. Again we would suggest that application of holiday factors without ensuring an appropriate impact may be the cause and suggest that the 4th is moved up to the level of the 5th.

   Response: This statement does not apply to the "01B" EUCs which comprise approximately 74% of the NDM load: for these EUCs there is no reduction applied to holiday periods and the ALPs for December 20th are lower than those for the rest of the week and the ALPs for January 4th are similar to those for January 5th.

   For the other (non "01B") EUCs, days are assigned to holiday codes based on mechanistic rules (see Appendix for details on the current rules applied). In 2010/11, the holiday codes for the Christmas and New Year period run from 21st December to the second New Year bank holiday in Scotland on 4th January (as per file WKHOLDEF10.TXT):

   Code 1: 25th, 26th December, 1st January
   Code 2: 24th, 27th to 31st December, 2nd January
   Code 3: 21st to 23rd December and remaining days of period above

   Holiday factors applying to each holiday code for a particular EUC are calculated as follows:
   - For each of the individual 3 years of sample data calculate the 'fitted demand' for each day (C1+C2*CWV) from the Monday to Thursday non-holiday model. Sum these demands for each holiday code.
   - For the same gas days sum the total actual demand from the sample for each holiday code
   - Total sample demand / Total fitted demand = Holiday Factor (for holiday code) for year
   - Average of 3 individual years = Overall Holiday Factor (for holiday code)

   The holiday factors applying to holiday code 3 for each EUC can be found in files EUCHOL10S.TXT and EUCHOL10L.TXT

   The higher ALP values on December 20th compared to subsequent days for non "01B" EUCs are due to the holiday factors for holiday code 3 being applied to those subsequent days. The ALP values on December 20th are not high when compared to the next non-holiday day (5th January 2011).

   No subjective judgement is applied when assigning days to holiday codes. Instead analysis is carried out periodically looking at the rules used to assign days to holiday codes and these rules are based on statistical evidence rather than judgement. The last time December 20th fell on a Monday was in 2004 and EUC demand models for that year were used in the analysis from which the current holiday codes rules were derived. No evidence was found in that review to assign December 20th to a holiday day.

   A comparison has been made between the scaling factor on December 20th 2004 and the average scaling factor for days assigned to particular holiday codes and other December non-holiday days (see table below). Note that in the table for green cells, the scaling factor for December 20th is better than the value in

the cell (i.e. closer to 1) and for red cells, the scaling factor for December 20th is worse than the value in the cell (i.e. further away from 1) and in grey cells the values are the same (to 4 decimal places) as the values on December 20th. Note that in the 2004 EUCs, the Christmas holiday period started on 22nd December.

Average Scaling Factor Comparison - December 20th 2004

LDZ	December 20th	Holiday Code 1 Average	Holiday Code 2 Average	Holiday Code 3 Average	December Non-Hol Average	December 22nd
SC	1.0333	1.0404	1.0619	1.0504	1.0881	1.0505
NO	1.0216	1.0274	1.0260	1.0155	1.0823	1.0153
NW	1.0064	1.0049	0.9977	0.9902	1.0557	0.9900
NE	0.9820	1.0165	1.0282	1.0047	1.0458	1.0044
EM	1.0157	1.0185	1.0380	1.0232	1.0696	1.0235
WM	1.0046	1.0074	1.0320	1.0130	1.0626	1.0127
WN	1.0913	1.1162	1.1106	1.1059	1.1616	1.1051
WS	1.0066	1.0139	1.0054	0.9952	1.0581	0.9946
EA	1.0233	1.0187	1.0230	1.0045	1.0753	1.0059
NT	0.9981	0.9666	1.0014	0.9876	1.0514	0.9886
SE	0.9839	0.9728	0.9745	0.9754	1.0333	0.9774
SO	1.0386	1.0348	1.0320	1.0239	1.0937	1.0242
SW	1.0009	1.0015	1.0040	0.9900	1.0665	0.9890
AVG	1.0159	1.0184	1.0257	1.0138	1.0726	1.0139

This analysis shows the scaling factor for December 20th 2004 was better than the average scaling factor for days assigned to particular holiday codes and other December non-holiday days in a majority of instances. From this there is no evidence that the holiday code for December 20th 2010 is incorrect. Note that in 2004/05, scaling factor deviation from one was generally higher than it is currently (this gas year occurred before the implementation of Mod. 204).

January 4th 2011 is a bank holiday in Scotland. For the reasons stated in the following paragraph (extracted from the "Spring 2010 NDM Analysis - Proposed Approach" document) January 4th 2011 was classed as a holiday in all LDZs (and not just SC LDZ):

The set of holiday days applied to the analyses will be the union of the holidays applying to England and Wales on the one hand and Scotland on the other. This approach has been used since the adoption of model smoothing in spring 1999 and continues to be appropriate because EUC sample data from geographically adjacent LDZs are usually aggregated to allow some EUCs to be modelled. Both population and sample disposition are such that this aggregation of data is essential to enable modelling of all EUCs in all LDZs. The disposition of holiday codes and the actual holiday factor values (if any) that are applied will be derived from the modelling and will be as indicated by the characteristics of the various applicable data sets themselves. No judgemental alterations will be made to the disposition or derived values of the ensuing holiday codes when they are applied to deriving EUC profiles for the target gas year (2010/11).

A comparison has been made between the scaling factor on January 4th 2005 and the average scaling factor for days assigned to particular holiday codes and other December non-holiday days (see table below). Note that in the table for green cells, the scaling factor for January 4th is better than the value in the cell (i.e. closer to 1) and for red cells, the scaling factor for January 4th is worse than the value in the cell (i.e. further away from 1) and in grey cells the values are the same (to 4 decimal places) as the values on January 4th. Note that in the 2004/05 EUCs (as in the 2010/11EUCs), the Christmas holiday period ended on January 4th.

Average Scaling Factor Comparison - January 4th 2005

LDZ	January 4th	Holiday Code 1 Average	Holiday Code 2 Average	Holiday Code 3 Average	December Non-Hol Average	January 3rd
SC	1.0503	1.0404	1.0619	1.0504	1.0881	1.0505
NO	1.0157	1.0274	1.0260	1.0155	1.0823	1.0157
NW	0.9905	1.0049	0.9977	0.9902	1.0557	0.9905
NE	1.0042	1.0165	1.0282	1.0047	1.0458	1.0046
EM	1.0243	1.0185	1.0380	1.0232	1.0696	1.0238
WM	1.0132	1.0074	1.0320	1.0130	1.0626	1.0134
WN	1.1065	1.1162	1.1106	1.1059	1.1616	1.1065
WS	0.9950	1.0139	1.0054	0.9952	1.0581	0.9957
EA	1.0056	1.0187	1.0230	1.0045	1.0753	1.0056
NT	0.9890	0.9666	1.0014	0.9876	1.0514	0.9897
SE	0.9764	0.9728	0.9745	0.9754	1.0333	0.9775
SO	1.0247	1.0348	1.0320	1.0239	1.0937	1.0247
SW	0.9896	1.0015	1.0040	0.9900	1.0665	0.9901
AVG	1.0142	1.0184	1.0257	1.0138	1.0726	1.0145

This analysis shows the scaling factor for January 4th 2005 was better than the average scaling factor for days assigned to particular holiday codes and December non-holiday days in a majority of instances. Furthermore the scaling factor values for January 3rd and 4th were very similar indicating that it was not inappropriate to give January 4th the same holiday code as the 3rd . From this analysis there is no indication that January 4th 2010 should also not be treated as a holiday. Note that in 2004/05, scaling factor deviation from one was generally higher than it is currently (this gas year occurred before the implementation of Mod. 204).

