

## Response by Gas Transporters to Representation Received on NDM Proposals for 2007/08

### BACKGROUND

Gas Transporters are collectively obliged under Section H of the Uniform Network Code to publish annual proposals for NDM Profiling and Capacity Estimation Parameters by the end of June.

Accordingly, in June 2007, NDM Profiling and Capacity Estimation Proposals for 2007/08 (dated 27<sup>th</sup> June 2007) were published electronically on the UK Link Documentation website. The published material comprised the proposals document and appendices, along with a set of additional electronic files containing the proposed NDM profiling and capacity estimation parameters and other supporting information.

In accordance with Section H1.8.3 of the Uniform Network Code, system users were invited to submit representations on the NDM proposals up to but not later than 15<sup>th</sup> July. As of that date one such representation had been received, from E.ON UK. This note is a formal response to the representation received.

For information, the timetable for consultation on the annual NDM proposals is set out in Section H of the Uniform Network Code. Key dates are as follows:

- Publication of NDM proposals by 30<sup>th</sup> June
- Users to submit any representations by 15<sup>th</sup> July
- Review of representations, consultation as appropriate 16<sup>th</sup> July to 14<sup>th</sup> August
  - *Demand Estimation Sub-Committee (DESC) meeting on 23<sup>rd</sup> July to consider representations received*
- Final proposals submitted (date X) by 15<sup>th</sup> August
- Transporter or User application for disapproval to Ofgem (date Y) by 5 business days of date X
- Ofgem determination (if required) by 5 business days of date Y

### REPRESENTATIONS ON NDM PROPOSALS FOR 2007/08

The single representation received summarises the points raised as follows (reproduced directly from the representation):

... there are a number of areas of the proposals that gives us cause for concern. Some of the concern cannot be resolved before the NDM proposals require implementation. For these we would like to see an agreed action plan to be taken forward with the support of DESC.

These include:

1. Data Logger sample sizes which have been reducing consistently. We would like to see an agreed implementation plan from the Networks which can be monitored to ensure the sample is increased back to the minimum required levels. The installation programme should take place over the summer period to provide winter information to support the proposals.
2. Our suggestion is that analysis of the data logger sample be undertaken to propose to the industry suitable breakpoints for a reduced number of large EUC bands.
3. The analysis provided for profiles within EUC band 1 suggests that there may be merit in investigating this further. We would like to see this analysis followed to its conclusion with the agreement of DESC over the next twelve months.
4. The evidence from the data recorder sample supports an increased element of non-domestic MPRNs within EUC band 1. We would like to see analysis in future based on the proportions as sampled in the

Data Recorder sample. Any increase in numbers and volume of I&C within this EUC band would support the analysis mentioned above.

- Evidence from summer 2005 shows there are flaws in the CWV definition at warm temperatures. If evidence of global warming is to be believed then warmer summers have an increased likelihood into the future. We would request that Transporters undertake modelling to assess potential CWV changes in preparation for the 2008 analysis.

Some items should be resolved before E.ON UK can determine whether these proposals are sufficient. These include:

- Data recorder sample sizes were low in some LDZ. While the graphics shown for WM LDZ appear to show an adequate model, assessment of the RMSE for the 2007 demand model compared to the equivalent model derived during 2006 would provide assurance that the sample provided adequate data for profile development.
- We would like to see evidence that supports the revised view of 2007/8 included in these proposals. In particular why there is a large increase in NDM demand anticipated. We also request a comparison to the view for 2007/8 in the fallback proposals.

**TRANSPORTERS RESPONSE TO POINTS RAISED IN E.ON REPRESENTATION**

**1. DATALOGGER SAMPLE SIZES**

The representation expresses concern regarding the ongoing decline of the active NDM datalogger sample. The sample has experienced a reduction over the last 12 months. As of 01/04/07, the current active national supply point count was 11,925<sup>1</sup>. This represents a reduction of approximately 400 supply points (3.4%) since 01/04/06. Although specific, wide scale installation programmes have not been undertaken recently (as this is not, at this point, deemed necessary), specific areas of reduced sample numbers are targeted and installations to address these concerns are, and will continue to be undertaken. As an example, since June 2007, there have been 120 new datalogger installations and 62 terminations, giving a net sample increase of 58. The sample sizes continue to be monitored by xserve on behalf of Transporters and should be considered in the context of the following analysis.

