

Evaluation of algorithm performance - 2011/12 gas year

Introduction

In accordance with customary practice, three sources of information have been examined in this review:

- i) daily values of scaling factor (SF) and weather correction factor (WCF) (this was presented separately at the DESC meeting of 7th November 2012)
- ii) reconciliation variance (RV) data for each EUC
- iii) daily consumption data collected from the NDM sample

This note presents the results of the review in respect of RV data and NDM sample derived daily consumption data, with brief explanatory notes.

1.0 Scaling Factor (SF) and Weather Correction Factor (WCF)

This material was discussed at the meeting of DESC on 7th November 2012.

It incorporated SF and WCF graphs and tables, for the two previous gas years, 2010/11 and 2011/12. In addition figures for the mean square deviation of SF from 1 were provided.

2.0 Reconciliation Variance (RV) analysis

2.1 Overview

Reconciliation variances (RVs) are calculated at individual meter point level, usually on receipt of a validated meter read. Reconciliation variance is the difference between the measured consumption (based on the start and end meter reads) and the deemed consumption (given by the algorithm). A positive reconciliation variance indicates under estimation by the NDM profiling algorithm.

In interpreting RV data it must be recognised that reconciliation variances occur due to any of a number of factors. One of these is imperfections in the profiling parameters themselves, but inaccuracies in meter point annual quantities (AQs) and in meter reads can lead to large reconciliation variances.

The reconciliation variance (RV) data presented is based on the complete set of reconciliation variances that have been calculated for meter points in "B" EUCs. RVs for WAR band EUCs have not been included in the analysis. The object of this analysis is to try to assess the EUC profiles applied over the gas year from available RV data.

Therefore, prior to analysis the data has been screened to eliminate RVs which are greater than 50% of either the actual or allocated consumption (i.e. both: allocated > 2 x actual and allocated < 0.5 x actual). Additional checks have also been made to ensure removal of inappropriate or erroneous data (e.g. actual consumptions should be positive, very low AQs are filtered out).

Over gas year 2011/12, this screening process reduced the available data set by an extent ranging from 15.9% in May 2012 to 47.3% at the end of the gas year in September 2012. The "raw" input data to this analysis is all RV data relating to the period in question (i.e. both standard and suppressed reconciliation).

The remaining validated RV data is then used to establish, for each EUC, an average profile of actual and allocated demand. On this basis the profiles have been categorised as "peaky", "flat" or "ok".

The generation of this average profile for an EUC involves taking each meter in turn and apportioning the total actual and allocated energy values evenly to all dates in the meter's reconciliation period. The ensuing aggregate values for each date are then divided by the number of contributing meters, and subsequently graphed against time.

The objective with this approach is not to establish a realistic profile resembling an ALP (annual load profile), but rather to highlight any seasonal patterns in the average reconciliation variance.

The RV profile that is thus derived for an EUC can be categorised according to two dimensions, its annual level and its peakiness. The categorisation procedure is undertaken through the calculation of full year, winter and summer average errors expressed as a percentage of the full year average actual figure. The difference between the winter and summer errors is taken to reflect the peakiness of the profile, whereas the size of the full year error indicates whether the average AQ for the meters contributing to each EUC sample is too high or too low. The winter/summer error differences have been classified as acceptable if the absolute value is less than 5% (which is approximately equivalent to a one percentage point change in load factor).

It must be noted that, since gas year 2011/12 ended only a few months previously, RV data relating to meter points that are not monthly read has not fully flowed through to the analysis.

Graphs illustrating the profiles established from the RV data, for WM, EA, SC, SW, WS, NW, and EM LDZs in consumption bands 02, 03, 04, 05, 06, 07 and 08 respectively, are attached as Figures 2.1, 2.3, 2.5, 2.7, 2.9, 2.11 and 2.13. Prior to its being classified as too “peaky” etc., the deemed profile is scaled so that over the year as a whole the level of demand matches the actual level. Figures 2.2, 2.4, 2.6, 2.8, 2.10, 2.12 and 2.14 show each of the revised profiles for the EUC and consumption band combinations stated above. Note again that the uniform apportionment of each reconciliation variance quantity across all applicable days together with fluctuations in the numbers of contributing meters during the period mean that these RV profiles are not comparable to ALP profiles and therefore the various apparent “spikes” in these figures must be seen in this context.

2.2 Analysis

Table 2.1 shows the classification of the EUC profiles as regards their peakiness. Tables 2.2 and 2.3 show the errors expressed as a fraction $[(\text{actual}-\text{allocated})/\text{actual}]$ over the winter and summer periods respectively, on which the classification is based.

Where the average number of contributing meters across the full year or across the winter or summer six month periods was 2 or less no attempt has been made to derive a classification. Thus, no assessment has been possible for WN and WS LDZ in consumption band 07, NO, WN, WS, EA, NT and SE LDZ in consumption band 08 and for all LDZs (with the exception of SW) in consumption band 09.

It should be noted that not all reconciliation variance data applicable to the period under review (gas year 2011/12) has yet been processed (particularly in those consumption bands with non-monthly read meters). Subject to this caveat, Table 2.1 suggests that during 2011/12 for consumption bands 02 and 03 the profiles have in most cases been too-peaky at the 5% level or the 10% level, the only exceptions are for band 02 in LDZs NO, WM and EA and for band 03 for LDZ SC where the profiles were good. Both these bands are the two most likely to contain non-monthly read meter points and therefore (as previously mentioned) RV data for these bands will not have fully flowed through into the analysis.

The profiles for consumption band 04 appear in most cases to be either good (in 9 LDZs) or too peaky at the 5% level (in 4 LDZs: SC, WS, NT and SW).

The profiles for consumption band 05 also appear in most cases to be either good (in 11 LDZs) or too peaky at the 5% level (in 2 LDZs: NW and NT).

The profiles for consumption bands 06 are a mixture of those that are good (5 LDZs: NE, EM, EA, NT and SE), too peaky at the 5% level (3 LDZs: NW, WM and SO), too peaky at the 10% level (2 LDZs: SC and WN) and too flat at the 5% level (3 LDZs: NO, WS and SW).

The profiles for consumption band 07 are again a mixture of those that are good (2 LDZs: NE and EA), too peaky at the 5% level (4 LDZs: NO, NW, NT and SW) and too flat at the either the 5% level (4 LDZs: SC, EM, SE and SO) or the 10% level (1 LDZ: WM). Assessment was not carried out in 2 LDZs (WN and WS) due to sample size being too small.

The profiles for consumption band 08 are also a mixture, comprised of cases that are good (4 LDZs: NE, EM, WM and SO), too peaky at the 10% level (2 LDZs: SC and SW) and too flat at the 5% level (1 LDZ: NW). Assessment was not carried out in 6 LDZs (NO, WN, WS, EA, NT and SE) due to sample size being too small.

For consumption band 09, assessment was only possible in 1 LDZ (i.e. SW and the profile was too flat at the 10% level).

Considering the overall results, there are a number of instances with profiles that are too peaky at the 5% level, too peaky at the 10% level or good. Overall there are no occurrences of profiles that are too flat in consumption bands 02 to 05. Instances of profiles that are too flat are not common in most bands.

When each consumption band (excluding band 09) is assessed in aggregate across all available LDZs, bands 04, 05, 06 and 07 are good (winter/summer error differences within the 5% level), while bands 02, 03 and 08 have a winter/summer error difference that is too peaky at the 5% level.

The winter and summer period fractional errors are shown in Tables 2.2 and 2.3. The profile assessments (e.g. the 5% and 10% levels) are based on the sum of the differences in the winter and summer errors - e.g. a winter error of -4% and a summer error of +4% for consumption band 03 in WM LDZ means an overall difference of 8% and the profile is too peaky at the 5% assessment level. Note here that the error is defined as “actual – allocated”. So, a negative winter % error indicates a profile that is too peaky and a positive winter % error indicates a profile that is too flat.

Table 2.4 shows the extent of the scaling that was applied in this RV analysis to the deemed demands in each EUC in order to match the annual demands. Most of the scaling applied is seen to be an uplift (>1). Interpreted simplistically, this might indicate a deficit in the level of AQ in these EUCs. In direct contrast, there was a further reduction in aggregate NDM AQs in all 13 LDZs at the start of gas year 2012/13. The percentage AQ changes in each LDZ and overall were reported to DESC in November 2012 as part of the WCF and SF strand of performance evaluation.

However, this RV analysis does not actually reflect the overall population for a number of reasons. Most significantly, there is no reconciliation of consumption band 01 (which makes up 73% of overall NDM load in AQ terms). Moreover, RV data validation results in a significant proportion of the raw data having to be discarded (thus the ensuing results for annual scaling do not necessarily represent the overall population). The largest rejection category when RV data is validated is where “allocated > 2 actual” (which are all likely to be cases where the AQ is too high). So, it could be argued that the data cleaning has removed more of the cases of “too high AQs”. In addition, the results cover the recently concluded gas year (2011/12) pertaining to which all RV data in all consumption bands has not yet become available.

If the assumption is made that the RV results indicate correctly that “Larger Supply Point” NDM EUC AQs *for the population at large* were too low in 2011/12, since it also appears clear from the AQ changes in aggregate for NDM load that took place at the start of gas year 2012/13 that overall aggregate NDM AQs in gas year 2011/12 were too high, that would suggest that “Smaller Supply Point” (consumption band 01) AQs were notably too high. The more plausible viewpoint is to discount the annual scaling from the RV analysis as being unrepresentative for the reasons stated.

3.0 Analysis of NDM sample daily consumption data

3.1 Overview

The performance of the NDM profiling algorithms has been 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 covers the period of the gas year 2011/12.

The performance of the algorithms has been evaluated on three bases:

- i) As used - gas year 2011/12 ALPs and DAFs, real system WCF and SF.
- ii) Best estimate 11 - gas year 2011/12 ALPs, DAFs, estimated weather correction factor (EWCF) consistent with DAFs and SF = 1.
- iii) Best estimate 12 - as (ii) above but with ALPs, DAFs, EWCFs based on 2012/13 models adjusted to apply to pattern of days/holidays in 2011/12.

Tables showing the error (“actual-allocated”) expressed as a percentage of full year demand, for the whole year and for winter and summer separately, for each of the three bases, are attached as Tables 3.1 to 3.9. Note that positive errors denote under allocation and negative errors denote over allocation by the algorithms.

It is worth noting at the outset that results for band 09 are unreliable and are disregarded in this assessment. Only supply points that are NDM and have passed data validation can be used to assess this band and therefore the band is represented by a very small number of supply points distributed in only some of the 13 LDZs.

Figures 3.1, 3.2 and 3.3 are bar charts showing a simple summary of the overall picture given by these three sets of tables. The overall error and apparent winter/summer bias for EUCs in each consumption band is shown averaged across all LDZs.

The bar chart in Figure 3.1 shows that for the “as used” analysis the percentage errors for all consumption bands over the 12 month period as a whole, are positive and lie within a range of 1.33% to 3.65%. The summer and winter errors are positive for all bands, with the exception of band 03 during the summer.

3.2 Analysis

The positive errors over 12 months across all consumption bands indicate under allocation by the models. This under allocation in all consumption bands in the “as used” analysis is an indication of population AQs being higher than the sample AQs used in this analysis. Moreover, since allocated consumption is a direct function of AQ, the extent of the AQ excess (in percentage terms) would broadly tend to be of the same order as that noted for this “as used” analysis. The full year errors in the “as used” analysis, across all applicable consumption bands for each LDZ (excluding WN LDZ for which there is no data for band 01) were also computed and are set out in Table 3.10. These errors range from 1.0% to 3.5% for the individual LDZs (and 2.2% overall across all LDZs excluding WN) suggesting an AQ excess of the same extent.

The “as used” analysis uses real (i.e. Gemini system) SFs that have taken population AQs into account (i.e. if population AQ was too high then this would have led to a decrease of the real SFs from the values that would have otherwise applied).

However, the AQs used in the analysis are not system AQs but are computed from sample data itself. These AQs based on the consumption data of the sample itself would be expected to be lower than the equivalent system AQs. Thus, the resultant “as used” allocations using the real SFs with sample derived AQs, end up being lower than they should be and this gives the positive errors shown in Figure 3.1.

The percentage changes in aggregate NDM AQs at the start of gas year 2012/13 as observed on the Gemini system indicated that a fairly significant reduction in aggregate NDM AQs had taken place for gas year 2012/13 in all LDZs. The reduction was 5.8% overall across all LDZs and the changes ranged from a 4.5% reduction in NE LDZ to a 8.0% reduction in WN LDZ.

The “best estimate” analysis is potentially more helpful in assessing the performance of the algorithms themselves, as opposed to the performance of the demand attribution process. For each “best estimate” analysis, a scaling factor of one is used and EWCF is applied instead of 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 avoids 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. (Note that $EWCF = (WSENS/SND) * (CWV - SNCWV)$).

The “best estimate 11” analysis is based on the algorithms for 2011/12, while the “best estimate 12” analysis is based on algorithms derived for 2012/13 and applied with appropriate adjustment for the pattern of days of the week and holidays in 2011/12.

On the evidence of the bar chart in Figure 3.2 (“best estimate 11”), there was little overall error in the algorithms for any of the consumption bands over the whole of gas year 2011/12 (full year errors range between +0.06% and +0.53% for all bands). Overall consumption band winter period errors range from -2.26% to +1.82% and overall consumption band summer period errors range from -2.7% to +3.4%. Actual summer demands are lower and hence percentage errors can be somewhat greater in the summer. The signs of the winter and summer period errors suggest that for consumption bands 03 and 06 the profiles in 2011/12 were a little too flat, while for consumption bands 01, 02, 04, 05, 07 and 08 the profiles were a little too peaky. There are (of course) exceptions to this broad generalisation in some individual LDZs (see Tables 3.5 and 3.6).

The bar chart in Figure 3.3 (“best estimate 12”) shows that the algorithms derived for 2012/13 would (if applied to gas year 2011/12) have resulted in a similar outcome for each overall consumption band considered. Whole year errors are very small overall for all the consumption bands, but for this “best estimate 12” case they range between -0.26% and +0.12%. Winter and summer period errors are slightly improved in bands 03, 04, 05 and 06. However, the winter and summer period errors are slightly worse for bands 01, 02, 07 and 08.

The reconciliation variance analysis for gas year 2011/12 indicated profiles (excluding bands 09) that were good (within the 5% level of winter/summer error differences) for bands 04, 05, 06 and 07 and too peaky at the 5% level for bands 02, 03 and 08.

It must be borne in mind that the two analyses are based on different data sets, neither of which are necessarily representative of the population as a whole. The RV analysis cannot assess consumption band 01 and is based on a validated sub-set of available reconciliation data relating to gas year 2011/12. Moreover, not all RV data pertaining to the period has been received at the time of this analysis (i.e. RVs resulting from non-monthly meter reads have not all come in). On the other hand, the “best estimate” analyses are based on validated NDM sample data. Moreover, both analyses suffer from small numbers of contributing meter/supply points at the higher consumption bands.

A selection of monthly charts is also presented: Figures 3.4 to 3.11 are monthly bar charts comparing actual and allocated demands, across all LDZs for consumption bands 01 to 08 respectively. These show for each month, actual demand, and allocated demand on the “as used”, “best estimate 11” and “best estimate 12” bases.

In interpreting these monthly charts it is relevant to recall the weather conditions that prevailed during gas year 2011/12. Over the winter 6-month period, October 2011 was warmer than the current seasonal normal basis (the 8th warmest in the last 100 years). This was followed by a warmer than normal November 2011 which ranked as the 2nd warmest in the last 50 years. December 2011 ranked as the 9th warmest December in the last 50 years despite there being a notable cold period from 5th to 20th. Despite January 2012 being the 9th warmest in the last 50 years, there was a notable cold period during the 3rd week, affecting southern

Scotland in particular. The first half of February 2012 began with a very cold spell, including some sharp frosts and snowfall with the rest of the month becoming milder. The following month, March 2012, was the warmest March in the last 50 years (and the 3rd warmest since 1910). Nationally during the summer 6-month period, April 2012 was unusually colder than March 2012 (the 12th coldest April in the last 50 years) and May, June and July 2012 were colder than seasonal normal. August 2012 was overall slightly warmer than seasonal normal and September 2012 was much cooler than seasonal normal, ranking as the 9th coldest in the last 50 years.

