



**Response to Representation
on 2006/07
NDM Proposals**

BGT equation to assess unscaled allocations

$$\frac{ALP_{0506}(1+WCF_{0607} * DAF_{0607}) - ALP_{0506}(1+WCF_{0506} * DAF_{0506})}{-----}$$

$$ALP_{0506}(1+WCF_{0506} * DAF_{0506})$$

Corrected Equation:

$$\frac{ALP_{0607}(1+WCF_{0607} * DAF_{0607}) - ALP_{0506}(1+WCF_{0506} * DAF_{0506})}{-----}$$

$$ALP_{0506}(1+WCF_{0506} * DAF_{0506})$$

- Unscaled % over-allocations in BGT's representation can be reproduced only if top equation is used.
- Corrected equation (below) gives different unscaled % over-allocations.

Ensuing (correct) scaled allocations

Assumed potential
WCF bias: 6.38%
(0.06/0.94)

System aggregate
NDM EUC AQs from
1st July 2006 used

SCALED % Over (+) or Under (-) Allocations		
LDZ	01B EUCs	All "Non-Domestic" EUCs
SC	0.48%	-1.13%
NO	-0.19%	0.55%
NW	-0.18%	0.53%
NE	-0.72%	1.77%
EM	-0.65%	1.72%
WM	-0.46%	1.02%
WN	0.03%	-0.07%
WS	-0.29%	0.91%
EA	-0.39%	1.03%
NT	-0.15%	0.31%
SE	-0.04%	0.14%
SO	-0.11%	0.28%
SW	-0.36%	0.97%
Overall	-0.24%	0.63%

LDZ Specific Potential WCF Bias

This assumes (as BGT did) that 2005/06 SND levels will prevail in 2006/07 (no decline)

LDZ	Potential WCF bias
SC	4.2%
NO	4.9%
NW	6.0%
NE	4.6%
EM	5.5%
WM	7.9%
WN	5.0%
WS	6.3%
EA	6.7%
NT	8.7%
SE	8.1%
SO	7.1%
SW	7.0%

Overall weighted
average is 6.5%
(not 6% as used by BGT)

Ensuing scaled allocations – LDZ specific analysis

Assumed potential
WCF bias: LDZ
specific

System aggregate
NDM EUC AQs from
1st July 2006 used

SCALED % Over (+) or Under (-) Allocations		
LDZ	01B EUCs	All "Non-Domestic" EUCs
SC	0.29%	-0.69%
NO	-0.27%	0.78%
NW	-0.21%	0.60%
NE	-0.79%	1.93%
EM	-0.70%	1.86%
WM	-0.33%	0.73%
WN	-0.13%	0.29%
WS	-0.30%	0.93%
EA	-0.37%	0.98%
NT	0.09%	-0.18%
SE	0.08%	-0.28%
SO	-0.05%	0.13%
SW	-0.32%	0.87%
Overall	-0.22%	0.57%

WCF Bias Impact

- The question posed was:
“What would happen if a particular level of WCF bias equal to the proposed % reduction in NDM SND applied to the whole of gas year 2006/07”
- The results show that on an overall scaled basis there would be very little consequential impact on the 01B EUCs (-0.22% under allocation overall ; +0.29% to -0.79% across LDZs)
- Both AQ error and EUC model error likely to perturb NDM demand attribution by similar or greater extents.
e.g. best estimate strand of NDM performance evaluation suggests indicative 01B EUC model error could range from -0.6% to +1.1% (Appendix 13 of NDM report)
- Moreover, AQ error unlikely to be better than $\pm 1\%$

NDM SND & WCD

Aggregate NDM Demand (GWh) - Gas Year 2005/06 to end-June 2006							
LDZ	Sum of Actual Demand	Sum of WC Demand (05 basis)	Sum of WC Demand (06 basis)	Sum of SND (05 basis)	Sum of SND (06 basis)	WCD as % of SND	
						05 basis	06 basis
SC	43247	43825	43824	44616	43591	98.2%	100.5%
NO	27512	28127	28114	28564	27752	98.5%	101.3%
NW	62509	63138	63119	64627	62024	97.7%	101.8%
NE	32293	32738	32735	33474	32550	97.8%	100.6%
EM	52280	52941	52932	54497	52540	97.1%	100.7%
WM	47275	47311	47317	49880	47170	94.9%	100.3%
WN	5528	5582	5582	5821	5639	95.9%	99.0%
WS	18767	18407	18551	19084	18243	96.5%	101.7%
EA	40723	39955	39996	41961	40067	95.2%	99.8%
NT	55072	54007	54085	56901	53489	94.9%	101.1%
SE	53682	52622	52684	54838	51952	96.0%	101.4%
SO	36651	35773	35825	37649	35692	95.0%	100.4%
SW	29503	29168	29191	30513	28983	95.6%	100.7%
Total	505041	503596	503957	522424	499692	96.4%	100.9%