It is agreed that, following consultation with DESC, the target sample count levels were reduced in 2006 (principally within bands 6, 7 and 8). This was primarily undertaken to recognise that the sample counts in these bands reflected a high percentage of the total market population. The resultant revised sample count 'targets' are detailed in Table 1.1

**TABLE 1.1 NDM DATALOGGER SAMPLE – CURRENT SUPPLY POINT TARGET COUNTS INCLUSIVE OF AGREED REDUCTIONS**

EUC Band	LDZ													TOTAL
	SC	SO	SE	NO	NE	WN	WS	SW	NW	WM	EM	EA	NT	
1 & 2	55	35	100	55	55	10	30	55	85	80	75	85	160	880
3	110	85	165	95	80	20	75	100	150	80	12	120	185	1,395
4	425	360	520	270	340	50	175	260	450	335	445	445	480	4,555
5	420	280	355	235	250	55	130	240	445	415	340	275	515	3,955
6	116	85	94	83	104	20	61	90	186	177	148	110	157	1,431
7	34	35	20	24	45	7	21	32	45	66	64	31	26	450
8	14	8	10	16	10	3	10	8	25	32	25	8	5	174
<b>TOTAL</b>	<b>1,174</b>	<b>888</b>	<b>1,264</b>	<b>778</b>	<b>884</b>	<b>165</b>	<b>502</b>	<b>785</b>	<b>1,386</b>	<b>1,185</b>	<b>1,227</b>	<b>1,074</b>	<b>1,528</b>	<b>12,840</b>

<sup>1</sup> There are an additional 593 installed dataloggers which are not part of the 'active' sample. The data flow from the logger currently indicates no recent consumption (within the last 1 month) and therefore are not deemed active. However these loggers are often reinstated into the active sample as a result of consumption starting again, any equipment faults being investigated and corrected or the zero consumption being identified as valid (e.g. site closure) resulting in the logger being reinstated at a different supply point.

Table 1.2 highlights the difference between the current active NDM sample and the target sample counts<sup>2</sup> presented in Table 1.1. EUC bands 1, 2 and 3 continue to hold a surplus of dataloggers in almost all LDZs<sup>3</sup>. The instances where counts are below the sample requirements still show a sample count close to the target requirement. Transporters do not view the current datalogger sample counts in Bands 1, 2 and 3 as cause for concern. Combined with the outcome of the model analysis presented at the June Technical Forum (and detailed in the 2007/08 proposals) and the ongoing monitoring undertaken by xserve on their behalf, Transporters continue to view the sample counts in bands 1, 2 and 3 as satisfactory for demand estimation purposes.

**TABLE 1.2 NDM DATALOGGER SAMPLE – DIFFERENCE BETWEEN ACTUAL SUPPLY POINT COUNT (AS AT 01/04/07) AND TARGET SAMPLE NUMBER**

EUC Band	LDZ													TOTAL
	SC	SO	SE	NO	NE	WN	WS	SW	NW	WM	EM	EA	NT	
1 & 2	23	17	23	14	11	-2	10	20	35	26	31	21	35	264
3	-1	23	27	-3	17	-4	1	-4	-6	23	10	20	-5	98
4	-25	-5	-28	-17	-47	-1	2	-3	-31	-9	-42	-42	-51	-299
5	-51	-55	-77	-32	-25	-1	-21	-48	-67	-60	-122	-57	-129	-745
6	-22	-12	-6	-9	-14	-1	-12	-10	-28	-44	-44	-6	-39	-247
7	3	-4	-9	0	-9	-1	-4	-3	-9	-15	-41	-8	-8	-108
8	-8	-2	-5	-6	-1	-1	-1	-2	-12	-6	-19	-2	-3	-68

Transporters agree that, when comparing to the agreed sample count targets there is a shortfall of loggers in most LDZs for EUC bands 4 to 8<sup>4</sup>. Although an initial review of the count of terminations and shortfall detailed in Table 1.2 may raise some concerns, as highlighted in the representation, it should be noted that the purpose of the NDM datalogger sample is to provide a sample of the NDM Firm market population and ultimately for the sample numbers to be sufficient to allow sound and robust modelling. As a result, a more significant representation of the current sample is a comparison to the total market population. This is represented in Table 1.3.

