ESSENTIAL SERVICES COMMISSION

GAS DISTRIBUTION SYSTEM CODE

REVIEW OF UNACCOUNTED FOR GAS BENCHMARKS

FINAL DECISION

JUNE 2013

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1 FINAL DECISION

1.1 Background

The Essential Services Commission (Commission) received a formal request from the Australian Energy Regulator (AER) to amend and update the Unaccounted for Gas (UAFG) benchmarks in the Gas Distribution System Code (GDSC). The benchmarks impact the three gas distribution businesses (GDBs) in Victoria—Envestra, Multinet and SP AusNet. More generally, they impact the cost of gas supply to retail businesses and, ultimately, most Victorian households and businesses.

UAFG is the difference between metered gas injected at various supply points and the allocated gas at end-use customer delivery points. The setting of UAFG benchmarks forms part of a mechanism to incentivise the GDBs to improve the reliability of the Victorian gas distribution network.

The benchmarks in the GDSC—previously determined by the Commission for the 2008–12 period—were extended by the Victorian Government for the period 2013–17 pursuant to a Ministerial Order dated 21 December 2012. The benchmarks and further decisions made as part of this review will replace those in the Ministerial Order.

The Commission released a draft decision in April 2013 that assessed separate benchmarks for the two Victorian UAFG customer classes that are supplied through the Principal Transmission System (PTS). Class A customers use more than 250 TJ per annum and are typically serviced by the high pressure network. Class B customers use less than 250 TJ per annum and typically use medium to low pressure networks. The Commission also assessed proposals to combine the Envestra Victorian and Albury networks for UAFG purposes, and to reset the benchmarks for GDBs non Principal Transmission System (non- PTS) networks.

The Commission received seven submissions in response to the draft decision from the Australian Energy Market Operator (AEMO), the three GDBs and three gas retail businesses—AGL, Origin Energy and Energy Australia (EA).

1.2 Assessment of submissions and issues raised

In the draft decision, the Commission did not alter the class A benchmarks from previous levels. The GDBs did not provide information to suggest a change is warranted.

Class B benchmarks

The Commission's draft decision largely accepted the class B PTS benchmarks proposed by SP AusNet. SP AusNet provided adequate information to justify its proposal.

A lack of information was the main reason for not accepting Envestra's and Multinet's proposals. The Commission stated Envestra and Multinet should:

- provide a detailed assessment of the causes of UAFG
- demonstrate how they have taken steps to seek out efficiencies to minimise UAFG
- explain why they did not complete their funded low pressure mains replacement programs and how these decisions impacted UAFG levels.

The gas retail businesses support the Commission's position in the draft decision. For example, AGL endorses the Commission's concern that, apart from SP AusNet, none of the other gas distributors provided independent analysis and data in support of their claims for new (higher) benchmark rates. Further, AGL contends that in spite of the higher benchmark rates being claimed, there has been no strategy put forward to manage this upward drift.[1]

Envestra and Multinet have now provided a detailed assessment of the causes of UAFG and demonstrated how they have taken steps to seek out efficiencies to minimise UAFG. Envestra and Multinet's submissions go into detail about their UAFG management strategies and activities undertaken to reduce UAFG. Both GDBs commissioned Asset Integrity Australia (AIA) to assist them in responding to the Commission 's draft decision. Similarly, AIA conducted a study for SP AusNet's network, which was provided in its initial submission to the Commission.

The Commission accepts that it is not possible to accurately explain the difference between the 2008–12 benchmarks and Envestra and Multinet's actual UAFG levels due to the inherent uncertainty of the causes of UAFG.

To avoid the need to undertake a detailed bottom-up analysis, which is not feasible based on the information available, the GDBs propose for the Commission to apply a 'revealed cost approach' as a basis for setting the forward benchmarks. Under this approach, UAFG benchmarks would be set on the basis of the GDBs' past performance. An important assumption is that the GDBs have an incentive to minimise

[1] AGL submission, May2013, p. 1.

UAFG to the extent possible. If accepted, the historical data can be relied on to reveal relatively efficient UAFG levels overall.[2]

The Commission accepts that the GDBs have an incentive to minimise UAFG to the extent possible. The revealed cost approach data therefore provides a reasonable basis for an efficiency forecast.

However, underspending on low pressure mains replacement in the previous period would mean UAFG is higher than it should otherwise be to some extent. This raises a separate question of whether an adjustment should be made to the 'base' of the forecast—that is, the forward UAFG benchmarks.

SP AusNet largely completed its low pressure mains replacement program. In contrast, Envestra and Multinet delivered a lower volume of mains replacement than approved by the Commission for the 2008–12 regulatory period. Multinet replaced less than half of the kilometres of pipes for which funding was previously approved by the Commission, while Envestra replaced just over 60 per cent.

The Commission rejects Envestra and Multinet's argument that they were unable to complete their low pressure mains replacement programs because the GFC created severe capital constraints.

The reduced expenditure (and kilometres) on mains replacement has resulted in a windfall gain to the two GDBs. Consumers have paid gas prices reflective of the higher expenditure on replacement approved in the previous regulatory period, not the actual expenditure completed.

Accordingly, the Commission will adjust the forecast base. This has resulted in downward adjustments of 0.04 and 0.05 percentage points to the class B benchmarks for Envestra and Multinet respectively. A separate calculation for SP AusNet identified a downward adjustment of 0.01 percentage point.