From this analysis there is no evidence that the treatment of December 20th and January 4th is inappropriate. Transporters still recommend their initial proposals.

However, in light of the views expressed in the representations and at the July 23rd DESC meeting, Transporters have decided to prepare an alternative set of ALPs and DAFs with amended values for non-domestic EUCs. This will result in a set of ALP and DAF values that are to some extent inconsistent with the demand models. Users will be invited to express their views and preferences on these two options before the final proposals are published.

In addition, Transporters are proposing that a limited review of holiday codes be carried out in Autumn 2010. Any changes to the rules used to assign holiday codes arising from this review will be implemented in the spring 2011 analysis. While the days assigned to holiday codes may change as a result of this review, the application of these codes and the mechanistic calculation of the holiday factors in the demand models will not change.

6. **Representation:** WN seems to be missing Christmas shape at all, and a number of LDZ are not showing an anticipated bank holiday effect for 3rd Jan which should be evident.

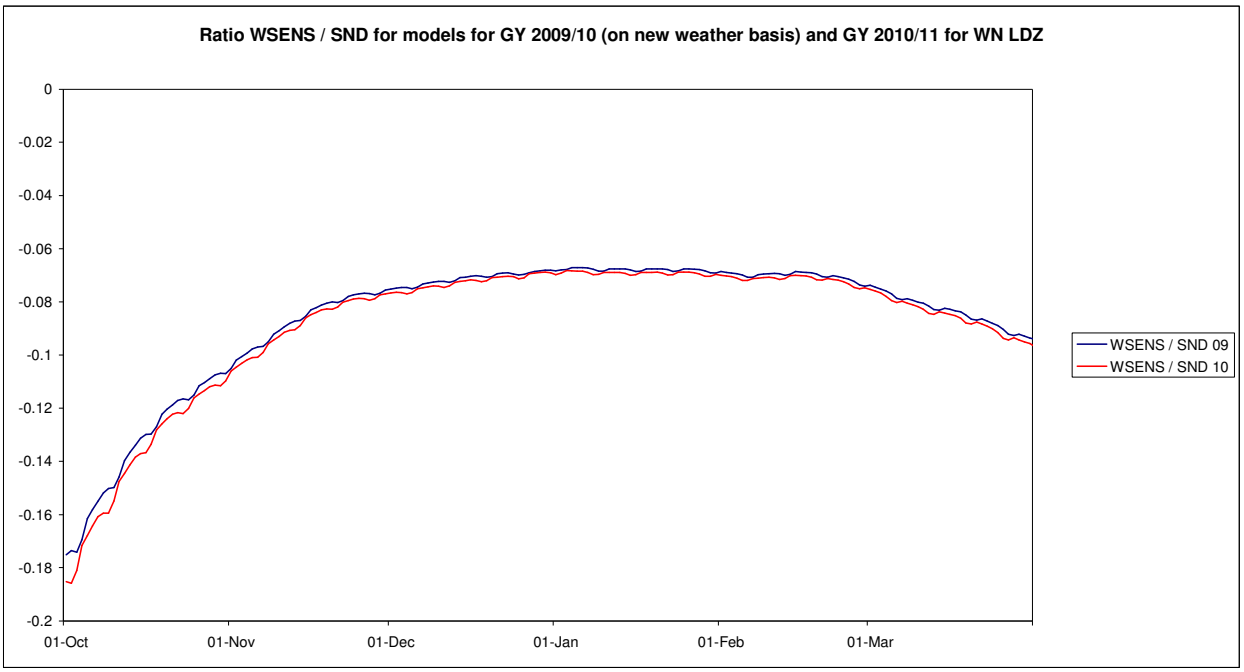
Response: This comment relates to the aggregate NDM demand models. The historical demand modelling process came out with holiday factors for holiday codes 2 and 3 statistically not different from one for WN LDZ. However the holiday factor for holiday code 1 was below one for WN LDZ resulting in reductions in SND and WSENS for 25th, 26th December and 1st January. In 3 other LDZs (SC, NO and SW) the holiday factor for holiday code 3 (which includes January 3rd) was also statistically not different from one (see comment on previous point for definition of the holiday codes). These results could be due to the predominant effect of domestic demand (which does not display reductions in demand in holiday periods) in those LDZs. It should be noted that for the non "01B" EUC models, the models in these LDZs do display holiday effects over the Christmas period.

The approach taken on aggregate NDM models is similar to that applied to EUC demand modelling: the data alone reflects the values of the holiday factors that ensue. No judgemental element has been applied to override the modelling outputs and no forecast element has been applied.

It should be remembered that the aggregate NDM demand models have little impact on demand attribution: they are required for the denominator of the DAF formula only. The WSENS and SND values (for 2010/11) from these models have no significance apart from their use in computing DAFs.

Note also that the annual NDM process (UNC Section H) has no obligation to provide values of WSENS and SND for aggregate NDM in each LDZ *per se*. The obligation is to provide ALP and DAF profiles and load factors for all EUCs. The values of WSENS and SND used to compute DAFs for each day of 2010/11 are provided as background information only.

In addition WSENS is proportional to SND (not independent of SND) and the value of the winter holiday factor applied on a particular day makes little difference to the ratio of WSENS/SND on that day. The following chart compares the ratio WSENS / SND for WN LDZ over the winter period for this year's aggregate NDM model with the ratio from last year's model *adjusted to the revised weather basis*. It can be seen that the ratio for this year is very similar to last year's on the revised weather basis and that there is little difference in the ratio between holiday and non-holiday days.



7. **Representation:** Again there are issues with not showing a bank holiday impact for December 27th and 28th, a comment we made for the 28th last year and expected to be improved for this year. We suggest applying a scaling to these days to drop their level compared to the three working days following in ALP and DAF.

Response: A response was made to the comments raised on December 28th 2009 in last year's representation. Again no evidence has been provided to support the claims made about December 28th 2009. This issue was also addressed in DESC action DE0202. A summary of the results from the scaling factor analysis carried out for action DE0202 are shown below:

- Comparison of SF values on 28th December in each LDZ relative to the SF values over Christmas week with the same holiday code suggests the scaling factor for 28th December 2009 was not materially different from other days with the same holiday code in both 2008 and 2009.
- Comparison of RMS deviation of Scaling Factor from one for 28th December 2009 with days assigned to particular holiday codes and other December days showed on average that results for 28th December were better in most LDZs and overall than the other combinations (RMS deviation lower).
- From this there is no evidence that the treatment of December 27th and 28th 2010 is inappropriate

Both sets of results indicate that treatment of 28th December 2009 (i.e. holiday code assigned) was not inappropriate. In addition to the analysis carried out for DE0202, a comparison has been made between the scaling factor on December 28th 2009 and the average scaling factor for days assigned to particular holiday codes and other December non-holiday days (as shown in the following table). Note that in the table for green cells, the scaling factor for December 28th is better than the value in the cell (i.e. closer to 1) and for red cells, the scaling factor for December 28th is worse than the value in the cell (i.e. further away from 1) and in grey cells the values are the same (to 4 decimal places) as the values on December 28th.