**TABLE 1.3 NDM DATALOGGER SAMPLE – PERCENTAGE OF NDM DATALOGGER SAMPLE COMPARED TO TOTAL MARKET POPULATION (PROVISIONAL FIGURES – PENDING AQ REVIEW OUTCOME)**

EUC Band	LDZ													TOTAL
	SC	SO	SE	NO	NE	WN	WS	SW	NW	WM	EM	EA	NT	
3	2%	3%	4%	3%	3%	3%	5%	3%	2%	2%	3%	3%	3%	3%
4	16%	20%	22%	21%	20%	18%	25%	19%	15%	14%	18%	21%	12%	17%
5	51%	48%	53%	56%	55%	69%	55%	52%	48%	51%	44%	47%	39%	49%
6	58%	58%	65%	65%	67%	66%	66%	65%	54%	64%	54%	66%	47%	61%
7	82%	74%	42%	89%	77%	67%	85%	67%	78%	66%	75%	59%	42%	70%
8	75%	50%	63%	71%	69%	100%	100%	75%	59%	76%	58%	55%	25%	65%
TOTAL	12%	13%	13%	14%	13%	15%	17%	13%	11%	12%	12%	14%	10%	12%

\* Note: Bands 1 and 2 have not been included as they are also represented by the data recorder sample and all but 1 LDZ are above the target sample counts. Note: The comparison is based on the total active sample at 01/04/07 and the AQ value to be applied at 1<sup>st</sup> October 2007.

The Transporters view is that the supply point sample counts in bands 5 to 8 continue to represent a very high percentage of the total market population. It should be noted that the target sample counts for 7 of the 13 LDZs in Band 8, and 1 LDZ in band 7, are currently greater than the total actual market population, indicating that the sample target counts are in reality too high.

In regards to EUC Bands 3 and 4, taking account of the higher market populations in these bands, an anticipated reduction in the percentage of population is expected. Band 3, as already noted, it still in line

<sup>2</sup> As at 01/04/07. Updated details regarding the current sample count are scheduled to be presented at the November DESC meeting.

<sup>3</sup> Band 1 and 2 are further combined with datarecorders to increase the sample further

<sup>4</sup> Band 9 is modelled using all Firm supply points and therefore is not considered an issue.

with the sample target numbers. The Transporters view is that Band 4 also continues to represent a good percentage of the market population.

Given the purpose of the demand estimation sample and the percentage of market population the sample represents, Transporters do not currently consider there to be any significant issues with the datalogger sample counts in any EUC band. In addition <sup>5</sup> there is no significant evidence in this year's proposals to indicate that there is any degradation in the modelling as a result of the reduced sample numbers. There are specific areas which continue to be monitored in specific bands and LDZs (e.g. Band 4 and 5 in NT). xserve continue to monitor the demand estimation sample on an ongoing basis and any concerns are raised with the Transporters. As a result, Transporters do not propose a specific summer installation programme over and above the ongoing replacement activities.

A further point to clarify in regards to E.ON's request for a summer installation programme is that any new installations in summer 2007 will not be of use in the sample until a full 12 months of data is available covering the April to March analysis period. Thus, any installations in summer 2007 will not be usable in the annual NDM analysis until spring 2009.

There are two further points that should be considered when reviewing the current datalogger sample counts:

- A recognisable difference regarding this year's analysis was the higher level of sample 'fall out' at the validation stage, primarily due to consecutive zeros and missing periods. This is discussed in detail in Appendix 1 of the proposals. Although the Transporters do not suggest a change to the validation methodology, it is proposed that this is monitored in future.
- Any deficiencies that may arise in bands 6 and above may in part be linked to the paucity of such supply points in the population at large. Therefore this aspect of the datalogger sample strength may, in the future, be better addressed by reassessing the numbers of EUCs and the extent of analysis required for large NDM (which has been raised in E.ON's representation). This may be particularly apparent when considering the WAR band analysis.

The Transporters therefore view the current datalogger sample counts to be sufficiently adequate for demand estimation purposes. The DESC Workplan has scheduled the NDM sample analysis to take place in November. It is proposed therefore that, following a more specific, detailed analysis at that time, further discussion can take place then.

## 2. REDEFINITION OF LARGE EUC BANDS

The representation suggests '*a formal revision to code grouping a number of these [large] EUC bands be proposed ..... analysis of the data logger sample be undertaken to propose to the industry suitable breakpoints for a reduced number of large EUC bands*'.

The Transporters agree that this is an appropriate area for future analysis, particularly given the possible lack of appropriate supply points to sample in the large EUC bands <sup>6</sup>. It should be noted however that any possible creation of new EUC bandings will have significant impacts on Transporter and Shipper processes and systems as well as requiring a UNC modification (large NDM EUC bandings are defined in UNC). Therefore any investigations, whilst considering the most optimum EUC bandings for demand estimation, would also need to consider any further impacts outside of the demand estimation processes.

