

Evaluation of algorithm performance - 2012/13 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 13th November 2013)
- 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 13th November 2013.

It incorporated SF and WCF graphs and tables, for the two previous gas years, 2011/12 and 2012/13. 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 Winter Annual Ratio (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 2012/13, this screening process reduced the available data set by an extent ranging from 14.8% in December 2012 to 48% at the end of the gas year in September 2013. 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 2012/13 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 SC, NW, WM, SW, NT, NO, and SO 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 [(actual-allocated)/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 WS LDZ in consumption band 07, NW, NE, WN, WS, EA 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 2012/13) has yet been processed (particularly in those consumption bands with non-monthly read meters). Subject to this caveat, Table 2.1 suggests that during 2012/13 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 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 10 LDZs) or too peaky at the 5% level (in 3 LDZs: WN, WS and SW).

The profiles for consumption band 05 also appear in most cases to be either good (in 10 LDZs), too peaky at the 5% level (in LDZ WS) or too peaky at the 10% level (in 2 LDZs: NO and NW).

The profiles for consumption bands 06 are a mixture of those that are good (3 LDZs: SC, NO and NT), too peaky at the 5% level (6 LDZs: NW, NE, EM, WM, EA and SO), too peaky at the 10% level (2 LDZs: WN and SW) and too flat at the 5% level (2 LDZs: WS and SE).

The profiles for consumption band 07 are again a mixture of those that are good (5 LDZs: SC, NO, NW, WN and SE), too peaky at either the 5% level (3 LDZs: NE, EM and EA) or the 10% level (1 LDZ: SW) and too flat at the either the 5% level (1 LDZ: NT) or the 10% level (2 LDZ: WM and SO). An assessment of the profile could not be carried out in 1 LDZ (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: EM, WM, SO and SW) and too peaky at the 10% level (3 LDZs: SC, NO and NT). An assessment was not carried out in 6 LDZs (NW, NE, WN, WS, EA and SE) due to sample size being too small.

For consumption band 09, an assessment was only possible in 1 LDZ (i.e. SW and the profile was classed as being good).

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 and 07 are good (winter/summer error differences within the 5% level), while bands 02, 03, 06 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 06 in EM 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 small reduction in aggregate NDM AQs in 10 out of 13 LDZs at the start of gas year

2013/14. The percentage AQ changes in each LDZ and overall were reported to DESC in November 2013 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 72% 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 (2012/13) 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 2012/13, since it also appears clear from the AQ changes in aggregate for NDM load that took place at the start of gas year 2013/14 that overall aggregate NDM AQs in gas year 2012/13 were slightly 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 2012/13.

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

- i) As used - gas year 2012/13 ALPs and DAFs, real system WCF and SF.
- ii) Best estimate 12 - gas year 2012/13 ALPs, DAFs, estimated weather correction factor (EWCF) consistent with DAFs and SF = 1.
- iii) Best estimate 13 - as (ii) above but with ALPs, DAFs, EWCFs based on 2013/14 models adjusted to apply to pattern of days/holidays in 2012/13.

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 negative and lie within a range of -0.58% to -2.62%. The summer and winter errors are negative for all bands, with the exception of band 07 during the summer.

3.2 Analysis

The negative errors over 12 months across all consumption bands indicate over allocation by the models. This over allocation in all consumption bands in the “as used” analysis is an indication of population AQs being lower than the NDM sample derived AQs. Moreover, since allocated consumption is a direct function of AQ, the extent of the AQ deficit (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 0.1% to -2.8% for the individual LDZs (and -1.1% overall across all LDZs excluding WN) suggesting an AQ deficit 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 low then this would have led to an increase 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. However, over the 2012/13 gas year, the sample derived AQs were marginally higher than the

system AQs. This could be due to a combination of minimal system AQ change at the start of gas year 2013/14 (reduction of -0.7% overall) and a generally colder than normal year for gas year 2012/13 (from which the sample AQs were derived). Thus, the resultant “as used” allocations using the real SFs with sample derived AQs, end up being higher than they should be and this gives the negative errors shown in Figure 3.1.

The percentage changes in aggregate NDM AQs at the start of gas year 2013/14 as observed on the Gemini system indicated that a small reduction in aggregate NDM AQs had taken place for gas year 2013/14 in 10 out of 13 LDZs. The reduction was 0.7% overall across all LDZs and the changes ranged from a 1.9% reduction in SC LDZ to a 0.1% increase in NO and WN LDZs.

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 12” analysis is based on the algorithms for 2012/13, while the “best estimate 13” analysis is based on algorithms derived for 2013/14 and applied with appropriate adjustment for the pattern of days of the week and holidays in 2012/13.

On the evidence of the bar chart in Figure 3.2 (“best estimate 12”), there was little overall error in the algorithms for any of the consumption bands over the whole of gas year 2012/13 (full year errors range between -0.10% and +0.14% for all bands). Overall consumption band winter period errors range from -2.97% to +0.46% and overall consumption band summer period errors range from -1.5% to +3.35%. 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 01, 05, 06 and 08 the profiles in 2012/13 were a little too flat, while for consumption bands 02, 03, 04 and 07 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 13”) shows that the algorithms derived for 2013/14 would (if applied to gas year 2012/13) 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 13” case they range between -0.41% and +0.11%. Winter and summer period errors are slightly improved in bands 01 and 06. However, the winter and summer period errors are slightly worse for bands 02, 03, 04, 05, 07 and 08.

The reconciliation variance analysis for gas year 2012/13 indicated profiles (excluding bands 09) that were good (within the 5% level of winter/summer error differences) for bands 04, 05 and 07 and too peaky at the 5% level for bands 02, 03, 06 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 2012/13. 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 12” and “best estimate 13” bases.

In interpreting these monthly charts it is relevant to recall the weather conditions that prevailed during gas year 2012/13. Over the winter 6-month period, October 2012 was colder than the current seasonal normal basis (the 9th coldest in the last 50 years). Taken as a whole, the month of November 2012 was average despite some colder weather during the first week of the month. December 2012 was around average overall; it was cold in the first half of the month (including some snow to the north) and warm in the second half. January 2013 was also an average month overall although it was a month of some contrasts; it was warm for the first 9 days turning much colder for the remainder (with the exception of the last few days) of the month. February 2013 was much colder than the current seasonal normal basis, ranking as the 16th coldest

February in the last 50 years. This was followed by March 2013 which was a particularly cold month (2nd coldest March in the last 50 years) which experienced some late season snowfalls in certain areas from 6th to 27th, which was stark contrast to the previous years March which was the warmest in 50 years. Nationally during the summer 6-month period, April 2013 was generally colder than the current seasonal normal, although there were some warm days from 14th to 17th and 24th to 25th. May 2013 was also colder than the current seasonal normal basis (despite a brief warm spell at the beginning) and ranked as the 13th coldest May in the last 50 years. The following month, June 2013, was fairly average and around seasonal normal overall. July 2013 was much warmer than the current seasonal normal basis, ranking as the 3rd warmest July over the last 50 years; temperatures were highest during the period from 6th to 24th, such that the maximum CWV value was achieved on most days in each LDZ during this period. The month of August 2013 was also warm, ranking as the 9th warmest August in the last 50 years and, finally, September 2013 was around seasonal normal overall despite there being a notable 2 week cold spell that occurred by mid month.

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 under allocation (especially so during the 2nd coldest March in the last 50 years) except in January and February. It also shows summer over allocation (most noticeably in May which was colder than normal) except in April and July.

Table 3.11 shows the percentage errors (on the “best estimate 12” 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, over allocation occurred in all LDZs (except SC, NW, WM, WS, SO and SW LDZs in April), and this was also the case for most LDZs over the rest of the summer with the exception of EA, NT, SE, SO and SW LDZs.

Table 3.12 shows the percentage errors overall across all LDZs (on the “best estimate 12” 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. Under allocations occurred in all bands (01 to 08) in April. Under allocations also occurred in the majority of bands (02 to 07) in May. Over the rest of the summer period over allocations occurred in bands 01, 02, 03, 04, 05, 06 and 08.

The monthly chart for band 02, in Figure 3.5, indicates slight winter over allocation in October, November, December, January and February (months which were mainly average), some under allocation in March (which was the 2nd coldest March in 50 years) and a mixed summer showing under allocation in April, May, June and July with the months August and September showing slight over allocation.

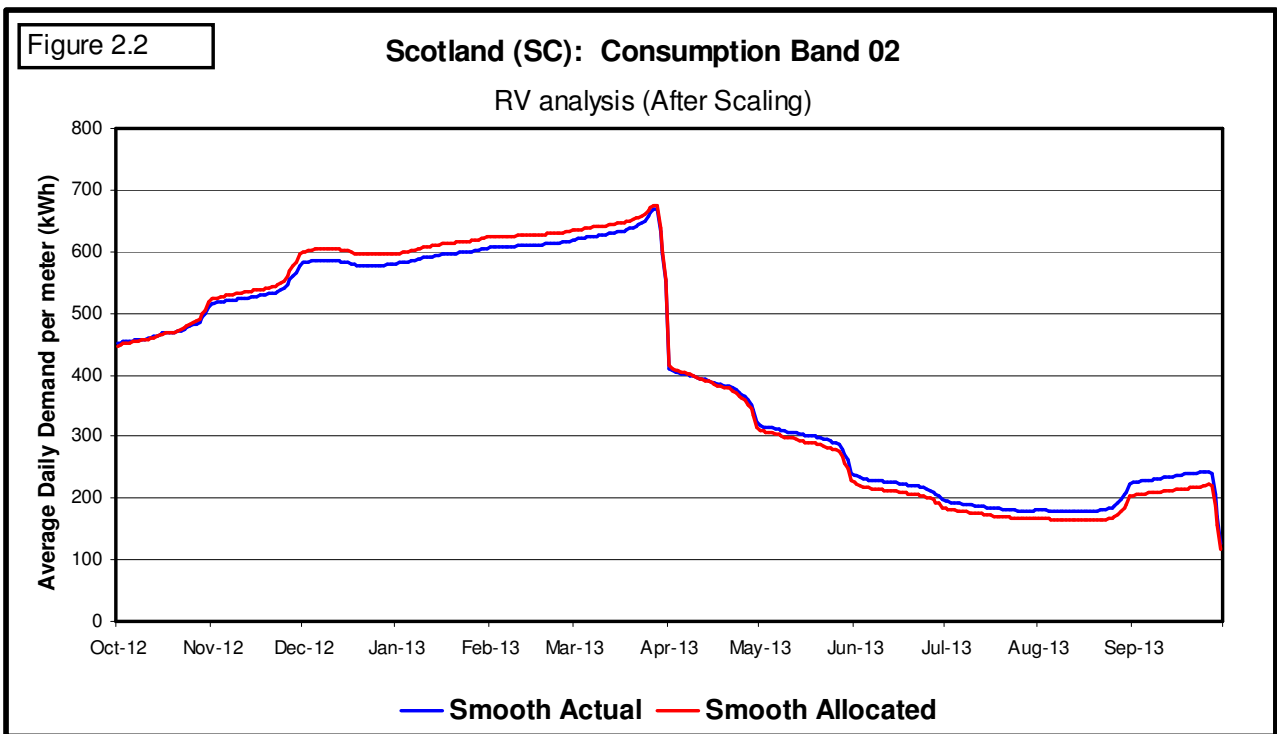
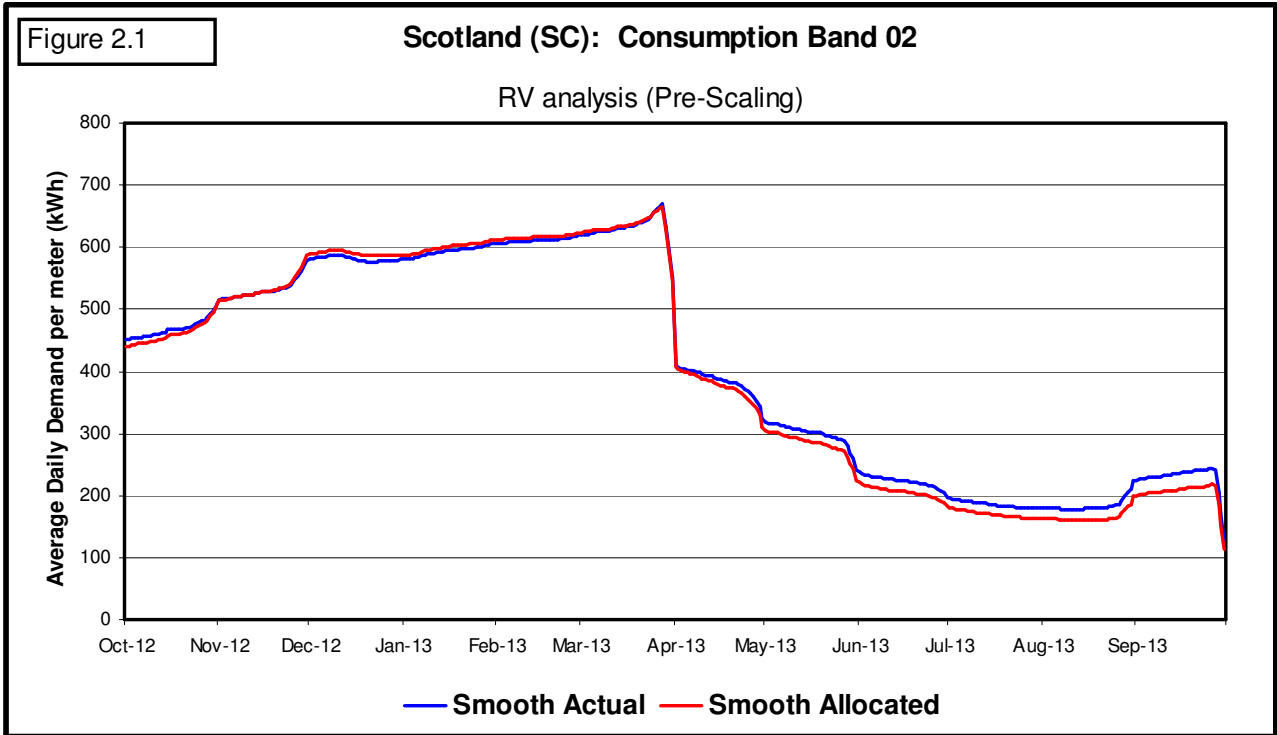
Figure 3.6 is the monthly chart for band 03, which shows small winter under allocation in October, November and March but also shows over allocation in December, January and February and small summer under allocation from April to June (most evident in April 2013) but also shows some slight over allocation in July, August and September 2013.