Average Scaling Factor Comparison - December 28th 2009

LDZ	December 28th	Holiday Code 1 Average	Holiday Code 2 Average	Holiday Code 3 Average	December Non-Hol Average	December 29th
SC	1.0008	0.9990	1.0002	1.0007	0.9966	1.0009
NO	0.9974	0.9975	0.9974	0.9969	0.9979	0.9973
NW	1.0024	1.0016	1.0028	1.0049	0.9991	1.0028
NE	0.9998	0.9993	0.9999	1.0015	0.9978	1.0000
EM	0.9998	0.9990	1.0000	1.0015	0.9975	1.0002
WM	1.0016	1.0005	1.0014	1.0022	1.0010	1.0017
WN	0.9948	0.9957	0.9947	0.9934	0.9945	0.9944
WS	0.9992	0.9988	0.9991	0.9995	0.9988	0.9992
EA	1.0024	1.0016	1.0025	1.0042	1.0011	1.0027
NT	0.9997	0.9995	0.9997	1.0003	1.0006	0.9996
SE	0.9993	0.9984	0.9992	1.0015	0.9979	0.9995
SO	1.0002	0.9994	1.0001	1.0011	0.9987	1.0002
SW	0.9968	0.9969	0.9967	0.9958	0.9975	0.9967
AVG	0.9996	0.9990	0.9995	1.0003	0.9984	0.9996

This analysis yields similar results to the analysis from the RMS deviation of the Scaling Factor from one i.e. that the scaling factor for December 28th was very close to one and was better or the same as the average scaling factor for days assigned to particular holiday codes and other December non-holiday days in a majority of instances. Again from this there is no evidence that the treatment of December 27th and 28th 2010 is inappropriate.

In Appendix 13 of the NDM report, the performance of the NDM profiling algorithms was evaluated by comparing actual daily demands for supply points in the NDM sample with estimates of their daily demands (as per the NDM profiling formula) across the range of EUCs. This evaluation covered the 12 month period up to the end of March 2010 (including December 28th 2009). Two models were used:

"As used": This used the WCF & SF, and the ALPs & DAFs, as would have applied on each day (i.e. using the 2008/09 NDM algorithms prior to 1st October 2009, and the 2009/10 NDM algorithms from 1st October 2009 onwards).

"Best estimate 09": This used the estimated weather correction factor (EWCF), a SF of 1 and ALPs and DAFs from the 2009/10 models over the whole period, with appropriate adjustments prior to 1st October 2009 to reflect the pattern of days/holidays in that part of 2008/09.

The aggregate AQ for each EUC data set was calculated from the individual daily demands for the data set corrected to seasonal normal conditions. AQs are by definition based on a 365 day year.

The "as used" model more closely resembled the calculation that was used on the Gemini system to allocate demand to NDM supply points, with the important exception that the aggregate AQs used in this analysis was based on aggregate sample consumption data rather than the aggregate AQs used by Gemini. AQs applied in the "as used" analysis therefore did not suffer from any excess (or deficiency) that may have been reflected in aggregate AQs on the Gemini system.

The "best estimate 09" model used a scaling factor value of one along with EWCF (instead of the WCF). The EWCF is calculated directly from the models of aggregate NDM demand in the LDZ for the period in question, using the relevant aggregate NDM seasonal normal demands and weather sensitivities (the same values used originally to compute the EUC DAF profiles) along with the actual CWV. Use of the EWCF (computed using the same values as applied in part to computing EUC DAF profiles) avoided bias which might be introduced in the WCF by any excess or deficiency in EUC AQs in the relevant LDZ, used to compute the sum across all EUCs of ALP weighted daily average demand [$\sum_{EUC} ALP * (AQ / 365)$] for each day.

Summary statistics were presented for both models for the consumption bands, by LDZ and over all LDZs for the whole year, the summer and the winter respectively with charts also showing monthly values. The summary statistic used was "total error expressed as a percentage of actual demand over period". The algorithm error on each day of the period was calculated, the total error over the period was divided by the total demand over the period and expressed as a percentage. This statistic gave a simple indication of the

extent to which the algorithms exhibited bias. The algorithm error was defined as the actual demand minus the estimated demand and thus a positive value denoted under estimation by the algorithm.

The daily data for December 28th 2009 has been extracted from this analysis for the consumption bands with holidays applied (i.e. the non-domestic bands "02" to "08") over all LDZs for both the "as used" and "best estimate 09" models (see table below). Note that there was insufficient sample data for band "09".

Band	As Used % Error for Dec. 28th	Best Estimate % Error for Dec. 28th	No. Supply Points
02B	3.08%	6.05%	1208
03B	3.10%	5.82%	1382
04B	3.43%	6.09%	3440
05B	0.18%	2.90%	2284
06B	-0.86%	1.50%	843
07B	5.75%	7.22%	257
08B	-1.30%	-0.36%	156

The percentage error for each band across all LDZs was relatively small (particularly in the "as used" model which more closely resembles the calculation carried out on Gemini). Although the calculations do not exactly match the calculations carried out on Gemini (due to the use of sample AQs for example), there is no evidence that the treatment of 28th December 2009 (i.e. holiday code assigned) was inappropriate. Indeed the analysis suggests a slight underallocation (positive error) in a majority of bands on December 28th 2009 in both models - this implies that a applying a further reduction to the ALPs on the 28th as suggested in the representation would have increase the underallocation.

From all of this analysis there is no evidence that the treatment of December 28th 2009 was inappropriate or that the treatment of December 27th and 28th 2010 is inappropriate. Transporters still recommend their initial proposals.

However, in light of the views expressed in the representations and at the July 23rd DESC meeting, Transporters have decided to prepare an alternative set of ALPs and DAFs with amended values for non-domestic EUCs. This will result in a set of ALP and DAF values that are that are to some extent inconsistent with the demand models. Users will be invited to express their views and preferences on these two options before the final proposals are published.

In addition, Transporters are proposing that a limited review of holiday codes be carried out in Autumn 2010. Any changes to the rules used to assign holiday codes arising from this review will be implemented in the spring 2011 analysis. While the days assigned to holiday codes may change as a result of this review, the application of these codes and the mechanistic calculation of the holiday factors in the demand models will not change.

8. **Representation:** Late May bank holiday is not present in a greater number of LDZ than we queried last year. Given the poor behaviour of profiles during May we would expect greater sensitivity of the analysis in this area to try and make improvements. Last year the feedback stated the impact was not present in the national data. Our concern is that the behaviour is evident in the ALP and should therefore be present consistently. If behaviour is evident in the sample but not the population this throws doubt on the applicability of the sample which would be a significant cause for concern.

Response: The holiday codes for the late May holiday period run from the Sunday immediately preceding the bank holiday for a week (29th May to 4th June). In 2011 the following holiday codes apply (as per file WKHOLDEF10.TXT):

Code 9: 29th and 30th May, 4th June
Code 10: 31st May to 3rd June

This comment relates to the aggregate NDM demand models. The historical demand modelling process came out with holiday factors for holiday code 9 (which includes the bank holiday on May 30th) that were statistically not different from one for 9 LDZs (EM, WM, WN, WS, EA, NT, SE, SO and SW) and the holiday factor for holiday code 10 was statistically not different from one in all LDZs. These results could be due to the predominant effect of domestic demand (which does not display reductions in demand in holiday periods) in those LDZs. For the domestic "01B" EUCs, which comprise approximately 74% of the NDM load, there is no reduction applied to holiday periods.

The approach taken on aggregate NDM models is similar to that applied to EUC demand modelling: the data alone reflects the values of the holiday factors that ensue. No judgemental element has been applied to override the modelling outputs and no forecast element has been applied.