The Transporters initial view therefore is that analysis should be undertaken but a change to UNC is not necessarily required. For large NDM EUCs (Bands 5, 6, 7 and 8), regardless of the current population size, sample sizes are high percentages of this population and therefore currently offers a sound and appropriate basis for future modelling.

The sample size issue for the most recent analysis data set was not with the large NDM population as a whole but only with modelling WAR band EUCs in Band 8 (and to a lesser extent Band 7). The warmest

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<sup>5</sup> With the exception of potential future sample count issues in the WAR Band analysis for Band 8, which has been raised in the E.ON representation and is discussed in Point 2.

<sup>6</sup> It should be recognised at this point that, for the 2007/08 proposals, sample sizes in these bands and the outcome of the model accuracy this year is not viewed as a cause for concern.

ever winter (October to March 2006/07) strongly impacted the WAR band limits and this probably exacerbated the sample size issues in the flattest WAR band (WAR Band 01) in Band 8.

Therefore in response to the representation and to address the possible impact of lower sample counts in WAR Band 8, Transporters suggest two possible options:

- Option 1 - A simple interim solution for the 2008 analysis, short of making changes to UNC provisions, is to retain the current consumption band definitions for large NDM EUCs and combine Bands 7 and 8 for the purposes of deriving WAR band EUCs. This is an equivalent approach to that currently applied when deriving WAR band EUCs over the whole consumption range 293-2196 MWh pa (Bands 5 and 6).
- Option 2 - In terms of applying a reduced number of EUCs to represent large NDM (>2196 MWh pa), an alternative, and possibly more straightforward approach would be to retain the current consumption band EUCs and band break-points but not derive WAR band EUCs either across the whole large NDM range (>2196 MWh pa) or for the subset of consumptions above 14650 MWh pa (i.e. Bands 7 and 8).

The Transporters recommend that a change to UNC is not proposed at this time and large NDM EUC bands maintain their current breakpoints as consumption analysis is still sound. The Transporters do propose however that DESC discusses a suitable alternative to the WAR band modelling issue in band 8 and this is utilised in the 2008/09 modelling (if the sample counts deem this necessary).

### 3. EUC BAND 1 SPLITS

The Transporters agree with the merit of E.ON's suggestions regarding investigating further splits in EUC Band 1 and believe analysis should be undertaken to review this. To assess the impact on the modelling, the Transporters suggest two possibilities worth further investigation:

- Option 1 - A breakpoint at 20 MWh pa (i.e. 0-20 MWh pa and 20-73.2 MWh pa). This would break up Band 1 (0-73.2 MWh pa) in to two parts with broadly equivalent numbers of supply points nationally.
- Option 2 - Split the band at 30 MWh pa on the basis that most non-domestic supply points in the population and almost all non-domestic supply points in the sample fall in to the higher 30-73.2 MWh pa band.

Again, consideration will need to be given to impacts any change to EUC bandings will have on Shipper and Transporter systems and processes. Dependent on the approach to be taken, delivery of the analysis is proposed for the January 2008 DESC meeting.

### 4. DOMESTIC AND NON-DOMESTIC SAMPLING – BAND 1

The Transporters believe that the concerns raised by E.ON have identified some confusion in this area. E.ON's representation states that the 2% level used as the volume of non-domestic supply points in Band 1 is incorrect and based on historical data and the volume of non-domestics in EUC Band 1 should be 5% to 7%, as per the level of non-domestics in the datarecorder sample. For clarification:

- The proportion of non-domestic supply points added to the domestic 0-73.2 MWh pa sample to make an appropriate sample containing both domestic and non-domestic supply points is not based on the 1992 assessment of 2% (non-domestic proportion by supply point numbers). The market sector flag, as reported at the June Technical Forum, as of mid-June 2007 suggests a non-domestic proportion of 1.8%, which is consistent with the earlier assessment, and utilised in this year's analysis. The MSF flag, although having limitations, is still considered to be the optimum source for identification of Band 1 domestic / non-domestic population counts. On this basis inclusion of 4 supply points in each sample containing approximately 200 domestic supply points (2%) does not appear unreasonable.
- The sample for the 0-73.2 MWh pa range was originally set up on the basis of stratification by consumption sub-bands, rather than by consumer type (i.e. domestic or non-domestic). The higher percentage of validated non-domestic supply points in the Band 1 data recorder sample (reported in Appendix 2 of the NDM proposals) reflect both evolution of the sample over time and the specific

outcome of validation of the latest data set, and is not an intended representation of this aspect of the population at large.