Consideration of these monthly bar charts focuses on the actual consumption compared to the allocations arising from the “best estimate” analyses, which better reflect the performance of the profiles themselves.

The monthly chart for band 01, in Figure 3.4, indicates winter over allocation (especially so during the warmest March in the last 50 years) except in December and January. It also shows summer under allocation (most noticeably in May and June which were colder than normal).

Table 3.11 shows the percentage errors (on the “best estimate 11” basis) for band 01 over the months of April, May and the rest of the summer months (June to September). For band 01 during April and May under allocation occurred in all LDZs (except SC, NO and NT LDZs in April), and this was also the case for most LDZs over the rest of the summer with the exception of NO and SE.

Table 3.12 shows the percentage errors overall across all LDZs (on the “best estimate 11” basis) for each band (except band 09) over the months of April, May and the rest of the summer months (June to September). In this table, in contrast to Table 3.11, the errors are expressed as a percentage of the actual demand over the month or set of months rather than as a percentage of actual demand over the full 6 month summer period. For bands 01, 04, 05, and 08 under allocations occurred in April. Under allocations also occurred in all bands (01 to 08) in May. Over the rest of the summer period over allocations occurred in bands 02, 03, 04, 05 and 06.

The monthly chart for band 02, in Figure 3.5, indicates slight winter over allocation in October, November and March (which were much warmer than normal), some under allocation in December, January and February and a mixed summer showing over allocation in April and September and under allocation for the remainder of the period.

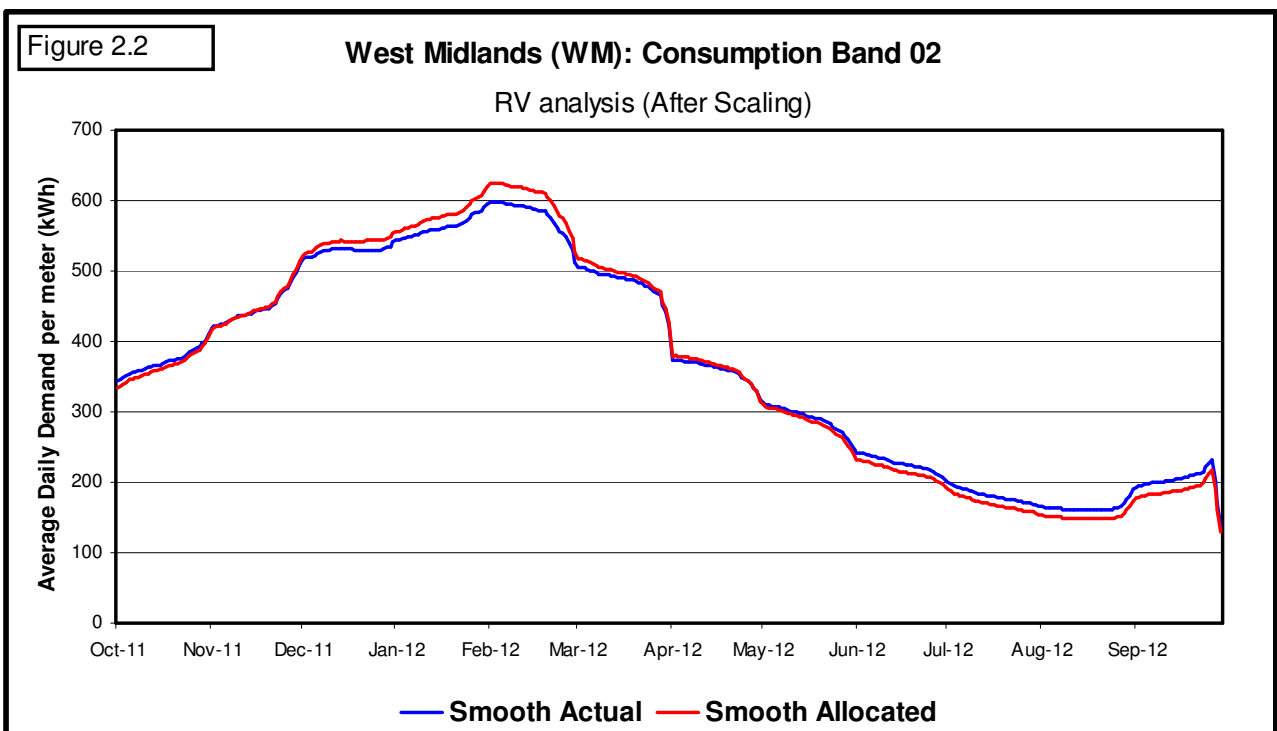
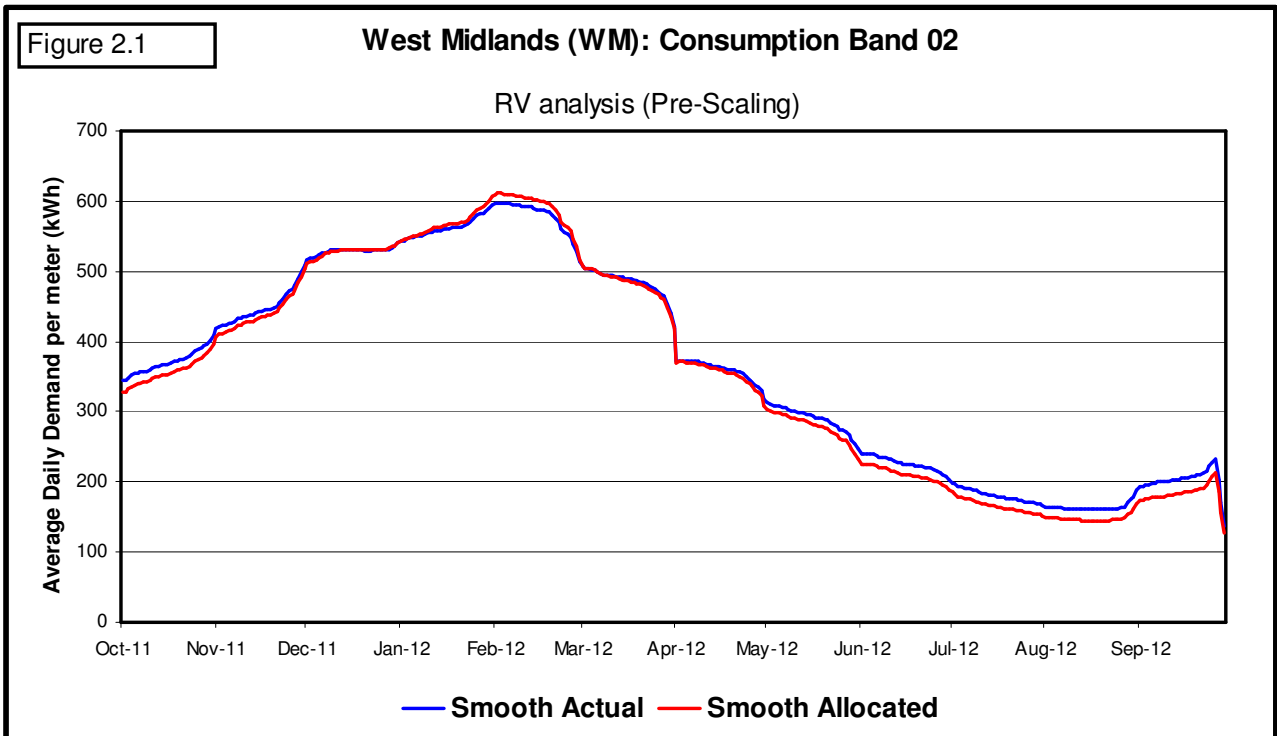
Figure 3.6 is the monthly chart for band 03, which shows small winter over allocation in October, November and March but also shows under allocation in December, January and February and mostly small summer over allocation (most evident in September 2012, but also showing some slight under allocation in May 2012).

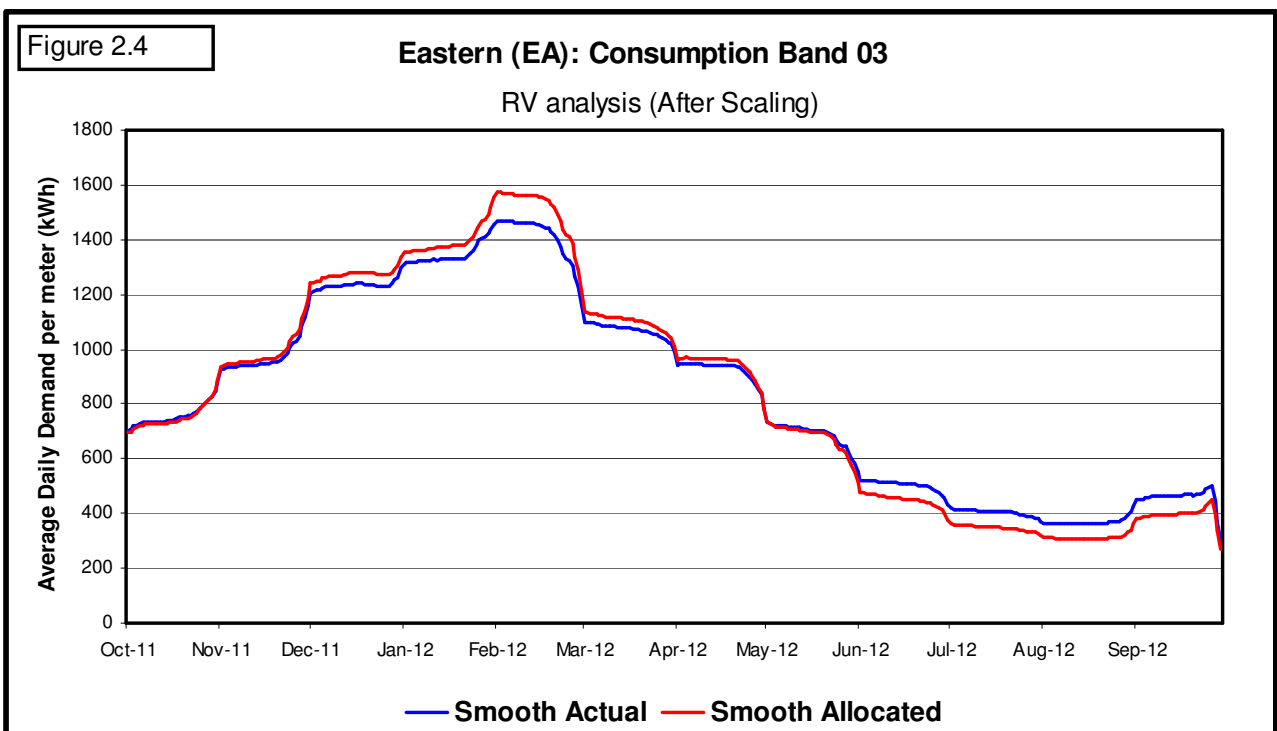
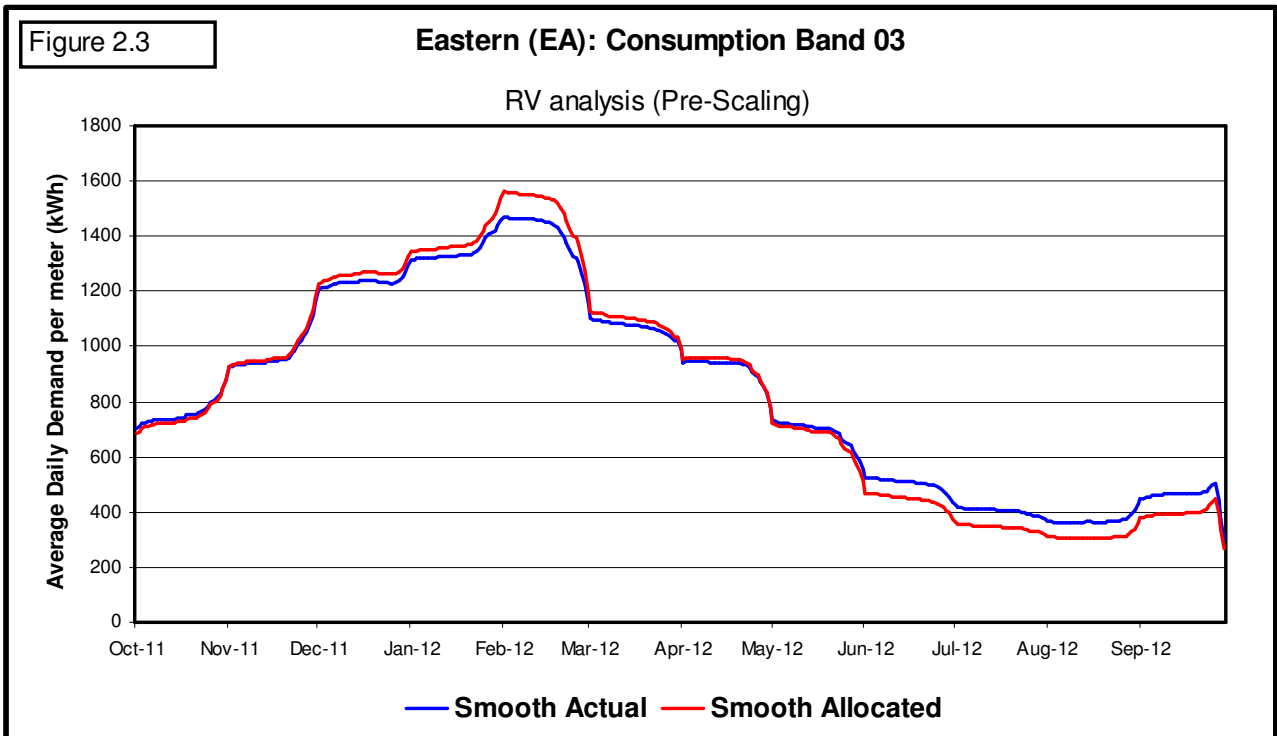
Figure 3.7 is the monthly chart for band 04, which shows slight winter over allocation in October, November and March (with some under allocation in December, January and February) and slight summer under allocation (with the exception of August and September 2012 which show over allocation).