It should be remembered that the aggregate NDM demand models have little impact on demand attribution: they are required for the denominator of the DAF formula only. The WSENS and SND values (for 2010/11) from these models have no significance apart from their use in computing DAFs.

Note also that the annual NDM process (UNC Section H) has no obligation to provide values of WSENS and SND for aggregate NDM in each LDZ *per se*. The obligation is to provide ALP and DAF profiles and load factors for all EUCs. The values of WSENS and SND used to compute DAFs for each day of 2010/11 are provided as background information.

In addition WSENS is proportional to SND (not independent of SND) and the value of the holiday factor applied on a particular day makes little difference to the ratio of WSENS/SND on that day.

As noted in the E.ON representation, for the non "01B" EUC models, the models in these LDZs do display holiday effects over the late May period which are reflected in the ALPs for those EUCs. The calculation of the holiday factors and generation of these profiles is a mechanistic process.

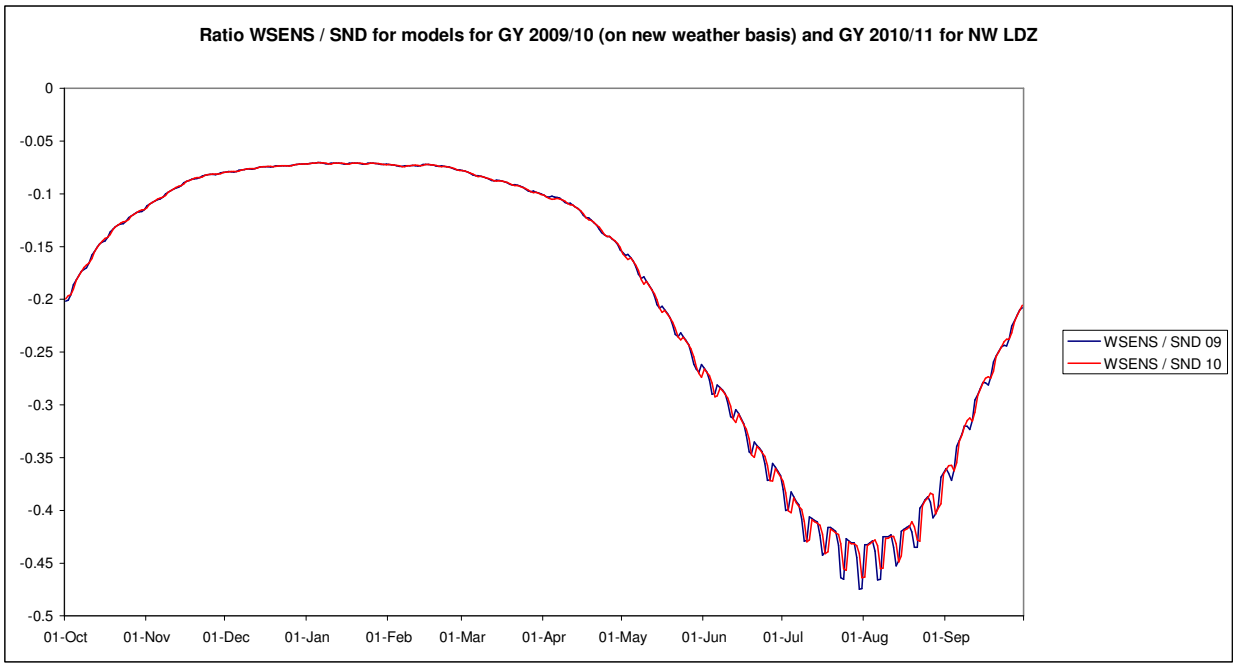
Furthermore, no conclusions about the sample can be drawn from a comparison between the holiday factors for non-domestic EUCs and the holiday factors for the aggregate NDM models (where domestic demand effects predominate).

9. **Representation:** Summer behaviour across the WSENS looks odd. There is very little change across the year for a number of LDZ which seems strange. Using NW as an example there was a 2% difference between October to June in the 2009 profiles and 0% this year – is there an underlying modelling change that would produce this?

   Response: This comment relates to the aggregate NDM demand models. It should be remembered that the aggregate NDM demand models have little impact on demand attribution: they are required for the denominator of the DAF formula only. The WSENS and SND values (for 2010/11) from these models have no significance apart from their use in computing DAFs. Also it is the ratio of WSENS/SND that is important in the calculation of DAFs and not the values of WSENS or SND alone.

   There was no underlying change in the methodology used to model NDM demand, but there was a change in the CWV definitions and the seasonal normal basis. Therefore the models for last year and this year are not directly comparable.

   In addition WSENS is proportional to SND (not independent of SND) and hence the value of the holiday factor applied on a particular day makes little difference to the ratio of WSENS / SND on that day. The following chart compares the ratio WSENS / SND for NW LDZ over the gas year for this year's aggregate NDM model with the ratio from last year's model *adjusted to the revised weather basis*. It can be seen that the ratio for this year is very similar to last year's on the revised weather basis.



10. **Representation:** The NDM report, Appendix 13 stated on page 2, bullet 2 that a number of LDZs had worse SF behaviour over the winter. As this is peak demand we are concerned at this behaviour and would like to know what the Transporters see as the potential cause of this behaviour to ensure corrections flow into future profiles.

    Response: The exact wording from Appendix 13 is as follows:

    Average SF behaviour for all of winter 2009/10 was more mixed: an improvement over winter 2008/09 in 6 LDZs (namely NE, WM, WS, EA, NT and SW LDZs), a very small worsening in 3 LDZs (of -0.001) relative to winter 2008/09 (namely NO, EM and SE LDZs) and a somewhat greater worsening in 4 LDZs (namely SC, NW, WN and SO LDZs).

    Over all LDZs, the average value of scaling factor during winter was the same to 3 decimal places for both years (0.997, very close to 1) - this does not indicate an overall worsening in SF behaviour during winter. In addition, for those LDZs where the scaling factor was slightly worse (further away from 1), the differences between the 2 years are small and are within normal year on year variation.

    The winter behaviour commented on in Appendix 13 refers to the 6-month period October to March and not specifically to the peak demand period. October 2009 was the 10th warmest in the last 50 years and much warmer than October 2008 had been. This was followed by a similarly very warm November 2009 which was the second warmest in the last 50 years and much warmer than November 2008. However, generally colder weather took hold from around mid-December, with December 2009 being the 11th coldest in the last 50 years and January 2010 continued these very cold weather conditions being the 5th coldest in the last 50 years and the coldest since 1987. The following month, February 2010, was the coldest since 1996, although the coldest day in February 2010 was less cold than the coldest day in February 2009. Taken as a whole, the month of March 2010 was average; it was cold in the first half of the month and warm in the second but with sharply colder weather returning on the last two days of the month.

    In general the relatively small deviation of the scaling factor from the ideal value of one in winter 2009/10 was more pronounced on days where the weather was the most different from seasonal normal. During the warm weather in October, November, early December and late March the scaling factor was slightly below one and in the very cold weather from mid-December to mid-March the scaling factor moved just above one in a majority of all LDZs. Given the extreme variation in the weather experienced during winter 6-month period in 2009/10 (much more extreme than in 2008/09), it is encouraging that over all LDZs there was not a worsening in SF behaviour compared to winter 2008/09.

11. **Representation:** We are not sure that bullet 3 on the same page is an accurate representation of potential summer behaviour given April and May have seen weather greatly removed from seasonal normal. In particular we would question the comparison to a full summer in the previous year.