As noted in the draft decision the Commission considers there is merit in Envestra's proposal to align the Envestra Victoria and Albury benchmarks as the networks are contiguous and the causes of UAFG would be similar across the two networks. In line with the draft decision, as the Commission has now received further information and amended Envestra's Victoria UAFG, the Commission has decided to align the Envestra Albury and Envestra Victoria Class B benchmarks.

[2] Efficiency is achieved where gas services to consumers are provided at least cost, and where the resources employed to provide the services are allocated to their highest valued uses. Further, efficiency reflects the need for the industry to make timely changes to technology and services in response to changes in consumer tastes and in production opportunities. The use of the term 'efficiency' in this decision is from an economy-wide perspective.

Non-PTS benchmarks

In the absence of evidence provided by Envestra and Multinet, the Commission considers that the current non-PTS UAFG benchmarks should be retained.

For SP AusNet, the Commission has given consideration to the business' circumstances in setting the non-PTS UAFG benchmarks. In this context, the historical data provides a reasonable basis for the determination of its non-PTS benchmarks.

In the draft decision, the Commission found there has been a consistent declining trend in UAFG since 2006. A downward trend was applied to the forward non-PTS benchmarks to account for further scope for ongoing efficiencies.

SP AusNet has not presented evidence to the Commission, in its recent submission, that the efficiencies it achieved in the 2008–12 period have been exhausted. The Commission has therefore again applied a downward trend to the non-PTS benchmarks to account for expected efficiency improvements in the final decision.

1.3 Final decision

The Commission's final decision for the class A, class B and non-PTS UAFG benchmarks for the 2013–17 period are shown in tables 1.1 and 1.2.

Table 1.1 Updated 2013–17 UAFG class A and B benchmarks (per cent)

	Class B					Class A
	2013	2014	2015	2016	2017	2013-17
Envestra Victoria	3.7	3.7	3.7	3.7	3.7	0.3
Envestra Albury	3.7	3.7	3.7	3.7	3.7	0.1
Multinet	4.1	4.1	4.1	4.1	4.1	0.3
SP AusNet	5.4	5.4	5.4	5.4	5.4	0.3

Table 1.2 Updated 2013–17 UAFG non-PTS benchmarks (per cent)

	2013	2014	2015	2016	2017
Envestra Victoria	2.0	2.0	2.0	2.0	2.0
Multinet	2.0	2.0	2.0	2.0	2.0
SP AusNet	5.8	5.6	5.3	5.1	4.9

1.4 When will the updated UAFG benchmarks apply?

The Victorian Government amended the UAFG benchmarks in the GDSC by Ministerial Order (Order).[3] The amended benchmarks in the Order had the effect of extending the 2012 benchmarks in the GDSC to cover the 2013–17 period.

The Commission considered it is not appropriate to make the benchmarks retrospective as the Order sets the benchmarks until the Order is repealed. In addition, the Commission noted there are practical issues for AEMO—who use the benchmarks prospectively for wholesale market settlement purposes—in making the benchmarks retrospective.

Finally, the Commission stated there are administrative issues for it to consider in making the benchmarks retrospective. Specifically schedule 4 of the GDSC, which provides for the Commission to amend the GDSC, states that:

> *The date specified on the amendment must not be earlier than the date on which the amendment is made without the prior agreement from Distributors and the Commission's Customer Consultative Committee.*

In its submission to the draft decision, AGL endorses the decision to have the amended UAFG benchmarks apply prospectively from 1 July 2013. Any retrospective application back to 1 January 2013 would require significant adjustments to billing and settlement systems throughout the industry and the cost would significantly outweigh any benefits.

The Australian Energy Market Operator (AEMO) submitted that it supports the Commission's draft decision to apply the benchmarks prospectively as it is unable to apply the benchmarks retrospectively. AEMO also supported the draft decision to not

[3] Published as special gazette, s460 on 24 December 2012.

adjust or blend the benchmarks from 1 July 2013 as this would add another complexity to the calculations for an unclear benefit.

The GDBs submitted that any amendments to the GDSC should be retrospective and apply from 1 January 2013. Envestra and SP AusNet also submitted that if making the benchmarks retrospective was not possible, the benchmarks to apply from 1 July 2013 should account for the 2013 benchmarks not commencing on 1 January ('blending option'). The GDBs proposed two blending options – the preferred option was to increase the 2013 benchmark while leaving the remaining years' benchmarks the same; the second option was to increase benchmarks for all years.

The Commission has considered all arguments and options presented and considers that no change to the draft decision is warranted. The Commission considers that the Ministerial Order has extended the UAFG benchmarks until the GDSC is amended and the effective date of the amended GDSC sets the commencement date of the new UAFG benchmarks.

2 ABOUT THE REVIEW

This review is being conducted to reset the current UAFG benchmarks that apply to the three GDBs in Victoria—Envestra, Multinet and SP AusNet. The benchmarks impact the GDBs. More generally, they impact the cost of gas supply to retail businesses and, ultimately, most Victorian households and businesses.

The UAFG reset process for Victoria is set out in the GDSC, which specifies the annual benchmark percentage of UAFG and the period the benchmarks are to apply.

The benchmarks apply to 'Class A' and 'Class B' customers on the Principal Transmission System (PTS), and non-PTS networks. Class A refers to customers with an annual consumption greater than 250 TJ per annum. Class B refers to customers with an annual consumptions less than 250 TJ per annum. The non-PTS networks are small and, therefore, the quantities and associated costs of UAFG are much smaller when compared to PTS UAFG.

The benchmarks set out in the Code were extended by the Victorian Government for the 2013–17 period. The current benchmarks are shown in table 2.1 below.