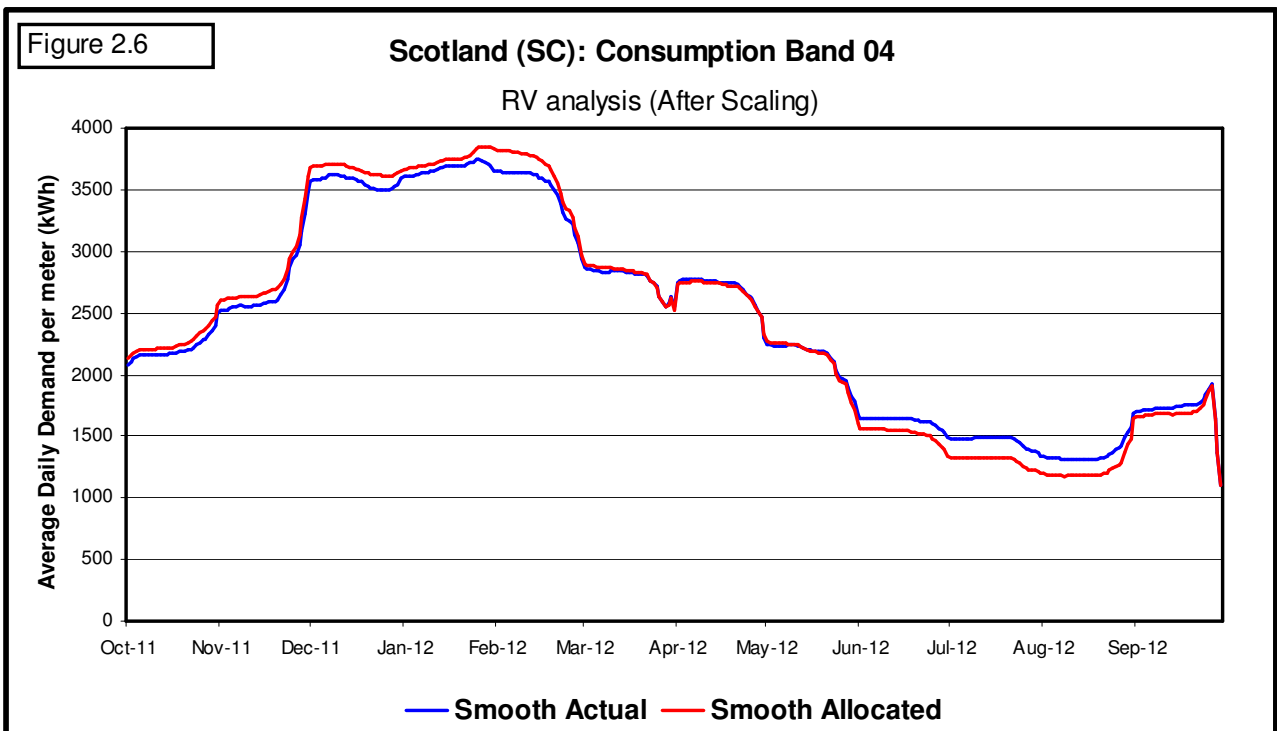
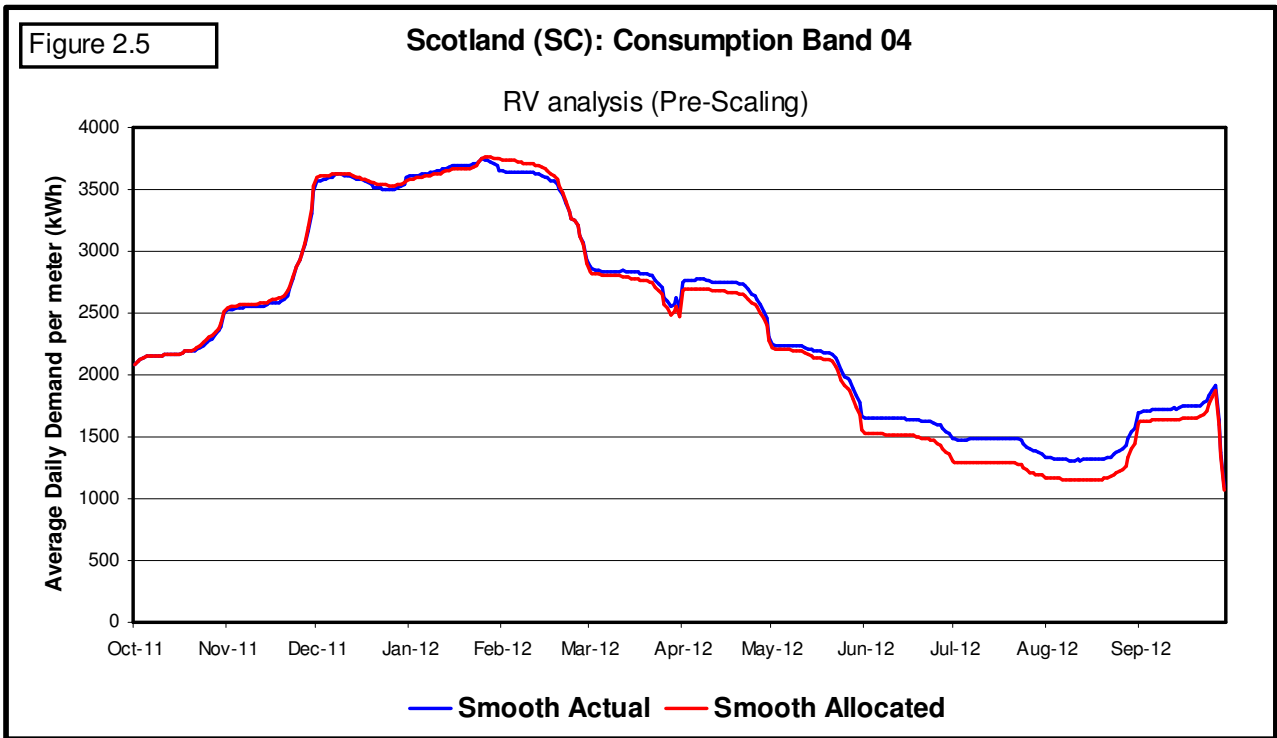
The monthly charts for bands 05 to 08 are in Figures 3.8 to 3.11. Overall, bands 05, 06, 07 and 08 show a small winter over allocation and a small summer under allocation (with exceptions for some months in some bands). For example, under allocation in bands 05 and 06 is evident for January 2012 and February 2012 and over allocation is evident in September 2012 in these bands. Overall, band 07 shows over allocation in winter (most marked in December 2011) and under allocation in summer (most marked in May 2012).

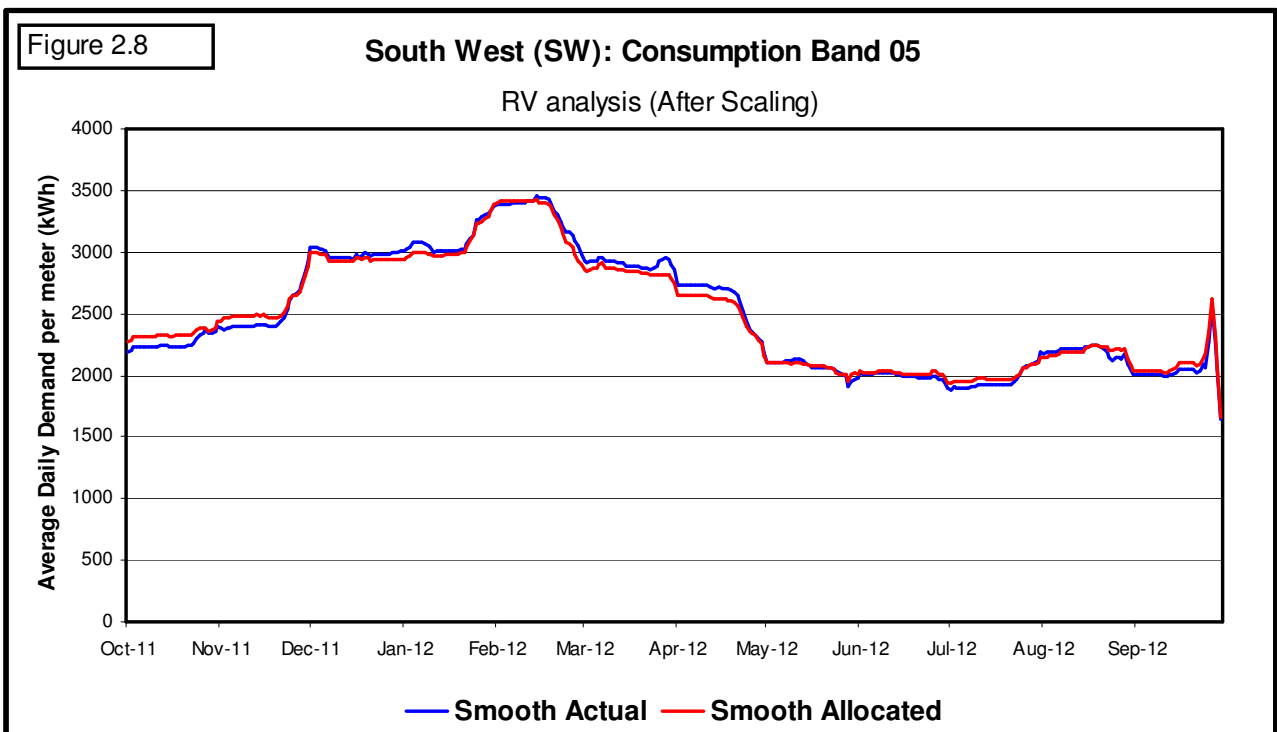
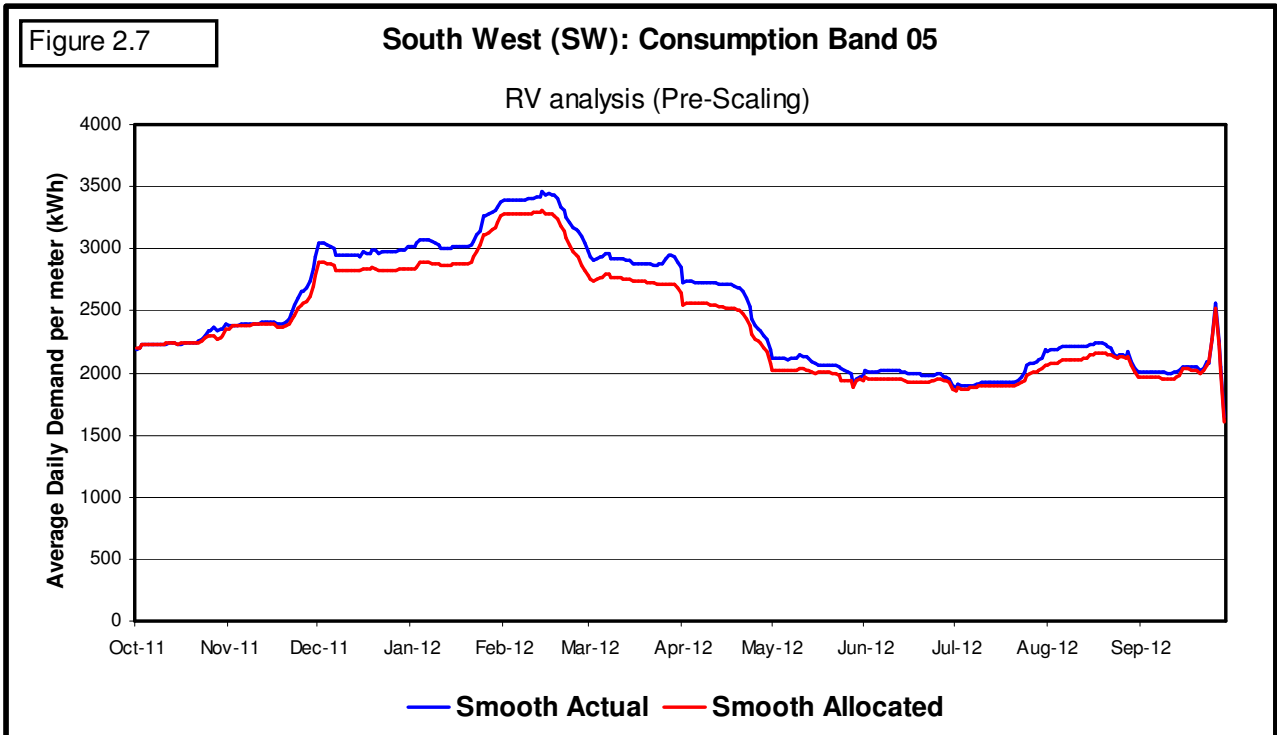
Additionally examples of monthly bar charts for individual EUCs, for some of the EUC bands (namely WM:E1102B, EA:E1103B, SC:E1104B, NW:E1105B, SW:E1106B, SO:E1107B and EM:E1108B) are shown in Figures 3.12 to 3.18 respectively. There is no consistent monthly pattern across all these examples, but in a majority of the examples December 2011 shows an under allocation and August 2012 a modest over allocation.

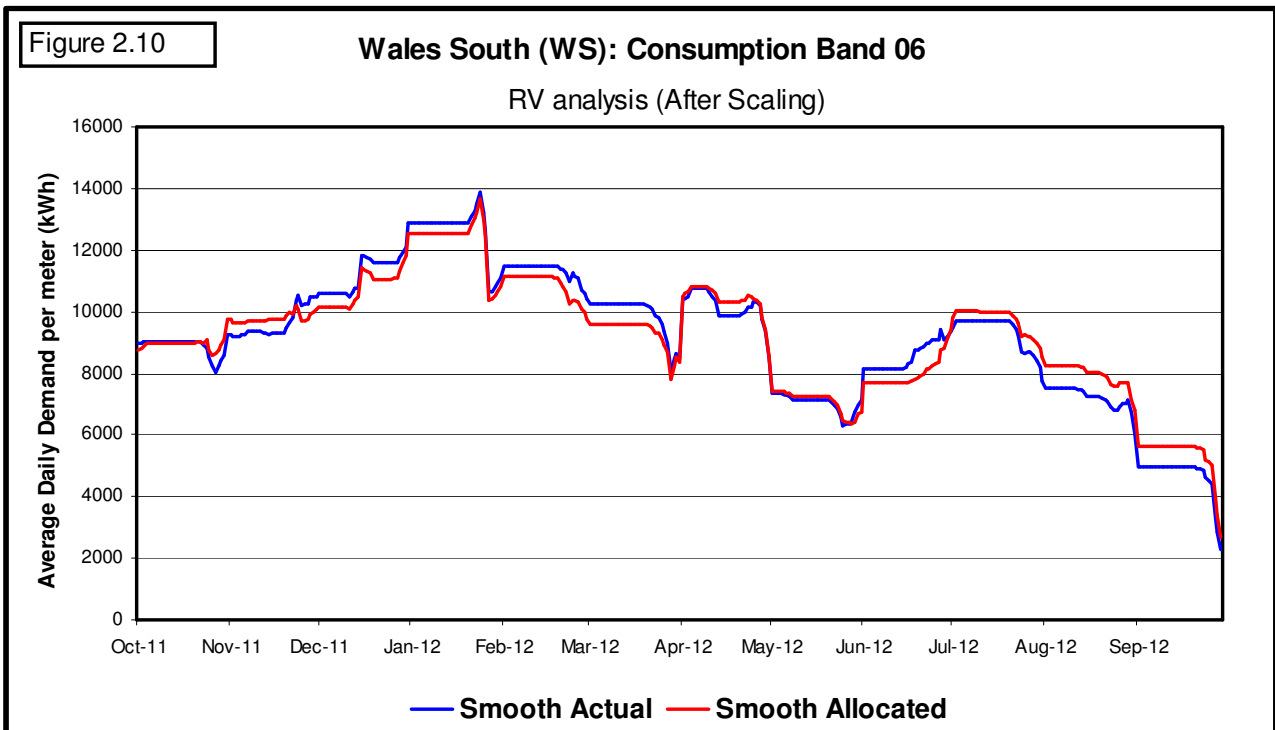
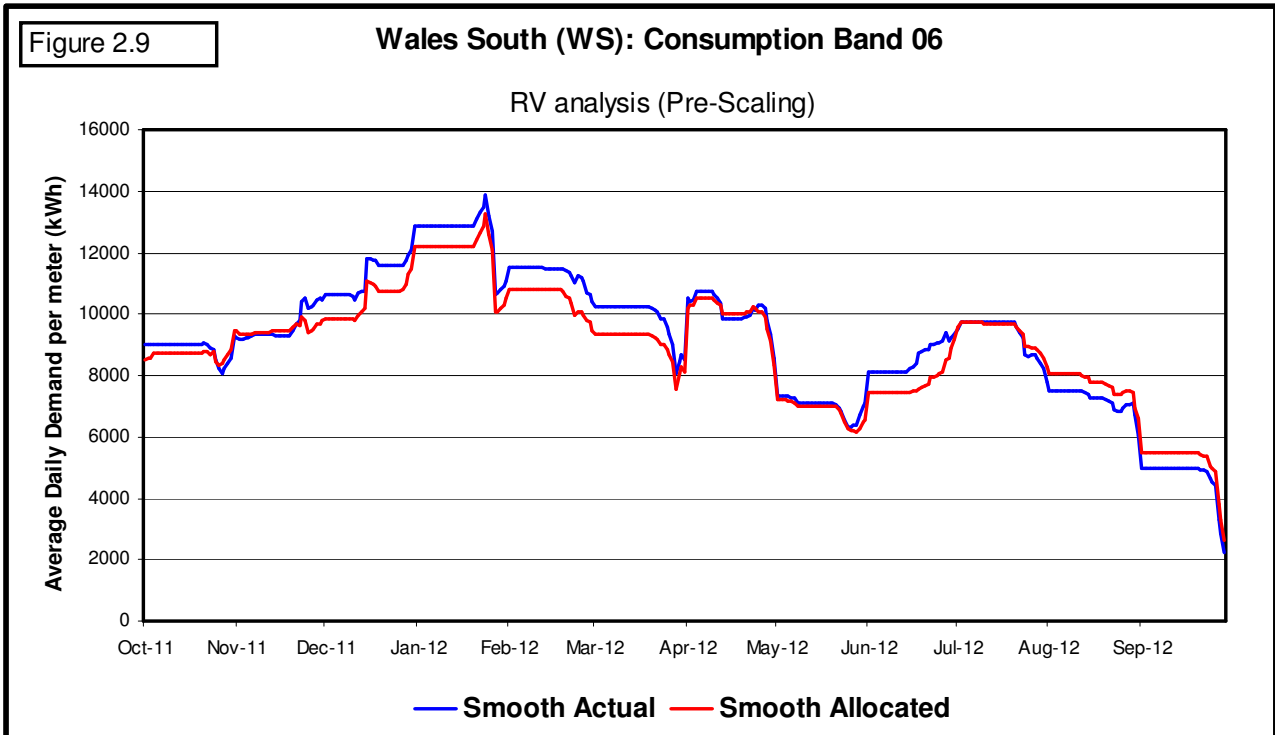
The final set of graphs (Figures 3.19 to 3.26) show actual demand and allocated demand on the “best estimate 11” and “best estimate 12” basis for each consumption band. In general, the allocated demand for both bases was close to the actual demand for each consumption band on most days. For band 01, the most notable exceptions occurred in the particularly warm weather in late February and March 2012 and the generally colder weather in late April, early May and June 2012. For the other bands 02 to 08, the most notable exceptions occurred during the last week of the Christmas holiday period and the cold weather in late April and early May 2012.

