

# **Holiday Codes Review**

**10<sup>th</sup> November 2010**

**Demand Estimation Sub-  
Committee**

# Holiday Codes Review

- Background
- Approach for defining promising periods
- Results for promising periods
- Approach for determining allocation of holiday codes
- Results for allocation of holiday codes
- Validation of results using 02B and 04B
- Review of Scotland Bank Holiday
- Review of Consumption Trends for 02B and above
- Holiday Code Recommendations
- Review of 01B - application of holiday codes and Recommendation

# Holiday Codes Review

- Holiday Codes Review comprises:
  - Review of definition of holiday codes applied to EUCs >73.2 MWh pa (02B and above)
    - September 2010 DESC suggested a focus on the Christmas/New Year period.
  - Review of the current practice of not applying holiday codes to the “domestic” 01B EUCs
    - Holiday codes do not currently apply to the 01B EUCs (0-73.2 MWh pa).
    - Therefore holidays for the 01B (“domestic”) EUCs are currently included in the regressions.
    - Should this practice continue, or should the holiday codes apply to 01B EUCs, implying holidays should not be included in the regressions?

# Christmas/New Year – Existing Definition

- The existing Christmas/New Year holiday period runs from December 21<sup>st</sup> to the second Scotland New Year bank holiday
- Existing holiday codes:
  - Holiday code 1 – 25<sup>th</sup> December, 26<sup>th</sup> December, 1<sup>st</sup> January
  - Holiday code 2 – 24<sup>th</sup> December, 27<sup>th</sup> to 31<sup>st</sup> December, 2<sup>nd</sup> January
  - Holiday code 3 – Remaining days of period

# Christmas/New Year – Issues from September DESC

- Extend the current Christmas/New Year period to cover the first working week of January? – [Action DE0901](#)
- Should Christmas/New Year holiday period start on a fixed day (currently December 21<sup>st</sup>) or should start of holiday period vary with the day of week on which December 25<sup>th</sup> falls? – [Action DE0901](#)
- Should 25<sup>th</sup> December be treated separately?
- Do we need to use more than 3 holiday codes for the Christmas/New Year period? – [Action DE0903](#)
- Should the second Scotland New Year bank holiday be treated separately? – [Action DE0902](#)
- Is it still reasonable to assume that consumption does not rise in non-domestic EUCs over the Christmas/New Year period? – [Action DE0904](#)
- Choice of holiday periods and holiday code allocations to be considered has been guided by the discussion at the September DESC

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# Christmas/New Year – Periods Considered

- Period 1 (Existing):
  - Starts: 21<sup>st</sup> December
  - Ends: second Scotland New Year bank holiday
- Period 2:
  - Starts: Monday before 25<sup>th</sup> December (but if 25<sup>th</sup> December falls on a Monday, Tuesday or Wednesday, starts on the Friday before 25<sup>th</sup> December)
  - Ends: second Scotland New Year bank holiday
- Period 3:
  - Starts: As period 2 above
  - Ends: UK-wide New Year bank holiday
- Period 4:
  - Starts: 21<sup>st</sup> December
  - Ends: first Friday on or after second Scotland New Year bank holiday
- Period 5:
  - Starts: As period 2 above
  - Ends: As period 4 above

# Christmas/New Year – Methodology Overview

- We set out the basis of the analysis methodology at September DESC
  - Uses current models for the most recent four analysis years (March/April to March 2006/07 – 2009/10), for which models on new CWV/SNCWV are available using NDM sample data (from recorders and/or loggers)
  - Uses the proportions of **ALL** small NDM (>73.2 MWh pa) and **ALL** large NDM EUCs with large negative residuals and large positive residuals (from models with current holidays included), and large negative residuals from Monday to Thursday demand levels on individual days.
  - Eliminates unpromising periods/holiday code allocations; identifies a preferred period/allocation and other promising options
- At the request of the September DESC we have added a validation phase for the promising holiday period/holiday code allocations
  - Uses **newly fitted models** over the four analysis periods above to assess the fit of the model (in terms of root mean square errors over the period as a whole)
  - All 02B and 04B EUCs evaluated for the four analysis years



# Christmas/New Year - Points System to Identify Preferred and Promising Periods (1)

- A points system has been developed to identify promising periods
  - The existing holiday codes system has zero points by definition
  - The period with the highest number of positive net points is the preferred period
  - Any other period with positive net points is classed as a promising period
- The promising periods (and the existing period as a basis for comparison) are taken to the next stage - comparing alternative allocations of holiday codes

