

**Alternative (Large) NDM EUC Load Factors for Gas Year 2006/07**

**Background:**

The NDM proposals for 2006/07 published in June 2006 remain appropriate and fit for purpose.

Nevertheless, should DESC wish to consider an alternative the following approach has been suggested as feasible:

Scale the underlying demand models for aggregate NDM for 2006/07 (i.e. those which led to the originally proposed aggregate NDM SND values for 2006/07) so that they equate over the gas year as a whole to the annual aggregate NDM SND forecasts provided by the gas networks (Note that only the six LDZs having different network specific forecasts will be changed, namely: SC, SE, SO, WN, WS and SW).

Scaling the underlying models in this manner to a different assumed level of underlying load, requires scaling of both the constant (i.e. SND) and the slope (i.e. WSENS) terms of the model.

Thus, the ensuing DAFs for all EUCs will not change (as well as ALPs, which would be unchanged anyway). The aggregate NDM SNDs and weather sensitivities will change and the daily values of aggregate NDM SND will add up to the annual aggregate NDM SND forecast provided by the relevant network.

In addition, in the aforementioned six affected LDZs, large NDM EUC load factors will also change because the value of PDN (in the formula below, used to compute such load factors) will be the value specified by the individual network. Furthermore, the value of  $SNDN_m$  will be a scaled (higher) value.

The changes to PDN and  $SNDN_m$  will not necessarily be in proportion, and therefore large NDM EUC load factors will change.

**Formula for Large NDM EUC Load Factors:**

For large NDM EUCs, in accordance with the Uniform Network Code (Section H, Paragraph 4.3.2), the 1 in 20 peak day demand is estimated directly from the profiling formula using the ALP and DAF values appropriate to the EUC, for the day of maximum seasonal normal aggregate NDM demand in the LDZ during gas year 2006/07, and a weather correction factor (WCF) calculated from :

$$WCF_p = (PDN/SNDN_m) - 1 \quad \text{where}$$

PDN is the 1 in 20 peak day aggregate NDM demand for the LDZ  
 $SNDN_m$  is the maximum seasonal normal aggregate NDM demand for the LDZ

Setting SF=1 in the NDM profiling formula, the load factor may thus be estimated by:

$$LF = \frac{\text{average demand}}{\text{1 in 20 peak demand}} = \frac{AQ/365}{AQ/365 * ALP_t (1+ WCF_p * DAF_t)}$$

where the ALP and DAF values are those relating to the same day as  $SNDN_m$ .

This simplifies to :

$$LF = \frac{1}{ALP_t (1+ WCF_p * DAF_t)}$$

Weather correction factors corresponding to the new values of PDN and maximum aggregate NDM SND for each of the 13 LDZs are given in Table 1. Only those values in **bold red** have changed from the original proposals.

**Table1**  
**Applicable Amended Maximum Weather Correction Factors**

<b>LDZ</b>	<b>WCF</b>
SC	<b>0.53602</b>
NO	0.65035
NW	0.51876
NE	0.52639
EM	0.51489
WM	0.63730
WN	<b>0.55148</b>
WS	<b>0.70257</b>
EA	0.60527
NT	0.64060
SE	<b>0.70421</b>
SO	<b>0.99073</b>
SW	<b>0.77177</b>

Table 2 sets out the end user category (EUC) load factors originally proposed for 2006/07, which may be compared with the corresponding amended values for gas year 2006/07 (set out in Table 3) which arise as a consequence of the recalculation of large NDM EUC load factors as explained above.

Note that only large NDM EUCs are affected (i.e. EUCs in consumption bands above 2196 MWh pa), and of these only EUCs in LDZs SC, SO, SE, WN, WS and SW.

Additionally, Table 4 provides a summary of the differences between the values in Table 2 and Table 3.

It is important to note that in all the affected EUCs the load factor reduces from the value originally proposed - i.e. for the affected EUC each LF is peakier than that originally proposed for 2006/07.

The consequence of this is that supply points in these EUCs will have larger computed NDM supply point capacities (i.e. SOQs) if these amended LFs are applied, than if the originally proposed LFs are used.

Note here that there is no change to the load factors in EUC **xx:E0608W01** because this is a flat model with a zero weather sensitivity.