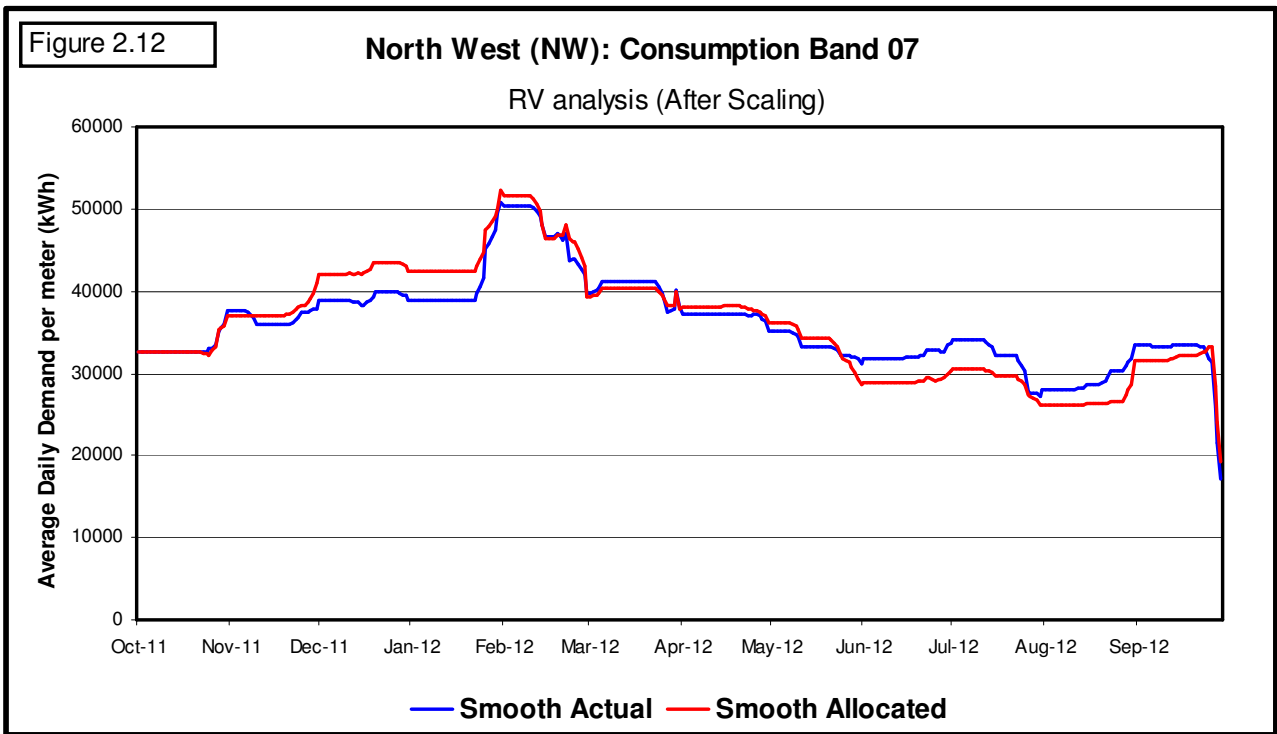
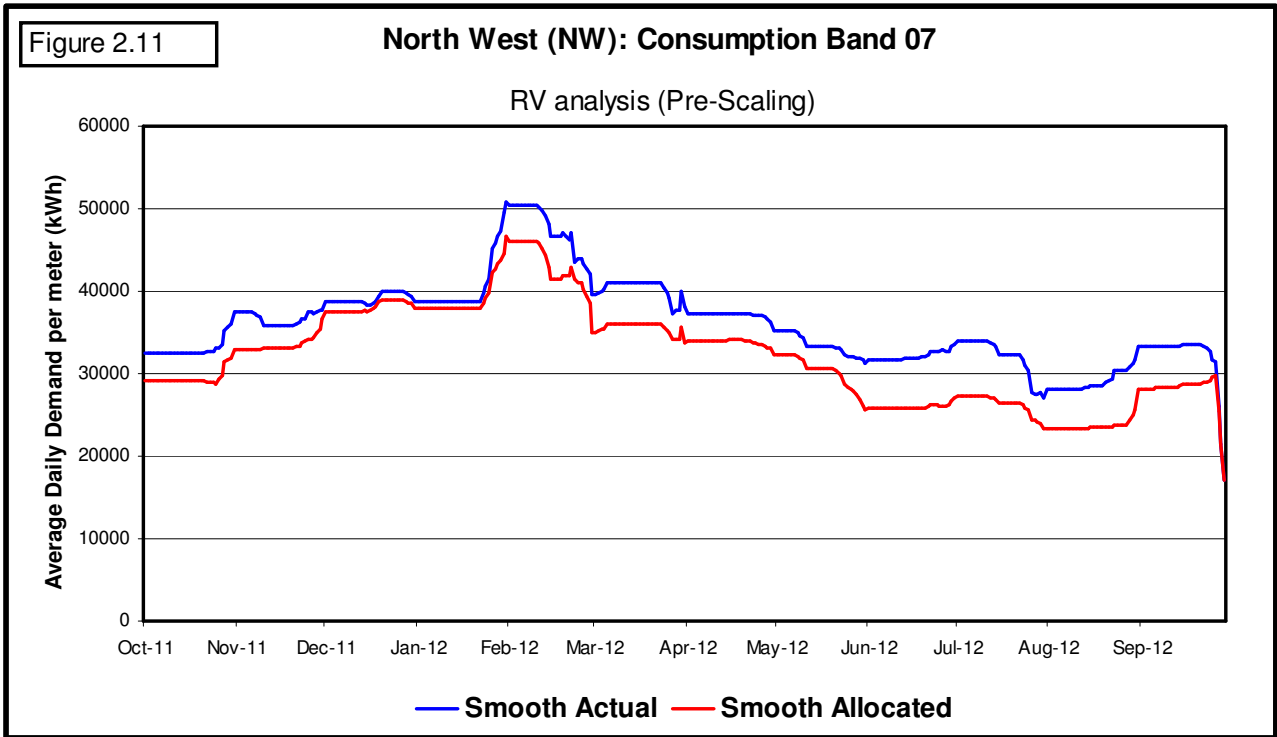












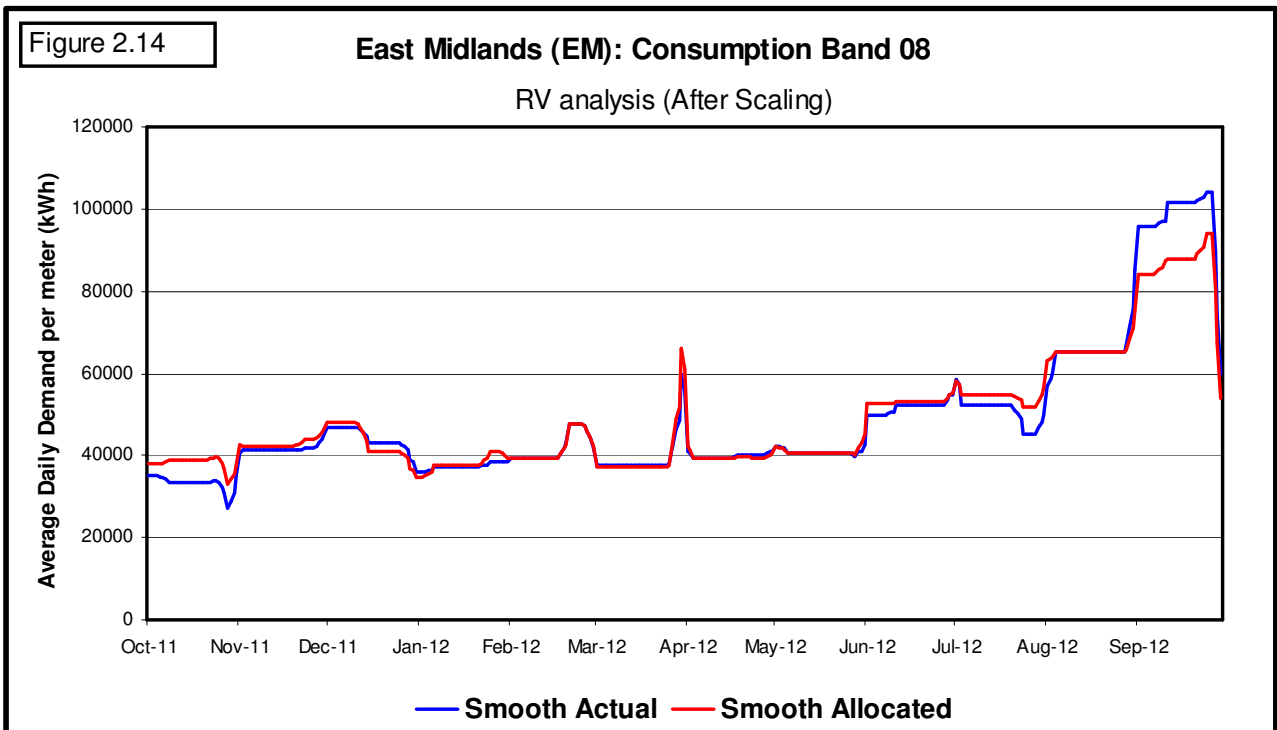
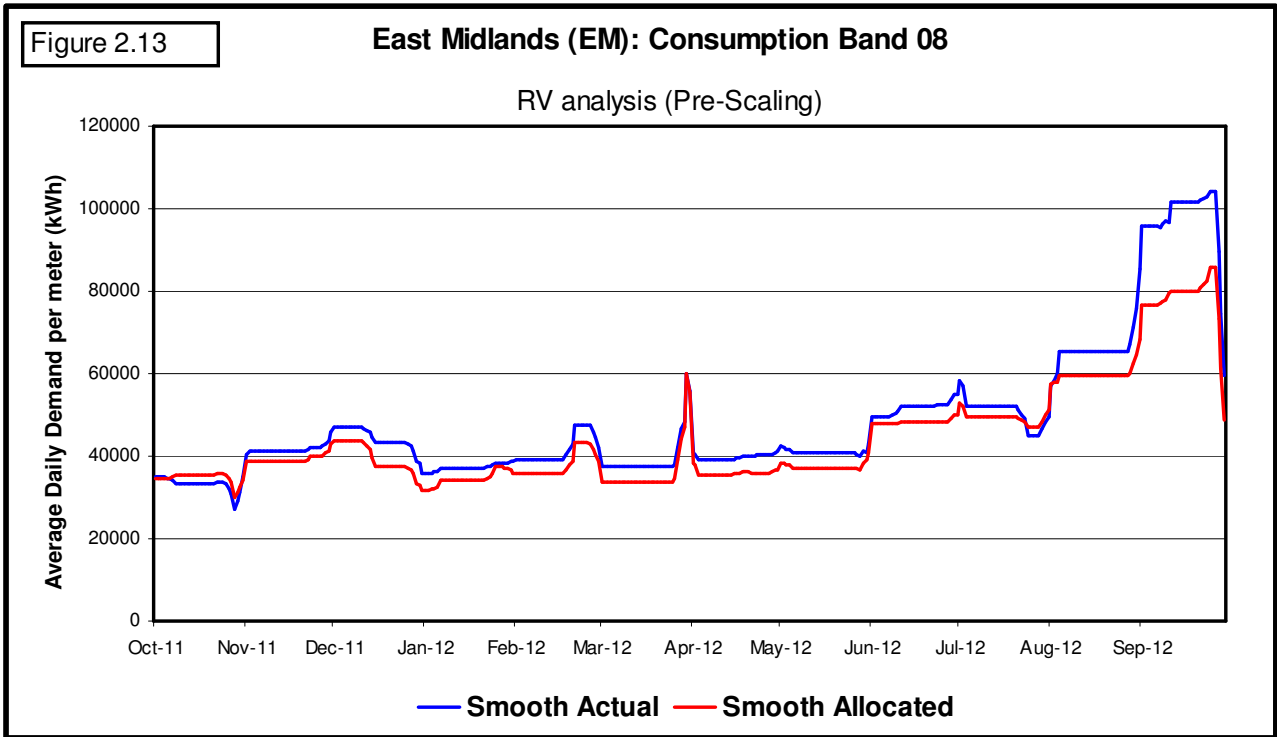


Table 2.1 – RV Categorisations: Profile (Gas Year 2011/12)

Based on average errors (after scaling) over the period as a percentage of average actual over the full year

EUC	Band	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
02	B	↑	~	↑	↑	↑	~	↑	↑	~	↑	↑	↑	↑
03	B	~	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
04	B	↑	~	~	~	~	~	~	↑	~	↑	~	~	↑
05	B	~	~	↑	~	~	~	~	~	~	↑	~	~	~
06	B	↑↑	↓	↑	~	~	↑	↑↑	↓	~	~	~	↑	↓
07	B	↓	↑	↑	~	↓	↓↓			~	↑	↓	↓	↑
08	B	↑↑		↓	~	~	~						~	↑↑
09	B													↓↓

<u>Good</u>	~	<u>5% Level</u>	↑	Too Peaky	↓	Too Flat	<u>10% Level</u>	↑↑	Too Peaky	↓↓	Too Flat
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Table 2.2 – RV Categorisations: Winter (Gas Year 2011/12)

Based on average errors (after scaling) over the period as a percentage of average actual over the full year