# Christmas/New Year – Points System to Identify Preferred and Promising Periods (2)

One **positive** point awarded to the suggested period for the following for each individual day in any of the four analysis years:

- ...that is in the suggested period but is not in the existing period where there **is** a statistically **significantly**<sup>(1)</sup> larger than expected proportion of small NDM EUCs (excluding 01B) with a large negative residual
- ...that is in the existing period but is not in the suggested period where there **is** a statistically **significantly**<sup>(1)</sup> higher than expected proportion of small NDM EUCs (excluding 01B) with a large positive residual
- ...that is a Monday to Thursday in the existing period but not in the suggested period where there **is not** a statistically significantly<sup>(1)</sup> higher than expected proportion of small NDM EUCs (excluding 01B) with a large negative residual from the fitted non-holiday Monday to Thursday level
- ... and similarly, replacing “small NDM EUCs (excluding 01B)” with “large NDM EUCs” in the above

<sup>1</sup> Statistical Significant Level : 1%

# Christmas/New Year – Points System to Identify Preferred and Promising Periods (3)

One **negative** point awarded to the suggested period for the following for each individual day in any of the four analysis years:

- ...that is in the suggested period but is not in the existing period where there **is not** a statistically significantly<sup>(1)</sup> larger than expected proportion of small NDM EUCs (excluding 01B) with a large negative residual
- ...that is in the existing period but is not in the suggested period where there **is not** a statistically significantly<sup>(1)</sup> higher than expected proportion of small NDM EUCs (excluding 01B) with a large positive residual
- ...that is a Monday to Thursday in the existing period but not in the suggested period where there **is** a statistically significantly<sup>(1)</sup> higher than expected proportion of small NDM EUCs (excluding 01B) with a large negative residual from the fitted non-holiday Monday to Thursday level
- ... and similarly, replacing “small NDM EUCs (excluding 01B)” with “large NDM EUCs” in the above

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# Christmas/New Year - League Table

Periods Considered	Positive Points	Negative Points	Total Points
Period 4	15	3	+12
Period 5	17	7	+10
Period 1 (Existing)	0	0	0
Period 2	2	4	-2
Period 3	10	14	-4

# Christmas/New Year – Preferred and Promising Periods

- Periods to be taken to the next stage (allocation of holiday codes):
- Period 4 is the preferred period.
  - Starts: 21<sup>st</sup> December
  - Ends: first Friday on or after second Scotland New Year bank holiday
- Period 5 is a promising period.
  - Starts: Monday before 25<sup>th</sup> December (but if 25<sup>th</sup> December falls on a Monday, Tuesday or Wednesday, starts on the Friday before 25<sup>th</sup> December)
  - Ends: first Friday on or after second Scotland New Year bank holiday
- Period 1 (Existing) is a period to be included in further analysis for comparison purposes.
  - Starts: 21<sup>st</sup> December
  - Ends: second Scotland New Year bank holiday

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# Christmas/New Year – Allocation of Holiday Codes: Methodology

- We need some measure of the effectiveness of a particular holiday code allocation within a holiday period, using the current model data used for comparing the periods:
  - Proportion of EUCs with large negative residuals from the non-holiday Monday to Thursday level on each day in the holiday period is useful basic data
    - This is available for small NDM (02B and above), large NDM and for all EUCs (02B and above)
    - Referred to in the examples that follow as “the daily EUC proportion”
- Measure must be suitable for comparing cases with different numbers of holiday codes
- A statistical method known as Analysis of Variance has been used to derive such a measure
  - for small NDM (02B and above), large NDM and all EUCs (02B and above)
- Next slide shows a small scale example of six daily observations of the daily EUC proportion allocated to two holiday codes



# Christmas/New Year – Analysis of Variance Example (1)

Holiday code	Daily EUC proportion			Holiday code mean
1	0.800	1.000	0.900	0.900
2	0.600	0.500	0.400	0.500
Overall mean				0.700

Variation Between Holiday Codes				
Holiday code	Deviations of holiday code mean from overall mean			
1	0.200	0.200	0.200	
2	-0.200	-0.200	-0.200	
Sum of squared deviations of holiday code mean from overall mean				0.240