Table 2.1 Current UAFG benchmarks for 2013–17 (per cent)

	Class B	Class A
Envestra (Victoria)	2.6	0.3
Envestra (Albury)	3.0	0.1
Multinet	3.1	0.3
SP AusNet	4.9	0.3
All non-Principal Transmission System (PTS) networks	2.0	2.0

This review assesses the appropriateness of the UAFG benchmarks in Table 2.1. The Commission's final decision will be implemented through an amendment to the GDSC Schedule 1, which will update the UAFG benchmarks in the GDSC.

2.1 What is unaccounted for gas?

UAFG refers to the difference between the measured quantity of gas entering the gas distribution system and the gas billed to customers. The causes of UAFG are discussed in section 5.1.

The UAFG benchmarks are intended to incentivise the GDBs to take steps to minimise levels of UAFG. If the level of UAFG meets the benchmarks, the GDBs do not contribute towards the cost of UAFG. However, if the volume exceeds the benchmark the GDBs are required to compensate the gas retailers for the UAFG in excess of the benchmarks. Where UAFG is below the benchmark, retailers make reconciliation payments to the relevant GDB.

Under Part 19 of the National Gas Rules 2008 the Australian Energy Market Operator (AEMO) has established procedures for reconciling UAFG.[4] Under AEMO's Procedures, reconciliation payments are made by either the retailers or the GDBs - depending on whether actual UAFG is over or under the benchmark. To prepare the reconciliation statement, AEMO relies on energy consumption data for both Class A and Class B customers.

Benchmarks for each Victorian GDB are set out in part C of Schedule 1 to the GDSC. These benchmarks are adopted by AEMO in its procedures. The GDSC currently contains UAFG benchmarks for the years 2008–12. The GDSC specifies separate benchmarks for each GDB.

2.2 Why is the Commission undertaking this review?

The AER was responsible for assessing the 2013–17 Victorian gas access arrangements but did not have power to set the UAFG benchmarks.

The Victorian Government recently extended the UAFG benchmarks in the GDSC. The 2012 benchmarks set by the Commission as part of the 2008–12 access arrangement review were extended to the 2013–17 period.

The Commission received a formal request from the AER under section 32 of the National Gas (Victoria) Act 2008 requesting it to amend Schedule 1 of the GDSC to update UAFG benchmarks for the 2013–17 period.

[4] UAFG benchmarks are also required for the purposes of rule 235(8) of the National Gas Rules. This rule requires the assignment of a UAFG benchmark in accordance with a declared metering requirement

2.3 Assessment of submissions

In performing its functions and exercising its powers, the objective of the Commission is to promote the long term interests of Victorian consumers having regard to the price, quality, and reliability of essential services. In addition, the Commission must have regard to efficiency in the industry, incentives for long term investment, and the financial viability of the industry—among other things.[5] The Commission will conduct this review consistent with these objectives.

Submissions received by the Commission focus on UAFG benchmarks for class B customers. The analysis in this draft decision mainly addresses issues in relation to benchmarks for these customers.

2.4 Structure of this paper

The remaining sections of this draft decision include:

- Chapter 3: Summary of draft decision—this chapter summarises the Commission's position in the draft decision and presents the historical UAFG data.
- Chapter 4: Summary of submissions to the draft decision—this chapter presents stakeholders' responses to the draft decision.
- Chapter 5: Commission assessment of submissions and issues raised—the focus of the Commission's assessment is on class B (PTS) UAFG benchmarks for Envestra and Multinet and, to a lesser extent, the non-PTS benchmarks.
- Chapter 6: Final decision—this chapter sets out the final UAFG benchmarks, which will be reflected in an amendment to the GDSC.

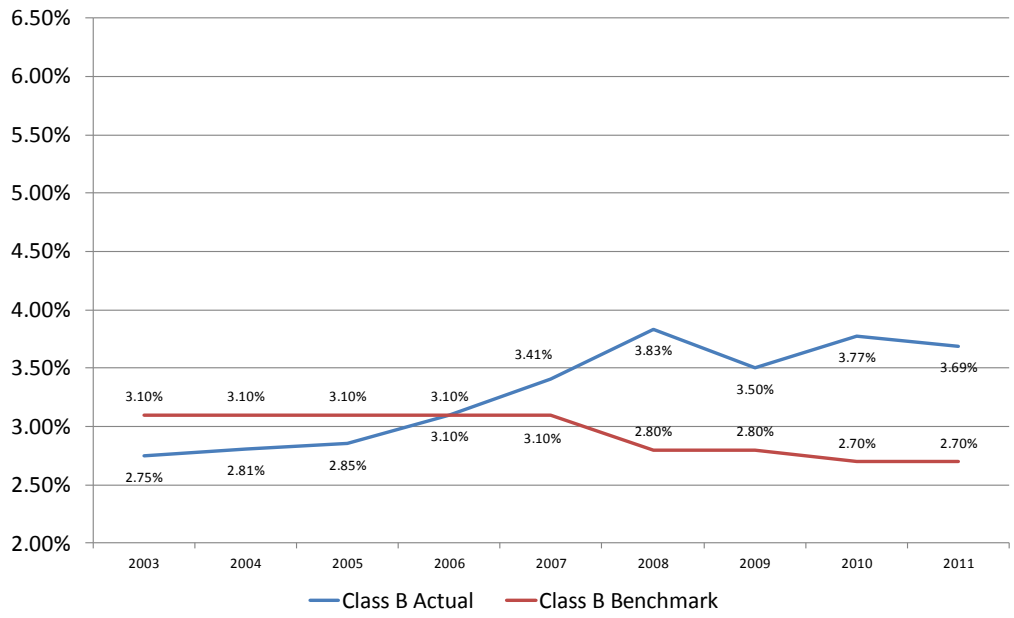
[5] Essential Services Commission Act 2001, section 8A.