- There will be little merit in modelling the whole of the validated NDM sample (i.e. including all non-domestics that passed validation) because the relative proportions of domestic to non-domestic will not reflect the population at large, as defined by analysis undertaken each year on the MSF indicator.

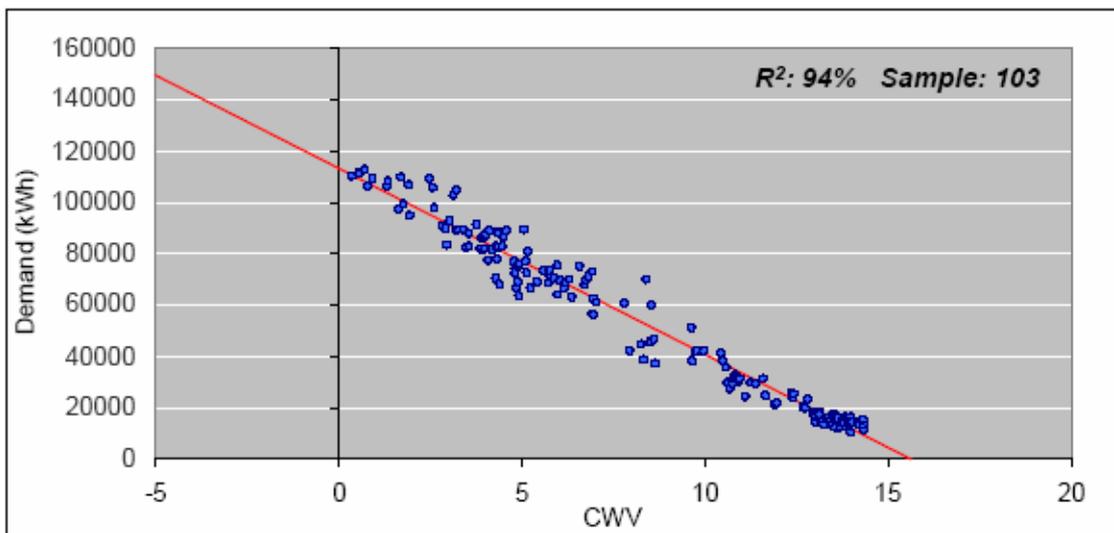
The Transporters recommend that the analysis continues to use the MSF as this is currently viewed as the optimum source for domestic / non-domestic site indication. The appropriate percentage of population identified by the MSF should be used in any future sample analysis.

**5. CWV FLAWS AT WARM TEMPERATURES**

The Transporters do not believe that the trends highlighted by E.ON are the result of flaws in the CWV relationship. Rather the trend identified in the representation for a single example provided for a single year is a result of the agreed methodology employed in utilizing CWV cut-offs.

The body of the representation indicates that this point is based on slide 30 of the xserve presentation at the June 2007 Technical Forum. This is replicated below in Graph 5.1

**GRAPH 5.1 – NO LDZ, EUC BAND 2 DEMAND MODEL 2006/07**



This is the demand model for NO LDZ in Band 2 for the most recent analysis year (06/07). It is not the smoothed model eventually used in the proposals for 2007/08 (which would be an average of the three analysis years 2004/05, 2005/06 and 2006/07).

The cluster of data points at the extreme warm end lie on both sides of the straight line fitted and are within the scatter shown by the data set as a whole. The extreme hot weather of July 2006 corresponds to this sub-set of data points. The other data points referred to in the representation, (below the line at CWV values greater than approximately 12 degrees) do not appear more markedly deviant from the fitted line than other data forming this set.