Variation within Holiday Codes				
Holiday code	Deviations of daily EUC proportion from holiday code mean			
1	-0.100	0.100	0.000	
2	0.100	0.000	-0.100	
Sum of squared deviations of daily EUC proportion from holiday code mean				0.040

Holiday code	Deviations of daily EUC proportion from overall mean			
1	0.100	0.300	0.200	
2	-0.100	-0.200	-0.300	
Sum of squared deviations of daily EUC proportion from overall mean				0.280

# Christmas/New Year – Analysis of Variance Example (2)

- You may have noticed:

Sum of squared deviations of holiday code mean from overall mean (the **variation between** holiday codes) (=0.240)

+

Sum of squared deviations of daily EUC proportions from the holiday code mean (the **variation within** holiday codes) (=0.040)

=

Sum of squared deviations of squared deviations of daily EUC proportion from overall mean (the total variation) (=0.280)

In this case, the variation between holiday codes is much larger than the variation within holiday codes. The daily EUC proportions for the same holiday code are quite close together, but there is a relatively large spread of holiday code means around the overall mean. This is evidence of a reasonably good allocation.

# Christmas/New Year – Analysis of Variance Example (3)

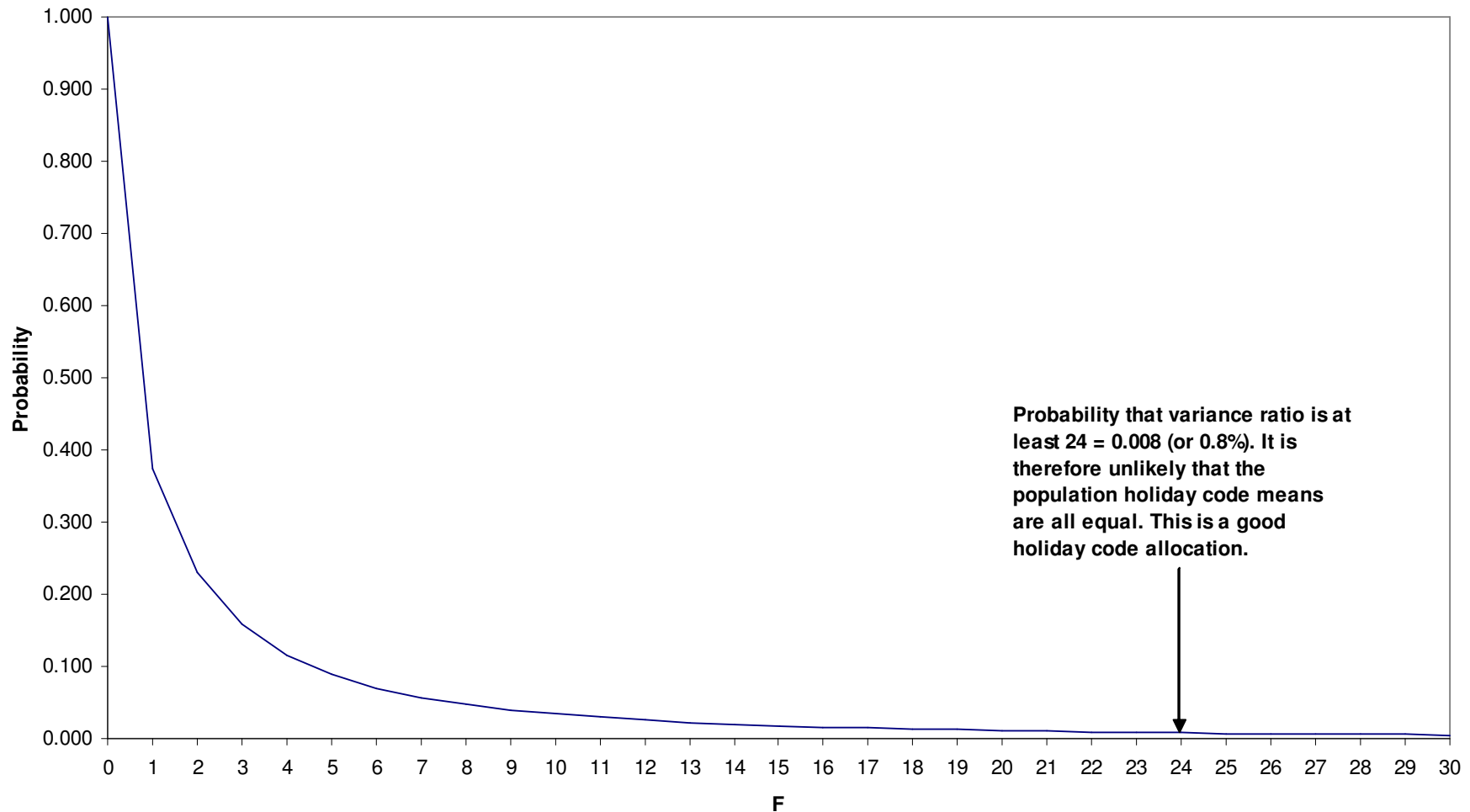
- Statistical theory helps us to go further in quantifying how well the holiday codes discriminate between days with different underlying daily EUC proportions.
- We calculate:
  - **Mean Square (between holiday codes)** = variation between holiday codes / (number of holiday codes – 1)
  - **Mean Square (within holiday codes)** = variation within holiday codes / (number of daily EUC proportions – number of holiday codes)
  - **Variance Ratio** = mean square (between holiday codes)/mean square (within holiday codes). In our example, Variance Ratio = 24