Response: The exact wording from Appendix 13 is as follows:

Over the summer period of the current gas year to date (April and May) SF behaviour was mixed. For 8 of the 13 LDZs (namely NE, EM, WM, WS, EA, NT, SE and SW) and overall for all LDZs, average values of SF for the current gas year (2009/10) were closer to the ideal value of one than over the full summer period of the previous gas year (2008/09).

After a cold start April 2010 was mostly warmer than average - it was not as warm as 2009 but was still the 7th warmest April in the last 50 years. May 2010 started cold but there was a week of very warm weather starting on May 18th with the final 5 days being around average. As a whole the weather in May 2010 was around seasonal normal and not quite as warm as May 2009. Overall the weather in April and May 2010 was closer to seasonal normal than in 2009 (although there were some very warm days, especially in May).

A comparison between scaling factors for April and May 2010 and April and May 2009 yields very similar conclusions to the comparison with the full summer period in the previous year - for 7 of the 13 LDZs (namely EM, WM, WS, EA, NT, SE and SW) and overall for all LDZs, average values of SF for April and May 2010 were closer to the ideal value of one than over the same period in 2009. The table below shows the comparison between the April and May average SF values for 2009 and 2010 together with the differences from Appendix 13 in the NDM report.

LDZ	Average Scaling Factor Summer 09	Average Scaling Factor Apr/May 09	Average Scaling Factor Apr/May 10	Apr / May Differences in Average SF Deviation from 1	NDM Report Summer Differences in Average SF Deviation from 1
SC	0.990	0.995	0.978	-0.017	-0.012
NO	1.004	1.006	0.994	0.000	-0.002
NW	0.983	0.990	0.979	-0.011	-0.004
NE	0.986	0.992	0.989	-0.003	0.003
EM	0.960	0.967	0.978	0.011	0.018
WM	0.960	0.974	0.990	0.016	0.030
WN	1.006	1.005	0.986	-0.009	-0.008
WS	0.988	0.989	0.997	0.008	0.009
EA	0.960	0.963	0.994	0.031	0.034
NT	0.982	0.983	1.001	0.016	0.017
SE	0.980	0.985	0.989	0.004	0.009
SO	0.993	0.997	0.987	-0.010	-0.006
SW	0.983	0.979	0.991	0.012	0.008
AVG	0.983	0.987	0.989	0.002	0.006

12. **Representation:** We appreciate the increased scale on the SF/WCF-EWCF chart as this more clearly identifies the significant issues with profiles over the summer. We would like to hear the Transporter views on what is causing this volatility and how we may adjust the profiles to minimise this effect..

Response: SF is the scaling factor defined as follows:

$$SF = \frac{\text{actual NDM demand in the LDZ}}{\text{aggregate NDM demand (from formula with SF=1)}}$$

The scaling factor (SF) changes over summer are relatively small and are exaggerated by the change in scale of the SF charts. Compared to several years ago, summer SF volatility has reduced and the analysis for April and May indicates a slight overall improvement for 2010 compared to 2009 for these months.

During gas year 2008/09, the average summer scaling factor across all LDZs was 0.983, an average deviation away from the ideal value of one of 0.017. The LDZs with the largest average deviation from one were in WM, EM and EA LDZs (all with average summer SF deviations away from one of 0.040 (see table below for average monthly and winter and summer SF values).

Average Monthly & Winter / Summer Values of Scaling Factor, Gas Year 2008/09

LDZ	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Winter	Summer
SC	1.000	0.999	0.997	0.997	0.996	0.995	0.995	0.995	0.990	0.982	0.985	0.991	0.997	0.990
NO	1.000	1.001	0.988	1.001	1.003	1.004	1.006	1.007	1.005	1.001	0.999	1.004	0.999	1.004
NW	0.998	0.999	1.001	1.000	0.998	0.996	0.989	0.991	0.972	0.978	0.976	0.990	0.999	0.983
NE	0.993	0.997	0.999	0.999	0.998	0.993	0.991	0.993	0.977	0.985	0.983	0.987	0.996	0.986
EM	0.992	0.998	0.999	0.999	0.997	0.990	0.971	0.963	0.955	0.962	0.950	0.960	0.996	0.960
WM	0.995	0.998	1.000	1.002	1.000	0.993	0.977	0.971	0.945	0.957	0.949	0.962	0.998	0.960
WN	0.999	0.997	0.996	1.001	1.001	1.002	1.005	1.005	1.010	1.006	1.002	1.005	0.999	1.006
WS	0.999	0.998	0.998	0.998	0.996	0.993	0.990	0.988	0.975	0.994	0.995	0.988	0.997	0.988
EA	0.997	0.996	0.998	1.000	0.997	0.990	0.968	0.958	0.959	0.961	0.958	0.956	0.996	0.960
NT	1.000	0.999	1.000	1.001	0.999	0.995	0.984	0.981	0.980	0.991	0.982	0.973	0.999	0.982
SE	0.998	0.998	0.997	0.997	0.995	0.994	0.987	0.983	0.975	0.984	0.975	0.972	0.997	0.980
SO	1.000	0.999	0.999	0.999	0.998	0.998	0.998	0.996	0.987	0.994	0.993	0.989	0.999	0.993
SW	0.994	0.995	0.996	0.995	0.994	0.988	0.980	0.978	0.965	0.995	0.996	0.984	0.994	0.983
AVG	0.997	0.998	0.998	0.999	0.998	0.995	0.988	0.985	0.976	0.984	0.980	0.982	0.997	0.983

WCF is the weather correction factor. WCF is defined as:

$$WCF = \frac{\text{actual aggregate NDM demand in the LDZ} - \text{sum of ALP weighted daily average EUC demand in the LDZ}}{\text{sum of ALP weighted daily average EUC demand in the LDZ}}$$

The sum of ALP weighted daily average demand in the LDZ on any day t (denoted below by X_t) is initially based on end user category AQs that apply on 1st October at the start of the gas year in question and is defined as:

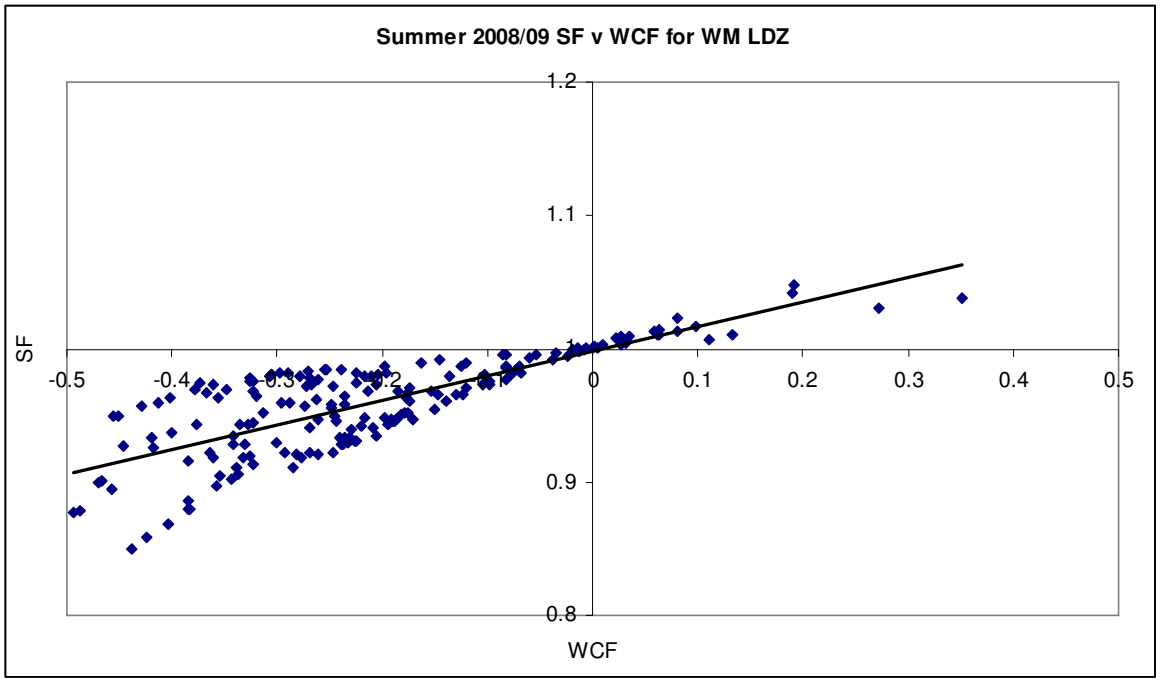
$$X_t = \sum ALP_{EUC,\,t} * (AQ_{EUC,\,1st\ October}/365)$$