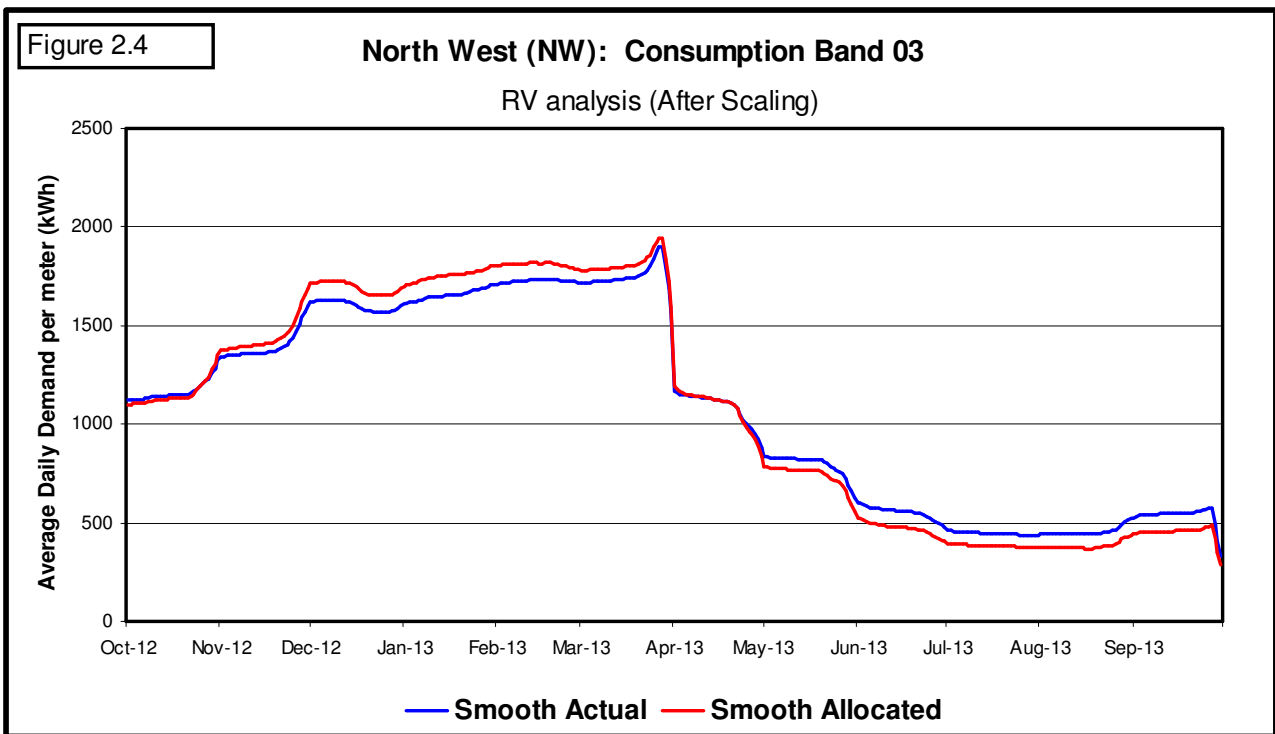
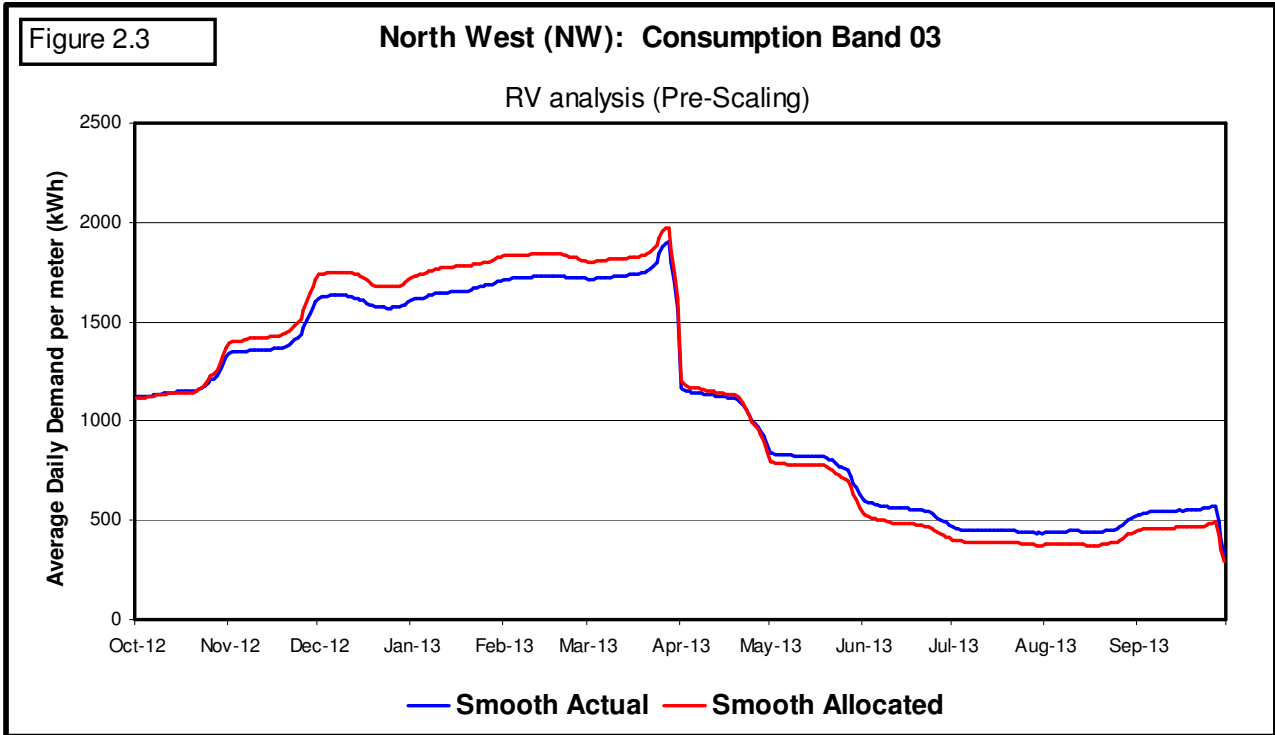
Figure 3.7 is the monthly chart for band 04, which shows winter under allocation in October, November and March (with some over allocation in December, January and February) and slight summer under allocation (with the exception of July, August and September 2013 which show over allocation).

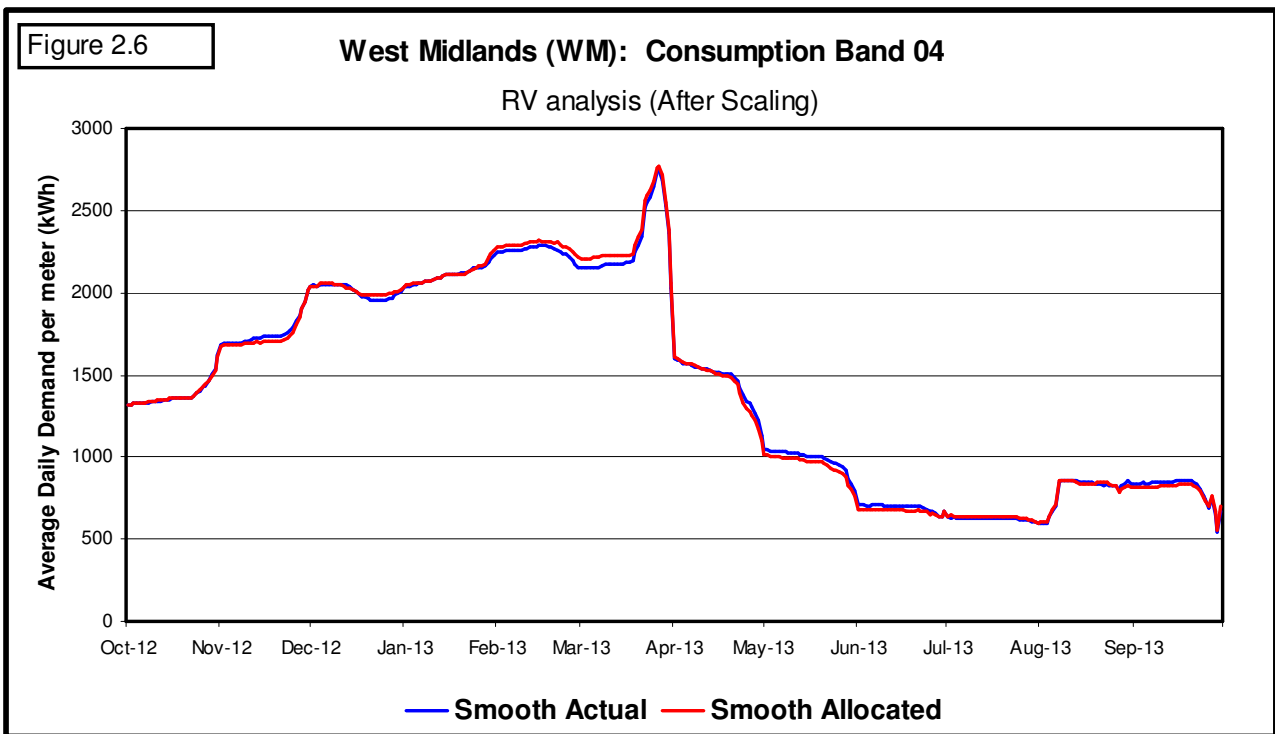
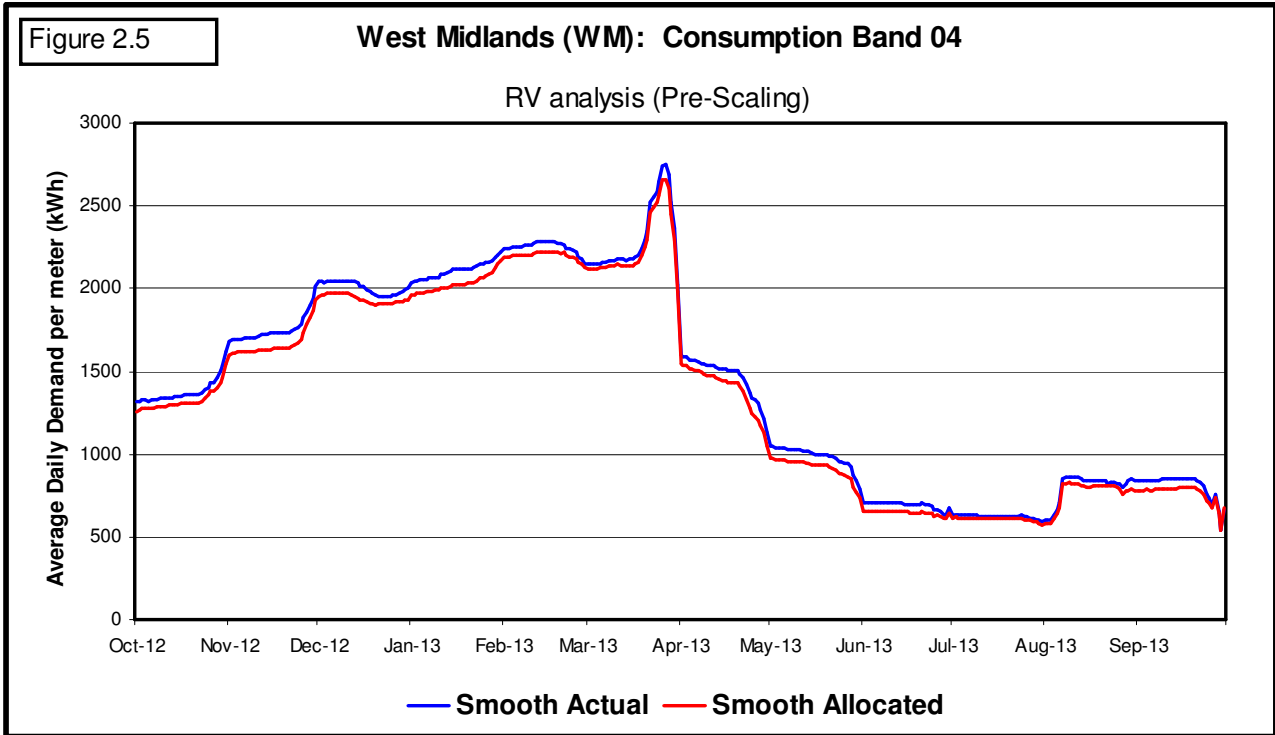
The monthly charts for bands 05 to 08 are in Figures 3.8 to 3.11. Overall, bands 05, 06, 07 and 08 show a small winter over allocation and a small summer under allocation (with exceptions for some months in some bands). For example, under allocation in bands 05 to 08 is evident for October 2012 and for bands 05, 06 and 08 for February and March 2013. Overall, band 07 shows over allocation in winter (most marked in December 2012) and under allocation in summer (most marked in June 2013).

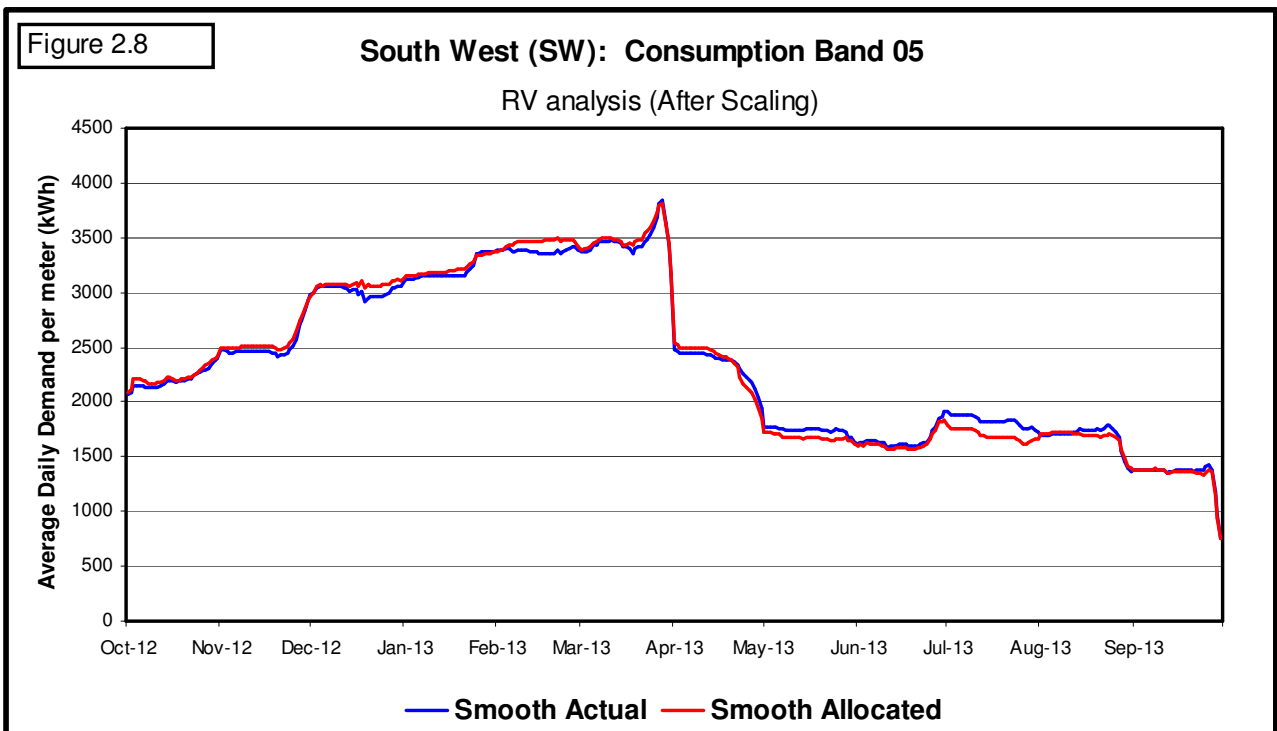
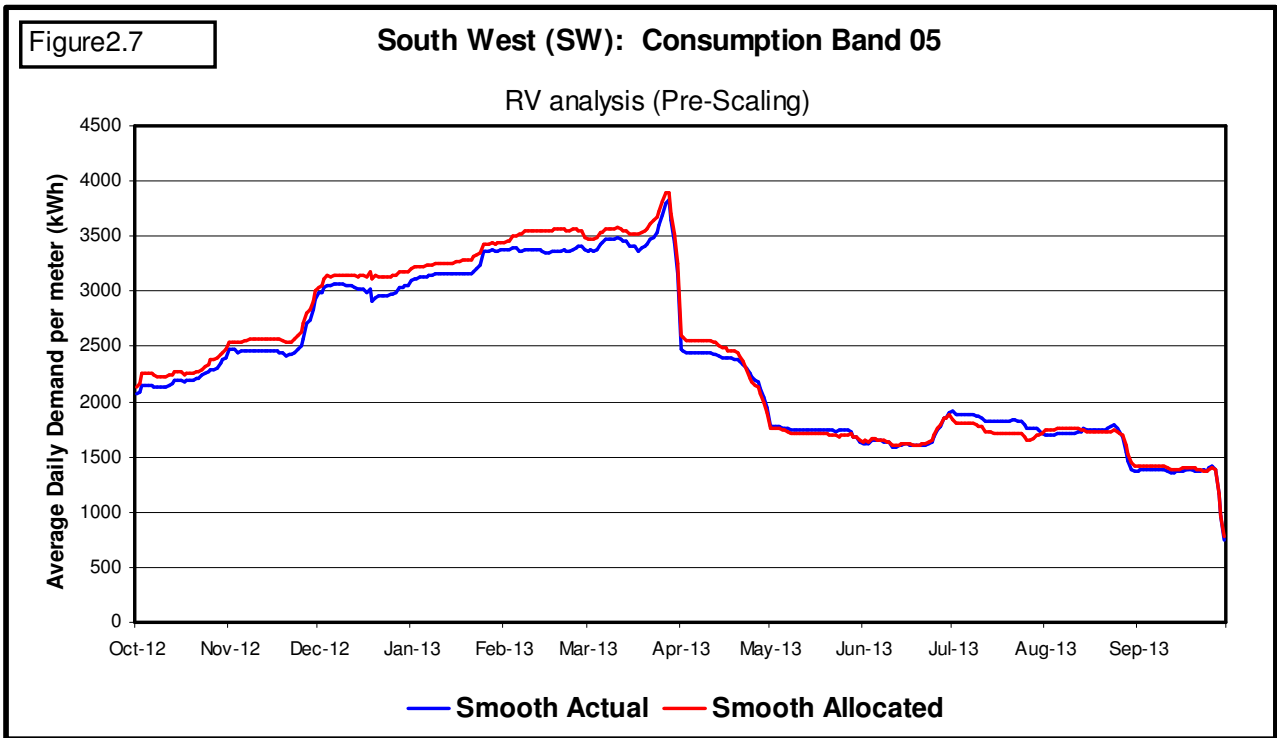
Additionally examples of monthly bar charts for individual EUCs, for some of the EUC bands (namely EM:E1202B, SW:E1203B, SE:E1204B, SC:E1205B, WM:E1206B, SE:E1207B and NW:E1208B) are shown in Figures 3.12 to 3.18 respectively. There is no consistent monthly pattern across all these examples, but in a majority of the examples April 2013 shows an under allocation and August 2013 a modest over allocation.