# Christmas/New Year – Analysis of Variance Example (4)

- If the true population holiday means for each holiday code were equal, given our information we can calculate the probability that the variance ratio is at least as large as any given value ( $F$ ).
- In our example the variance ratio is 24.
- This is illustrated in the graph on the next slide.

# Christmas/New Year – Analysis of Variance Example (5)

Probability variance ratio is at least  $F$  if the population holiday code means were all equal (in our example)



# Christmas/New Year – Comparison of Holiday Code Allocations

- With our observed daily data (over 4 analysis years) of the proportions of EUCs (02B and above) with large negative residuals from the fitted non holiday Monday to Thursday level, for a particular holiday code allocation we can use the analysis of variance technique to calculate the probability that the variance ratio is at least as large as we have observed if the population means were equal.
  - This is known as the F probability (after the statistician Ronald Fisher).
- The data used is restricted to days within the holiday period evaluated.
- The smaller this probability, the stronger the evidence is that this is a good holiday code allocation.
- We can do this for small NDM EUCs (02B and above), large NDM EUCs and all EUCs (02B and above) for each of holiday periods we are considering.

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# Christmas/New Year – Allocations of Holiday Codes for Period 1 (Existing) Considered

- Period 1 (Existing):
  - Starts: 21<sup>st</sup> December
  - Ends: second Scotland New Year bank holiday
- P1V0 (Existing):
  - Holiday code 1: 25<sup>th</sup> December, 26<sup>th</sup> December, 1<sup>st</sup> January
  - Holiday code 2: 24<sup>th</sup> December, 27<sup>th</sup> December to 31<sup>st</sup> December, 2<sup>nd</sup> January
  - Holiday code 3: Remaining days of period
- P1V1:
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: All other bank holidays, 1<sup>st</sup> January
  - Holiday code 3: 24<sup>th</sup> December and remaining days between 25<sup>th</sup> December and second Scotland New Year bank holiday
  - Holiday code 4: Remaining days of period
- P1V2:
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: All other bank holidays (except second Scotland New Year bank holiday), January 1<sup>st</sup>
  - Holiday code 3: Remaining days of period (except second Scotland New Year bank holiday)
  - Holiday code 4: Second Scotland New Year bank holiday



# Christmas/New Year – Allocations of Holiday Codes for Period 1 (Existing) Evaluated

- Period 1 (Existing) is included for comparison purposes, but there may be a better allocation of holiday codes within it.

Holiday code allocation	F probabilities (as a percentage, the smaller the better)		
	Small NDM (02B & above)	Large NDM	All NDM (02B & above)
P1V0 (Existing)	6.2%	5.8%	5.9%
P1V1	2.6%	1.6%	1.9%
P1V2	0.1%	0.1%	0.1%

- Take P1V0 (existing) (for comparison purposes) and P1V2 to the validation phase.