EUC	Band	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
02	B	-0.03	-0.02	-0.03	-0.03	-0.03	-0.02	-0.04	-0.04	-0.02	-0.03	-0.03	-0.03	-0.04
03	B	-0.02	-0.04	-0.05	-0.05	-0.03	-0.04	-0.06	-0.06	-0.04	-0.03	-0.04	-0.05	-0.06
04	B	-0.03	-0.02	-0.01	-0.02	-0.02	-0.01	-0.02	-0.04	-0.02	-0.03	-0.01	-0.02	-0.03
05	B	-0.01	-0.02	-0.04	-0.02	0.00	0.00	0.02	-0.01	-0.02	-0.04	-0.02	0.02	0.00
06	B	-0.05	0.05	-0.03	0.00	-0.02	-0.05	-0.09	0.03	0.02	-0.01	0.02	-0.04	0.03
07	B	-0.03	-0.03	-0.04	-0.02	0.03	0.11			-0.02	-0.04	0.04	0.05	-0.04
08	B	-0.05		0.04	0.02	-0.02	0.00						0.02	-0.14
09	B													0.12

Table 2.3 – RV Categorisations: Summer (Gas Year 2011/12)

Statistics are average errors (after scaling) over the period as a fraction of average actual over the full year

EUC	Band	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
02	B	0.03	0.02	0.03	0.03	0.03	0.02	0.04	0.04	0.02	0.03	0.03	0.03	0.04
03	B	0.02	0.04	0.05	0.05	0.03	0.04	0.06	0.06	0.04	0.03	0.04	0.05	0.06
04	B	0.03	0.02	0.01	0.02	0.02	0.01	0.02	0.04	0.02	0.03	0.01	0.02	0.03
05	B	0.01	0.02	0.04	0.02	0.00	0.00	-0.02	0.01	0.02	0.04	0.02	-0.02	0.00
06	B	0.05	-0.05	0.03	0.00	0.02	0.05	0.09	-0.03	-0.02	0.01	-0.02	0.04	-0.03
07	B	-0.03	0.03	0.04	0.02	-0.03	-0.11			0.02	0.04	-0.04	-0.05	0.04
08	B	0.05		-0.04	-0.02	0.02	0.00						-0.02	0.14
09	B													-0.09

Table 2.4 – RV Categorisations: Annual Scaling (Gas Year 2011/12)

Statistics are total actual over the full year divided by the total allocated over the full year

EUC	Band	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
02	B	1.02	1.02	1.02	1.02	1.03	1.02	1.02	1.03	1.02	1.03	1.03	1.03	1.03
03	B	1.02	1.02	1.02	1.01	1.04	1.01	1.02	1.02	1.01	1.02	1.02	1.00	1.03
04	B	1.02	1.01	1.02	1.03	1.02	1.04	1.03	1.04	1.03	1.02	1.03	1.03	1.03
05	B	1.02	1.04	1.01	0.99	1.04	1.02	1.01	1.06	1.02	1.02	1.04	1.04	1.04
06	B	1.02	1.00	1.01	1.09	1.12	1.08	1.28	1.03	1.05	0.98	1.00	1.06	1.10
07	B	1.01	1.10	1.12	1.04	1.08	0.97			1.17	0.95	0.92	1.02	1.04
08	B	1.09		1.06	0.98	1.10	1.06						0.96	1.14
09	B													1.03

Table 3.1 – Oct 11 to Sep 12: Actual WCF and SF, ALPs and DAFs ‘As Used’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	1.75%	2.62%	3.60%	1.26%	4.16%	2.65%	-	4.32%	3.44%	4.00%	5.76%	3.16%	5.93%	3.50%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	1.59%	2.67%	3.64%	1.49%	4.21%	2.76%	5.00%	4.51%	3.33%	3.53%	5.18%	2.85%	5.63%	3.49%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	1.67%	2.68%	4.05%	1.92%	4.36%	3.73%	5.40%	5.19%	3.37%	3.62%	5.24%	2.86%	6.38%	3.63%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	1.49%	2.60%	3.31%	1.36%	4.16%	3.05%	4.51%	4.65%	3.20%	3.43%	4.58%	2.85%	4.89%	3.19%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	1.51%	2.28%	2.96%	1.47%	3.01%	1.95%	3.99%	3.24%	2.67%	3.05%	4.04%	2.46%	4.05%	2.67%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	1.21%	1.74%	1.94%	0.99%	2.23%	1.51%	2.73%	2.14%	2.31%	2.62%	3.43%	2.25%	2.86%	2.03%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	1.19%	1.64%	1.77%	0.83%	1.54%	0.96%	2.49%	2.78%	1.91%	2.16%	2.90%	1.93%	3.05%	1.70%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	0.92%	1.29%	1.21%	0.63%	1.04%	0.60%	1.77%	2.34%	1.87%	2.11%	2.73%	1.68%	2.51%	1.33%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.2 – Oct 11 to Mar 12: Actual WCF and SF, ALPs and DAFs ‘As Used’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	1.26%	2.79%	1.25%	0.36%	2.80%	2.48%	-	2.85%	2.48%	2.65%	4.70%	0.81%	4.15%	2.34%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	1.40%	2.69%	4.39%	-0.01%	3.98%	4.20%	13.61%	2.06%	5.40%	5.11%	2.96%	2.46%	3.67%	3.43%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	2.70%	3.33%	5.74%	0.31%	6.23%	4.60%	9.13%	12.61%	4.27%	4.96%	7.47%	6.05%	9.44%	5.20%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	1.69%	3.16%	3.13%	0.77%	4.27%	3.64%	4.58%	6.11%	3.04%	4.58%	4.04%	2.87%	5.67%	3.40%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	0.74%	0.96%	3.10%	-0.02%	2.72%	4.35%	3.27%	4.90%	2.73%	4.43%	4.04%	3.14%	6.62%	3.10%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	-0.94%	5.13%	1.95%	0.27%	3.69%	5.25%	2.95%	2.90%	0.32%	2.71%	6.79%	1.96%	5.42%	2.91%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	1.10%	-7.65%	-1.51%	-3.11%	1.08%	3.78%	-6.78%	-1.85%	-1.03%	7.39%	-1.91%	1.92%	-0.73%	0.10%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	-1.22%	-2.34%	2.07%	2.36%	2.07%	1.80%	-5.91%	-8.61%	-6.66%	2.11%	4.46%	9.03%	1.41%	0.71%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.3 – Apr 12 to Sep 12: Actual WCF and SF, ALPs and DAFs ‘As Used’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	2.79%	2.22%	8.72%	3.27%	7.33%	3.04%	-	7.52%	5.72%	7.03%	8.34%	8.55%	10.09%	6.15%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	1.97%	2.62%	1.96%	4.88%	4.73%	-0.72%	-20.89%	9.99%	-1.69%	0.13%	9.81%	3.66%	9.89%	3.61%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	-0.33%	1.29%	0.11%	5.47%	-0.10%	1.54%	-3.86%	-19.09%	1.24%	0.73%	-0.13%	-5.01%	-1.72%	0.00%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	1.14%	1.42%	3.65%	2.49%	3.93%	1.81%	4.36%	1.36%	3.56%	1.03%	5.66%	2.80%	3.28%	2.76%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	2.79%	4.49%	2.71%	4.07%	3.49%	-2.42%	5.17%	0.32%	2.55%	0.39%	4.05%	1.19%	-0.54%	1.92%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	4.18%	-3.65%	1.92%	2.01%	0.09%	-4.29%	2.43%	1.07%	5.32%	2.46%	-2.37%	2.73%	-1.06%	0.71%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	1.31%	11.87%	5.86%	5.45%	2.11%	-2.86%	12.55%	9.06%	6.00%	-6.55%	9.30%	1.95%	8.15%	3.80%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	3.38%	5.35%	0.15%	-1.42%	-0.16%	-0.81%	9.56%	14.35%	11.73%	2.10%	0.23%	-10.61%	3.95%	2.09%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.4 – Oct 11 to Sep 12: EWCF, with SF=1: 2011/12 ALPs and DAFs ‘Best Estimate 11’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	0.16%	0.15%	0.17%	0.17%	0.17%	0.18%	-	0.17%	0.18%	0.18%	0.18%	0.18%	0.20%	0.17%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	0.07%	0.35%	0.21%	0.19%	0.25%	0.22%	0.21%	0.09%	0.40%	0.11%	0.29%	0.32%	0.09%	0.22%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	0.24%	0.41%	0.83%	0.91%	0.79%	1.02%	0.83%	0.70%	0.38%	0.32%	0.14%	0.07%	0.92%	0.53%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	0.07%	0.38%	0.48%	0.25%	0.78%	0.82%	0.48%	0.62%	0.41%	0.37%	0.33%	0.14%	0.13%	0.40%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	0.20%	0.35%	0.57%	0.54%	0.51%	0.23%	0.57%	0.28%	0.14%	0.29%	0.26%	0.11%	0.46%	0.34%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	0.04%	0.09%	0.10%	0.15%	0.37%	0.35%	0.10%	0.03%	0.13%	0.10%	0.13%	0.11%	0.06%	0.16%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	0.14%	0.19%	0.23%	0.08%	0.07%	0.06%	0.23%	0.22%	0.16%	0.09%	0.17%	0.08%	0.07%	0.13%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	0.00%	0.01%	0.01%	0.00%	-0.01%	-0.01%	0.01%	0.19%	0.25%	0.26%	0.06%	0.05%	0.05%	0.06%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.5 – Oct 11 to Mar 12: EWCF, with SF=1: 2011/12 ALPs and DAFs ‘Best Estimate 11’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	-0.62%	0.32%	-1.95%	-0.71%	-1.40%	-0.44%	-	-2.28%	-0.83%	-1.77%	-0.53%	-2.04%	-2.53%	-1.23%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	-0.47%	0.23%	1.21%	-1.33%	-0.21%	1.27%	9.04%	-3.35%	2.31%	1.06%	-1.95%	-0.13%	-2.91%	-0.12%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	0.87%	0.92%	2.57%	-0.96%	2.23%	1.50%	4.25%	7.73%	1.12%	1.02%	2.66%	3.44%	3.21%	1.83%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	-0.16%	0.79%	0.18%	-0.47%	0.29%	0.91%	-0.07%	1.29%	-0.02%	0.86%	-0.32%	0.21%	-0.13%	0.23%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	-1.07%	-1.30%	0.40%	-1.25%	-0.58%	2.09%	-1.07%	1.13%	-0.11%	0.97%	0.07%	0.66%	1.90%	0.25%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	-2.69%	3.23%	-0.30%	-0.89%	0.97%	3.54%	-0.68%	0.03%	-2.32%	-0.62%	3.32%	-0.44%	1.48%	0.45%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	-0.54%	-9.65%	-3.66%	-4.25%	-1.24%	2.34%	-10.50%	-5.43%	-3.31%	4.64%	-5.13%	-0.34%	-5.14%	-2.18%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	-2.76%	-4.03%	0.33%	1.37%	0.19%	0.64%	-9.07%	-11.89%	-9.04%	-0.60%	1.47%	7.07%	-2.33%	-1.28%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.6 – Apr 12 to Sep 12: EWCF, with SF=1: 2011/12 ALPs and DAFs ‘Best Estimate 11’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	1.80%	-0.21%	4.77%	2.12%	3.83%	1.64%	-	5.55%	2.58%	4.60%	1.93%	5.30%	6.59%	3.38%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	1.14%	0.58%	-2.01%	3.63%	1.32%	-2.33%	-26.33%	7.75%	-4.24%	-1.93%	4.96%	1.29%	6.60%	0.98%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	-0.99%	-0.70%	-3.26%	5.03%	-2.62%	-0.20%	-7.68%	-22.32%	-1.36%	-1.19%	-5.92%	-8.23%	-5.16%	-2.49%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	0.48%	-0.47%	1.04%	1.65%	1.82%	0.65%	1.53%	-0.90%	1.33%	-0.66%	1.61%	-0.01%	0.66%	0.74%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	2.30%	3.11%	0.87%	3.65%	2.31%	-3.17%	3.27%	-1.22%	0.61%	-1.02%	0.60%	-0.90%	-2.11%	0.48%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	3.81%	-4.88%	0.65%	1.60%	-0.50%	-4.60%	1.18%	0.03%	3.86%	1.28%	-5.37%	1.04%	-2.11%	-0.29%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	1.05%	11.02%	5.09%	5.15%	1.72%	-3.00%	11.90%	7.89%	4.98%	-7.48%	7.22%	0.70%	7.08%	3.13%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	3.17%	4.52%	-0.37%	-1.64%	-0.24%	-0.77%	9.23%	13.44%	10.99%	1.44%	-1.98%	-11.66%	3.19%	1.68%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.7 – Oct 11 to Sep 12: EWCF, with SF=1: 2012/13 ALPs and DAFs ‘Best Estimate 12’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	-0.34%	-0.26%	-0.24%	-0.22%	-0.16%	-0.26%	-	-0.32%	-0.26%	-0.26%	-0.25%	-0.26%	-0.28%	-0.26%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	-0.40%	-0.08%	-0.20%	-0.22%	-0.10%	-0.22%	-0.18%	-0.43%	-0.02%	-0.31%	-0.11%	-0.09%	-0.41%	-0.20%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	-0.22%	0.01%	0.43%	0.50%	0.42%	0.57%	0.44%	0.21%	-0.02%	-0.07%	-0.27%	-0.37%	0.48%	0.12%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	-0.39%	0.00%	0.08%	-0.13%	0.41%	0.40%	0.09%	0.15%	0.00%	-0.01%	-0.04%	-0.28%	-0.30%	-0.01%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	-0.23%	-0.04%	0.20%	0.16%	0.16%	-0.15%	0.20%	-0.13%	-0.25%	-0.10%	-0.11%	-0.28%	0.08%	-0.05%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	-0.36%	-0.27%	-0.30%	-0.19%	0.05%	0.00%	-0.30%	-0.34%	-0.26%	-0.28%	-0.22%	-0.27%	-0.32%	-0.21%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	-0.24%	-0.16%	-0.15%	-0.23%	-0.23%	-0.26%	-0.15%	-0.17%	-0.20%	-0.29%	-0.19%	-0.28%	-0.32%	-0.22%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	-0.34%	-0.31%	-0.31%	-0.29%	-0.29%	-0.31%	-0.30%	-0.18%	-0.11%	-0.09%	-0.29%	-0.28%	-0.34%	-0.27%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.8 – Oct 11 to Mar 12: EWCF, with SF=1: 2012/13 ALPs and DAFs ‘Best Estimate 12’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	-0.97%	-0.12%	-2.39%	-1.21%	-2.00%	-0.91%	-	-2.67%	-1.28%	-2.24%	-1.02%	-2.53%	-3.02%	-1.70%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	-0.81%	-0.20%	0.80%	-1.85%	-0.78%	0.83%	8.65%	-3.75%	1.90%	0.64%	-2.40%	-0.57%	-3.41%	-0.57%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	0.54%	0.52%	2.17%	-1.46%	1.69%	1.05%	3.85%	7.37%	0.72%	0.61%	2.21%	2.99%	2.79%	1.40%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	-0.48%	0.41%	-0.23%	-0.93%	-0.25%	0.49%	-0.49%	0.92%	-0.42%	0.48%	-0.72%	-0.24%	-0.55%	-0.19%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	-1.40%	-1.70%	0.02%	-1.69%	-1.05%	1.72%	-1.46%	0.80%	-0.51%	0.58%	-0.32%	0.24%	1.53%	-0.14%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	-3.01%	2.87%	-0.70%	-1.27%	0.57%	3.21%	-1.09%	-0.28%	-2.71%	-1.02%	2.96%	-0.84%	1.12%	0.09%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	-0.85%	-10.04%	-4.06%	-4.61%	-1.62%	2.02%	-	-5.77%	-3.69%	4.26%	-5.52%	-0.71%	-5.53%	-2.54%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	-3.06%	-4.37%	0.00%	1.06%	-0.14%	0.34%	-9.43%	-12.24%	-9.42%	-0.96%	1.11%	6.74%	-2.72%	-1.62%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.9 – Apr 12 to Sep 12: EWCF, with SF=1: 2012/13 ALPs and DAFs ‘Best Estimate 12’