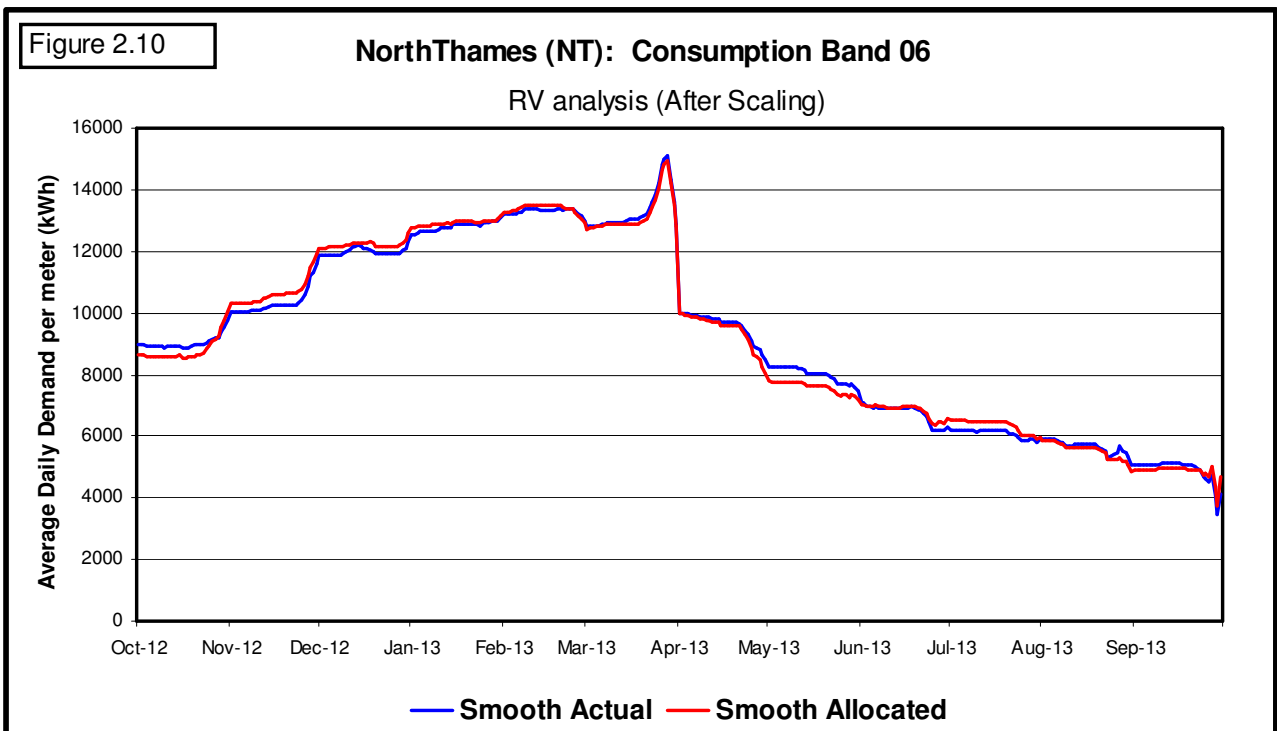
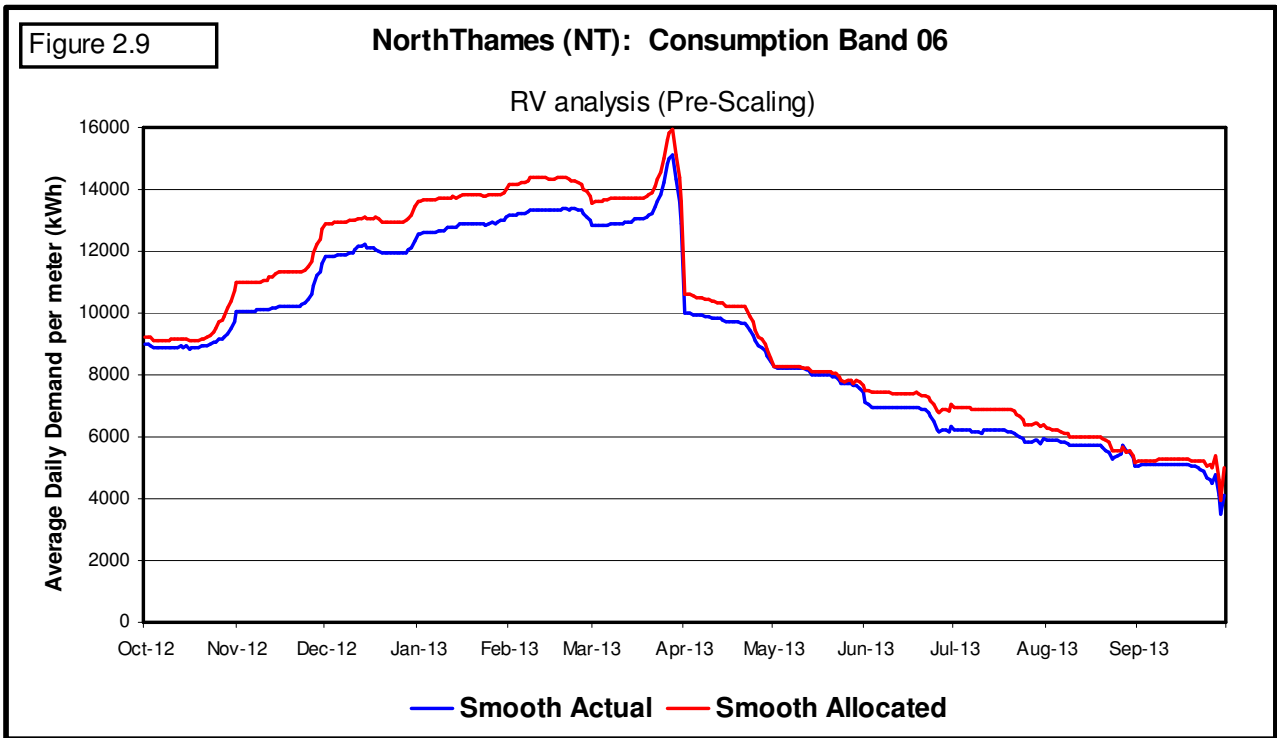
The final set of graphs (Figures 3.19 to 3.26) show actual demand and allocated demand on the “best estimate 12” and “best estimate 13” basis for each consumption band. In general, the allocated demand for both bases was close to the actual demand for each consumption band on most days. For band 01, the most notable exceptions occurred in the particularly cold weather in February and March 2013 and the generally warmer period in early May 2013. For the other bands 02 to 08, the most notable exceptions occurred around the Christmas holiday period, the shoulder period in mid April 2013 and the particularly warm weather in July 2013. An additional graph (Figure 13.27) has also been included which shows the impact for band 01 of the maximum CWV being achieved on most days in each LDZ during the heat wave that occurred in July 2013 (6th to 24th).

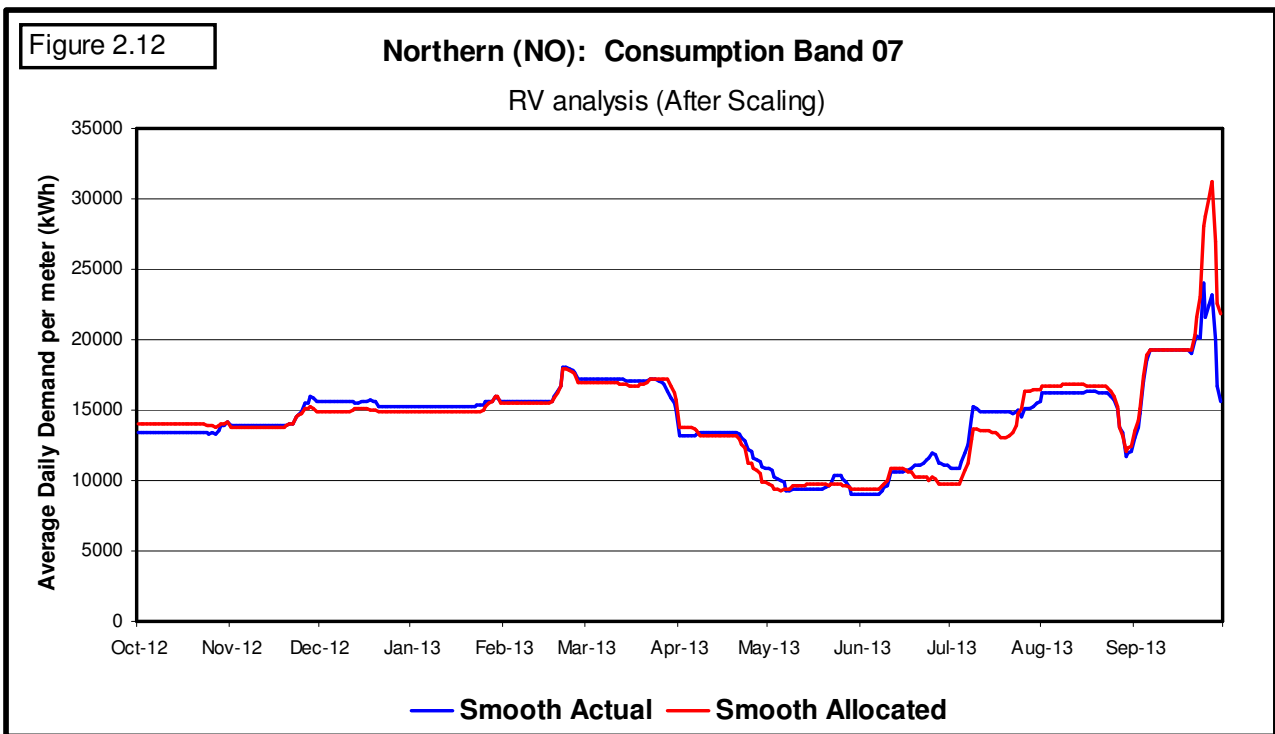
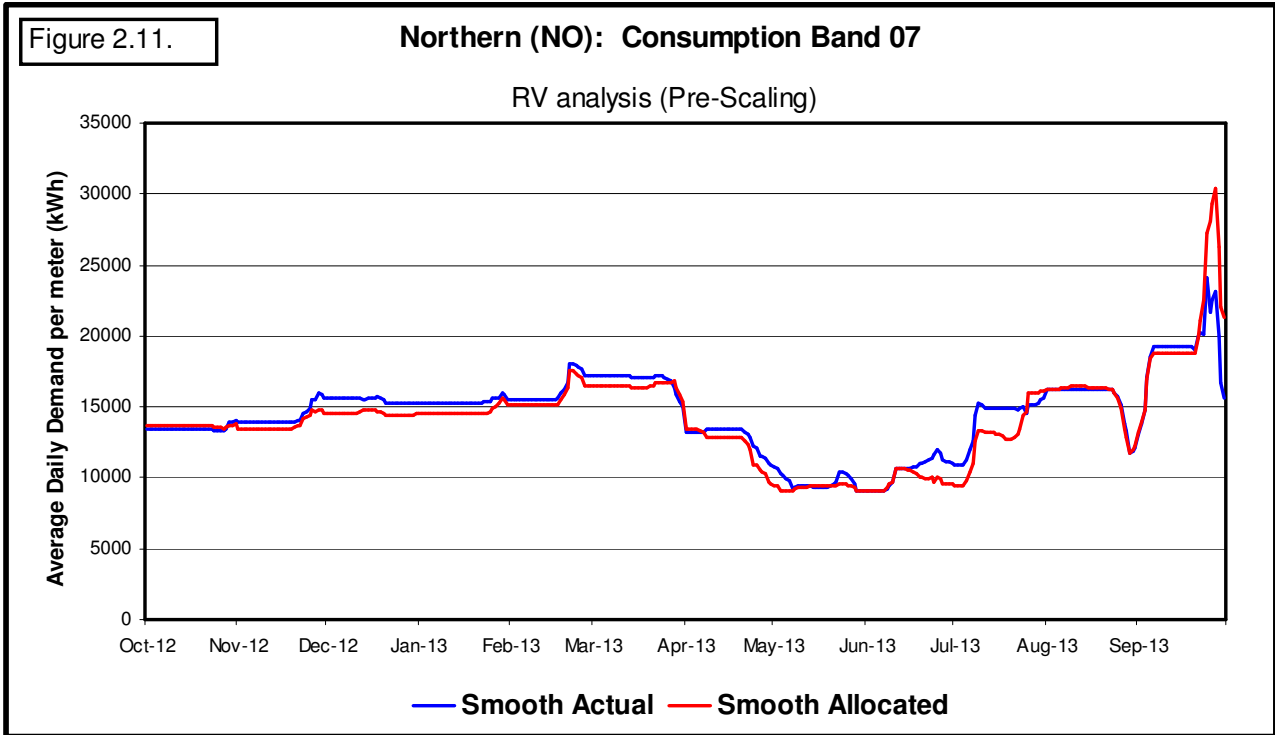