# Christmas/New Year – Allocations of Holiday Codes for Period 4 Considered

- **Period 4 is the preferred period.**
  - Starts: 21<sup>st</sup> December
  - Ends: first Friday on or after second Scotland New Year bank holiday
- **P4V1:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Other bank holidays (except second Scotland New Year bank holiday if this falls on a Friday and hence is the final day), 1<sup>st</sup> January
  - Holiday code 3: 24<sup>th</sup> December and remaining days between 25<sup>th</sup> December and second Scotland New Year bank holiday
  - Holiday code 4: Remaining days before 24<sup>th</sup> December
  - Holiday code 5: Remaining days (will therefore consist of second Scotland New Year bank holiday if this falls on a Friday).
- **P4V2:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Other UK-wide bank holidays, 1<sup>st</sup> January
  - Holiday code 3: Second Scotland New Year bank holiday
  - Holiday code 4: Remaining days
- **P4V3:**
  - Holiday code 1: UK-wide bank holidays, Saturdays and Sundays
  - Holiday code 2: Second Scotland New Year bank holiday
  - Holiday code 3: Remaining days
- **P4V4:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Saturdays and Sundays, other UK-wide bank holidays
  - Holiday code 3: Second Scotland New Year bank holiday
  - Holiday code 4: Remaining days

# Christmas/New Year – Allocations of Holiday Codes for Period 4 Evaluated

- Period 4 is the **preferred period**.

Holiday code allocation	F probabilities (as a percentage, the smaller the better)		
	Small NDM (02B & above)	Large NDM	All NDM (02B & above)
P4V1	0.1%	0.1%	0.1%
P4V2	0.2%	2.8%	1.0%
P4V3	0.1%	0.1%	0.1%
P4V4	0.1%	0.4%	0.1%

- Allocations P4V1 and P4V3 are both good allocations. P4V3 is simpler as it has only 3 holiday codes as opposed to 5 and treats the second Scotland New Year bank holiday separately, and is therefore the **preferred allocation**.
- Take P4V1 and P4V3 to the validation phase.

# Christmas/New Year – Allocations of Holiday Codes for Period 5 Considered

- **Period 5 is a promising period.**
  - Starts: Monday before 25<sup>th</sup> December (but if 25<sup>th</sup> December falls on a Monday, Tuesday or Wednesday, starts on the Friday before 25<sup>th</sup> December)
  - Ends: first Friday on or after second Scotland New Year bank holiday
- **P5V1:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Other bank holidays (except second Scotland New Year bank holiday if this falls on a Friday and hence is the final day)
  - Holiday code 3: 24<sup>th</sup> December and remaining days between 25<sup>th</sup> December and second Scotland New Year bank holiday
  - Holiday code 4: Remaining days before 24<sup>th</sup> December
  - Holiday code 5: Remaining days (will therefore consist of second Scotland New Year bank holiday if this falls on a Friday)
- **P5V2:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Other UK-wide bank holidays, 1<sup>st</sup> January
  - Holiday code 3: Second Scotland New Year bank holiday
  - Holiday code 4: Remaining days
- **P5V3:**
  - Holiday code 1: UK-wide bank holidays, Saturdays and Sundays
  - Holiday code 2: Second Scotland New Year bank holiday
  - Holiday code 3: Remaining days
- **P5V4:**
  - Holiday code 1: 25<sup>th</sup> December, Christmas Day bank holiday
  - Holiday code 2: Saturdays and Sundays, other UK-wide bank holidays
  - Holiday code 3: Second Scotland New Year bank holiday
  - Holiday code 4: Remaining days

# Christmas/New Year – Allocations of Holiday Codes for Period 5 Evaluated

- Period 5 is a **promising period**.

Holiday code allocation	F probabilities (as a percentage, the smaller the better)		
	Small NDM (02B & above)	Large NDM	All NDM (02B & above)
P5V1	0.1%	0.1%	0.1%
P5V2	0.2%	3.2%	1.2%
P5V3	0.1%	0.1%	0.1%
P5V4	0.1%	0.2%	0.1%

- Take P5V1 and P5V3 to the validation phase.