Analysis of daily percentage error: Statistic is total errors as percentage of full period

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	ALL
01B	0.98%	-0.57%	4.45%	2.00%	4.11%	1.31%	-	4.82%	2.19%	4.24%	1.62%	4.95%	6.15%	3.02%
Num S.pts	224	230	231	262	261	250	-	242	275	240	249	255	264	2983
02B	0.39%	0.18%	-2.41%	3.47%	1.50%	-2.77%	-26.76%	6.97%	-4.67%	-2.32%	4.64%	0.92%	6.10%	0.60%
Num S.pts	109	88	119	115	119	95	6	77	136	143	132	109	111	1359
03B	-1.70%	-1.08%	-3.65%	4.82%	-2.59%	-0.66%	-8.05%	-	-1.76%	-1.56%	-6.28%	-8.65%	-5.65%	-2.87%
Num S.pts	139	77	130	111	151	95	13	28	134	157	135	109	80	1359
04B	-0.21%	-0.84%	0.66%	1.42%	1.80%	0.23%	1.18%	-1.58%	0.93%	-1.01%	1.30%	-0.39%	0.22%	0.36%
Num S.pts	318	137	304	237	282	267	35	72	298	345	270	221	166	2952
05B	1.69%	2.74%	0.51%	3.40%	2.16%	-3.57%	2.94%	-1.77%	0.22%	-1.38%	0.29%	-1.27%	-2.51%	0.11%
Num S.pts	235	90	238	135	189	222	21	48	134	261	152	131	109	1965
06B	3.30%	-5.26%	0.26%	1.33%	-0.72%	-4.96%	0.81%	-0.42%	3.48%	0.92%	-5.71%	0.69%	-2.51%	-0.65%
Num S.pts	86	57	97	77	99	112	8	35	68	80	47	54	71	891
07B	0.59%	10.71%	4.73%	4.89%	1.51%	-3.34%	11.57%	7.44%	4.64%	-7.88%	6.91%	0.36%	6.72%	2.80%
Num S.pts	31	19	55	47	70	45	6	15	34	27	12	18	26	405
08B	2.78%	4.22%	-0.69%	-1.91%	-0.47%	-1.07%	8.96%	13.06%	10.68%	1.10%	-2.31%	-12.02%	2.80%	1.37%
Num S.pts	14	9	32	18	42	32	3	10	16	22	4	6	12	220

Table 3.10 - Aggregate NDM AQs 2011/12

LDZ	Estimated AQ Excess (+) or Deficit (-) (‘as used’ analysis full year errors)	Observed AQ Reductions in Gemini at start of gas year 2012/13
SC	1.2%	-4.7%
NO	1.8%	-5.6%
NW	2.0%	-6.4%
NE	1.0%	-4.5%
EM	1.9%	-5.4%
WM	1.3%	-5.0%
WN	-	-8.0%
WS	2.6%	-6.5%
EA	2.3%	-5.9%
NT	2.7%	-6.0%
SE	3.5%	-6.6%
SO	2.3%	-5.6%
SW	3.3%	-7.3%
Overall	2.2%	-5.8%

Table 3.11 - Apr 12 - Sep 12: EWCF, with SF=1: 2011/12 ALPs and DAFs 'Best Estimate 11'

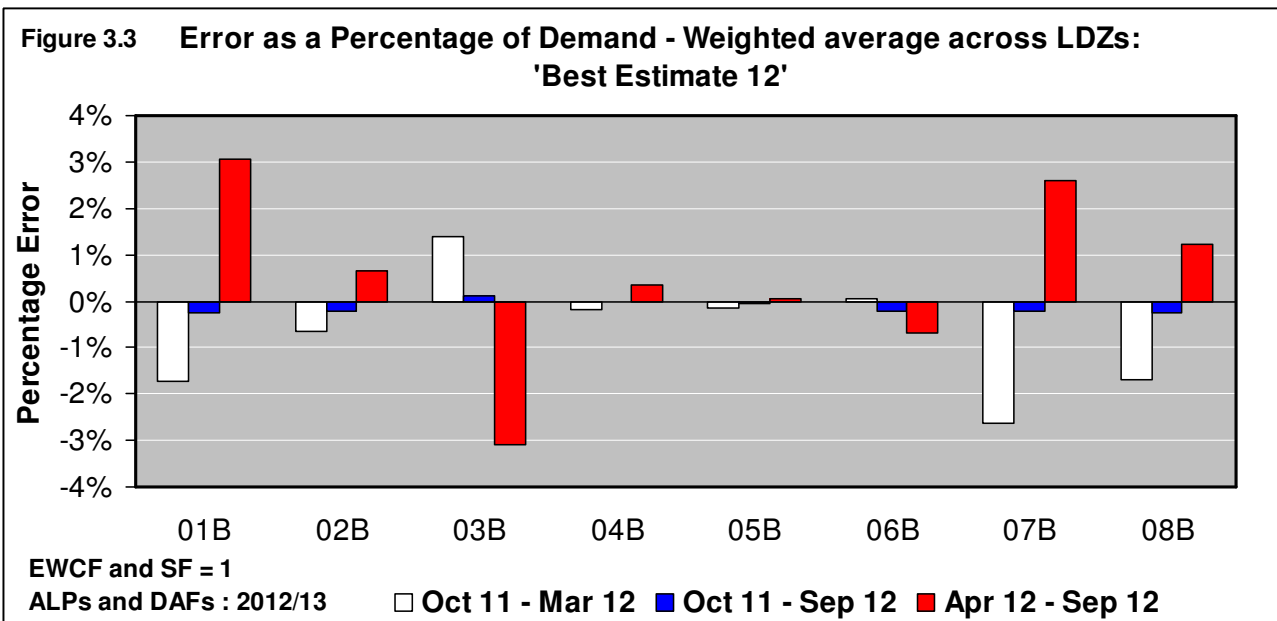
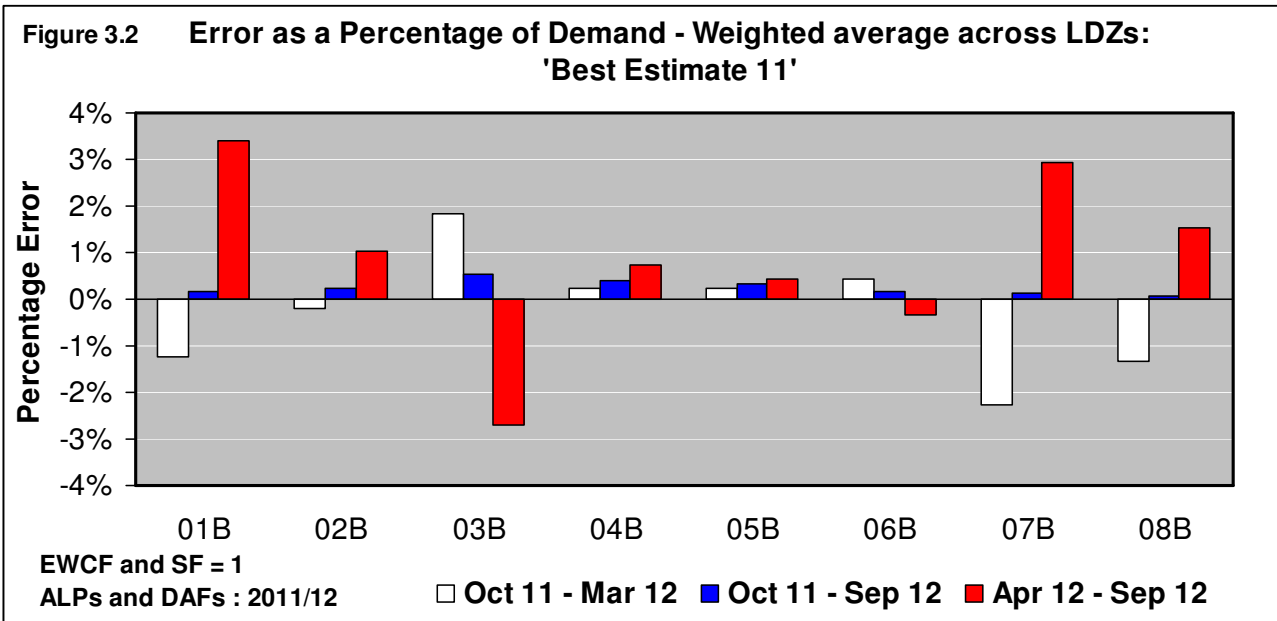
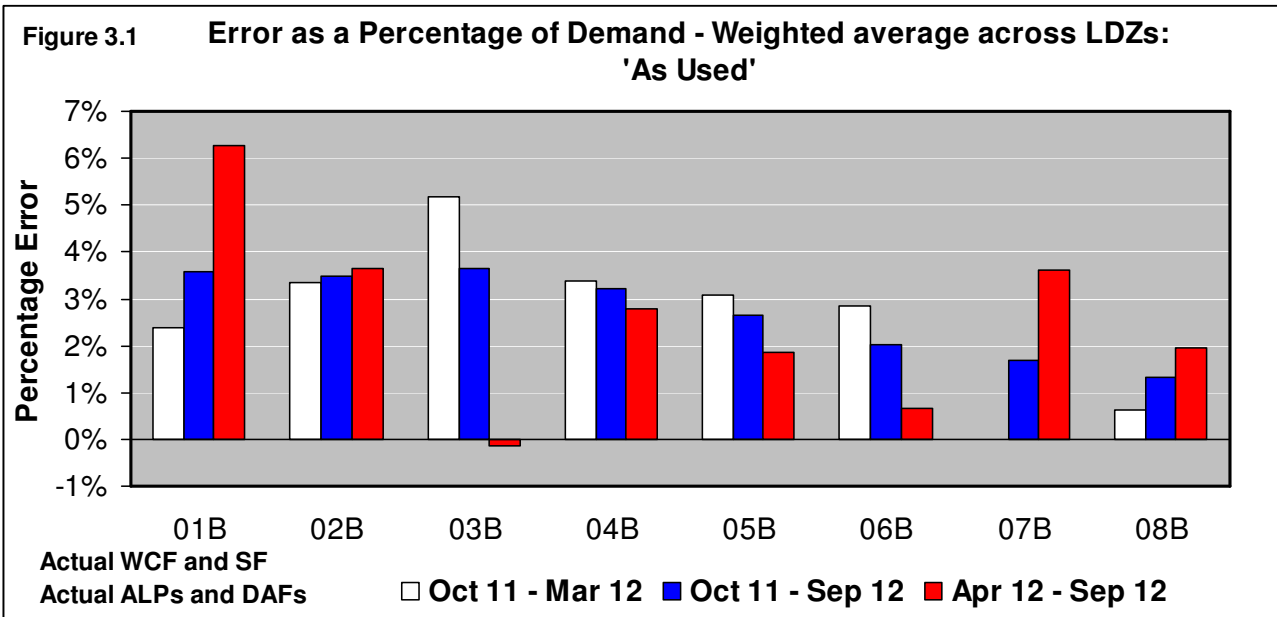
Analysis of Daily Percentage Error: Statistic is Total Errors as Percentage of Actual Demand in Specified Period

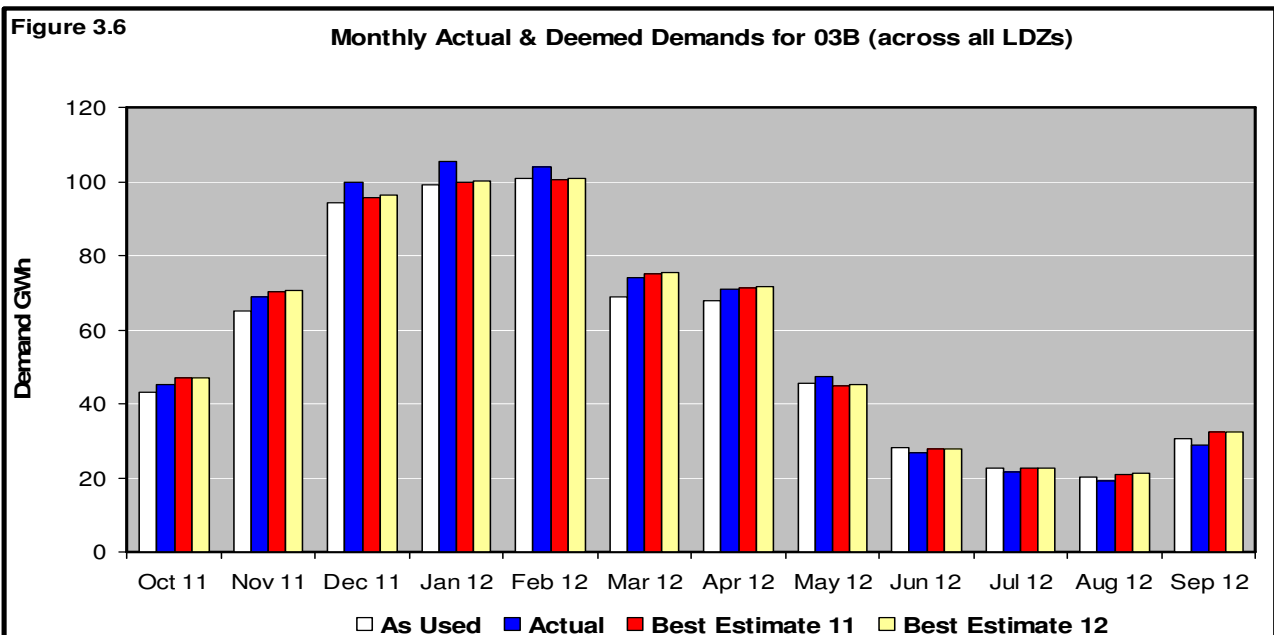
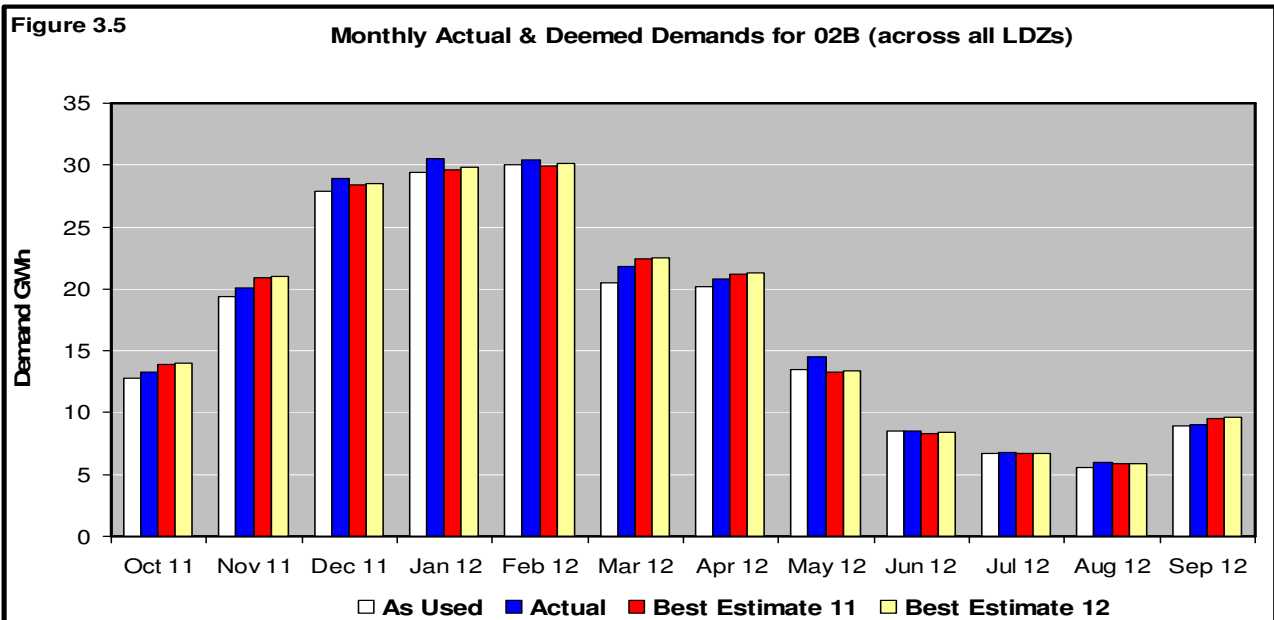
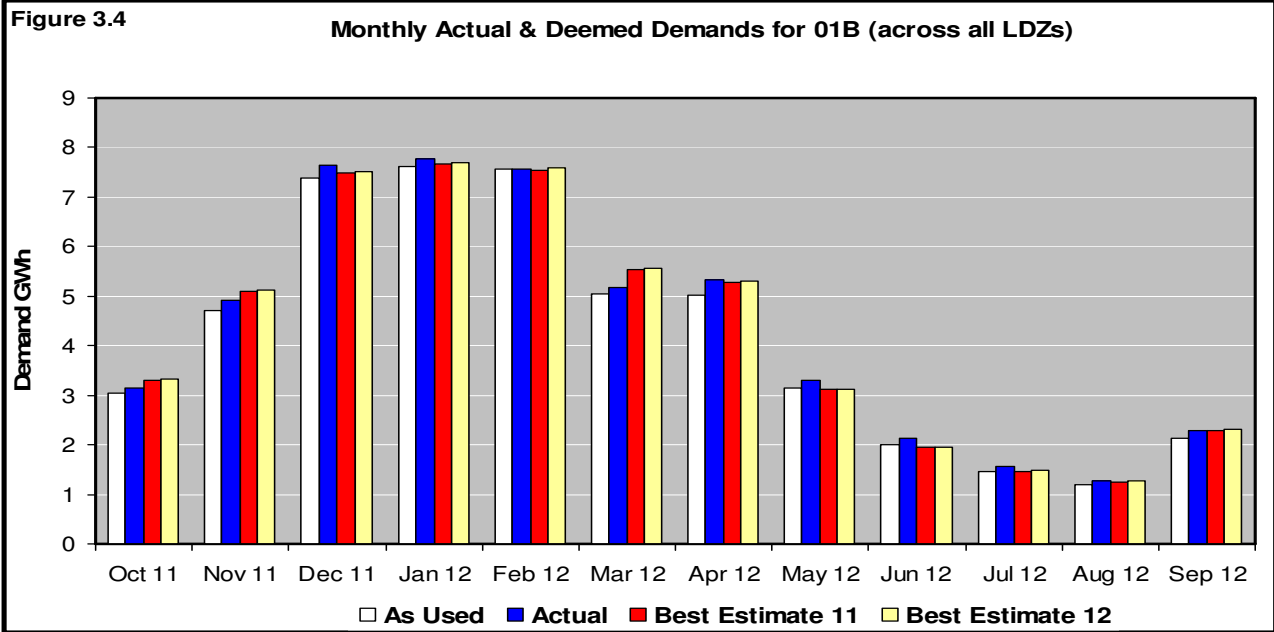
Band 01B	Apr 12	May 12	Jun 12 - Sep 12
SC	-0.3%	1.3%	0.8%
NO	-0.2%	0.9%	-0.9%
NW	0.3%	0.7%	3.7%
NE	0.1%	1.2%	0.8%
EM	1.1%	1.7%	1.0%
WM	0.1%	0.6%	1.0%
WN	-	-	-
WS	1.7%	0.2%	3.7%
EA	0.2%	1.8%	0.6%
NT	-0.1%	0.9%	3.7%
SE	1.2%	1.3%	-0.6%
SO	0.8%	1.6%	2.9%
SW	0.5%	1.5%	4.7%