It can be observed that the largest average monthly deviations of SF away from one tend to correspond with the largest average monthly deviations of the weather correction factor (WCF) away from zero (see table below for average monthly and winter and summer WCF values):

Average Monthly & Winter / Summer Values of WCF, Gas Year 2008/09

LDZ	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Winter	Summer
SC	0.043	0.001	0.033	-0.010	-0.030	-0.100	-0.200	-0.148	-0.279	-0.314	-0.203	-0.199	-0.010	-0.224
NO	-0.020	-0.041	-0.012	-0.040	-0.065	-0.157	-0.247	-0.238	-0.202	-0.162	-0.178	-0.159	-0.056	-0.198
NW	-0.008	-0.018	0.045	0.025	0.001	-0.105	-0.274	-0.096	-0.210	-0.155	-0.168	-0.150	-0.010	-0.175
NE	-0.058	-0.033	0.009	-0.006	-0.019	-0.149	-0.255	-0.149	-0.170	-0.127	-0.136	-0.159	-0.043	-0.166
EM	-0.042	-0.023	0.015	0.028	0.002	-0.135	-0.277	-0.213	-0.156	-0.120	-0.155	-0.198	-0.026	-0.186
WM	-0.022	-0.030	0.009	0.030	-0.015	-0.161	-0.297	-0.200	-0.210	-0.146	-0.174	-0.217	-0.032	-0.207
WN	0.020	0.015	0.062	0.099	0.024	-0.099	-0.208	-0.083	-0.163	-0.078	-0.073	-0.150	0.020	-0.125
WS	-0.013	-0.042	0.032	0.058	0.007	-0.111	-0.212	-0.078	-0.206	-0.012	-0.002	-0.131	-0.012	-0.106
EA	0.014	-0.023	0.028	0.076	0.037	-0.099	-0.269	-0.229	-0.128	-0.100	-0.109	-0.177	0.005	-0.168
NT	0.035	-0.006	0.042	0.088	0.038	-0.107	-0.247	-0.190	-0.122	-0.011	-0.049	-0.164	0.015	-0.130
SE	0.004	-0.027	0.040	0.083	0.020	-0.113	-0.280	-0.211	-0.182	-0.084	-0.134	-0.224	0.001	-0.185
SO	-0.008	-0.035	0.029	0.077	0.022	-0.136	-0.282	-0.200	-0.194	-0.086	-0.076	-0.198	-0.009	-0.172
SW	-0.029	-0.031	0.014	0.048	0.013	-0.154	-0.257	-0.140	-0.149	-0.031	-0.023	-0.136	-0.024	-0.122
AVG	-0.006	-0.022	0.027	0.043	0.003	-0.125	-0.254	-0.167	-0.182	-0.110	-0.114	-0.174	-0.014	-0.166

Taking WM LDZ as an example, the following chart plots the relationship between daily SF and WCF values over the summer 2008/09 6-month period. It can be seen that during the summer period the daily WCF values were below generally below zero and that the scaling factor was generally below one on these days. On the days when the WCF was close to zero, the scaling factor was also close to one. Note that WCF variations away from zero can be caused by many factors such as weather that is significantly different from normal, or the sum of ALP weighted daily average demand on the day being different from seasonal normal demand on that day, or errors in actual aggregate NDM demand (caused by DM demand anomalies for example).

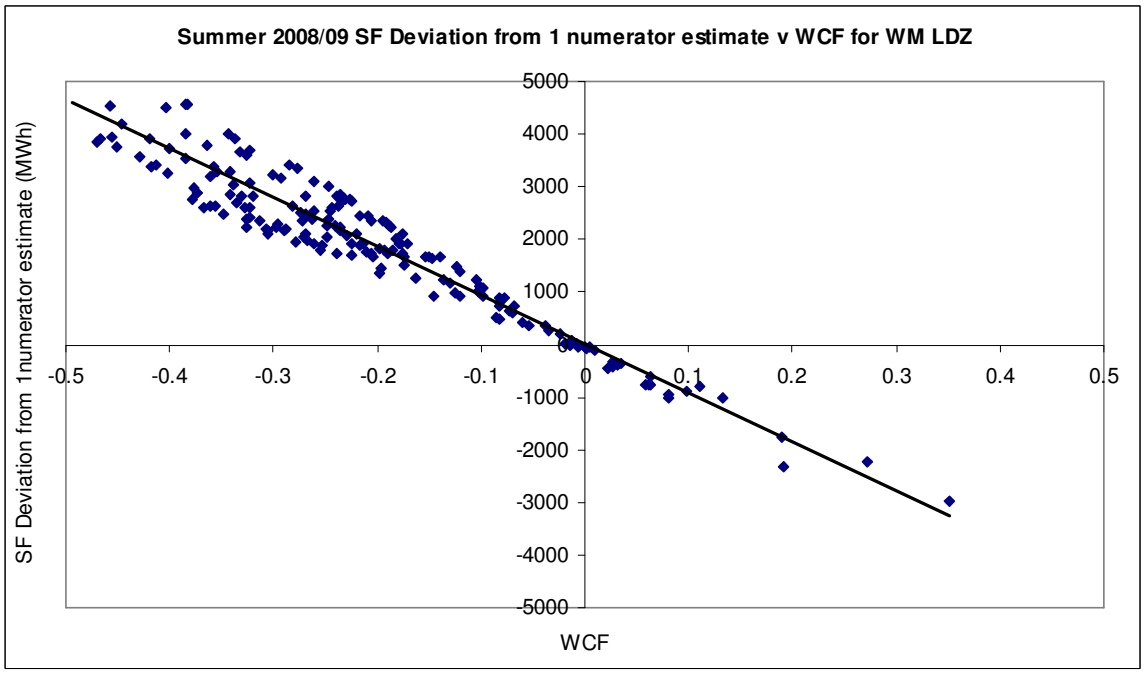


The deviation of scaling factor away from one is:

$$1 - SF = \frac{\text{aggregate NDM demand (from formula with SF=1) - actual NDM demand in the LDZ}}{\text{aggregate NDM demand (from formula with SF=1)}}$$

In the summer the denominator in the above calculation is smaller than in winter which is one reason why larger deviations of SF away from 1 tend to be observed in summer compared to winter.