**Table 2 : Proposed Load Factors (Gas Year 2006/07)**

<b>EUC (where xx denotes LDZ)</b>	<b>SC</b>	<b>NO</b>	<b>NW</b>	<b>NE</b>	<b>EM</b>	<b>WM</b>	<b>WN</b>	<b>WS</b>	<b>EA</b>	<b>NT</b>	<b>SE</b>	<b>SO</b>	<b>SW</b>
xx:E0601B	39.2%	34.4%	37.2%	36.9%	37.1%	33.3%	37.2%	34.0%	34.6%	33.4%	32.4%	29.8%	32.3%
xx:E0602B	38.0%	29.1%	33.5%	29.4%	32.4%	30.0%	33.5%	28.9%	32.3%	35.2%	32.8%	31.2%	28.3%
xx:E0603B	39.7%	32.3%	35.4%	32.3%	33.8%	28.2%	35.4%	31.7%	33.9%	33.3%	31.8%	30.5%	30.0%
xx:E0603W01	55.6%	53.3%	54.9%	53.2%	56.2%	51.3%	54.9%	54.9%	55.8%	58.9%	57.8%	54.1%	56.0%
xx:E0603W02	43.0%	37.1%	42.1%	42.8%	43.0%	39.3%	42.1%	41.5%	44.5%	43.8%	44.1%	40.8%	43.4%
xx:E0603W03	32.3%	27.1%	29.6%	30.5%	30.9%	27.8%	29.6%	29.2%	31.7%	32.5%	32.0%	29.7%	29.8%
xx:E0603W04	26.6%	22.3%	24.0%	23.9%	24.5%	21.7%	24.0%	22.8%	24.2%	24.3%	24.3%	21.5%	23.1%
xx:E0604B	41.0%	32.4%	36.1%	35.3%	34.9%	31.6%	36.1%	32.9%	34.7%	36.3%	35.5%	31.6%	34.7%
xx:E0604W01	55.6%	53.3%	54.9%	53.2%	56.2%	51.3%	54.9%	54.9%	55.8%	58.9%	57.8%	54.1%	56.0%
xx:E0604W02	43.0%	37.1%	42.1%	42.8%	43.0%	39.3%	42.1%	41.5%	44.5%	43.8%	44.1%	40.8%	43.4%
xx:E0604W03	32.3%	27.1%	29.6%	30.5%	30.9%	27.8%	29.6%	29.2%	31.7%	32.5%	32.0%	29.7%	29.8%
xx:E0604W04	26.6%	22.3%	24.0%	23.9%	24.5%	21.7%	24.0%	22.8%	24.2%	24.3%	24.3%	21.5%	23.1%
xx:E0605B	42.4%	36.0%	40.3%	38.0%	40.1%	35.2%	40.1%	38.0%	37.8%	40.4%	37.7%	35.0%	38.1%
xx:E0605W01	61.9%	58.6%	59.8%	61.1%	61.2%	58.8%	59.6%	64.2%	64.0%	62.8%	62.8%	60.7%	62.7%
xx:E0605W02	48.0%	43.7%	47.0%	45.6%	45.6%	42.6%	46.8%	45.7%	48.2%	48.6%	48.5%	44.9%	45.3%