3 SUMMARY OF DRAFT DECISION

In the draft decision, the Commission did not alter the Class A benchmarks from previous levels. The GDBs did not provide information to suggest a change is warranted.

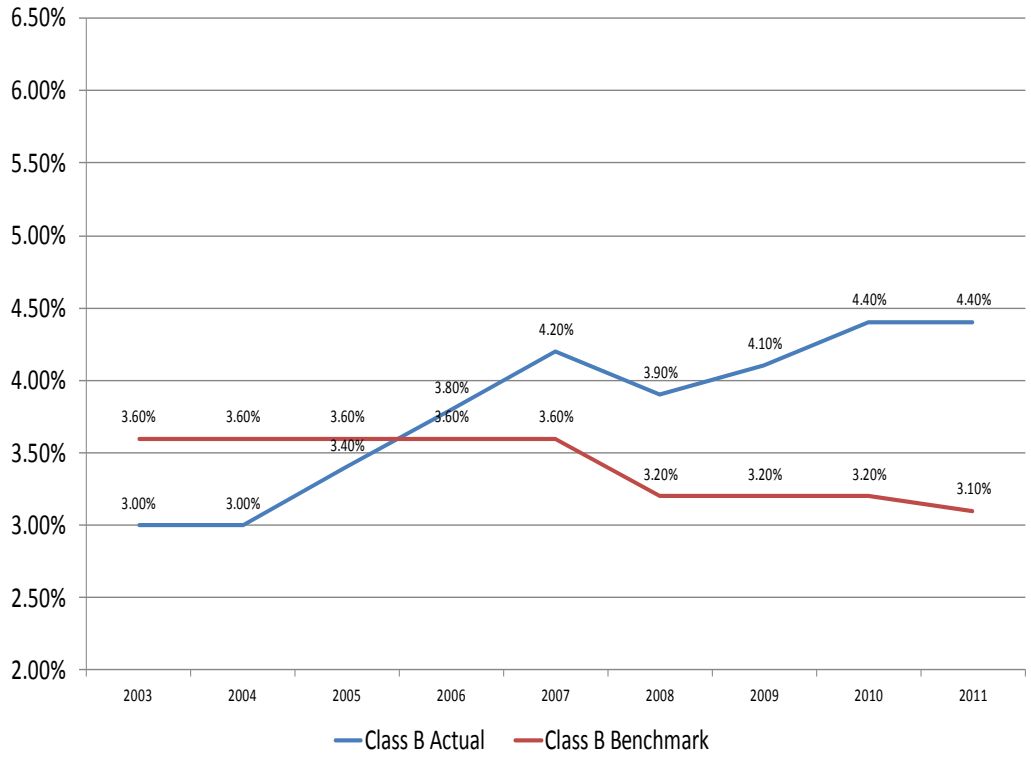
For class B benchmarks, the Commission stated it does not have sufficient information to understand why Envestra and Multinet were unable to meet previous benchmarks (figures 3.1 and 3.2).[6] For example, these GDBs failed to explain why they did not complete their funded low pressure mains replacement programs, and how these decisions impacted UAFG levels. Without this information, the Commission stated it does not have a basis for moving away from the current class B benchmarks.

Figure 3.1 Envestra Class B UAFG volumes: actual and benchmark, 2003–11



[6] 2011 data for Envestra and Multinet are estimates. The data have not been settled with the gas retail businesses.

Figure 3.2 Multinet Class B UAFG volumes: actual and benchmark, 2003–11



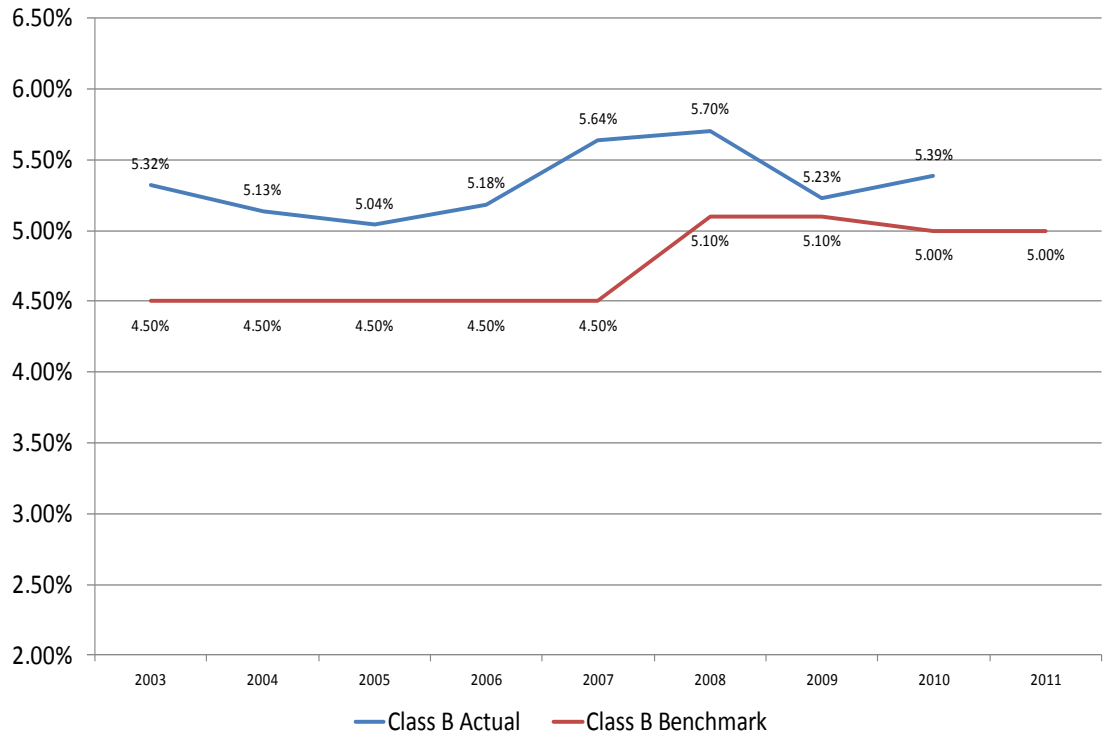
In contrast, SP AusNet largely completed its mains replacement program and provided detailed information on the causes of UAFG for its specific network. Also, SP AusNet demonstrated it is in the process of developing a more comprehensive strategy to minimise UAFG levels. Finally, it was noted that the gap between the 2008–12 benchmarks and SP AusNet's actual UAFG levels is significantly lower compared to Envestra and Multinet.