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# Christmas/New Year - Validation Phase – Methodology

- We now have a preferred period (Period 4) with a preferred allocation of holiday codes (P4V3), and five other combinations of periods and allocations to take forward (P1V0 (Existing), P1V2, P4V1, P5V1 and P5V3).
- The validation phase is based on **newly fitted models** using the holiday code rules for all six options fitted to EUC sample data over all four analysis years (2006/07 to 2009/10)
- 26 EUCs have been tested - 02B (73.2 MWh pa – 293 MWh pa) and 04B (732 MWh pa – 2196 MWh pa).
- For ease of comparison, root mean squared errors have been calculated over the analysis year and standardised by being expressed as a percentage of daily average sample consumption for the year.
- To summarise further, the results have been LDZ weighted by the percentage of that consumption band aggregate AQ on the sites & meters database accounted for by each LDZ (as at 16/10/2010)

# Christmas/New Year - Validation Phase – 02B Results

- In the table below, the best results for 02B EUCs in each analysis year and on the basis of an overall average are highlighted. In some years different holiday code definitions apply to exactly the same days.

**02B EUCs: Overall Weighted Mean Root Mean Square Errors as % of Mean Daily Sample Consumption**

	Existing	P1V2	P4V1	P4V3	P5V1	P5V3
2009/10	7.68	9.04	9.16	7.62	9.16	7.62
2008/09	7.56	9.05	9.05	7.40	8.98	7.39
2007/08	7.67	8.89	9.04	7.43	9.04	7.43
2006/07	9.92	10.33	10.57	9.48	10.46	9.52
Overall	8.21	9.33	9.45	7.98	9.41	7.99

**LDZ Weights based on proportion of 02B aggregate AQ on sites and meters as at 16/10/2010**

- The validation phase for 02B EUCs confirms P4V3 as the best overall, but P5V3 is a very close second.



# Christmas/New Year - Validation Phase – 04B Results

- In the table below, the best results for 04B EUCs in each analysis year and on the basis of an overall average are highlighted. In some years different holiday code definitions apply to exactly the same days.

**04B EUCs: Overall Weighted Mean Root Mean Square Errors as % of Mean Daily Sample Consumption**

	Existing	P1V2	P4V1	P4V3	P5V1	P5V3
2009/10	6.40	8.09	8.23	6.46	8.23	6.46
2008/09	6.86	8.95	8.95	6.65	8.89	6.65
2007/08	6.57	8.29	8.50	6.21	8.50	6.21
2006/07	8.01	8.64	8.92	7.48	8.84	7.56
Overall	6.96	8.49	8.65	6.70	8.62	6.72

**LDZ Weights based on proportion of 04B aggregate AQ on sites and meters as at 16/10/2010**

- The validation phase for 04B EUCs also confirms P4V3 as the best overall, but P5V3 is a very close second again.

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# Validation Phase – Separate Treatment of Second Scotland New Year Bank Holiday

- Under the preferred period and allocation (P4V3), the second Scotland New Year bank holiday has a holiday code to itself. This allows some distinction between the magnitude of reduction applied to Scotland LDZ and other LDZs.
- The overall mean holiday factors for Scotland LDZ and for England and Wales LDZs (2006/07-2009/10) calculated for this day are shown here. Note that a cap of 1.0 was applied before averaging

Overall Mean Holiday factors (Capped)	Scotland	England and Wales
02B	0.849	0.899
04B	0.815	0.912

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# Christmas/New Year - Validation Phase – Does Consumption Increase on Holidays?

- Using the preferred allocation (P4V3) for all 02B and 04B EUCs the overall mean holiday factor (without any capping of its value) for each holiday code was less than one, suggesting a tendency for consumption to reduce rather than increase during the holiday period.

Overall Mean Holiday factors (Uncapped)	02B	04B
Christmas (1)	0.668	0.656
Christmas (2)	0.904	0.908
Christmas (3)	0.844	0.830

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# Christmas/New Year - Summary

- **Our preferred holiday period and allocation is P4V3:**
- **Period 4 is the preferred period.**
  - Starts: 21<sup>st</sup> December
  - Ends: first Friday on or after second Scotland New Year bank holiday
  - P4V3 is the preferred allocation of holiday codes:
    - Holiday code 1: UK-wide bank holidays, Saturdays and Sundays
    - Holiday code 2: Second Scotland New Year bank holiday
    - Holiday code 3: Remaining days
- **Period 5 is a promising period.**
  - Starts: Monday before 25<sup>th</sup> December (but if 25<sup>th</sup> December falls on a Monday, Tuesday or Wednesday, starts on the Friday before 25<sup>th</sup> December)
  - Ends: first Friday on or after second Scotland New Year bank holiday
  - P5V3:
    - Holiday code 1: UK-wide bank holidays, Saturdays and Sundays
    - Holiday code 2: Second Scotland New Year bank holiday
    - Holiday code 3: Remaining days
- Other periods that were taken to the validation phase were P1V0 (existing), P1V2, P4V1 and P5V1
- **DESC members are invited to choose between these periods and holiday code allocations for the Christmas/New Year period.**
  - **If no majority is achieved then P4V3 will be adopted for the Spring 2011 Modelling**