xx:E0605W03	36.4%	31.5%	34.6%	35.8%	35.8%	33.1%	34.4%	35.2%	37.8%	38.1%	37.2%	33.3%	35.6%
xx:E0605W04	28.2%	23.5%	25.8%	25.2%	25.9%	23.6%	25.6%	25.3%	26.6%	26.7%	26.3%	23.3%	25.2%
xx:E0606B	47.5%	40.0%	46.2%	44.5%	44.8%	42.2%	46.0%	42.8%	41.9%	45.0%	44.1%	37.9%	44.2%
xx:E0606W01	72.1%	71.0%	72.2%	73.0%	73.0%	72.5%	72.1%	74.8%	76.6%	76.4%	76.3%	74.3%	74.7%
xx:E0606W02	54.2%	51.0%	54.0%	52.2%	52.4%	50.5%	53.8%	54.4%	55.8%	55.3%	54.8%	52.0%	54.2%
xx:E0606W03	41.3%	38.8%	42.1%	39.0%	39.2%	37.5%	41.9%	39.6%	43.0%	42.4%	42.1%	38.7%	40.9%
xx:E0606W04	27.6%	25.0%	27.8%	27.6%	27.9%	26.2%	27.7%	28.3%	30.2%	29.7%	29.4%	27.1%	29.2%
xx:E0607B	52.7%	47.3%	50.6%	50.0%	50.2%	48.1%	50.4%	43.4%	50.2%	49.6%	49.1%	42.1%	43.2%
xx:E0607W01	75.9%	75.1%	75.8%	75.7%	75.8%	75.4%	75.8%	76.5%	77.6%	77.4%	77.3%	76.7%	77.3%
xx:E0607W02	61.4%	58.8%	61.2%	61.1%	61.3%	59.6%	61.0%	60.3%	61.3%	60.9%	60.5%	58.4%	60.2%
xx:E0607W03	45.1%	41.8%	45.1%	44.9%	45.4%	43.1%	44.9%	43.2%	44.6%	44.1%	43.5%	40.7%	43.1%
xx:E0607W04	32.0%	29.2%	32.2%	31.7%	32.2%	30.5%	32.0%	30.1%	32.1%	31.6%	31.3%	28.8%	30.8%
xx:E0608B	64.6%	61.6%	64.5%	59.2%	59.4%	57.5%	64.3%	56.9%	59.2%	58.6%	58.2%	55.2%	57.4%
xx:E0608W01	88.7%	88.6%	88.7%	88.6%	88.6%	88.6%	88.7%	88.7%	88.8%	88.7%	88.7%	88.7%	88.7%
xx:E0608W02	75.2%	73.3%	75.1%	75.0%	75.2%	74.0%	75.0%	73.9%	74.7%	74.4%	74.2%	72.7%	73.9%
xx:E0608W03	57.6%	54.7%	57.9%	57.8%	58.0%	56.0%	57.7%	55.9%	57.1%	56.6%	56.2%	53.8%	55.8%
xx:E0608W04	37.9%	34.7%	38.0%	37.8%	38.4%	36.0%	37.8%	35.9%	38.2%	37.7%	37.3%	34.6%	36.7%
xx:E0609B	67.7%	64.8%	67.5%	67.4%	67.6%	65.7%	67.3%	65.7%	66.8%	66.4%	66.0%	63.7%	65.6%