The Commission was therefore confident it can use SP AusNet's historical data to set the forward benchmarks for class B customers (figure 3.3). SP AusNet proposed the most recent year's actual data as the base year for forecasts. However, the Commission considered a three-year average (2008–10) is appropriate given significant variances from year-to-year in the actual data could otherwise create distortions in the forecasts.

In considering the trend that should be applied to the forward benchmarks, the Commission did not include a downward adjustment for the low pressure mains replacement program. It may be appropriate to allow for a decline in UAFG to some extent to reflect increased mains replacement. However, the Commission found that it did not have the information to accurately measure and apportion the contributing

factors to UAFG. It was noted that this position may change for the final decision depending on the information provided by the GDBs and further analysis by the Commission.

Figure 3.3 SP AusNet Class B UAFG volumes: actual and benchmark, 2003–11



3.1 Non-PTS benchmarks

For Envestra and Multinet, in the absence of evidence provided, the Commission considered that the benchmarks in the 2008–12 period are appropriate and should be retained.

For SP AusNet, the Commission accepted it must give consideration to the business' circumstances in setting UAFG benchmarks. The Commission found that the historical UAFG levels provide a basis for the determination of its non-PTS benchmarks.

The Commission considered that the time series of non-PTS UAFG for SP AusNet shows a consistent reduction from 2006. SP AusNet appears to have achieved on-going efficiencies in the non-PTS—as reflected in the reduction in actual UAFG from 7.61 per cent in 2006 to 6.11 per cent in 2011.

The Commission considered there is further scope for significant UAFG efficiencies to be extracted over the forecast period, especially in optimising metering and replacement of older piping. A regression analysis of historical data was used to set the SP AusNet non-PTS UAFG benchmarks for 2013–17.

3.2 Commission expectations from Envestra and Multinet

The Commission considered Envestra and Multinet should have been concerned about exceeding the UAFG benchmarks in the 2008–12 period. Envestra and Multinet were also aware they would be required to make a submission for the next regulatory review. Accordingly, the Commission commented that it expects a prudent business would undertake a significant review of the causes of UAFG and consider a comprehensive strategy for reducing UAFG levels in the 2008–12 period, as demonstrated by SP AusNet.

The Commission stated it expects Envestra and Multinet to provide a more detailed assessment of the causes of UAFG to support its respective UAFG benchmark proposals for the 2013–17 period. Further, Envestra and Multinet should demonstrate how they have taken significant steps to seek out efficiencies to minimise UAFG. As noted by the Commission:

> *Envestra and Multinet have an opportunity to explain how they acted prudently in light of concerns about high levels of UAFG. The Commission will consider all further information in making its final decision. However, the broad argument presented by Multinet and Envestra that there is significant uncertainty about the causes of UAFG does not justify considerably higher benchmarks without detailed, supporting information.*[7]

A separate issue identified by the Commission is that Envestra and Multinet delivered a lower volume of mains replacement than approved by the Commission for the 2008–12 regulatory period. The Commission stated that if the GDBs had completed their funded programs the levels of overall UAFG would have been reduced through lower leakage to some extent. The lower mains replacement has resulted in a windfall gain to the two GDBs.

Envestra and Multinet did not engage on this issue in their initial submissions to the Commission. The Commission stated it expects Envestra and Multinet to explain why they did not complete their funded low pressure mains replacement programs and how these decisions have impacted UAFG levels. In addition, the Commission requested that Envestra and Multinet attempt to quantify the various UAFG components to demonstrate how they have contributed to the higher actual UAFG levels.

In conclusion, the Commission stated that without the above information, it does not have a basis for moving away from the current class B benchmarks. The Commission

[7] ESC, UAFG draft decision, April 2013, pp. 2–3.

could not be confident the historical UAFG data provides a reasonable basis for the determination of UAFG benchmarks for 2013–17. On this basis, the Commission rejected Envestra and Multinet's proposals to update the class B UAFG benchmarks.

3.3 Commission decision to implement the benchmarks from 1 July 2013

The Commission's draft decision was that the amended UAFG benchmarks will be made effective from 1 July 2013.