Table 3.12 - Apr 12 - Sep 12: EWCF, with SF=1: 2011/12 ALPs and DAFs 'Best Estimate 11'

Analysis of Daily Percentage Error: Statistic is Total Errors as Percentage of Actual Demand in Specified Period

All LDZs	Apr 12	May 12	Jun 12 - Sep 12
01B	1.3%	5.6%	3.9%
02B	-1.6%	8.3%	-0.8%
03B	-0.7%	4.7%	-8.4%
04B	0.3%	6.9%	-1.7%
05B	0.7%	5.8%	-1.8%
06B	-0.3%	4.2%	-2.0%
07B	-1.4%	6.4%	3.1%
08B	0.6%	5.2%	0.4%
09B	-	-	-





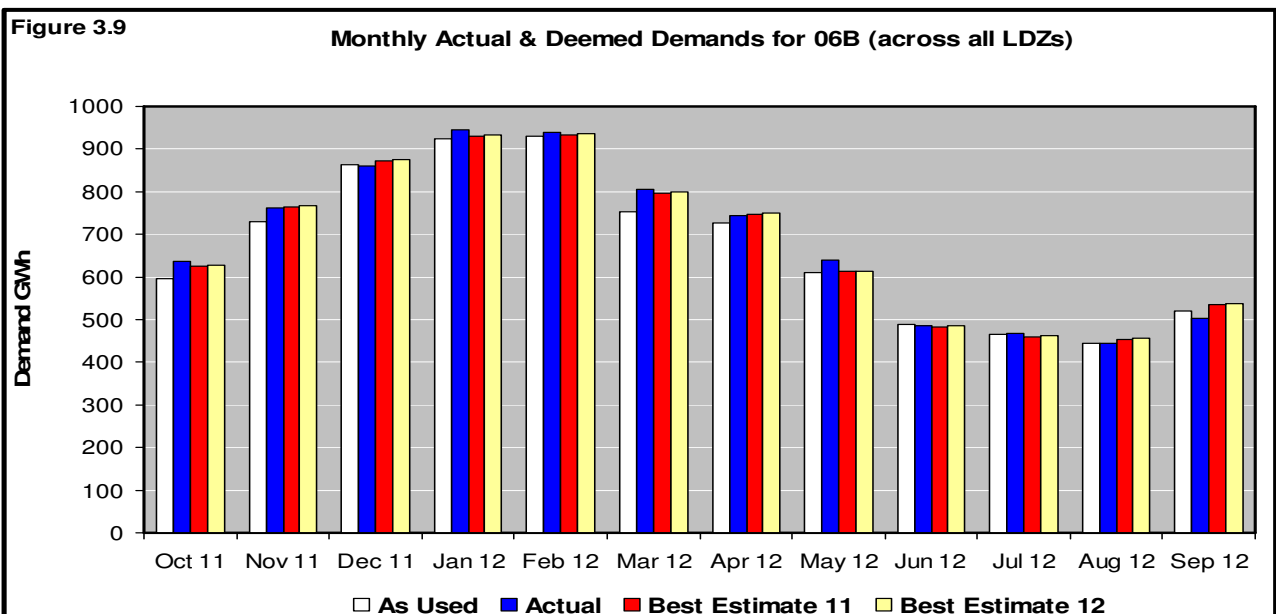
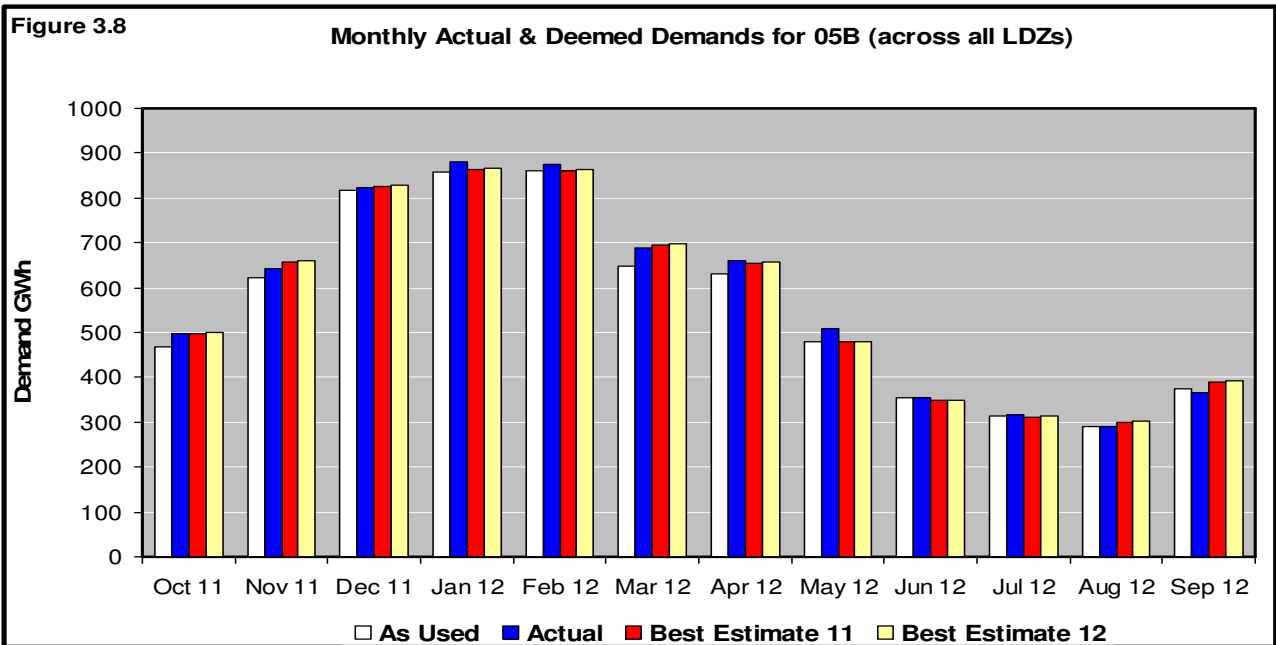
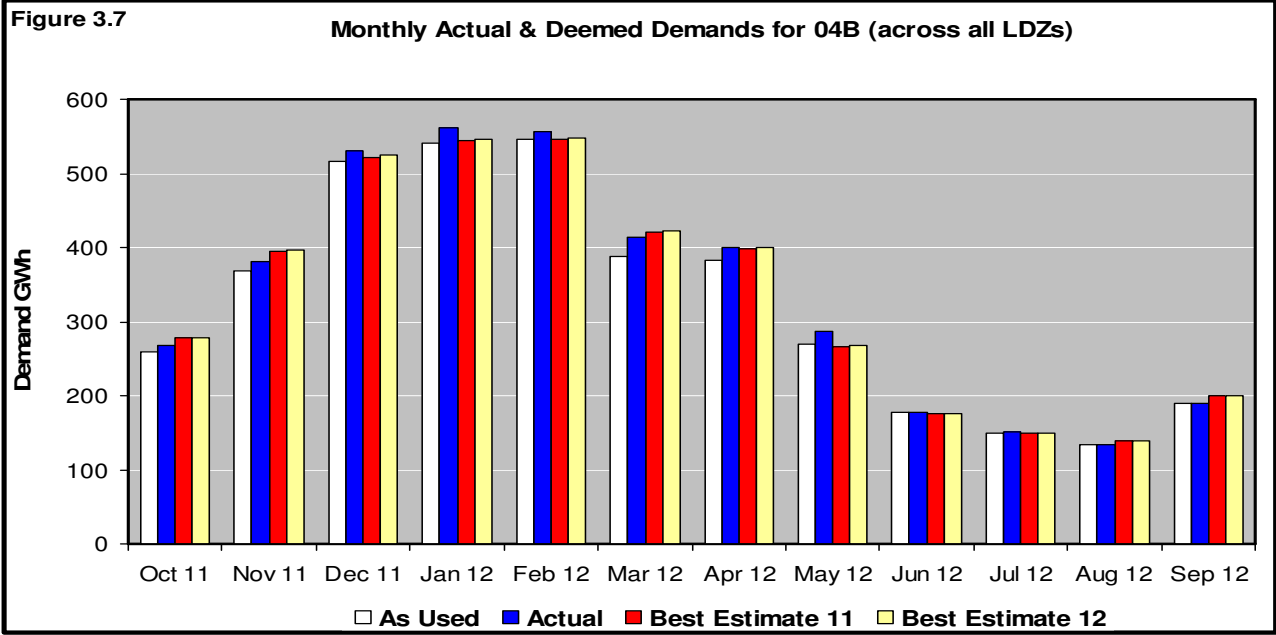


Figure 3.10

Monthly Actual & Deemed Demands for 07B (across all LDZs)

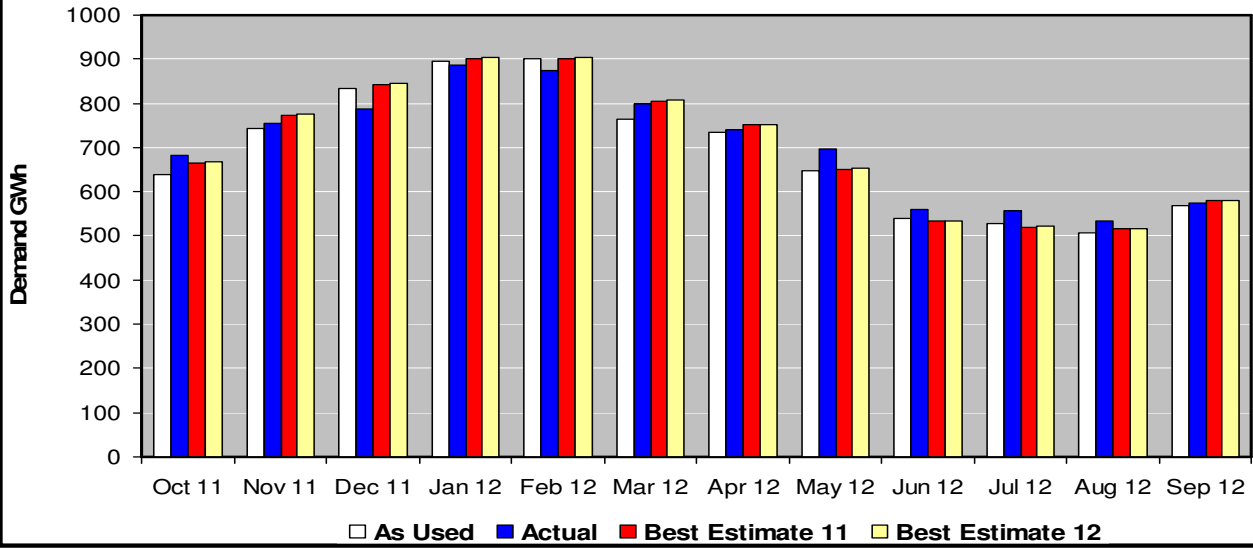


Figure 3.11

Monthly Actual & Deemed Demands for 08B (across all LDZs)