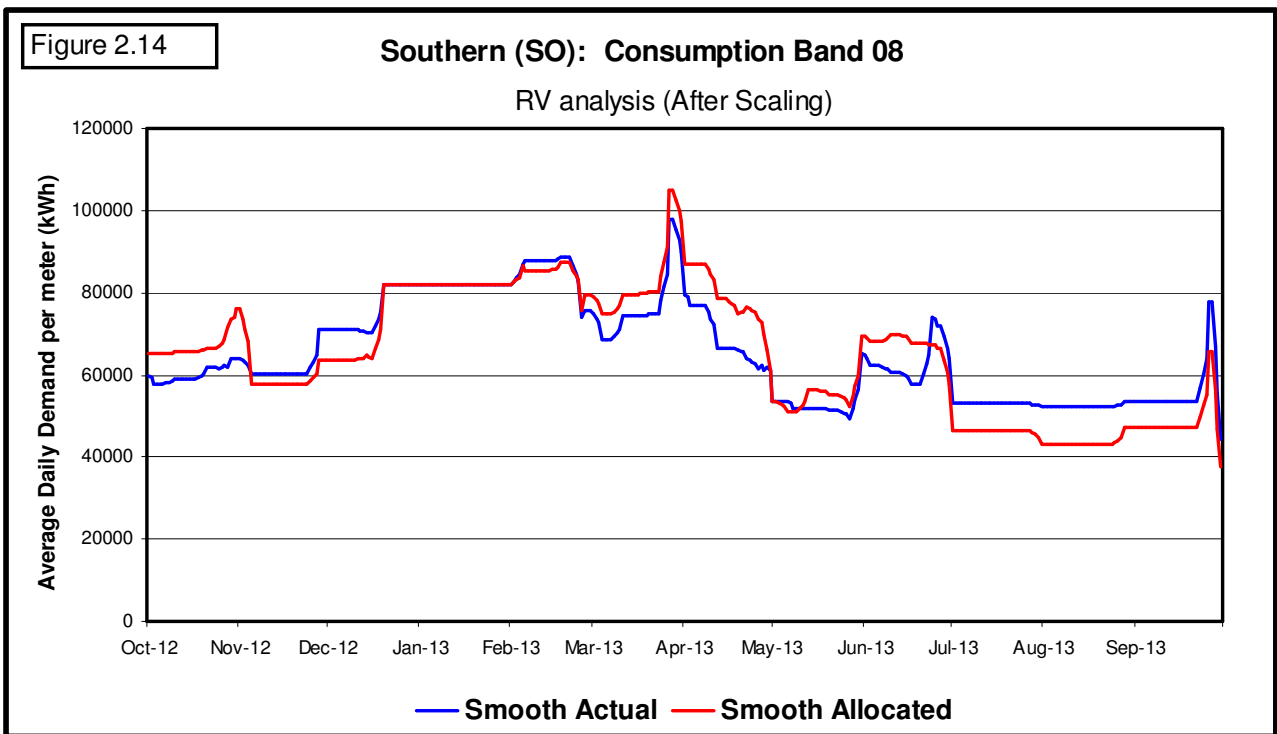
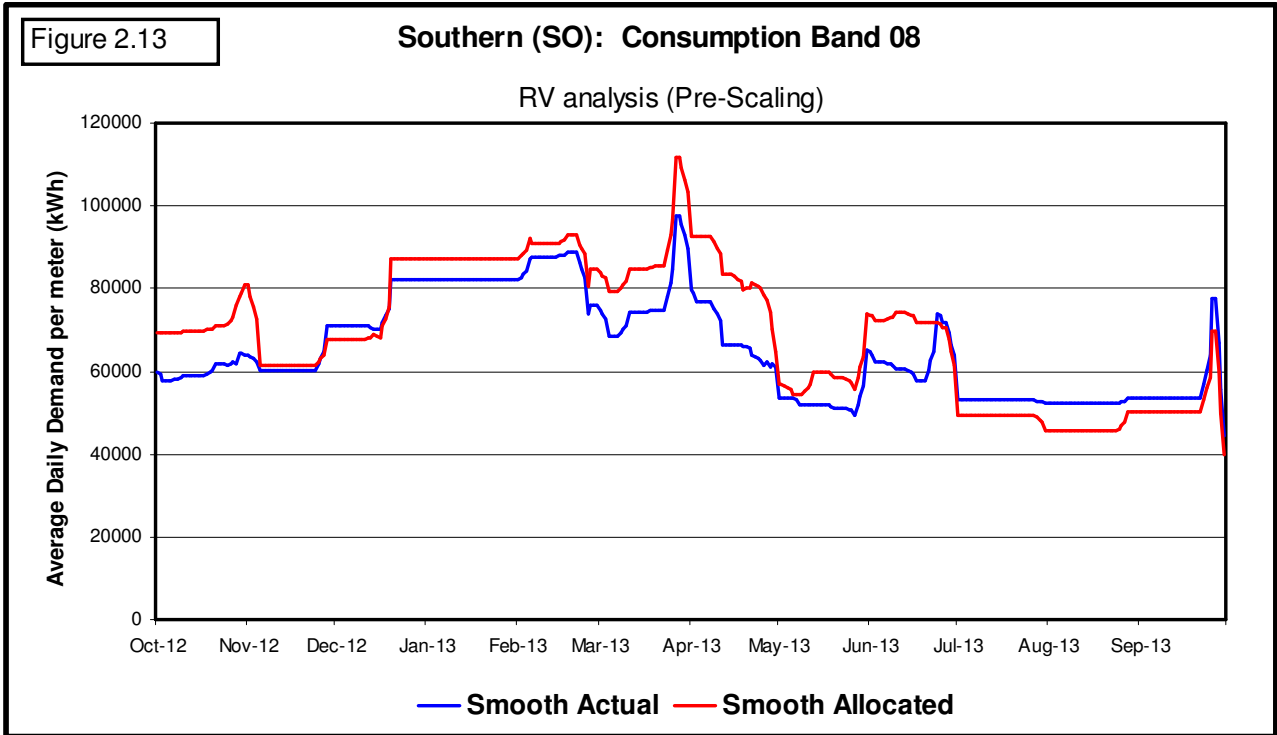


Table 2.1 – RV Categorisations: Profile (Gas Year 2012/13)

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 2012/13)

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	-0.03	-0.02	-0.03	-0.03	-0.03	-0.03
03	B	-0.04	-0.04	-0.06	-0.05	-0.04	-0.05	-0.08	-0.06	-0.04	-0.03	-0.04	-0.04	-0.05
04	B	-0.02	-0.02	0.00	-0.01	-0.02	-0.01	-0.04	-0.03	-0.02	-0.01	-0.01	-0.02	-0.04
05	B	0.00	-0.06	-0.07	-0.01	-0.02	0.00	-0.02	-0.04	-0.01	-0.02	0.01	-0.01	-0.02
06	B	-0.02	-0.02	-0.04	-0.04	-0.04	-0.03	-0.13	0.04	-0.03	-0.01	0.04	-0.05	-0.06
07	B	0.00	0.01	0.00	-0.04	-0.04	0.08	0.01		-0.04	0.03	-0.01	0.06	-0.12
08	B	-0.08	-0.16			0.01	-0.02				-0.17		-0.02	-0.01
09	B													0.02

Table 2.3 – RV Categorisations: Summer (Gas Year 2012/13)

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	0.03	0.02	0.03	0.03	0.03	0.03
03	B	0.04	0.04	0.06	0.05	0.04	0.05	0.08	0.06	0.04	0.03	0.04	0.04	0.05
04	B	0.02	0.02	0.00	0.00	0.02	0.01	0.04	0.03	0.02	0.01	0.01	0.02	0.04
05	B	0.00	0.06	0.07	0.01	0.02	0.00	0.02	0.04	0.01	0.02	-0.01	0.01	0.02
06	B	0.02	0.02	0.04	0.04	0.04	0.03	0.13	-0.04	0.03	0.01	-0.04	0.05	0.06
07	B	0.00	-0.01	0.00	0.04	0.04	-0.08	-0.01		0.04	-0.03	0.01	-0.06	0.12
08	B	0.08	0.16			-0.01	0.02				0.17		0.02	0.01
09	B													-0.02

Table 2.4 – RV Categorisations: Annual Scaling (Gas Year 2012/13)

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	1.01	1.00	1.02	1.01	0.99	1.01	1.01	1.00	1.01	1.02	1.03
03	B	1.01	1.01	0.99	0.97	1.01	1.00	0.97	0.98	1.01	1.02	1.01	1.01	0.98
04	B	1.03	1.00	1.02	1.03	1.02	1.04	1.01	1.00	1.00	1.03	1.03	1.03	1.02
05	B	1.04	1.03	1.05	1.04	1.03	1.04	0.99	1.03	1.02	1.00	0.99	1.03	0.98
06	B	1.06	1.01	1.08	1.02	1.04	1.03	1.09	1.04	1.05	0.94	1.01	1.03	1.06
07	B	1.05	1.03	1.00	0.96	1.07	1.05	0.96		1.21	1.06	1.00	0.98	0.96
08	B	1.02	0.91			0.99	0.87				0.96		0.94	0.78
09	B													0.99

Table 3.1 – Oct 12 to Sep 13: 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	-0.29%	-5.68%	-3.11%	-2.45%	-0.18%	-0.60%	-	-2.20%	-3.50%	-3.84%	-3.10%	-3.63%	-2.92%	-2.59%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	-0.28%	-5.36%	-2.80%	-2.52%	-0.32%	-0.73%	-6.10%	-2.27%	-3.18%	-3.35%	-2.88%	-3.18%	-2.67%	-2.46%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-0.48%	-5.48%	-2.59%	-2.37%	0.17%	0.22%	-5.99%	-2.31%	-2.89%	-3.32%	-2.85%	-3.31%	-1.94%	-2.17%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-0.53%	-5.44%	-2.31%	-2.02%	0.21%	-0.01%	-5.22%	-2.15%	-2.95%	-3.08%	-2.52%	-3.19%	-2.12%	-2.10%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-0.36%	-4.08%	-1.58%	-1.58%	0.05%	-0.36%	-4.12%	-1.86%	-2.44%	-2.65%	-2.13%	-2.77%	-1.69%	-1.59%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	0.06%	-2.73%	-1.00%	-1.03%	0.06%	-0.13%	-2.82%	-1.49%	-1.79%	-2.22%	-1.74%	-2.35%	-1.27%	-1.12%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	0.07%	-2.09%	-0.81%	-0.61%	0.11%	-0.10%	-2.50%	-1.72%	-1.33%	-1.45%	-1.33%	-1.87%	-1.45%	-0.81%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	0.26%	-1.45%	-0.46%	-0.37%	0.15%	-0.04%	-1.88%	-1.44%	-1.21%	-1.26%	-1.33%	-1.28%	-0.99%	-0.58%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.2 – Oct 12 to Mar 13: 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	-0.79%	-3.79%	-3.03%	-1.34%	0.13%	-0.73%	-	-1.86%	-3.75%	-3.44%	-2.06%	-5.21%	-3.13%	-2.41%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	-2.30%	-3.81%	-2.80%	-6.24%	-0.92%	-1.46%	15.44%	-4.20%	-3.44%	-2.77%	-4.96%	-2.14%	-6.18%	-3.39%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	0.43%	-8.87%	-4.17%	-5.89%	-1.77%	-3.10%	-1.40%	-1.40%	-3.30%	-1.48%	-2.70%	-6.53%	1.00%	-2.93%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-1.07%	-7.10%	-2.13%	-2.22%	-1.04%	-1.56%	-8.72%	-3.73%	-2.59%	-3.08%	-3.41%	-4.37%	-4.36%	-2.83%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-1.90%	-5.30%	-3.29%	-3.34%	-0.27%	-0.71%	-4.34%	0.92%	-0.35%	-1.50%	-1.71%	-3.79%	-3.55%	-1.98%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-1.02%	-3.10%	-0.95%	-4.50%	-1.33%	-1.89%	-4.42%	4.35%	-4.30%	-0.98%	2.26%	-0.78%	0.92%	-1.28%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	-1.81%	-9.15%	-3.59%	-7.09%	-0.48%	0.99%	19.78%	11.74%	-9.12%	-6.19%	-4.67%	3.21%	11.88%	-4.19%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	-6.45%	-1.71%	1.94%	-7.58%	-2.09%	2.70%	12.75%	11.90%	-8.42%	3.41%	11.49%	4.33%	-4.59%	-0.61%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.3 – Apr 13 to Sep 13: 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	1.07%	11.62%	-3.34%	-5.99%	-1.23%	-0.16%	-	-3.20%	-2.75%	-5.01%	-6.41%	1.03%	-2.25%	-3.16%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	4.54%	-9.75%	-2.80%	7.15%	1.50%	1.45%	13.43%	2.94%	-2.48%	-4.78%	2.12%	-5.94%	5.83%	0.00%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-2.72%	2.64%	1.55%	7.06%	5.52%	9.44%	21.63%	-5.04%	-1.76%	-8.07%	-3.25%	4.89%	11.77%	-0.13%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	0.68%	-1.30%	-2.73%	-1.54%	3.38%	3.71%	2.21%	1.68%	-3.89%	-3.09%	-0.53%	-0.16%	3.13%	-0.34%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	2.61%	-1.65%	1.69%	2.01%	0.65%	0.36%	-3.68%	-7.54%	-7.25%	-5.17%	-2.99%	-0.55%	1.85%	-0.79%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	1.81%	-2.14%	-1.09%	4.16%	2.26%	2.60%	-0.41%	11.66%	2.33%	-4.55%	-9.70%	-5.62%	-4.95%	-0.86%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	2.73%	6.65%	2.97%	7.20%	0.91%	-1.63%	15.42%	11.56%	8.96%	5.15%	3.46%	11.76%	12.18%	3.81%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	7.86%	-1.11%	-3.78%	7.42%	2.82%	-3.70%	30.75%	10.40%	8.14%	-9.23%	29.27%	10.53%	3.68%	-0.54%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.4 – Oct 12 to Sep 13: 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	0.00%	-0.01%	0.00%	-0.01%	0.00%	-0.01%	-	0.00%	-0.01%	-0.01%	-0.01%	0.00%	-0.01%	-0.01%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	-0.04%	-0.19%	-0.04%	-0.08%	-0.08%	-0.16%	-0.04%	0.04%	-0.23%	-0.07%	-0.13%	-0.12%	-0.08%	-0.10%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-0.12%	-0.09%	0.24%	0.00%	0.36%	0.85%	0.24%	0.01%	0.08%	-0.10%	-0.07%	0.17%	0.69%	0.14%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-0.16%	-0.29%	-0.04%	-0.07%	0.35%	0.46%	-0.04%	0.04%	-0.16%	-0.04%	-0.08%	0.08%	0.17%	0.02%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-0.11%	-0.22%	0.24%	0.01%	0.05%	-0.06%	0.24%	-0.10%	-0.05%	-0.17%	-0.04%	-0.09%	0.05%	-0.03%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-0.09%	-0.12%	-0.05%	-0.07%	-0.02%	0.01%	-0.05%	-0.02%	-0.05%	-0.05%	-0.01%	-0.07%	-0.04%	-0.05%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	-0.12%	-0.16%	-0.06%	-0.06%	-0.06%	-0.07%	-0.06%	-0.13%	-0.12%	-0.11%	-0.13%	-0.11%	-0.09%	-0.09%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	-0.08%	-0.07%	-0.06%	-0.07%	-0.08%	-0.09%	-0.06%	-0.09%	-0.02%	-0.01%	-0.06%	-0.07%	-0.06%	-0.06%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.5 – Oct 12 to Mar 13: 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	0.83%	1.52%	0.76%	1.45%	0.85%	0.34%	-	0.38%	0.06%	-0.67%	0.38%	0.00%	-0.27%	0.47%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	-0.70%	1.22%	0.73%	-3.31%	-0.17%	-0.40%	-7.48%	-1.85%	-0.04%	-0.28%	-2.63%	2.42%	-3.45%	-0.71%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	1.94%	-3.46%	-0.49%	-2.88%	-1.01%	-1.97%	5.77%	0.95%	0.27%	0.96%	-0.41%	-1.42%	3.74%	-0.21%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	0.43%	-1.81%	1.02%	0.25%	-0.33%	-0.59%	-1.89%	-1.45%	0.65%	-0.69%	-1.31%	0.43%	-1.80%	-0.26%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-0.52%	-0.92%	-0.45%	-1.04%	0.23%	0.11%	1.58%	2.68%	2.51%	0.58%	0.12%	0.47%	-1.50%	0.12%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	0.13%	0.12%	0.96%	-2.86%	-0.94%	-1.27%	-0.12%	5.74%	-1.94%	0.89%	3.77%	2.92%	2.37%	0.37%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	-0.84%	-6.29%	-1.84%	-5.88%	-0.27%	1.46%	-15.29%	-9.94%	-7.24%	-4.79%	-3.48%	6.16%	-10.11%	-2.85%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	-5.63%	0.39%	3.20%	-6.68%	-1.97%	3.07%	15.38%	-10.40%	-6.45%	4.74%	12.54%	6.55%	-3.39%	0.43%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.6 – Apr 13 to Sep 13: 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	-2.28%	-4.83%	-2.31%	-4.62%	-2.84%	-1.15%	-	-1.12%	-0.20%	1.91%	-1.24%	0.00%	0.82%	-1.46%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	1.56%	-4.15%	-2.17%	8.34%	0.18%	0.55%	15.49%	5.16%	-0.74%	0.45%	5.91%	-6.84%	8.07%	1.50%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-5.18%	7.95%	2.17%	7.75%	4.13%	8.67%	18.57%	-2.80%	-0.46%	-2.82%	0.85%	4.20%	-9.49%	1.07%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-1.45%	3.49%	-2.52%	-0.85%	2.10%	2.97%	3.87%	3.64%	-2.28%	1.47%	2.69%	-0.81%	4.81%	0.69%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	0.68%	1.17%	1.56%	2.14%	-0.30%	-0.41%	-2.45%	-5.78%	-5.92%	-1.82%	-0.36%	-1.29%	3.00%	-0.34%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-0.44%	-0.51%	-1.63%	4.10%	1.45%	1.98%	0.05%	10.04%	3.05%	-1.83%	-7.53%	-6.30%	-4.09%	-0.74%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	0.90%	7.43%	2.37%	6.94%	0.23%	-2.24%	15.75%	12.87%	9.28%	6.40%	4.70%	12.33%	13.00%	3.68%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	6.21%	-0.66%	-4.57%	7.06%	2.18%	-4.29%	30.53%	11.59%	8.32%	-8.13%	27.52%	10.99%	4.26%	-0.71%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.7 – Oct 12 to Sep 13: EWCF, with SF=1: 2013/14 ALPs and DAFs ‘Best Estimate 13’