**Table 3 : Amended Load Factors (Gas Year 2006/07)**

<b>EUC (where xx denotes LDZ)</b>	<b>SC</b>	<b>NO</b>	<b>NW</b>	<b>NE</b>	<b>EM</b>	<b>WM</b>	<b>WN</b>	<b>WS</b>	<b>EA</b>	<b>NT</b>	<b>SE</b>	<b>SO</b>	<b>SW</b>
xx:E0501B	39.2%	34.4%	37.2%	36.9%	37.1%	33.3%	37.2%	34.0%	34.6%	33.4%	32.4%	29.8%	32.3%
xx:E0502B	38.0%	29.1%	33.5%	29.4%	32.4%	30.0%	33.5%	28.9%	32.3%	35.2%	32.8%	31.2%	28.3%
xx:E0503B	39.7%	32.3%	35.4%	32.3%	33.8%	28.2%	35.4%	31.7%	33.9%	33.3%	31.8%	30.5%	30.0%
xx:E0503W01	55.6%	53.3%	54.9%	53.2%	56.2%	51.3%	54.9%	54.9%	55.8%	58.9%	57.8%	54.1%	56.0%
xx:E0503W02	43.0%	37.1%	42.1%	42.8%	43.0%	39.3%	42.1%	41.5%	44.5%	43.8%	44.1%	40.8%	43.4%
xx:E0503W03	32.3%	27.1%	29.6%	30.5%	30.9%	27.8%	29.6%	29.2%	31.7%	32.5%	32.0%	29.7%	29.8%
xx:E0503W04	26.6%	22.3%	24.0%	23.9%	24.5%	21.7%	24.0%	22.8%	24.2%	24.3%	24.3%	21.5%	23.1%
xx:E0504B	41.0%	32.4%	36.1%	35.3%	34.9%	31.6%	36.1%	32.9%	34.7%	36.3%	35.5%	31.6%	34.7%
xx:E0504W01	55.6%	53.3%	54.9%	53.2%	56.2%	51.3%	54.9%	54.9%	55.8%	58.9%	57.8%	54.1%	56.0%
xx:E0504W02	43.0%	37.1%	42.1%	42.8%	43.0%	39.3%	42.1%	41.5%	44.5%	43.8%	44.1%	40.8%	43.4%
xx:E0504W03	32.3%	27.1%	29.6%	30.5%	30.9%	27.8%	29.6%	29.2%	31.7%	32.5%	32.0%	29.7%	29.8%
xx:E0504W04	26.6%	22.3%	24.0%	23.9%	24.5%	21.7%	24.0%	22.8%	24.2%	24.3%	24.3%	21.5%	23.1%
xx:E0505B	40.8%	36.0%	40.3%	38.0%	40.1%	35.2%	39.3%	36.7%	37.8%	40.4%	37.2%	32.3%	36.0%
xx:E0505W01	60.6%	58.6%	59.8%	61.1%	61.2%	58.8%	59.1%	63.4%	64.0%	62.8%	62.3%	58.6%	61.2%
xx:E0505W02	46.3%	43.7%	47.0%	45.6%	45.6%	42.6%	45.9%	44.3%	48.2%	48.6%	47.9%	42.1%	43.0%
xx:E0505W03	34.9%	31.5%	34.6%	35.8%	35.8%	33.1%	33.7%	33.9%	37.8%	38.1%	36.6%	30.7%	33.5%
xx:E0505W04	26.8%	23.5%	25.8%	25.2%	25.9%	23.6%	24.9%	24.2%	26.6%	26.7%	25.8%	21.2%	23.5%
xx:E0506B	45.9%	40.0%	46.2%	44.5%	44.8%	42.2%	45.3%	41.7%	41.9%	45.0%	43.5%	35.3%	42.0%
xx:E0506W01	71.6%	71.0%	72.2%	73.0%	73.0%	72.5%	71.9%	74.5%	76.6%	76.4%	76.2%	73.7%	74.2%
xx:E0506W02	52.7%	51.0%	54.0%	52.2%	52.4%	50.5%	53.1%	53.2%	55.8%	55.3%	54.3%	49.4%	52.2%
xx:E0506W03	39.7%	38.8%	42.1%	39.0%	39.2%	37.5%	41.1%	38.2%	43.0%	42.4%	41.5%	36.0%	38.7%
xx:E0506W04	26.3%	25.0%	27.8%	27.6%	27.9%	26.2%	27.0%	27.2%	30.2%	29.7%	28.9%	24.8%	27.3%
xx:E0507B	51.2%	47.3%	50.6%	50.0%	50.2%	48.1%	49.6%	42.1%	50.2%	49.6%	48.5%	39.4%	41.1%
xx:E0507W01	75.6%	75.1%	75.8%	75.7%	75.8%	75.4%	75.6%	76.1%	77.6%	77.4%	77.2%	75.9%	76.7%
xx:E0507W02	60.2%	58.8%	61.2%	61.1%	61.3%	59.6%	60.4%	59.2%	61.3%	60.9%	60.1%	56.1%	58.5%
xx:E0507W03	43.5%	41.8%	45.1%	44.9%	45.4%	43.1%	44.1%	41.8%	44.6%	44.1%	42.9%	37.9%	40.9%
xx:E0507W04	30.5%	29.2%	32.2%	31.7%	32.2%	30.5%	31.3%	28.9%	32.1%	31.6%	30.8%	26.5%	28.8%
xx:E0508B	63.2%	61.6%	64.5%	59.2%	59.4%	57.5%	63.6%	55.7%	59.2%	58.6%	57.6%	52.5%	55.4%
xx:E0508W01	88.7%	88.6%	88.7%	88.6%	88.6%	88.6%	88.7%	88.7%	88.8%	88.7%	88.7%	88.7%	88.7%
xx:E0508W02	74.4%	73.3%	75.1%	75.0%	75.2%	74.0%	74.5%	73.2%	74.7%	74.4%	73.9%	70.9%	72.7%
xx:E0508W03	56.2%	54.7%	57.9%	57.8%	58.0%	56.0%	57.0%	54.8%	57.1%	56.6%	55.7%	51.2%	53.9%
xx:E0508W04	36.3%	34.7%	38.0%	37.8%	38.4%	36.0%	37.0%	34.7%	38.2%	37.7%	36.7%	32.0%	34.6%
xx:E0509B	66.4%	64.8%	67.5%	67.4%	67.6%	65.7%	66.6%	64.6%	66.8%	66.4%	65.5%	61.2%	63.8%