A good relationship (R-squared of 92%) can be seen between an estimate of the numerator of the above calculation and the WCF over the summer 2008/09 6-month period in WM LDZ:



Transporters are hopeful that the new CWV definitions, seasonal normal basis, revised AQs and proposed profiles for 2010/11 will bring the WCF closer to zero and reduce the SF volatility over the summer period. For example, the sum for all EUCs of ALP weighted daily average demand on the day should be closer to the aggregate NDM seasonal normal demand on that day and the difference between SNCWV and CWV should be reduced on average.

In addition to the weather, seasonal normal basis, profiles and AQs, there are other factors that may impact summer SF volatility. It has been observed that erroneous consumptions for large DM supply points cause errors in the values for actual aggregate NDM demand (total LDZ demand less LDZ shrinkage less sum of DM consumption) which have an impact on WCF and SF values. This impact may be greater in the summer months when DM demand accounts for a higher proportion of total LDZ demand.

Note also that Appendix 13 contains some additional comments relating to the cause of summer SF volatility:

Scaling factor deviations from one (offsets from one and also day to day volatility) are related to the closeness of correspondence (or otherwise) between aggregate NDM seasonal normal demand on the day and the sum for all EUCs of ALP weighted daily average demand on the day (in other words the ALP(AQ/365) term in the NDM demand attribution formula summed across all EUCs in the LDZ). Since NDM SND has hitherto been a forecast quantity while AQ is a backward looking quantity based on historical meter read data, this correspondence could never be perfect. However, adoption of UNC Modification 204 resulted in this correspondence essentially being met - except for perturbations due to small day to day changes in EUC AQs and unexpectedly high or low actual NDM demand levels (whether these are real or due to LDZ or DM measurement error). This is the main reason for the markedly improved SF behaviour since the start of gas year 2008/09.*

Prior to 1st October 2008, the ratio of aggregate NDM SND to the sum across all EUCs of ALP weighted daily average demand [$\sum_{EUC} ALP * (AQ / 365)$ *] was broadly inversely related to the deviation of SF from the ideal value of one. However, the effect is more pronounced in summer than in winter, and moreover, the summer is also affected by warm weather cut-off and summer reduction effects in some EUC models.*

*Warm weather cut-offs in EUC demand models give rise to summer scaling factor volatility by a mechanism involving the DAF parameter. If weather on a day in summer is significantly different from normal for that time of year, the DAF value that is applied on that day to EUCs with cut-offs may not be appropriate for the prevailing weather. Thus overall the (1 + WCF*DAF) terms in the demand attribution formula may be either too low or too high and the scaling factor has to change abnormally to compensate. This effect is not mitigated by the changes brought about by UNC Modification 204. Thus, greater scaling factor volatility may still be seen in a number of LDZs in the summer in 2008/09.*

Hitherto, EUC demand models with summer reductions also gave rise to summer scaling factor volatility. Here, the mechanism involved the ALP parameter. If weather on a day in summer was significantly different from normal for that time of year, the ALP value that was applied on that day to EUCs with summer reductions may not have been appropriate for the prevailing weather. Thus, overall the ALP(AQ/365) terms in the demand attribution formula may have been too low or too high and the scaling factor changed abnormally to compensate. However, with the change to WCF resulting from UNC Modification 204, errors in the ALP*(AQ/365) terms should be compensated for in the revised definition of WCF. Thus, this effect is no longer expected to contribute significantly to summer scaling factor volatility.*

13. **Representation:** Finally, the WAR bands have shifted considerably this year as a direct result of the cold weather experienced over the winter. Given the smoothing in other areas to minimise impacts from single extreme years we would like to raise the question as to whether this approach should be considered for WAR band breakpoints too.

    Response: In each consumption range, WAR band EUCs sub-divide the range in to subsets of different weather sensitivity (and hence load factor) with WAR band 1 being the least weather sensitive and WAR band 4 the most weather sensitive. When setting WAR band limits, the approach adopted is to aim for a 20%:30%:30%:20% split of sample numbers on a national basis subject to practical limitations due to the actual distribution of WAR values of individual sample supply points in the consumption band and the requirement to have robust sample sizes in the ensuing data sets. Post-modelling sense check of clear spread in WAR band EUC load factors helps confirm the appropriateness of these limits. Although WAR band limits have increased this year, the approximate 20%:30%:30%:20% split of sample numbers has been maintained.

    WAR values are not weather corrected and hence are affected by the December to March weather experienced: 2009/10 was very cold, 2008/09 was average, 2007/08 was very warm (i.e. 2009/10 was much colder than 2008/09 and 2008/09 was colder than 2007/08). In addition, for this year only, reduced sample AQs, due to the new seasonal normal basis, have caused WAR values to increase. Consequently,

WAR band limits in the most recent year's data sets have in most cases moved towards one (compared to last year and the year before).

The bands have shifted upwards and the corresponding actual winter demands are also significantly higher. The intended outcome is that the breakdown of total sites across the bands will change little from 2009/10.

EUC WAR band limits need to be based on the most recent year's sample WAR values because the WAR values on the live system are computed using this most recent winter's consumption. If the values are based on smoothed values the distribution of population supply points will not follow a 20%:30%:30%:20% split and the load factors calculated from sample data may not be appropriate.

14. **Representation:** In summary we have concerns about the seasonal normal methodology and would seek assurance from Transporters that update of the seasonal normal will actively be progressed over the next twelve months.

    Response: As previously stated, the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11 – see comments on point 3.

15. **Representation:** We urge Transporters to apply scaling to the holiday periods to ensure profiles are more representative of demand behaviour expected before final profiles are presented and to urgently review the holiday factors and their application prior to next years analysis.

    Response: As stated previously, there is no evidence that the treatment of holidays in 2010/11 is inappropriate and Transporters still recommend their initial proposals.

    However, in light of the views expressed in the representations and at the July 23rd DESC meeting, Transporters have decided to prepare an alternative set of ALPs and DAFs with amended values for non-domestic EUCs. This will result in a set of ALP and DAF values that are to some extent inconsistent with the demand models. Users will be invited to express their views and preferences on these two options before the final proposals are published.

    In addition, Transporters are proposing that a limited review of holiday codes be carried out in Autumn 2010. Any changes to the rules used to assign holiday codes arising from this review will be implemented in the spring 2011 analysis. While the days assigned to holiday codes may change as a result of this review, the application of these codes and the mechanistic calculation of the holiday factors in the demand models will not change.

Responses to Specific Points in SSE Representation:

I believe your proposed NDM Profiling and Capacity Estimation Algorithms for 2010/11, as has been discussed at length at various DESC meetings, are unsatisfactory and suffers from two main shortcomings namely:
1- The treatment of seasonal normal weather.
2 -The lack of appropriate holiday reductions.

In the case of holiday effect, despite the fact that this was pointed out to you many months ago to allow you the necessary time to correct for this, it was left undone.

A response to these points has already been provided in respect of the E.ON representation. In summary:

1. As previously stated in respect of the E.ON representation, the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

2. The comment on holiday effects relate to the claims made about December 28th 2009 in last year's E.ON representation. At the time no evidence was provided to support the claims made. This issue was also addressed in DESC action DE0202. A summary of the results from the scaling factor analysis carried out for action DE0202 are shown below:

    - Comparison of SF values on 28th December in each LDZ relative to the SF values over Christmas week with the same holiday code suggests the scaling factor for 28th December 2009 was not materially different from other days with the same holiday code in both 2008 and 2009.
    - Comparison of RMS deviation of Scaling Factor from one for 28th December 2009 with days assigned to particular holiday codes and other December days showed on average that results for 28th December were better in most LDZs and overall than the other combinations (RMS deviation lower).
    - From this there is no evidence that the treatment of December 27th and 28th 2010 is inappropriate

    A comparison between the scaling factor on December 28th 2009 and the average scaling factor for days assigned to particular holiday codes and other December non-holiday days also yield similar results and confirms that the treatment of December 28th 2009 was not inappropriate.