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	0.07%	0.06%	-0.23%	-0.01%	-0.03%	0.06%	-	-0.16%	-0.03%	0.08%	0.10%	-0.03%	-0.14%	-0.02%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	0.24%	-0.06%	0.16%	-0.14%	-0.18%	-0.31%	0.15%	-0.02%	0.44%	-0.02%	-0.24%	0.29%	-0.54%	-0.03%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-0.10%	-0.05%	0.29%	-0.51%	0.12%	0.77%	0.28%	0.53%	-0.10%	-0.19%	0.01%	0.40%	1.16%	0.11%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-0.10%	-0.28%	-0.07%	-0.11%	0.05%	0.16%	-0.08%	-0.39%	-0.27%	-0.74%	-0.31%	0.18%	-0.05%	-0.16%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-0.13%	-0.35%	0.01%	-0.55%	-0.20%	-0.17%	0.01%	-0.24%	-0.20%	-0.28%	-0.16%	0.11%	0.06%	-0.17%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-0.43%	-0.40%	-0.34%	-0.46%	-0.55%	-0.40%	-0.34%	-0.12%	-0.80%	-0.18%	0.69%	-0.28%	-0.17%	-0.34%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	-0.43%	-0.44%	-0.51%	-0.32%	-0.37%	-0.43%	-0.51%	-0.86%	-0.10%	-0.12%	-0.07%	-0.75%	-0.72%	-0.41%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	-0.32%	-0.29%	-0.42%	-0.10%	-0.13%	-0.14%	-0.42%	-0.47%	0.26%	0.27%	0.21%	-0.47%	-0.46%	-0.16%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.8 – Oct 12 to Mar 13: EWCF, with SF=1: 2013/14 ALPs and DAFs ‘Best Estimate 13’

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	0.89%	1.60%	0.52%	1.43%	0.80%	0.39%	-	0.21%	0.03%	-0.58%	0.49%	-0.04%	-0.43%	0.44%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	-0.42%	1.35%	0.92%	-3.39%	-0.28%	-0.57%	-7.28%	-1.92%	0.62%	-0.23%	-2.75%	2.82%	-3.94%	-0.65%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	1.97%	-3.41%	-0.45%	-3.43%	-1.26%	-2.07%	5.80%	1.45%	0.09%	0.87%	-0.34%	-1.20%	4.18%	-0.25%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	0.48%	-1.79%	0.98%	0.21%	-0.64%	-0.90%	-1.93%	-1.89%	0.54%	-1.40%	-1.55%	0.52%	-2.04%	-0.45%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	-0.53%	-1.04%	-0.69%	-1.60%	-0.02%	-0.02%	1.34%	2.54%	2.36%	0.47%	0.00%	0.65%	-1.50%	-0.02%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-0.20%	-0.14%	0.68%	-3.25%	-1.48%	-1.69%	-0.41%	5.64%	-2.70%	0.77%	4.45%	2.70%	2.24%	0.09%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	-1.14%	-6.57%	-2.30%	-6.15%	-0.58%	1.11%	15.82%	10.75%	-7.22%	-4.80%	-3.43%	5.56%	10.81%	-3.18%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	-5.87%	0.18%	2.86%	-6.70%	-2.02%	3.01%	15.08%	10.83%	-6.16%	5.01%	12.78%	6.17%	-3.80%	0.33%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.9 – Apr 13 to Sep 13: EWCF, with SF=1: 2013/14 ALPs and DAFs ‘Best Estimate 13’

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	-2.21%	-4.79%	-2.49%	-4.58%	-2.83%	-1.00%	-	-1.26%	-0.22%	2.02%	-1.12%	0.02%	0.76%	-1.45%
Num S.pts	238	237	243	268	255	253	-	242	272	242	238	260	255	3003
02B	1.83%	-4.05%	-1.92%	8.32%	0.11%	0.48%	15.69%	5.11%	-0.07%	0.51%	5.81%	-6.37%	7.70%	1.60%
Num S.pts	111	88	123	102	115	103	3	79	118	151	132	105	114	1344
03B	-5.15%	7.96%	2.25%	7.33%	3.92%	8.63%	18.48%	-2.25%	-0.63%	-2.91%	0.93%	4.44%	-8.93%	1.06%
Num S.pts	143	67	115	105	123	89	11	25	141	141	141	93	71	1265
04B	-1.40%	3.49%	-2.53%	-0.87%	1.81%	2.70%	3.86%	3.24%	-2.39%	0.79%	2.46%	-0.68%	4.63%	0.52%
Num S.pts	300	149	287	217	246	237	26	60	269	318	280	225	160	2774
05B	0.65%	1.03%	1.34%	1.61%	-0.55%	-0.50%	-2.68%	-5.93%	-6.08%	-1.93%	-0.48%	-1.07%	3.01%	-0.47%
Num S.pts	246	84	191	123	173	223	23	43	128	224	150	125	92	1825
06B	-0.81%	-0.81%	-1.92%	3.72%	0.93%	1.58%	-0.24%	10.16%	2.33%	-1.96%	-6.77%	-6.52%	-4.21%	-1.04%
Num S.pts	93	53	92	77	95	90	7	40	71	81	46	44	60	849
07B	0.57%	7.17%	1.93%	6.70%	-0.09%	-2.61%	15.36%	12.23%	9.29%	6.39%	4.75%	13.04%	12.47%	3.36%
Num S.pts	26	21	42	38	64	42	5	10	23	22	18	21	27	359
08B	5.97%	-0.89%	-4.94%	7.03%	2.13%	-4.35%	31.00%	11.25%	8.58%	-7.82%	27.17%	11.44%	3.88%	-0.82%
Num S.pts	8	14	31	14	38	32	3	8	15	17	8	6	11	205

Table 3.10 - Aggregate NDM AQs 2012/13

LDZ	Estimated AQ Excess (+) or Deficit (-) (‘as used’ analysis full year errors)	Observed AQ Reductions in Gemini at start of gas year 2013/14
SC	-0.1%	-1.9%
NO	-2.8%	0.1%
NW	-1.0%	-0.7%
NE	-1.0%	-1.3%
EM	0.1%	-0.7%
WM	-0.1%	-1.1%
WN	-	0.1%
WS	-1.6%	-0.4%
EA	-1.8%	-0.5%
NT	-2.2%	-0.5%
SE	-0.9%	-0.8%
SO	-0.9%	0.03%
SW	-1.4%	-0.2%
Overall	-1.1%	-0.7%

Table 3.11 - Apr 13 - Sep 13: EWCF, with SF=1: 2012/13 ALPs and DAFs 'Best Estimate 12'

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

Band 01B	Apr 13	May 13	Jun 13 - Sep 13
SC	0.1%	-0.1%	-2.2%
NO	-0.1%	-0.2%	-4.6%
NW	0.3%	-0.3%	-2.3%
NE	-0.4%	-0.6%	-3.6%
EM	-0.4%	-0.4%	-2.0%
WM	1.0%	-0.6%	-1.5%
WN	-	-	-
WS	1.6%	-1.6%	-1.1%
EA	-1.7%	-0.8%	2.2%
NT	-0.4%	-1.0%	3.3%
SE	-0.2%	-1.8%	0.7%
SO	0.2%	-0.8%	0.6%
SW	1.7%	-1.6%	0.8%

Table 3.12 - Apr 13 - Sep 13: EWCF, with SF=1: 2012/13 ALPs and DAFs 'Best Estimate 12'

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

All LDZs	Apr 13	May 13	Jun 13 - Sep 13
01B	0.3%	-3.6%	-2.1%
02B	3.1%	0.7%	-0.1%
03B	4.8%	2.3%	-3.7%
04B	5.6%	2.9%	-3.9%
05B	4.7%	2.2%	-4.4%
06B	4.1%	1.8%	-4.3%
07B	1.5%	4.6%	3.4%
08B	2.6%	-0.3%	-3.9%
09B	-	-	-