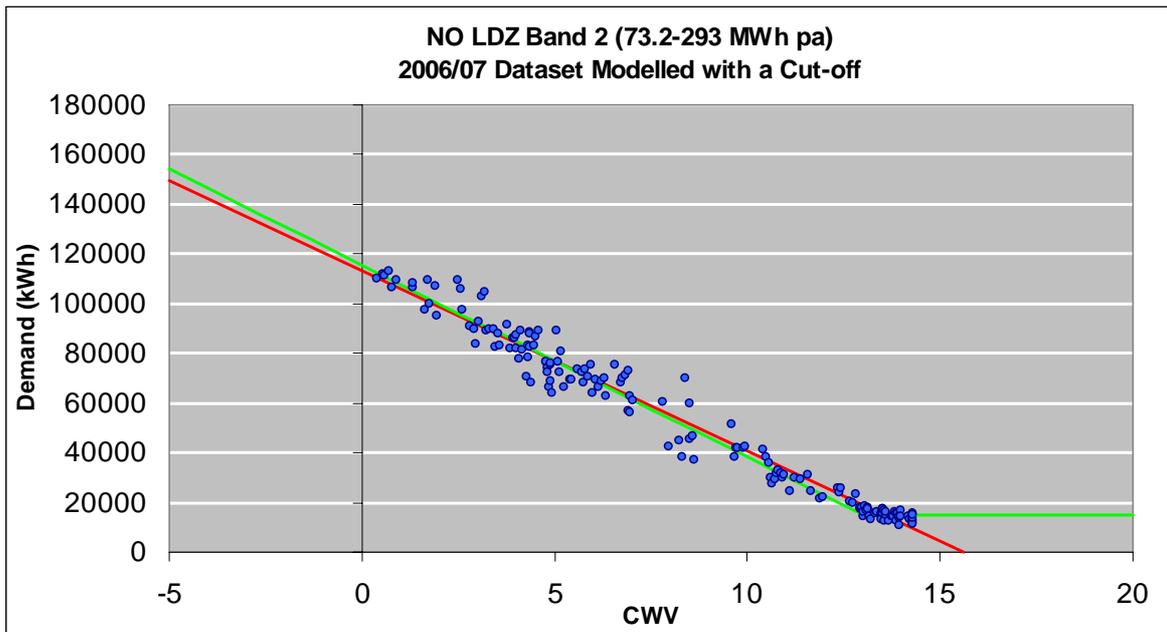
It must also be remembered that with the agreement of DESC (starting with the 2004/05 proposals), in order to attempt to reduce scaling factor volatility in the summer months, no cut-offs have been applied to EUC demand models in Bands 1 and 2 (constituting nearly 80% of NDM load) even when the application of a cut-off would better fit the warm end of the data set. Appendix 13 of the NDM proposals explains how previous analysis of the application of cut-offs (and summer reductions) in Bands 1 and 2 can lead to summer scaling factor volatility.<sup>7</sup>

<sup>7</sup> The decision made at DESC not to apply cut-offs to the modelling of Bands 1 and 2 (from spring 2004 onwards) was made on the basis of a comparison of demand attribution undertaken using underlying models for Bands 1 and 2 with and without cut-offs, over two previous gas years: 2001/02 and 2002/03

If a cut-off had been fitted to this dataset the applicable slope of the main relationship would also have been different - steeper and better representing those data points just above 12 degrees of CWV. The model with a cut-off would have a main slope of -7733.0 kWh/degree as opposed to a slope of -7257.1 for the model with no cut-off. The alternative model is shown in the Graph 5.2 and it will be seen that the data points above 10 degrees CWV are very well represented.

Therefore the broader conclusion on CWVs drawn from this particular single model and data set concerns a different aspect of the modelling rather than flaws in the CWV relationship. The behaviour at the warm end of this 2006/07 data set is due to the overriding decision not to apply cut-offs to Bands 1 and 2 and is not due to a deficiency in CWV.

**GRAPH 5.2 – NO LDZ, EUC BAND 2 DEMAND MODEL 2006/07 WITH CUT-OFF**



CWVs are designed to provide a linear relationship, principally to aggregate NDM demand over a large span of years and weather conditions. Thus, they will not lead to ideally linear models for individual EUCs across the whole range of CWV observed in any single analysis year.

The extreme weather conditions during July 2006 and more generally over May-September 2006 were exceptional, even in terms of the climate change observed in the past 10-20 years. The next full CWV review (to be implemented in 2010) will use weather data from this particular summer as well as all other data accumulated since the last review was undertaken.

When considering whether July 2006 was atypical or a precursor of a future norm, it is also worth noting that July 2007 has not (so far) proved to be anything like as warm as July 2006.

In regards to the proposal that multiple regression line analysis may result in more accurate modelling. The Transporters have concerns regarding the implications this may have. Primarily, the concern is that the suggestion is founded on a single example for a single year, for which the trend identified is a result of CWV cut-off methodology rather than any modelling 'flaws'.

The Transporters agree that the use of multiple lines in the regression will usually improve the model fit (illustrated by the use of CWV cut-offs). The introduction of multiple line regressions would require extensive process and methodology change and a review of the current process timescales for an outcome that is not necessarily wholly beneficial. The current methodology is proposed as fit for purpose, as agreed with DESC.