The Commission considered it is not appropriate to make the benchmarks retrospective as the Order sets the benchmarks until the Order is repealed. In addition, the Commission noted there are practical issues for AEMO—who use the benchmarks prospectively for wholesale market settlement purposes—in making the benchmarks retrospective.

Finally, the Commission stated there are administrative issues for it to consider in making the benchmarks retrospective. Specifically schedule 4 of the GDSC, which provides for the Commission to amend the GDSC, states that:

> *The date specified on the amendment must not be earlier than the date on which the amendment is made without the prior agreement from Distributors and the Commission's Customer Consultative Committee.*

4 SUMMARY OF SUBMISSIONS TO DRAFT DECISION

The Commission received seven submissions, including from AEMO (section 4.1), the three GDBs (sections 4.2–4.4) and three gas retail businesses—AGL, Energy Australia (EA) and Origin (sections 4.5–4.7).

It is noted that Envestra and Multinet commissioned Asset Integrity Australia (AIA) to assist them in responding to the Commission's draft decision. AIA had conducted a study for SP AusNet's network, which was provided in its initial submission to the Commission.

4.1 AEMO

AEMO supports the Commission's draft decision for application of the UAFG benchmarks not being applied retrospectively. AEMO notes it is unable to apply UAFG rates retrospectively. Further, AEMO supports the decision to reject the proposal to blend the UAFG rates across the two halves of the 2013 year, as it would add further complexity to the calculations for an unclear benefit. AEMO states that applying a mix in UAFG rates is unlikely to produce a UAFG rate that reflects actual UAFG.

AEMO disputes the reference in the draft decision that 'AEMO agreed with Envestra's submission that over the period 2005–08, Envestra may have been disadvantaged as a result of multiple gas sources been injected into the distribution systems.' As stated by AEMO:

> *Whilst analysis completed by AEMO confirmed Envestra's analysis, AEMO also found that the bias illustrated in the calculations cannot be assumed to be constant as there are many variables that impact on heating value and the mix of these components can change and potentially reverse the outcome shown by Envestra's calculations.*[8]

4.2 Envestra

Envestra's submission covers its management of UAFG, an analysis of the various UAFG components and the impact of mains replacement. Further, Envestra explains why the latest revealed evidence of UAFG levels is an appropriate basis for setting the benchmarks going forward. Finally, Envestra submits the Commission should have regard to the six month delay in implementing the new benchmarks.

[8] AEMO submission, May 2013, p. 2.

UAFG management

Given the extensive number of networks owned by Envestra across Australia, the experience gained in addressing UAFG in one network can be leveraged to address a similar issue in another network elsewhere in Australia. For example, Envestra undertook a study into UAFG for Envestra's South Australian gas networks. Envestra states the learning and increased understanding gained from this exercise flowed through to the management and analysis of its Victorian distribution networks.

In addition to the rigorous monthly analysis of UAFG results, Envestra claims it undertakes the following recurrent activities as part of its UAFG management strategy.

- Mains replacement strategy that targets the replacement of all aged and leaky pipes by 2020–21—this strategy has been in place for more than 15 years, albeit it has been recently accelerated following the temporary reduction during the Global Financial Crisis (GFC).
- Theft mitigation—'high risk' sites visited and checked by meter readers on a bi-monthly basis.
- Pressure correction factor reviews—reconciliations of pressure correction factors recorded in Envestra's asset management system and metering/billing system to ensure there have been no administrative errors in billing consumption details.
- Periodic reviews of basic metered sites that indicate zero or low annual consumption, to identify potential issues with meters malfunctioning, or under-recording consumption.
- Ongoing review of large consumers—interval-metered data (ie, for large consumers) is analysed on an individual meter basis to identify changes in consumption patterns that could result in UAFG.
- Gate station meter tolerance reviews—Envestra regularly attends gate stations in Victoria to witness the testing of these facilities by the asset owners, to ensure the test processes and results do not identify issues requiring corrective actions and/or revisions to injection data.

- Leakage management—leak survey and leakage response/repair strategy that ensures all detected and reported leaks are attended to in a timely manner.

- Meter management—all meters are removed from the field and tested for accuracy on a regular basis.

In addition to the various recurrent activities, Envestra provides examples of initiatives undertaken where those processes identified issues impacting on UAFG. For instance, Envestra undertook an investigation of nil-consumption sites where 5600 sites were identified and visited, which resulted in 666 meter changes and 197 meters being removed. Envestra estimates that this initiative reduced UAFG by approximately 30TJ per year (valued around $120k/yr). Envestra claims the examples demonstrate it has robust processes in place to minimise UAFG.

UAFG component analysis

Subsequent to the draft decision, AIA reviewed Envestra's assessment of its own network to determine how much each of the various factors contribute to UAFG. UAFG was allocated into categories and an analysis was undertaken to assess the uncertainty surrounding each of the values. The analysis indicates:

- approximately 15 per cent of Envestra's network UAFG cannot be easily attributable to any particular category

- leakage from the low pressure portion of the network is estimated to comprise around 9 per cent of UAFG (the same percentage as for the SP AusNet network).

Overall, Envestra finds:

- it is difficult to accurately quantify components of UAFG (and hence the uncertainty bands associated with most components are wide), and that a percentage of UAFG will always be unidentifiable

- such analyses are subject to assumptions and estimations, and accordingly outputs are generally used to identify areas for prioritising actions, rather than for quantification. A notable exception is where detailed data is readily available (eg, heating value)

- only a portion of UAFG is controllable to any significant degree—Envestra's strategy focuses on those aspects of UAFG that are controllable and which have the biggest impact on reducing UAFG.