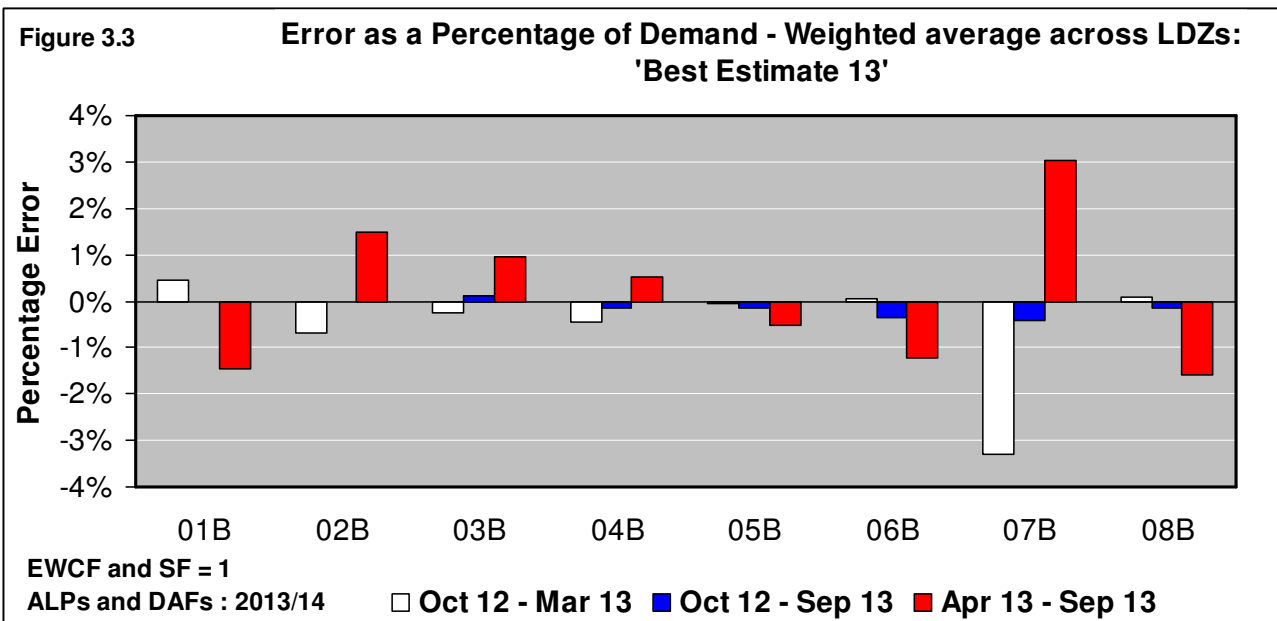
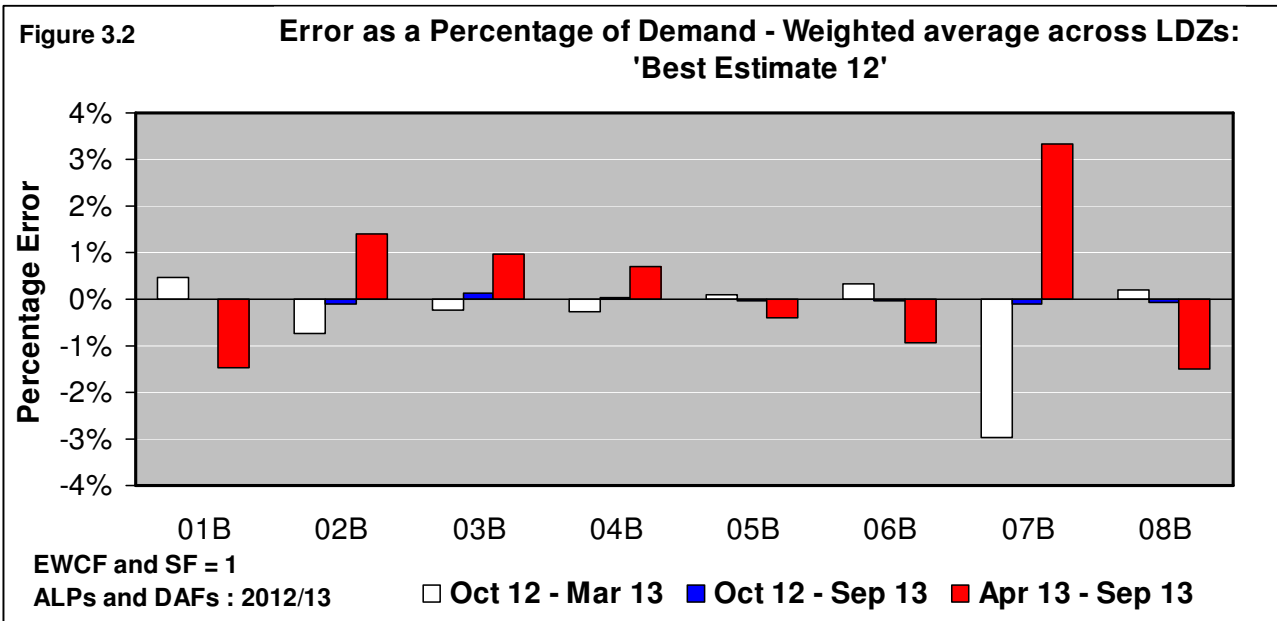
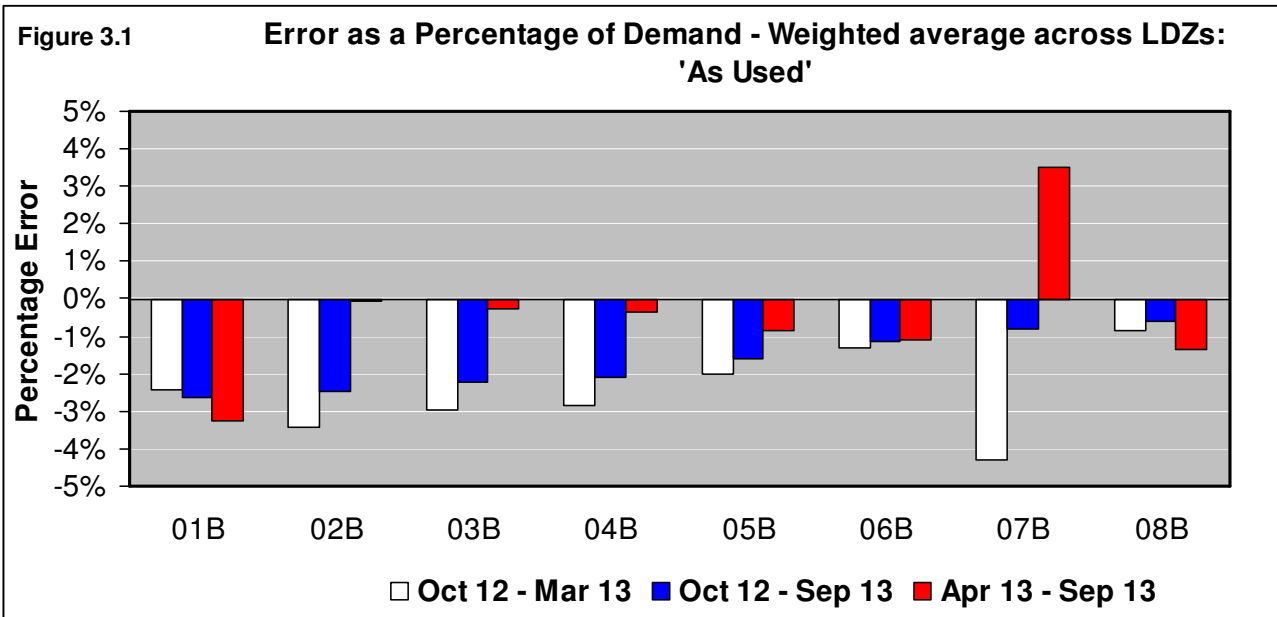


Figure 3.4

Monthly Actual & Deemed Demands for 01B (across all LDZs)

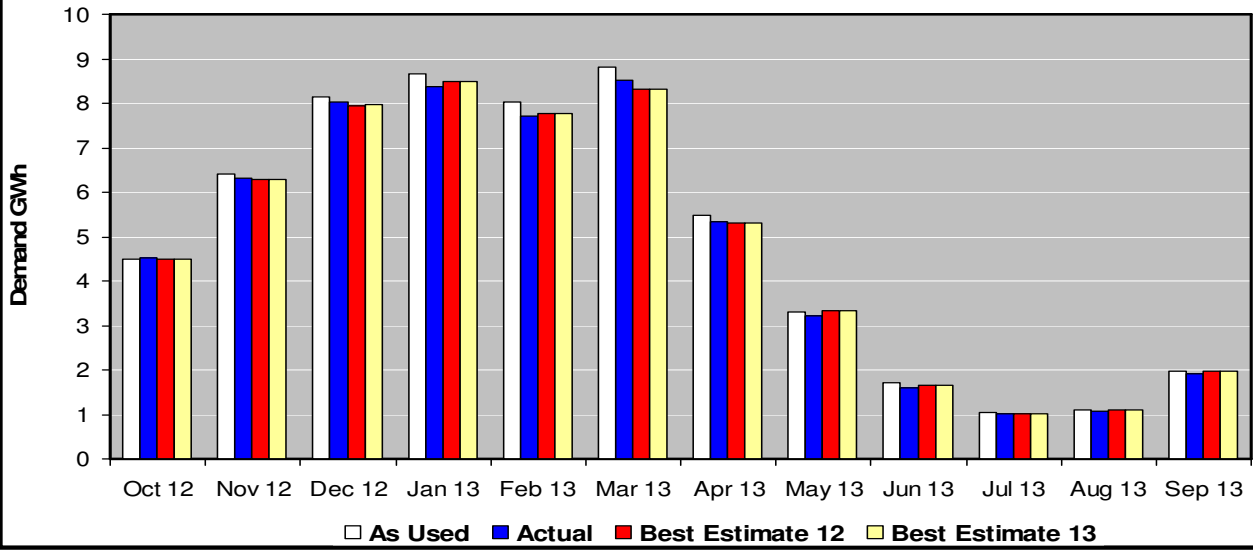


Figure 3.5

Monthly Actual & Deemed Demands for 02B (across all LDZs)