**Table 4 : Percentage Point Differences in Load Factors Proposed for 2006/07  
(Amended – Original)**

<b>EUC (where xx denotes LDZ)</b>	<b>SC</b>	<b>NO</b>	<b>NW</b>	<b>NE</b>	<b>EM</b>	<b>WM</b>	<b>WN</b>	<b>WS</b>	<b>EA</b>	<b>NT</b>	<b>SE</b>	<b>SO</b>	<b>SW</b>
xx:E0501B	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0502B	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0503B	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0503W01	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0503W02	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0503W03	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0503W04	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0504B	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0504W01	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0504W02	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0504W03	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0504W04	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0505B	-1.6%	-	-	-	-	-	-0.8%	-1.3%	-	-	-0.5%	-2.7%	-2.1%
xx:E0505W01	-1.3%	-	-	-	-	-	-0.5%	-0.8%	-	-	-0.5%	-2.1%	-1.5%
xx:E0505W02	-1.7%	-	-	-	-	-	-0.9%	-1.4%	-	-	-0.6%	-2.8%	-2.3%
xx:E0505W03	-1.5%	-	-	-	-	-	-0.7%	-1.3%	-	-	-0.6%	-2.6%	-2.1%
xx:E0505W04	-1.4%	-	-	-	-	-	-0.7%	-1.1%	-	-	-0.5%	-2.1%	-1.7%
xx:E0506B	-1.6%	-	-	-	-	-	-0.7%	-1.1%	-	-	-0.6%	-2.6%	-2.2%
xx:E0506W01	-0.5%	-	-	-	-	-	-0.2%	-0.3%	-	-	-0.1%	-0.6%	-0.5%
xx:E0506W02	-1.5%	-	-	-	-	-	-0.7%	-1.2%	-	-	-0.5%	-2.6%	-2.0%
xx:E0506W03	-1.6%	-	-	-	-	-	-0.8%	-1.4%	-	-	-0.6%	-2.7%	-2.2%
xx:E0506W04	-1.3%	-	-	-	-	-	-0.7%	-1.1%	-	-	-0.5%	-2.3%	-1.9%
xx:E0507B	-1.5%	-	-	-	-	-	-0.8%	-1.3%	-	-	-0.6%	-2.7%	-2.1%
xx:E0507W01	-0.3%	-	-	-	-	-	-0.2%	-0.4%	-	-	-0.1%	-0.8%	-0.6%
xx:E0507W02	-1.2%	-	-	-	-	-	-0.6%	-1.1%	-	-	-0.4%	-2.3%	-1.7%
xx:E0507W03	-1.6%	-	-	-	-	-	-0.8%	-1.4%	-	-	-0.6%	-2.8%	-2.2%
xx:E0507W04	-1.5%	-	-	-	-	-	-0.7%	-1.2%	-	-	-0.5%	-2.3%	-2.0%
xx:E0508B	-1.4%	-	-	-	-	-	-0.7%	-1.2%	-	-	-0.6%	-2.7%	-2.0%
xx:E0508W01	-	-	-	-	-	-	-	-	-	-	-	-	-
xx:E0508W02	-0.8%	-	-	-	-	-	-0.5%	-0.7%	-	-	-0.3%	-1.8%	-1.2%
xx:E0508W03	-1.4%	-	-	-	-	-	-0.7%	-1.1%	-	-	-0.5%	-2.6%	-1.9%
xx:E0508W04	-1.6%	-	-	-	-	-	-0.8%	-1.2%	-	-	-0.6%	-2.6%	-2.1%
xx:E0509B	-1.3%	-	-	-	-	-	-0.7%	-1.1%	-	-	-0.5%	-2.5%	-1.8%