NDM SND too high in gas year 2005/06 to date

Negative WCF bias information presented in Appendix 13

WCD/SND on 2005 basis <100%

WCD/SND on 2006 basis much closer to ideal 100%

Applying Spring 2006 Models to Gas Year 2005/06

- Analysis done to end April 2006 to sense check new NDM SNDs for 2006/07.
- Models for EUCs and for aggregate NDM derived in 2006 applied to gas year 2005/06 (instead of current models which were derived in 2005)
- This analysis asks a different question:
“How would the 2006/07 models have done in gas year 2005/06 (to end April)?”
- The results show that there would have been very little consequential difference to the allocation to the 01B EUCs (a small over-allocation of 0.33% overall; range -0.08% to 0.69% across LDZs)

Scaled allocations 2005/06 to April with 2006/07 Models

LDZ	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
SC	0.34%	-0.10%	-0.19%	-0.22%	-0.12%	-0.09%	0.06%	-0.08%
NO	0.18%	0.11%	0.07%	0.05%	0.14%	0.16%	0.01%	0.10%
NW	0.38%	0.18%	0.10%	0.09%	0.18%	0.21%	0.39%	0.19%
NE	1.06%	0.15%	0.10%	-0.04%	0.02%	0.07%	0.45%	0.17%
EM	1.09%	0.38%	0.22%	0.19%	0.30%	0.37%	0.44%	0.36%
WM	0.40%	0.40%	0.36%	0.32%	0.45%	0.49%	0.31%	0.39%
WN	0.43%	0.22%	0.13%	0.11%	0.21%	0.26%	0.58%	0.24%
WS	0.20%	0.34%	0.28%	0.31%	0.38%	0.40%	0.31%	0.33%
EA	0.62%	0.30%	0.40%	0.29%	0.30%	0.35%	0.36%	0.35%
NT	2.09%	0.64%	0.52%	0.45%	0.48%	0.61%	1.11%	0.69%
SE	0.46%	0.36%	0.46%	0.36%	0.38%	0.42%	0.43%	0.40%
SO	0.08%	0.44%	0.54%	0.49%	0.53%	0.55%	0.48%	0.48%
SW	0.39%	0.40%	0.31%	0.35%	0.44%	0.47%	0.37%	0.39%
Overall	0.64%	0.31%	0.27%	0.23%	0.30%	0.34%	0.42%	0.33%

Overall Conclusion

- Potential WCF bias (if it actually occurs) should not significantly perturb scaled NDM allocations.
- Extent of resultant over/under allocation probably less than other potential sources of error (e.g. EUC model, AQ).
- Proposed aggregate NDM SNDs for 2006/07 are reasonable in the light of observed aggregate NDM demand behaviour.
- Proposals should therefore be implemented.

- Should DESC wish to consider them - two alternatives have been set out

Alternative 1 – Fall-back case

- Applies if Ofgem veto proposals for 2006/07 (in response to application made by a system user)
- Uses 2005/06 EUC models and 2006/07 aggregate NDM from a year ago.
- Models based on CWVs applicable at that time.
- Will probably lead to even greater negative WCF bias since NDM SND is greater than the 2005/06 NDM SND
- Load factors will revert back to current, 2005/06 values
- Future problem for AQ review 2007 in WS LDZ due to weather station change on 1st October 2006.

Alternative 2 – Different WSENS & SND in 6 LDZs

- Daily NDM SND and WSENS both scaled in same proportion - annual aggregate NDM SND equal to alternative network view of NDM SND for 2006/07.
- Different for only SC, SW, SO, WN, WS and SW.
- ALPs and DAFs remain unaltered (proportionate scaling means DAFs unaffected).
- Large NDM EUC (>2196 MWh pa) Load Factors will change.
- In affected LDZs all large NDM EUCs become peakier (lower load factors, hence greater NDM supply point SOQs)
- Percentage point LF changes:
 - SC up to 1.7% points lower
 - SO up to 2.8% points lower
 - SE up to 0.6% points lower
 - WN up to 0.9% points lower
 - WS up to 1.4% points lower
 - SW up to 2.3% points lower

Alternative Annual SND

LDZ	% Change in Annual SND for 2006/07
SC	+1.2%
NO	no change
NW	no change
NE	no change
EM	no change
WM	no change
WN	+4.9%
WS	+7.1%
EA	no change
NT	no change
SE	+4.2%
SO	+1.6%
SW	+4.8%