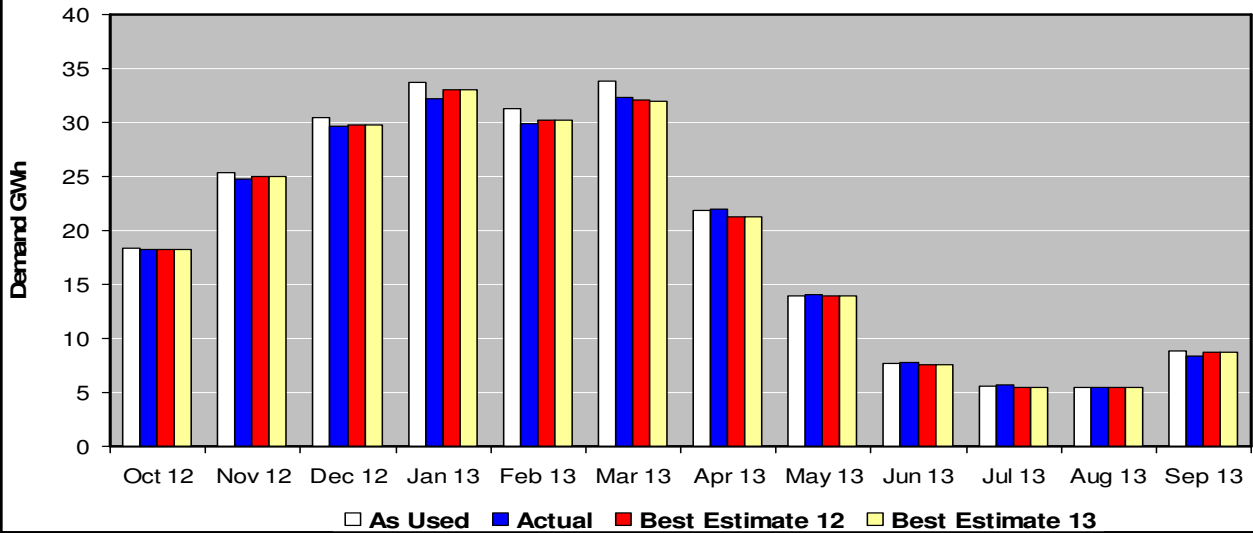
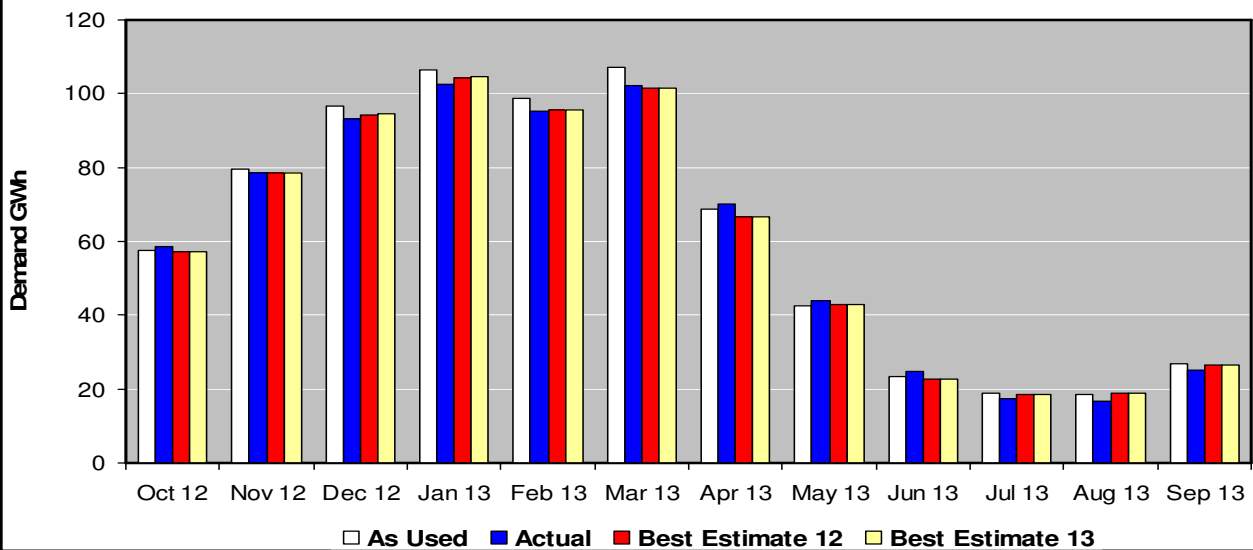
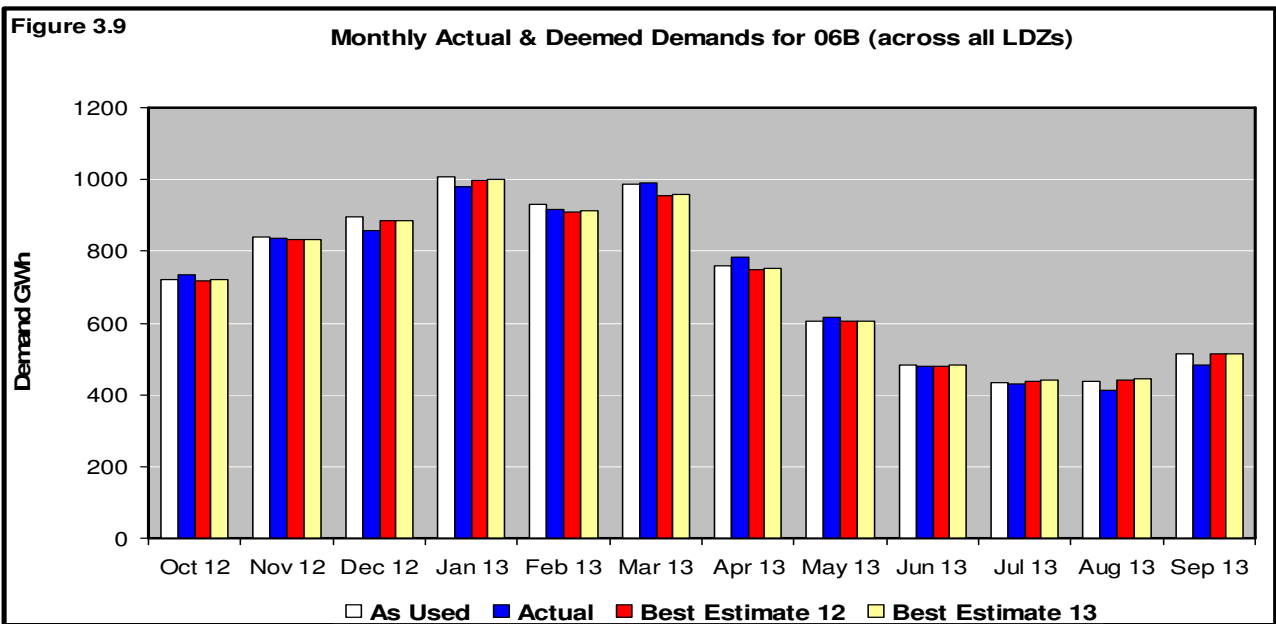
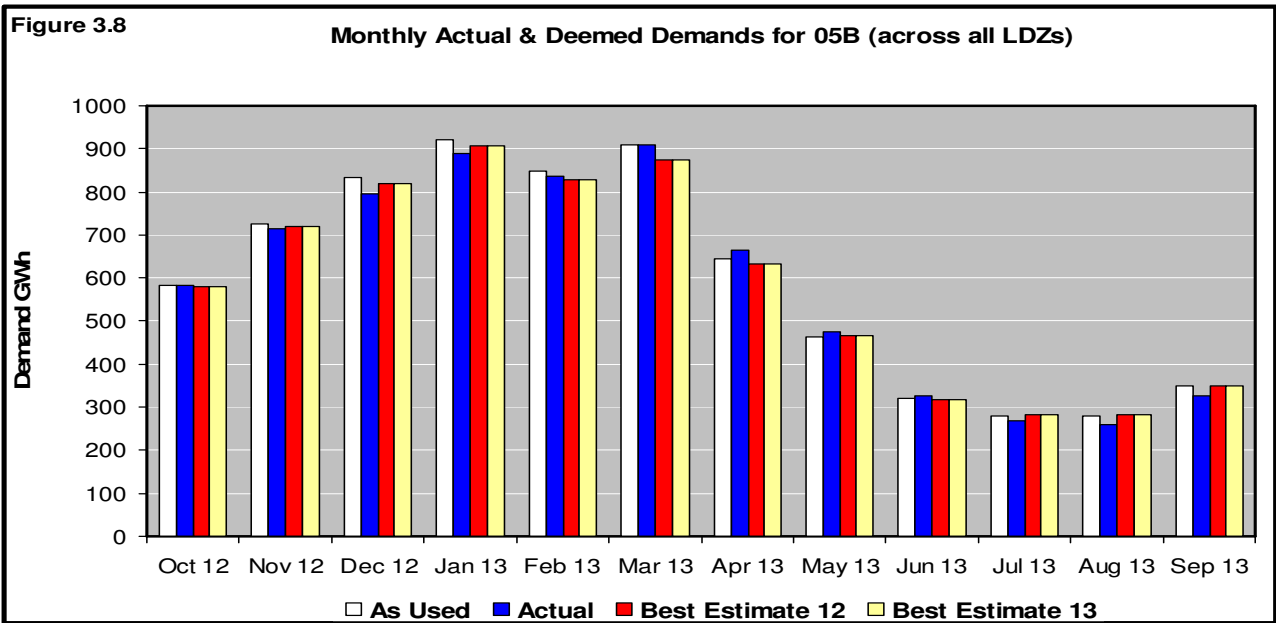
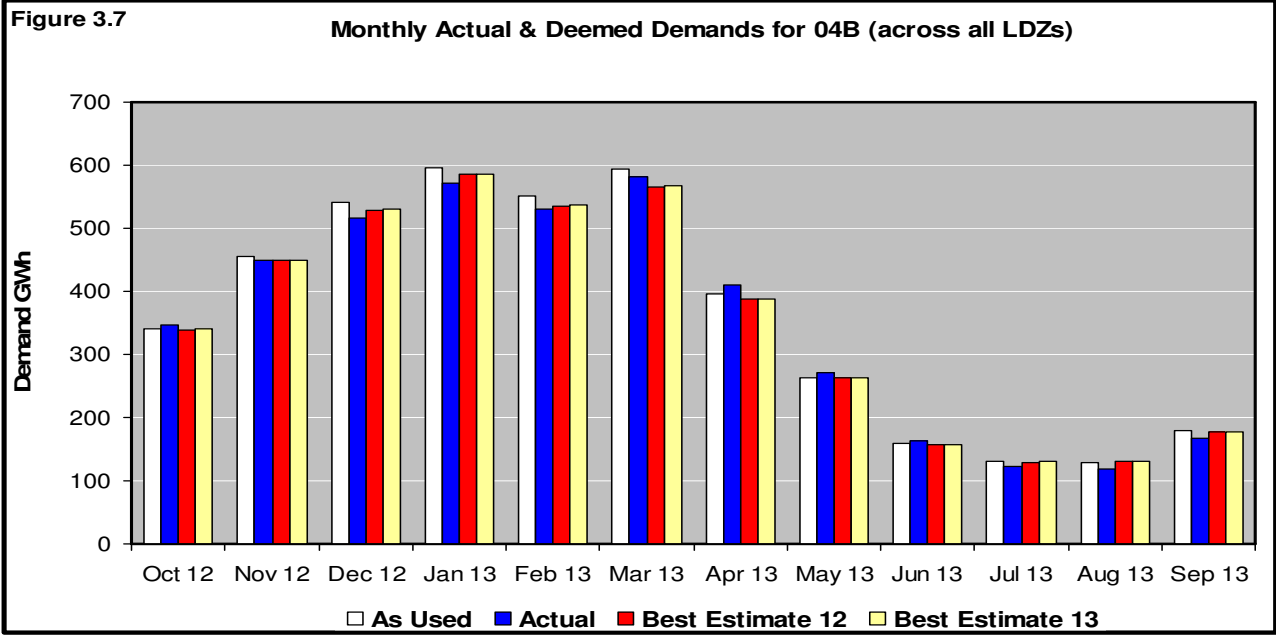
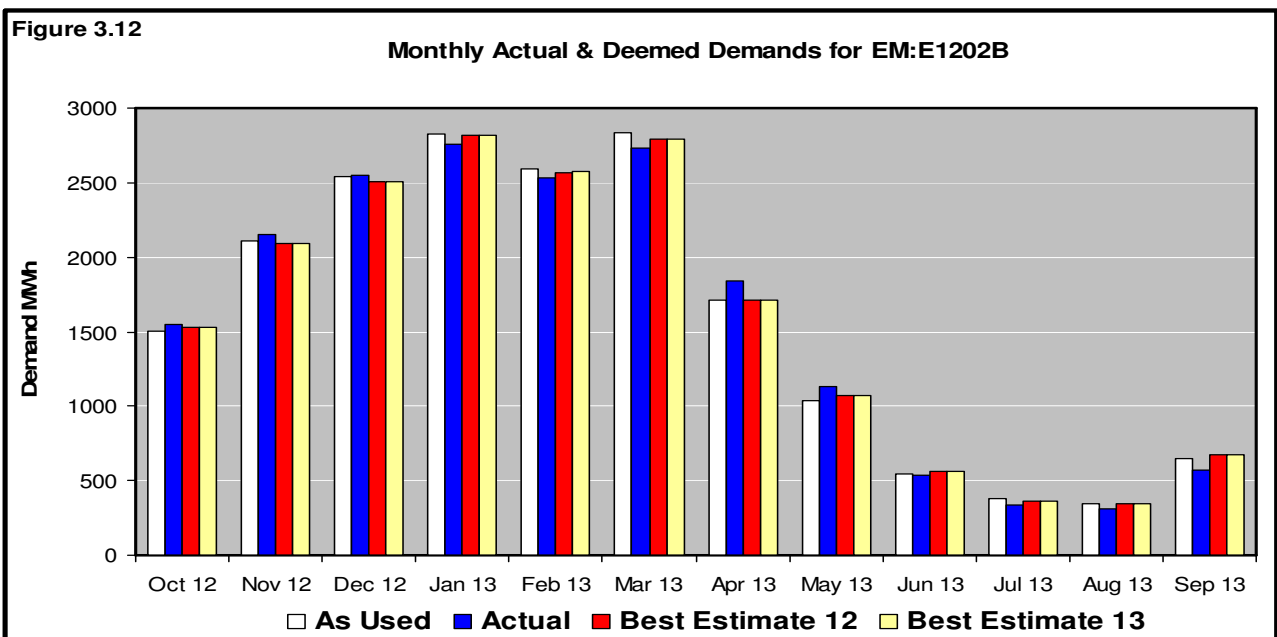
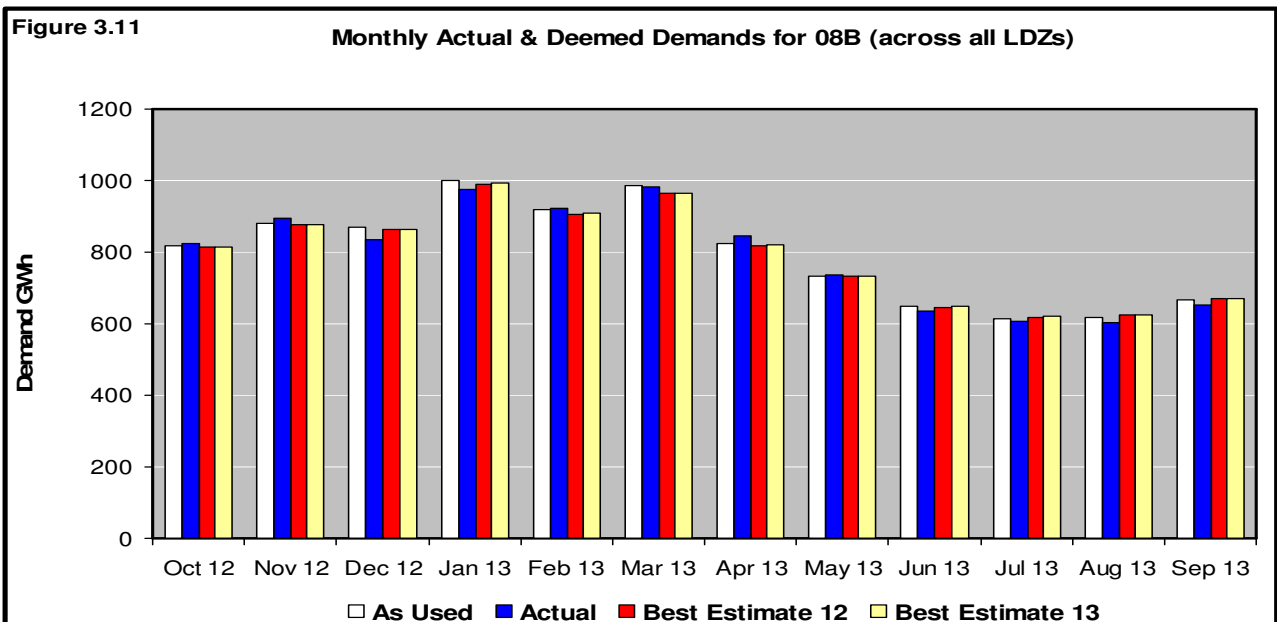
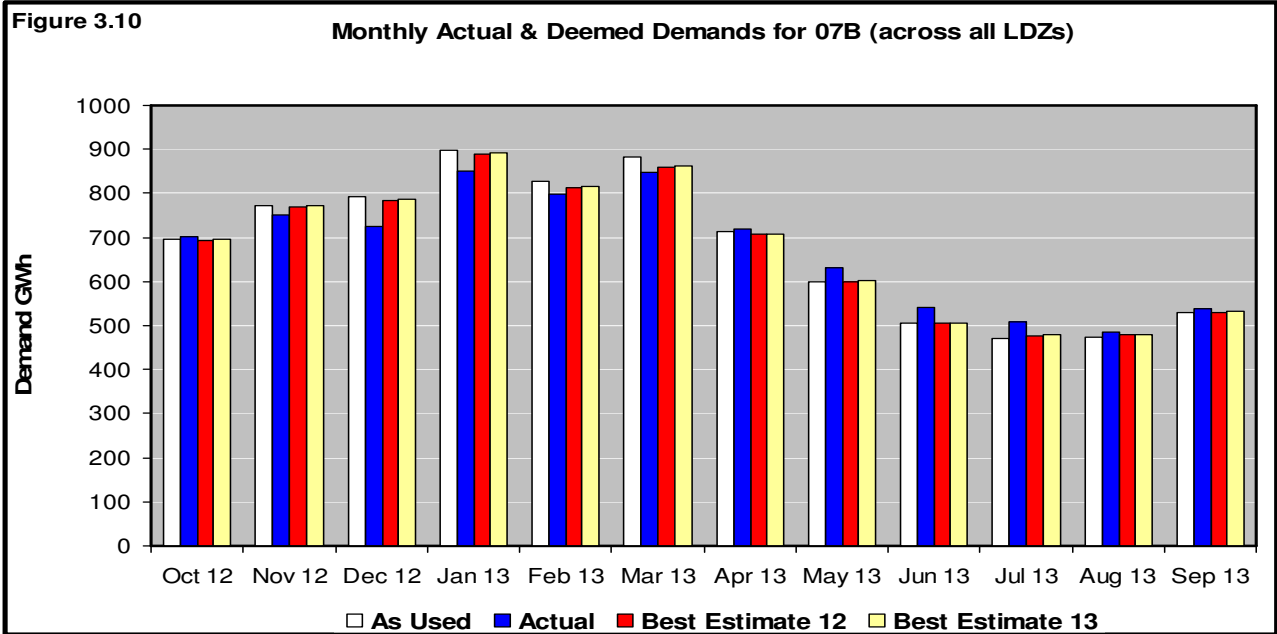


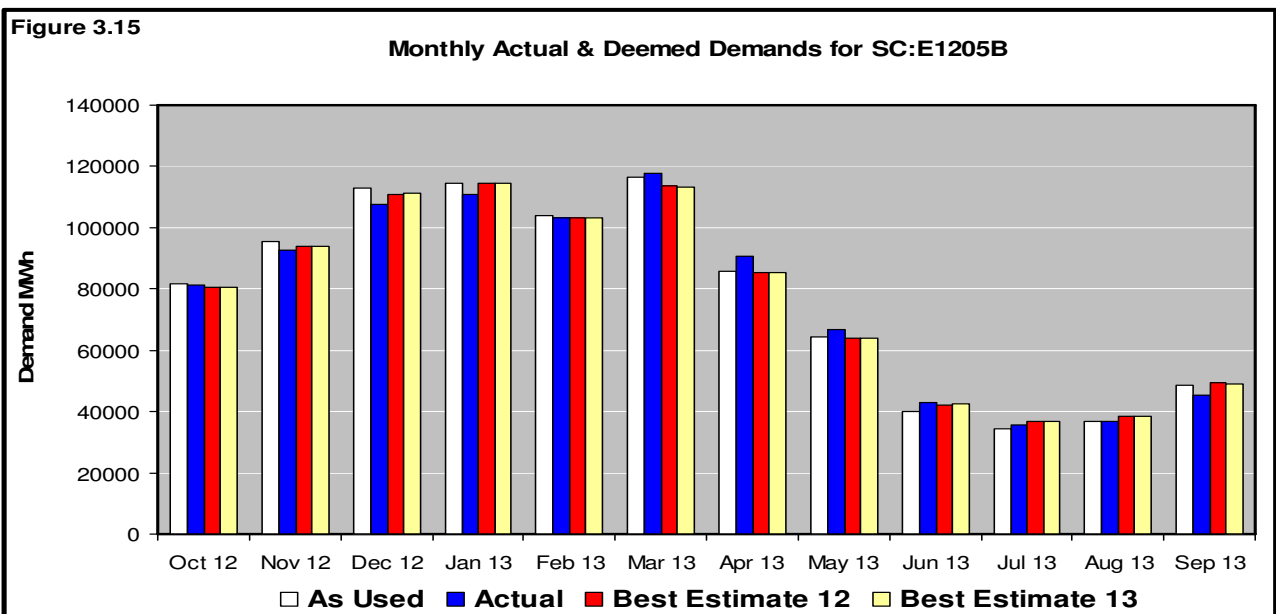
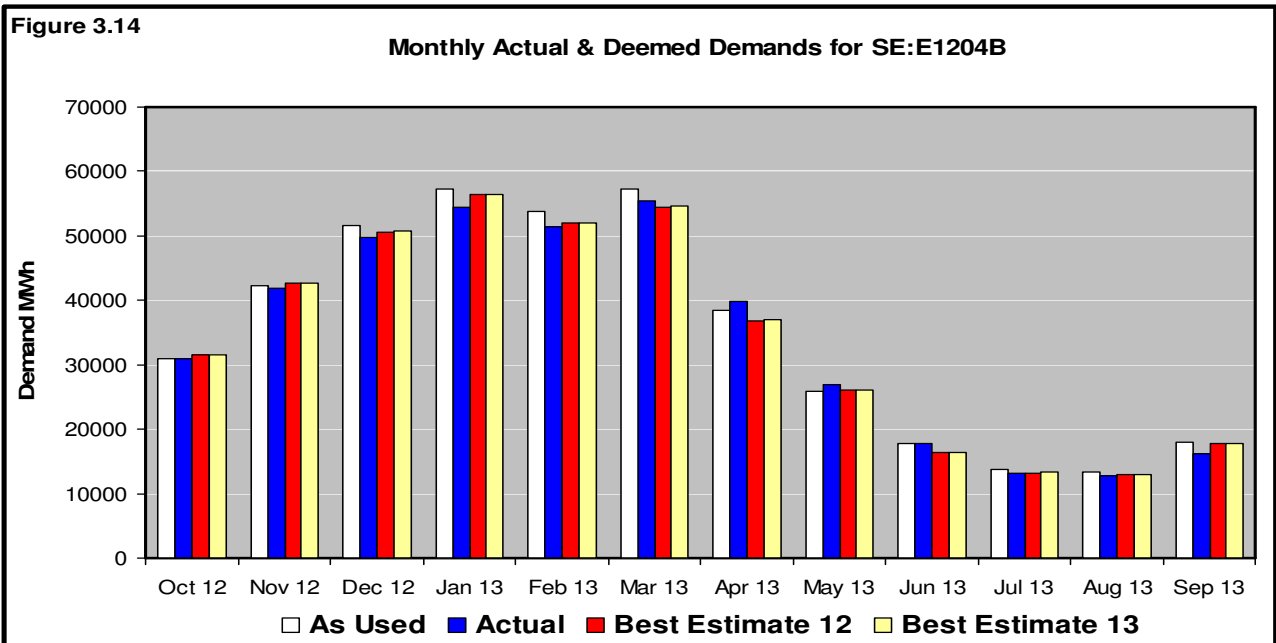
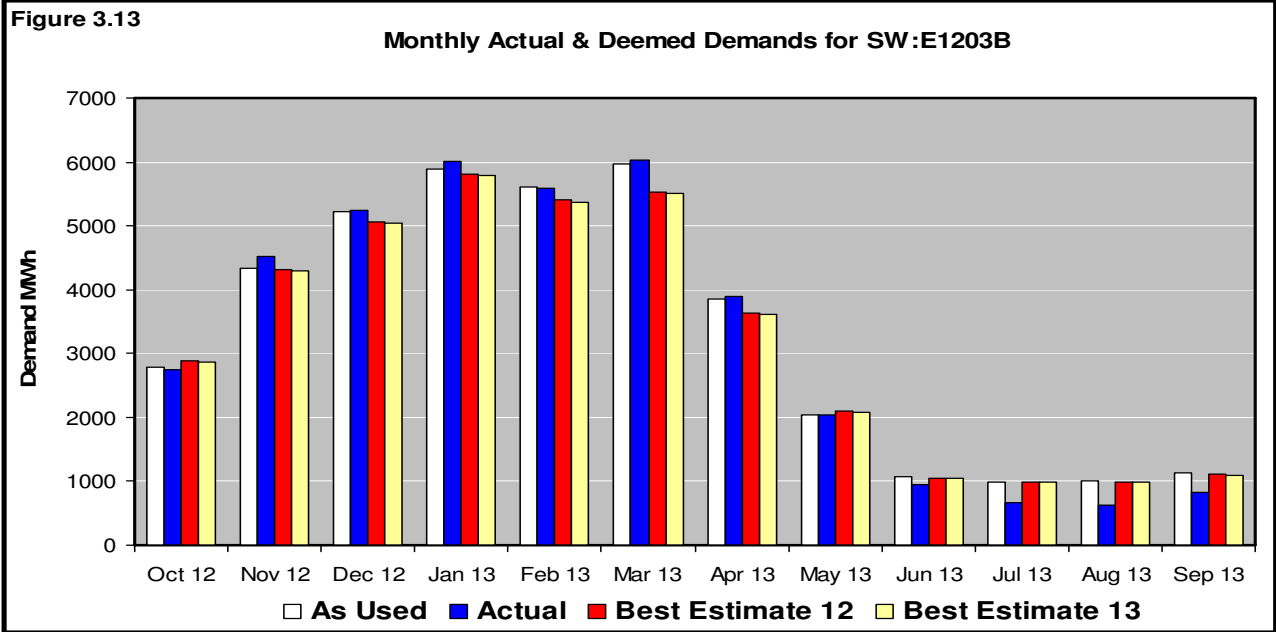
Figure 3.6