    Also as previously stated in respect of the E.ON representation, there is no evidence that the treatment of holidays in 2010/11 is inappropriate and Transporters still recommend their initial proposals. Also Transporters do not propose to amend their demand models and still believe that holiday codes should to be defined in advance of the spring analysis (based on statistical evidence) so that the holiday factors can be calculated from the demand models. There is insufficient time to amend holiday codes and re-run all of the analysis (e.g. previous years models, aggregate NDM models etc.) in the spring under the current timetable.

    However, in light of the views expressed in the representations and at the July 23rd DESC meeting, Transporters have decided to prepare an alternative set of ALPs and DAFs with amended values for non-domestic EUCs. This will result in a set of ALP and DAF values that are that are to some extent inconsistent with the demand models. Users will be invited to express their views and preferences on these two options before the final proposals are published.

    In addition, Transporters are proposing that a limited review of holiday codes be carried out in Autumn 2010. Any changes to the rules used to assign holiday codes arising from this review will be implemented in the spring 2011 analysis. While the days assigned to holiday codes may change as a result of this review, the application of these codes and the mechanistic calculation of the holiday factors in the demand models will not change.

Responses to Specific Points in Scottish Power Representation:

1. The issue of the historic set of weather data is still a concern. Although progress has now been made to the availability of the values, this has highlighted that the methods used to fill in for missing periods are not recorded.

   The historic set of weather data falls outside of the scope of this consultation on the NDM proposals for 2010/11 - it is part of the process relating to the seasonal normal basis

   However, the gas weather history used for calculating the seasonal normal weather is available from the Met Office and Meteo Group. All infilling and backfilling equations applied by National Grid or xoserve when weather stations changed were presented to DESC at the time. The current weather data provider for industry systems is Meteo Group. As part of the contract, Meteo Group estimate any missing values using their weather model. There is therefore no simple equation that can be provided for infilling. However, the weather model approach for infilling currently applied by Meteo should provide more accurate data than a simple regression equation.

2. We are pleased to see that EP2 data is now being used as part of the Seasonal Normal Calculations. However we are disappointed that the data has been applied along with the existing historic data. Although the method used was a compromise we would not want to see this same method used for the next five Gas Years.

   As previously stated in respect of the E.ON and SSE representations, the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

3. We are pleased that the parties attending Review Group 0280 have discussed proposed changes and expressed their views. We hope that any concerns will be satisfied during the group so that the subsequent modification will progress smoothly and improve Demand Allocation/Estimation.

   Matters pertaining to Review Group 280 also fall outside of the scope of this consultation on the NDM proposals for 2010/11 - Review Group 280 is a distinct and separate process.

4. We believe it would benefit the industry if all the data used for the Seasonal Normal Calculations was available so there was transparency for all affected parties.

   As previously stated, the seasonal normal basis falls outside of the scope of this consultation on the NDM proposals for 2010/11.

   However Transporters believe that all of the relevant data used for the calculation of the seasonal normal basis is now available to affected parties. The gas weather history used in the calculations is available from the Met Office and Meteo Group and the linearly adjusted EP2 increments have been made available by xoserve.

Appendix 1 - Rules Used to Assign Days to Holiday Periods in EUC and NDM Demand Modelling

Christmas/New Year (Holiday codes 1, 2 and 3)

Holiday period starts on 21st December and ends on the second New Year bank holiday in Scotland (inclusive).

The holiday ends on different days depending on the day of week of January 1st:

If Jan 1st is on:	**then last day of the holiday is on:**
Monday	Tuesday 2nd Jan
Tuesday	Wednesday 2nd Jan
Wednesday	Thursday 2nd Jan
Thursday	Friday 2nd Jan
Friday	Monday 4th Jan
Saturday	Tuesday 4th Jan
Sunday	Tuesday 3rd Jan

Holiday code 1:

25th December, 26th December, 1st January

Holiday code 2:

24th December, 27th December to 31st December, 2nd January

Holiday code 3:

Remaining days of Christmas/New Year period above

Note for the avoidance of doubt that Holiday codes 1, 2 and 3 are different from weekend codes 1, 2 and 3

Easter (Holiday codes 4, 5 and 6)

From Wednesday before Good Friday to the Friday after Good Friday (10 days).

Holiday code 4:

Easter Saturday
Easter Sunday

Holiday code 5:

Good Friday
Easter Monday

Holiday code 6:

All other days in the period above.

First Bank Holiday in May (Holiday codes 7 and 8)

From Saturday immediately preceding bank holiday, for 9 days in total. (Holiday runs from Saturday to Sunday).

Holiday code 7:

First bank holiday in May
Saturdays in period above.
Sundays in period above.

Holiday code 8:

Other days in period above.

Spring Bank Holiday (Holiday codes 9 and 10)

From Sunday immediately preceding bank holiday, for a week.

Holiday code 9:

Spring bank holiday
Saturdays in period above
Sundays in period above

Holiday code 10:

Other days in period above.

Special case for 2012 only (assuming this is a Diamond Jubilee year):

From Sunday immediately preceding Jubilee bank holiday, for a week.

Holiday code 9:

Spring bank holiday (Monday 4th June 2012)
Jubilee bank holiday (Tuesday 5th June 2012)
Saturdays in period above
Sundays in period above

Holiday code 10:

Other days in period above.

General Summer Holiday (Holiday codes 13 and 14)

17 days from first Friday on or after 19th July.

Holiday code 11:

Saturdays in period above.
Sundays in period above.

Holiday code 12:

Other days in period above.

August Bank Holiday (Holiday codes 13 and 14)

From Sunday 8 days before bank holiday to Tuesday immediately after bank holiday.

Holiday code 13:

August bank holiday Monday
Saturdays in period above.
Sundays in period above.

Holiday code 14:

Other days in period above.

Appendix 2 – Alternative Approach to ALPs and DAFs for Christmas 2010/11 Holiday Period

The following paragraphs outline the "Option B" proposal for treatment of the 2010/11 Christmas Holiday Period.

Elements that will remain the same as in the Initial Proposals (Option A)

- The EUC definitions, EUC demand models and aggregate NDM demand models remain the same as the initial proposals.
- The ALP and DAF values for the domestic ("01B") EUCs also remain the same as the initial proposals
- The EUC load factors remain the same as the initial proposals.

Elements proposed to be adjusted:

The ALP and DAF values for each non-domestic (i.e. non "01B") EUC are adjusted as follows:

a) The ALP and DAF values for December 20th are set to the same values as those for December 21st.
b) The ALP and DAF values for the December 27th and 28th bank holidays are set to the average of those for December 26th (Boxing Day) and 29th.
c) The ALP and DAF values for January 4th are set to the same as those for January 5th.
d) Following the adjustments described above, the ALP values for all days in the period from December 20th 2010 to January 3rd 2011 are scaled (by a small amount) so that sum of the ALPs over the period from December 20th 2010 to January 4th 2011 remains the same as in the initial proposals (and the sum of the ALPs over the gas year remains at 365).