Specifically in relation to the impact of heating value, Envestra states that during the 2008–12 regulatory period, its UAFG analysis identified UAFG was increasing as a result of industry-wide averaging of heating value. The cause of this was established by Envestra as being a change in sources of natural gas (changes away from Bass Strait gas to other gas production sources) that were supplied to the market.

Envestra states AEMO conducted an investigation which concluded that Envestra's calculation was correct. Both Envestra and AEMO's analysis of heating values has identified an impact of approximately 0.3–0.5 per cent to Envestra's detriment over the 2008–10 calendar years.

Envestra notes it raised this with the Commission, advising that Envestra's UAFG was higher as a result of heating value averaging. The Commission conducted a review that concluded the heating value impact should be considered when the benchmarks were next reset.

Impact of mains replacement

Envestra claims it was unable to complete the low pressure mains replacement program because the GFC dramatically increased investors' aversion to risk, and restricted the availability of debt and equity capital.

Envestra responded to these financial pressures by deferring expenditure where this would not unreasonably compromise safety and service performance. Total capital expenditure was around 40 per cent below benchmark levels over the 2008 to 2010 period, which was largely driven by a 70 per cent reduction in mains replacement expenditure. There were also significant reductions in augmentation, IT and marketing expenditure over this period.

Envestra claims it prudently reduced capital expenditure and increased operating expenditure (leak response and repairs) in response to the GFC. This was possible because mains replacement is not the only means of managing leakage. Envestra states the outcome reflects the regulatory regime whereby businesses are set a regulatory forecast and are then required to optimise their decisions within those constraints. The incentive properties of the regulatory regime are designed to allow distributors to optimise 'opex/capex trade-off', taking into account economic conditions.

Notwithstanding Envestra's position that it acted prudently in not completing its approved level of mains replacement, Envestra has estimated the theoretical impact

on UAFG, had it completed the approved level. Envestra states that if it had undertaken all of its approved mains replacement, all things being equal, the level of Victorian Class B UAFG would have been 3.62 per cent as opposed to the actual figure of 3.68 per cent—a difference of 0.06 per cent. Envestra therefore concludes that the failure to complete all approved mains replacement was not a material factor in Envestra's performance against its UAFG benchmark.

Revealed cost approach

Envestra submits that the Commission should have regard to actual levels of UAFG in a network when setting new benchmarks, particularly given the uncertainty in forecasting this parameter precisely:

> *Clearly it is unreasonable to set a benchmark which a distributor cannot reasonably achieve, because this is in effect imposing upon a distributor a financial penalty it cannot avoid or manage. Any such penalty, by reducing the funds otherwise available to manage the network, is not consistent with the long term interests of consumers (contrary to the requirements of the Essential Services Commission Act 2001).*[9]

Envestra goes on to explain in setting benchmarks, regulators often rely on current/recent evidence or revealed outcomes because the regulatory regime provides incentives to businesses to reveal efficient outcomes. This revealed expenditure approach is what was relied upon by the AER in the setting of businesses' operating cost benchmarks for the current regulatory period, and was also used by the Commission in the previous access arrangement review. Such an approach also has the advantage that it avoids the need to undertake a detailed bottom-up analysis, particularly where individual drivers are not known with the required level of precision, or where drivers are not all within the control of the regulated business.

Envestra submits that the approach taken by the Commission to set benchmarks for the 2008–12 period, and also used for SP AusNet for the 2013–17 period in the draft decision, should also be applied to Envestra.

Finally, Envestra states sudden changes in regulatory decision making create uncertainty, which is inconsistent with promoting the long term interests of consumers. Envestra submits that departing from setting benchmarks based on incentive regulation is a departure from prevailing regulatory practice.

Delay in benchmark implementation

Envestra states that the delayed application of a benchmark (as a result of a regulatory process that is outside of Envestra's control) that is higher than the existing benchmark

[9] Envestra submission, May 2013, p. 20.

means that Envestra would be denied a reasonable opportunity to recover its efficient costs.

Envestra considers that it would be preferable to backdate the new benchmarks to 1 January 2013 to align with the Access Arrangement Period.

Envestra submits the GDSC provides that authority for the Commission to set a retrospective benchmark if it consults with the Commission's Consumer Consultative Committee. However, Envestra notes the Commission's concerns with setting retrospective benchmarks.

Should the Commission form the view that it is unable to set retrospective benchmarks, Envestra recommends that a 'blended' benchmark be used to keep it in a financially neutral position. Envestra believes that the most appropriate solution is to apply blended benchmarks going forward, such that the net outcome over one year (2013) or over the whole of the regulatory period (2013–17), is financially neutral to all parties. This would ensure that there is no windfall gain or loss to all parties as a result of the delay in implementation of new benchmarks.

4.3 Multinet

Multinet's submission covers its policies and practices for managing UAFG, an analysis of the various UAFG components, and the impact of mains replacement. Further, Multinet argues that in the face of material financial incentives to minimise UAFG, it is reasonable to infer that the level of actual UAFG achieved by Multinet in response to those incentives should form the basis of future benchmarks. Finally, Multinet requests the Commission to adopt 1 January 2013 as the date of effect for the revised benchmarks.

UAFG management

Multinet submits it has asset management policies and practices in place that specifically aim to ensure that UAFG is managed in an efficient and effective manner. These policies and practices which are documented in Multinet's internal asset management strategies, include:

- SCADA (supervisory control and data acquisition) pressure control is undertaken to minimise the operating pressure of controlled networks to minimise UAFG.
- Minimisation of operating pressure is targeted through the application of time clock operation on District Regulators.