Monthly Actual & Deemed Demands for 03B (across all LDZs)









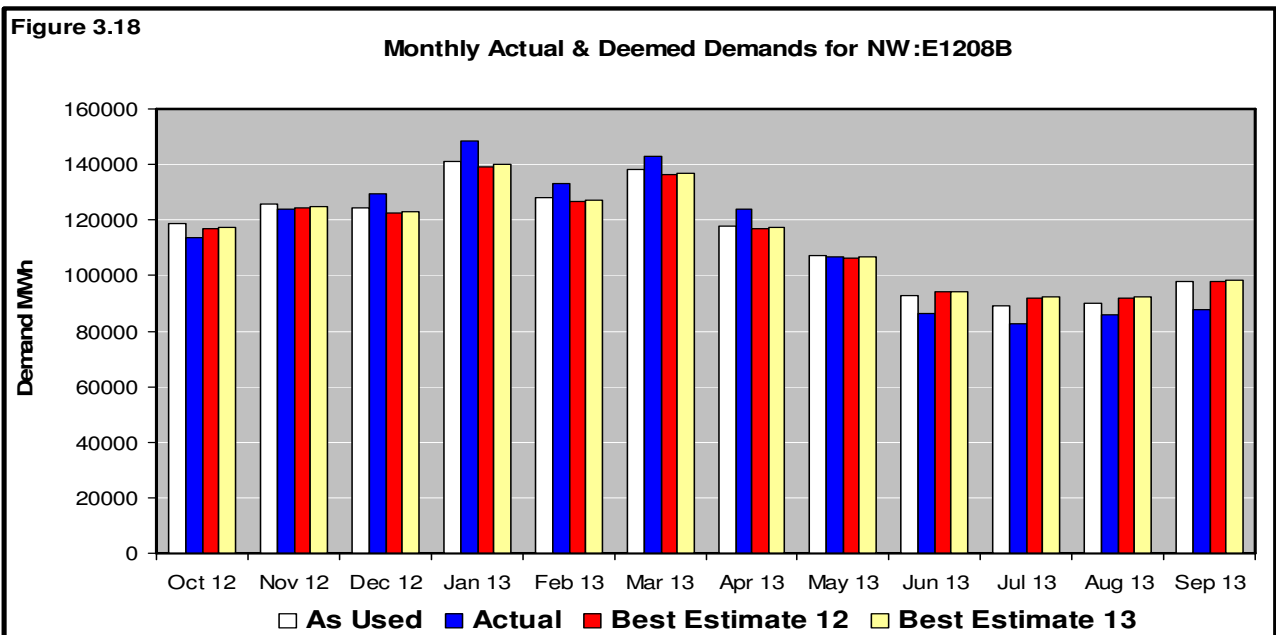
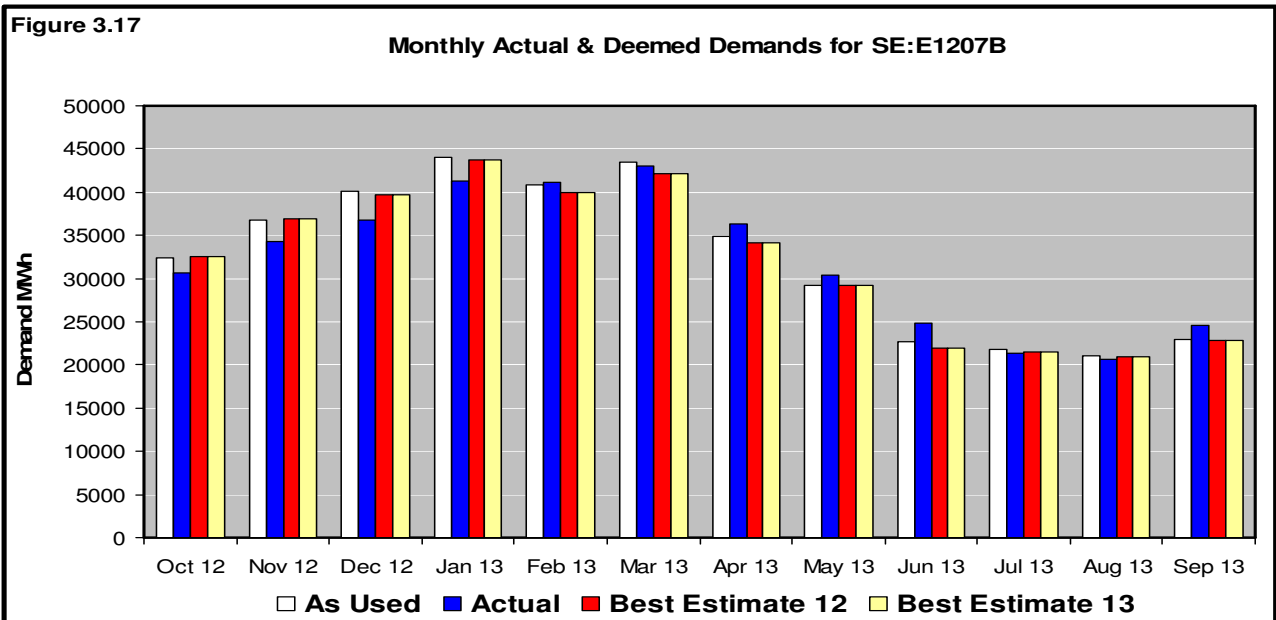
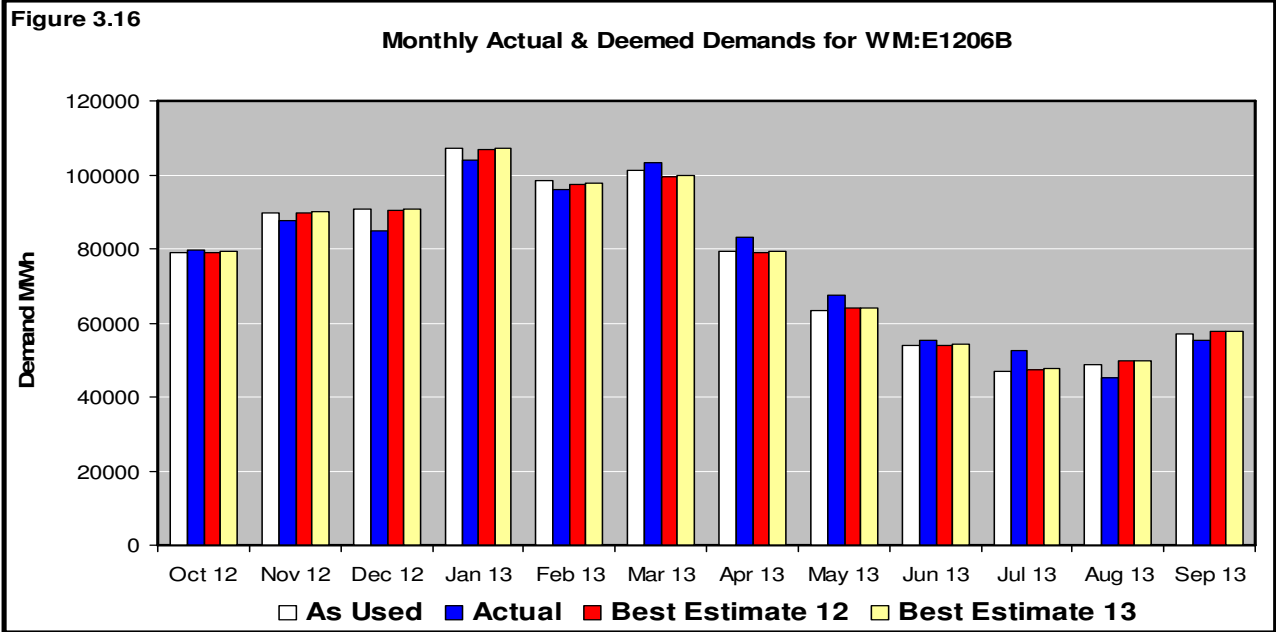


Figure 3.19

Daily Actual and Deemed Demands for 01B (across all LDZs)

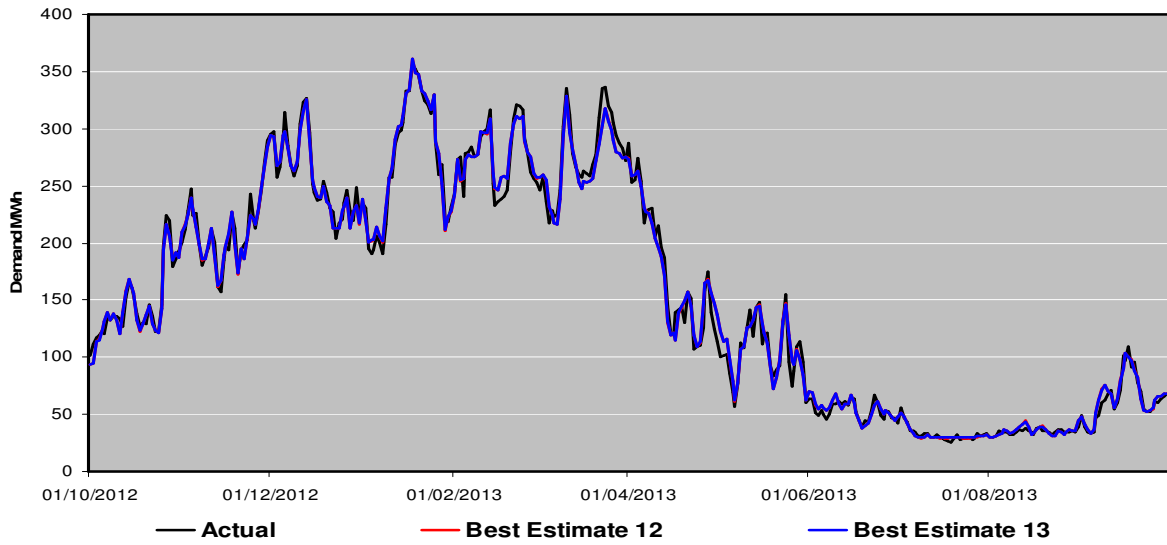


Figure 3.20

Daily Actual and Deemed Demands for 02B (across all LDZs)

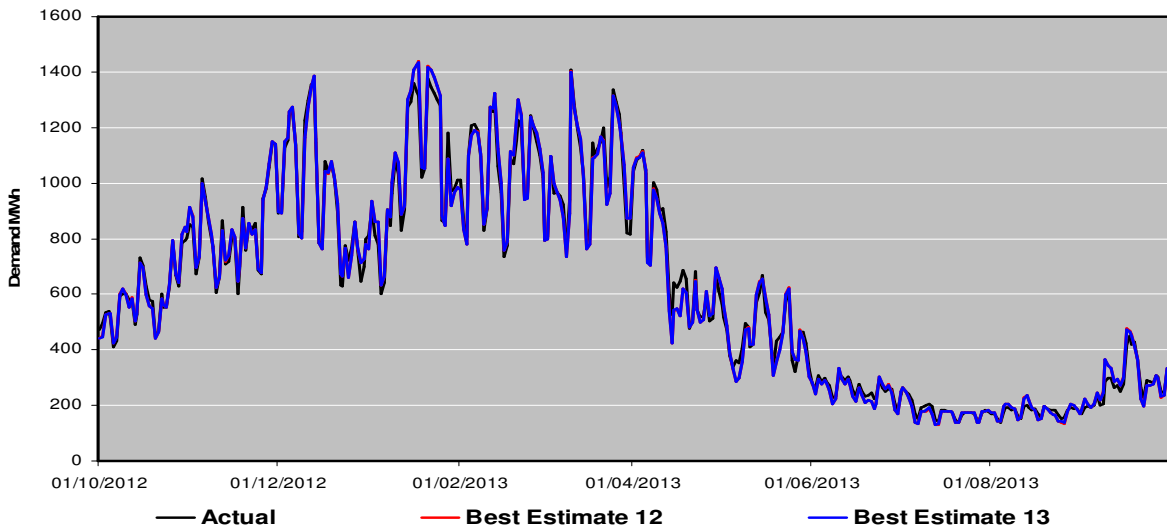


Figure 3.21

Daily Actual and Deemed Demands for 03B (across all LDZs)