Furthermore, any data set that is modelled originates from a sample. A sample data set is not necessarily wholly representative of the population it purports to cover. Trying to draw too much out of a data set in the manner suggested may not be prudent. The points in the example quoted (at around 12 degrees CWV)

may (for example) be due to some peculiar interaction between the particular sample (that passed validation) and the weather conditions experienced.

Finally, model fit is a minor factor in the accuracy of demand attribution. AQ error, SND bias, metering error and atypical weather have much greater impacts than model fit. So, increasing modelling complexity to ostensibly improve model fit may not necessarily have sufficient benefits.

In respect of this point in the representation, Transporters do not agree there is a need to address a deficiency in the applicable CWV or in the demand modelling ahead of the spring 2008 NDM analysis.

However, in autumn 2008 after the end of gas year 2007/08, it would be possible to replicate the analysis undertaken in 2003/04 and replicate demand attribution over the gas year applying models for Bands 1 and 2 that have cut-offs applied (where indicated by the data). The purpose would be to assess the extent of scaling factor stability delivered by the non-application of cut-offs, with models partly based on data from the extremely warm summer of 2006.

**6. DATARECORDER: RMSE ANALYSIS FOR WM LDZ**

The representation indicated that there was concern regarding the validated sample counts in WM LDZ and requested an assessment of the RMSE for the 2007 WM demand model, specifically a comparison to the previous year RMSE value.

The RMSE, R<sup>2</sup> and sample size values for the 2006/07 to 1999/00 data sets for the Band 1 model in WM LDZ are shown in Table 6.1<sup>8</sup>. These statistics are for the models that were used to derive the smoothed model proposed for 2007/08 (for WM LDZ, Band 1).<sup>9</sup>

**TABLE 6.1 – WM LDZ RMSE VALUES & R<sup>2</sup> SAMPLE SIZE COMPARISONS**

Data Set	R <sup>2</sup>	Adjusted RMSE	Sample Size
2006/07	99	658	187
2005/06	99	618	208
2004/05	99	602	222
2003/04	98	-	216
2002/03	95	-	201
2001/02	98	-	188
2000/01	98	-	167
1999/00	97	-	175

The 2004/05 model has a lower RMSE than the 2005/06 model, which in turn has a lower RMSE than the 2006/07 model. A lower RMSE indicates a greater model accuracy. Although this may indicate degradation in the most recent models, particularly in line with falling sample numbers, the values are broadly of similar orders of magnitude and the degradation in RMSE may not be due solely to sample size<sup>10</sup>. This is reflected in the R<sup>2</sup> values which specifically highlights that validated sample sizes alone do not necessarily lead to higher R<sup>2</sup> values / better model fits.

However, in recognition that some of the post validated data recorder sample counts were low, the potential future impact of this smaller sample in WM LDZ has already been addressed. The installed sample in this LDZ (as well as all other LDZs) has been strengthened in anticipation of the spring 2008 analysis<sup>11</sup>. Furthermore, a significant proportion of these recorders were installed prior to mid-March 2007 which will allow the data to be included in the spring 2008 analysis.

<sup>8</sup> The RMSE analysis was not undertaken prior to the 2004/05 analysis

<sup>9</sup> In all cases the RMSE values have been adjusted to the same sample AQ basis as the 2006/07 data set. This is necessary because a smaller data set would give a smaller unadjusted RMSE value anyway solely because of the smaller sample.

<sup>10</sup> The weather history over the analysis years would also have had a bearing

<sup>11</sup> Additional recorders installed: EA 9, EM 9, NO 10, NT 12, NW 6, SC 9, SE 10, SO 3, SW, 8, WS 1, WM 8

It is important to note that validation ‘fall out’ was also an important factor this year in reducing the datarecorder sample numbers used in the analysis. In WM, there was a 30% ‘fall out’ due to validation <sup>12</sup>. As previously discussed, the levels of validation fall out will need to be monitored in future to ensure there is no consistent pattern in this higher level of erroneous data streams and / or the validation methodology employed is appropriate.

**7. 2007/08 VIEW OF SEASONAL NORMAL DEMAND (SND)**

The representation indicated that there was concern regarding the view of SND used in the 2007/08 proposals, specifically why there was an increase. A comparison with the fallback proposals, created in 2006, for 2007/08 was requested.