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## 01B (0-73.2 MWh pa) Holiday Treatment Review (1)

- Newly fitted models have been produced for the 01B EUCs for the four analysis years (2006/07 to 2009/10), with the preferred holiday code allocation (P4V3) for Christmas/New Year and with the holidays excluded from the regressions.
- Holiday factors usually have a cap of 1.0 and a collar of 0.1 applied.
- The table on the next slide shows the overall mean holiday factors for each 01B EUC, without any restriction to the holiday factors that result.

# 01B (0-73.2 MWh pa) Holiday Treatment Review (2)

Overall Mean Holiday Factors for 01B if Holidays Excluded from Regression (Preferred Option, P4V3)

DESCRIPTION	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	MEAN
Christmas (1)	1.021	1.033	1.020	0.995	0.991	1.001	1.020	0.986	0.983	0.968	0.972	0.996	0.983	0.997
Christmas (2)	1.020	0.999	1.002	0.994	0.990	0.999	1.002	1.015	1.002	0.994	0.987	1.018	1.041	1.005
Christmas (3)	1.009	1.034	1.029	1.009	1.019	1.014	1.029	1.017	1.000	0.993	1.005	1.003	1.021	1.014
Easter (1)	0.993	1.001	0.943	0.945	1.020	0.992	0.943	0.915	1.019	0.988	1.052	1.056	1.011	0.990
Easter (2)	1.015	1.019	1.008	1.020	1.005	1.005	1.008	0.925	1.007	0.952	0.993	0.982	1.029	0.997
Easter (3)	1.042	1.023	1.005	1.005	1.032	1.034	1.005	1.016	1.086	1.000	1.025	1.016	1.047	1.026
May Day (1)	1.038	1.066	1.017	1.043	1.042	1.088	1.017	1.004	1.026	1.022	1.043	1.007	1.044	1.035
May Day (2)	0.976	0.984	1.035	1.049	0.992	1.030	1.035	1.053	0.985	0.990	1.001	1.000	1.059	1.014
Spring Bank (1)	0.953	0.990	1.022	0.965	1.028	1.134	1.022	1.040	1.134	1.137	1.043	1.034	1.111	1.047
Spring Bank (2)	1.011	1.063	1.024	0.988	1.046	1.062	1.024	0.979	1.068	1.172	1.063	0.995	1.024	1.040
General Summer (1)	0.908	0.977	0.946	0.930	1.002	1.060	0.946	1.050	0.933	1.034	1.024	1.021	1.005	0.987
General Summer (2)	0.888	0.964	0.929	0.895	0.975	1.002	0.929	1.037	0.916	1.016	1.009	0.994	1.005	0.966
August Bank (1)	0.984	0.999	1.043	0.957	0.991	1.020	1.043	1.065	0.917	1.046	0.996	1.029	1.020	1.008
August Bank (2)	0.977	1.012	0.977	0.945	0.999	0.982	0.977	1.047	0.921	1.061	1.015	1.031	1.000	0.996
Summer reductions Mon-Thurs	0.932	1.000	0.944	0.960	0.954	0.953	0.944	0.956	0.925	1.000	1.000	0.945	0.941	0.958
Summer reductions Fri	0.932	1.033	0.958	0.971	0.969	0.960	0.958	0.956	0.925	1.000	1.000	0.951	0.941	0.966
Summer reductions Sat	0.961	1.037	0.986	0.994	0.981	0.986	0.986	0.973	0.941	1.009	1.017	0.956	0.958	0.983
Summer reductions Sun	0.952	1.032	0.977	0.989	0.973	0.993	0.977	0.966	0.946	1.007	1.030	0.969	0.961	0.982
Overall Mean	1.001													
Mean (excl. Summer reduct.)	1.010													

# 01B (0-73.2 MWh pa) Holiday Treatment Review Summary

- In view of the inconsistent pattern of holiday factors that arise from excluding holidays from the regressions for 01B EUCs, we recommend **no change** to the existing practice of including holiday days in the regressions for 01B EUCs.