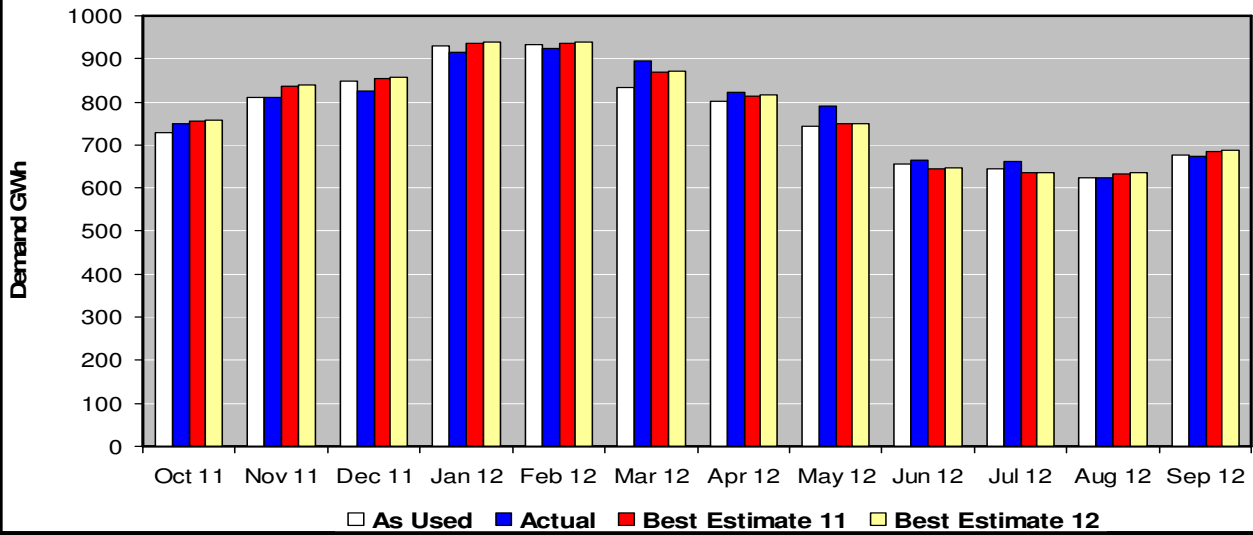
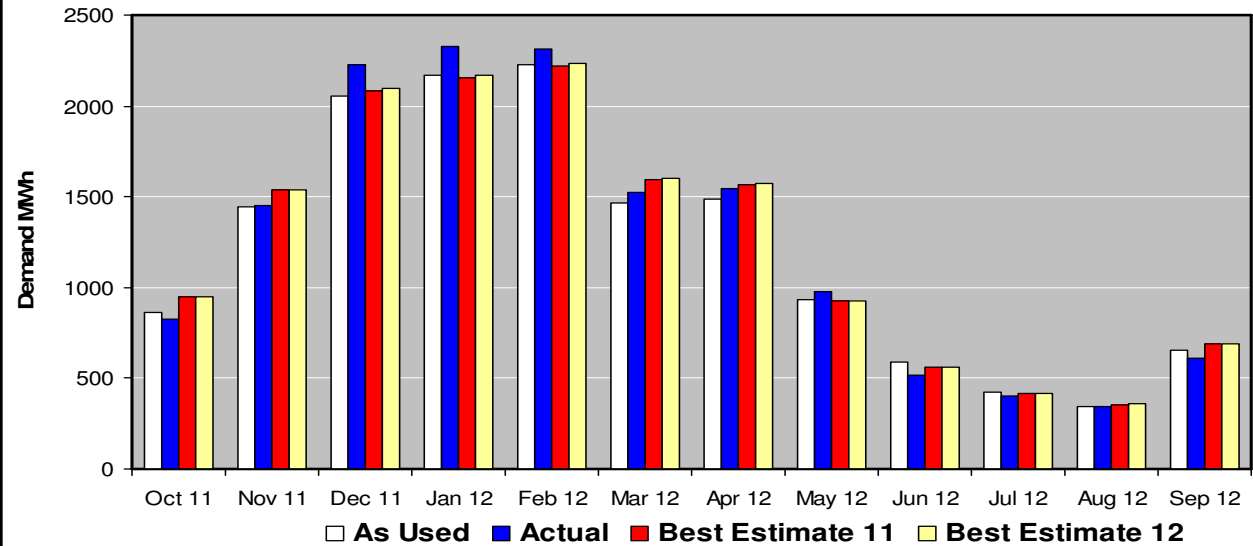


Figure 3.12

Monthly Actual & Deemed Demands for WM:E1102B



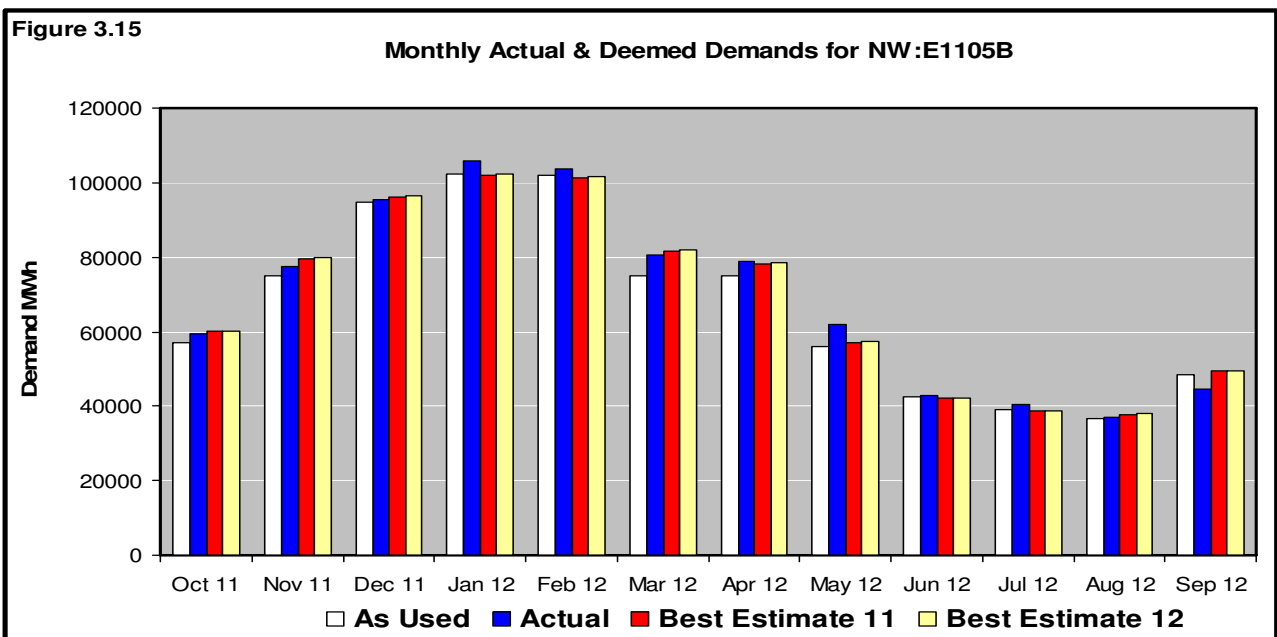
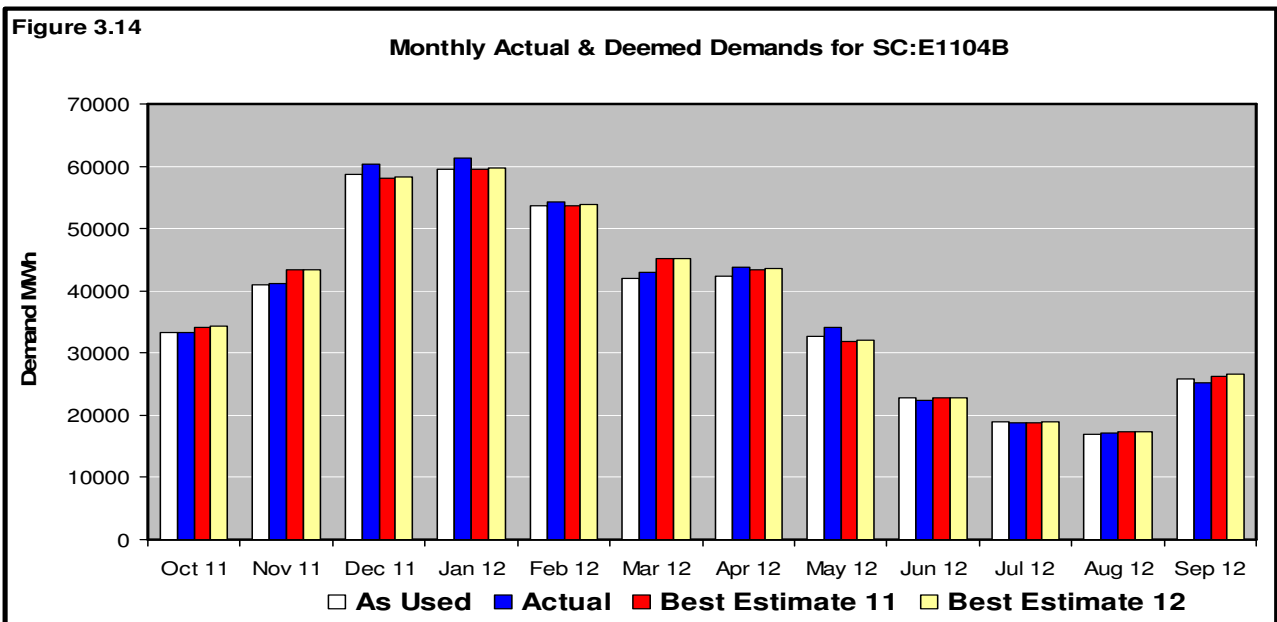
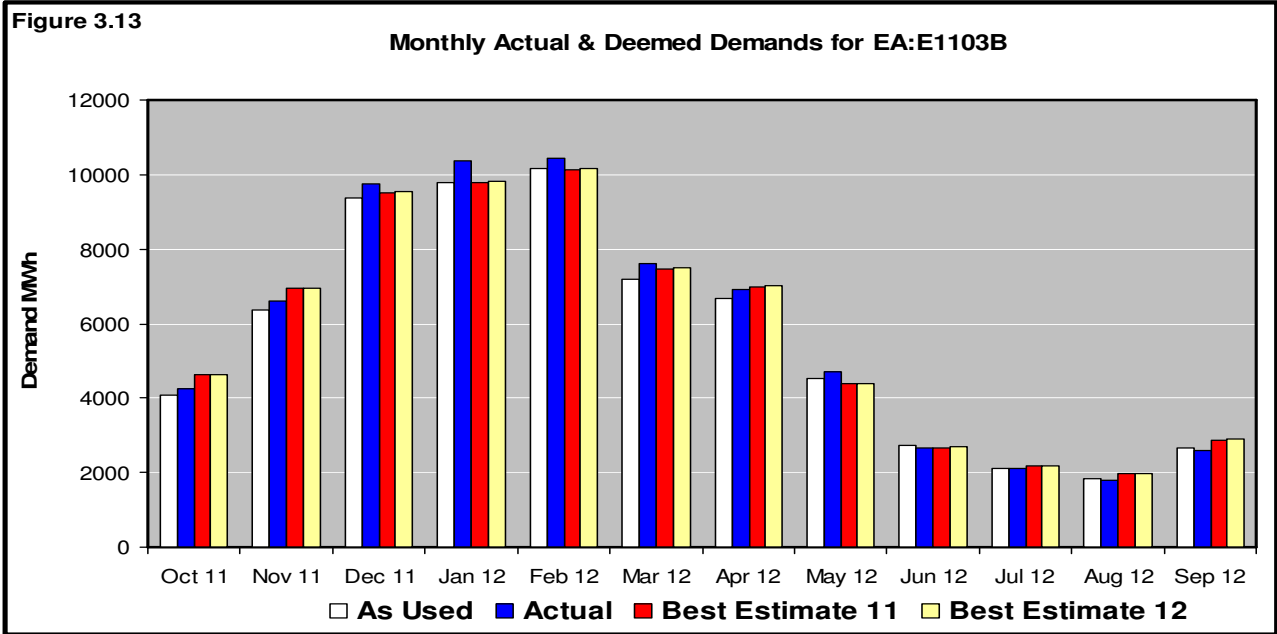


Figure 3.16

Monthly Actual & Deemed Demands for SW:E1106B

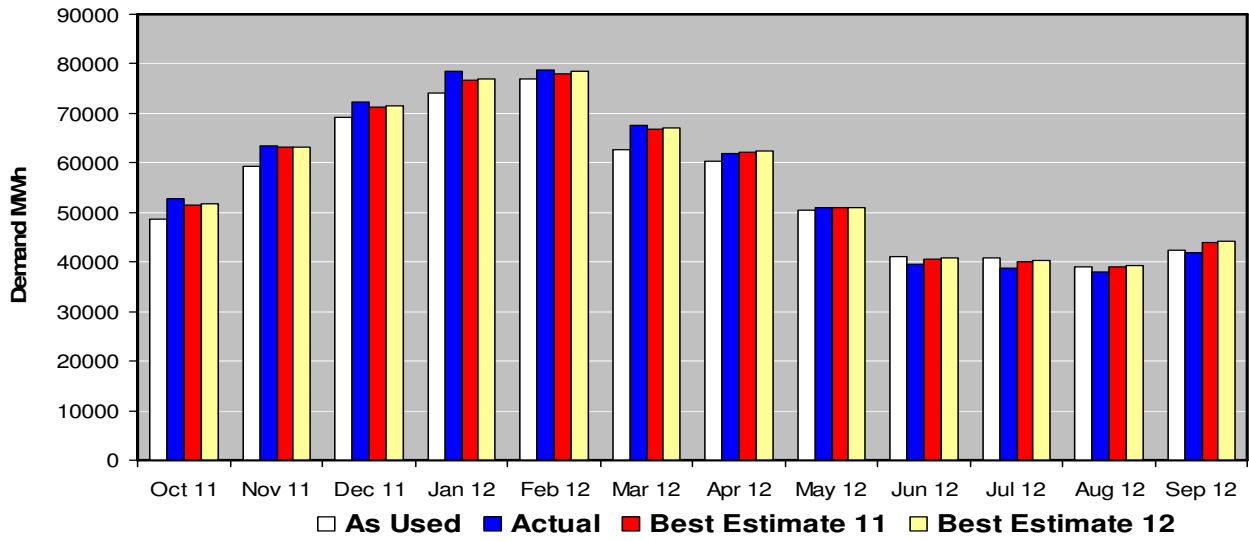


Figure 3.17

Monthly Actual & Deemed Demands for SO:E1107B

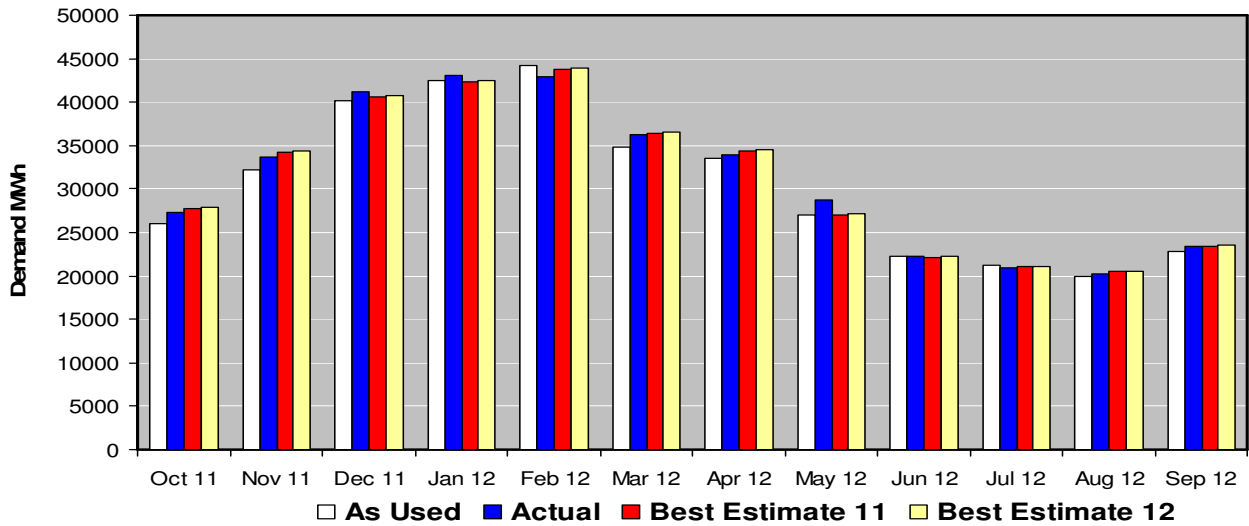


Figure 3.18

Monthly Actual & Deemed Demands for EM:E1108B