A comparison of the various aggregate NDM SND values has been undertaken. The following sets of SND values are compared and presented in Table 7.1:

1. SND values used in the NDM proposals for 2007/08 as published on 27<sup>th</sup> June 2007
2. SND values for the current gas year (2006/07) uplifted by 366/365 to account for gas year 2007/08 having 366 days, while gas year 2006/07 has 365 days.
3. SND values that would apply to 2007/08 if the fallback case is adopted.

It should be noted that the NDM proposals for 2007/08 are based, for each LDZ, on daily values of SND, weather sensitivity (WSENS) and 1 in 20 peak demand for aggregate NDM in the LDZ, specified by the relevant Distribution Networks.

**Table 7.1 – Comparison of SND Values: Current (06/07), NDM Proposals 07/08 and Fallback Position**

LDZ	Annual Aggregate SND Values in GWh			% and Volume Difference in SND Values (all %'s relative to 2007/08 Draft Proposals)			
	Current Gas Year (06/07)	Proposals for 2007/08	Fallback Case 2007/08	Current Gas Year 2006/07		Fallback Case 2007/08	
				%	Volume	%	Volume
SC	48,594	48,949	48,899	-0.7%	-355	-0.1%	-50
NO	30,587	30,441	30,815	0.5%	146	1.2%	374
NW	68,161	68,222	68,573	-0.1%	-61	0.5%	651
NE	35,817	36,549	36,146	-2.0%	-732	-1.1%	-403
EM	57,718	58,184	58,195	-0.8%	-466	0.0%	11
WM	51,513	51,633	51,762	-0.2%	-120	0.3%	129
WN	6,253	6,343	6,310	-1.4%	-90	-0.5%	-33
WS	20,106	20,203	20,288	-0.5%	-97	0.4%	85
EA	43,734	44,315	44,074	-1.3%	-581	-0.5%	-241
NT	58,250	59,108	58,528	-1.5%	-858	-1.0%	-580
SE	56,171	56,712	56,332	-1.0%	-541	-0.7%	-380
SO	38,812	38,375	39,125	1.1%	437	2.0%	750
SW	31,686	31,835	32,033	-0.5%	-149	0.6%	198
<b>TOTAL</b>	<b>547,402</b>	<b>550,869</b>	<b>551,080</b>	<b>-0.6%</b>	<b>-3,647</b>	<b>0.04%</b>	<b>211</b>

Based on this comparison the following observations are relevant:

- The level of SND in the NDM proposals for 2007/08 are higher than the SND that apply in the current gas year in all LDZs except NO and SO.
- The percentage differences of those LDZs (11 of 13) that are higher range from 0.1% to 2%. In 6 LDZs which show an increase from 2006/07 to 2007/08, the change is less than 1%.

<sup>12</sup> The extreme conditions experienced during summer 2006 and the warm winter may have contributed to an increasing number of ‘turnoffs’ resulting in higher consecutive periods of zero consumption.

- In 6 LDZs the fallback case gives higher SND values for 2007/08 than the NDM proposals: NO, NW, WM, WS, SO, SW, and these differences range from 0.3% to 2.0%.
- In 6 LDZs the fallback case gives lower SND values for 2007/08 than the NDM proposals: SC, NE, WN, EA, NT, SE, and these differences range from 0.1% to 1.1%.
- In one LDZ (EM) the SND value for 2007/08 in the fallback case is essentially the same as the NDM proposals (0.0184% difference).

It is important to note that, the fallback case does not lead to consistently lower SND for 2007/08 than the NDM proposals. In fact, in aggregate the SND value in the fallback case is higher than the SND proposed for 2007/08.

Moreover, the figures above indicate it is not the case that the view of aggregate NDM SND for 2007/08, as seen a year ago in the forecasts made in 2006, were universally one of lower demands than contained in the NDM proposals for 2007/08.

The values of SND for aggregate NDM in each LDZ arise out of each Network's annual forecasting process and reflect their view on the prevailing and forecast future levels of demand in each LDZ. It is the Networks' view that the remit of the UNC demand estimation process and the scope of DESC do not cover the Networks annual forecasting process. The Networks believe that their licence and other UNC obligations provide oversight in this area.

If the underlying concern in making this representation is the potentially adverse impact that aggregate NDM SND could have on demand attribution, then the appropriate remedy would be for DESC to examine alternative approaches that mitigate or remove the perceived impact. If DESC considers this worthwhile this can be investigated further and reported and discussed at future DESC meetings.