- Annual leakage survey where ad hoc surveys are also undertaken in response to suspected problems.
- Consistent with good industry practice and the requirements of Multinet's Gas Safety Case, Multinet responds promptly to all reported gas escapes, and undertakes repairs immediately where gas leaks are found.
- Meter replacement program in accordance with Australian Standards.
- Policy of replacing larger industrial and commercial (I&C) meters more frequently than required under the standard to minimise metering error.
- Under Multinet's asset management policy, I&C customer meter/regulator sets (including set pressure checks) are undertaken as part of scheduled maintenance.
- Custody Transfer Meter calibration is undertaken in accordance with market rules and OEM requirements.
- Monthly monitoring and internal reporting of UAFG, with investigation of adverse outcomes as required.
- Annual reconciliation process to identify errors, duplications of meter readings, and any other anomalies.
- Pressure and temperature corrections are applied to large consumers.

All gas used within the Multinet system (such as gas for water bath heaters) is metered.

- Meter sizing charts ensure that meter size is appropriately matched to loads.
- Daily metered customer data is monitored to detect any indications of plant breakdown or incidence of faulty equipment.
- Incorrect or missing data is substituted with estimated or recovered actual data, to ensure that the measurement of total UAFG is as accurate as possible.

- Regular maintenance and calibration of sites with temperature and pressure transducers.

- Contractors carrying out calibration and maintenance of daily metered sites are subject to audit, to ensure that they perform in accordance with required standards.

- Type testing and batch testing of meter manufactures and meter repairs to ensure compliance with applicable accuracy standards.

Multinet notes that it recently commissioned AIA to review the company's current UAFG management policies.

AIA's report concluded that Multinet's UAFG management and policies are focused on the main sources of UAFG, in line with best practice, and have been effective in maintaining UAFG at cost effective levels over the 2008–12 period.

As part of its review, AIA was also asked to provide further analysis to enable Multinet to develop a better understanding of the sources and potential levels of UAFG, and further initiatives to reduce UAFG. Multinet notes it is now reviewing the recommendations set out in the AIA report, and will refine and augment its current policies and practices accordingly.

UAFG component analysis

In its study for Multinet, AIA allocated Multinet's UAFG into 18 categories and undertook analysis to assess the uncertainty surrounding each of these values.

The study finds the allocation of UAFG to each category results in 36 per cent of actual UAFG not being attributable to any specific category. AIA notes that this illustrates the uncertainty associated with UAFG, particularly relating to the Purchase Meters and Meter Accuracy categories, which have relatively low contributions and large uncertainty.

AIA explains in its study that there are a number of matters that will drive UAFG upwards that are beyond Multinet's control. For example, AIA notes that changes in heating value coincides with the recent upward trend in Multinet's UAFG from 4.1 to 4.3 per cent.

AIA's report also explains that the replacement of distribution mains under Multinet's pipeworks program will reduce fugitive emissions from the network, however, these reductions are counterbalanced by increases in UAFG from other sources (as discussed in more detail below).

Multinet notes that where the AIA report has identified some further initiatives to be explored by Multinet, it is unclear whether these initiatives would provide an economically efficient means of reducing UAFG. In particular, detailed business cases and further data gathering and analysis would need to be undertaken to determine whether any of the initiatives are likely to be viable. Indeed, AIA finds there are no immediate cost effective actions that Multinet could take to reduce the current UAFG level of 4.33 per cent.

Impact of mains replacement

Multinet states there are two reasons for underspending on low pressure main replacement:

In its 2008 gas access arrangement review, the Commission set the equity beta too low, which 'spooked' investors and reduced confidence in the regulatory regime. Investors were unwilling to fund capital expenditure to the extent that Multinet had assumed at the time of its regulatory proposal. Effectively, investors downgraded regulated networks and re-assessed their investment priorities. The decision to defer a proportion of the pipeworks program naturally followed as funding became unavailable.

Following the GFC, Multinet faced further severe capital constraints. The pressure for increased capital expenditure in other aspects of Multinet's business—most notably IT capital expenditure—created additional pressure to defer a proportion of the planned pipeworks program.

Multinet states the deferral in pipeworks capital expenditure has been achieved without affecting service performance in the 2008–12 period.

Multinet highlights the Commission's findings in the draft decision that:

- although mains replacement would lower UAFG levels over time, it is possible the other factors may have a more significant effect on UAFG levels, as shown by the actual results over the 2008–11 period

- there appears to be a high degree of uncertainty about the extent to which the various factors contribute to UAFG levels. They seem to pull in opposite directions and affect each distribution system differently.

Further, Multinet suggests the Commission supported SP AusNet's initial submission that although intuitively mains replacement should have a discernible impact on UAFG, the relationship is unclear.

Multinet submits that the broad conclusions above also apply to Multinet's network. The AIA's report for Multinet concludes:

It should also be noted that in the current arrangements the Distribution UAFG Benchmark is reduced annually in line with the level of distribution mains replacement at a rate of 200 GJ/Km replaced. Although the replacement of these distribution mains will reduce the fugitive emissions from the network, these reductions are counterbalanced by increases in UAFG from two sources:

a) The majority of mains replaced are from the LP network, and are usually replaced by a HP supply. This HP supply has to be reduced in pressure just before the meter, and the Joule Thomson affect from this pressure reduction causes cooling of the gas by approximately 2 degree C. This cooled gas delivered to the meter increases the UAFG by 27 GJ /Km (based on 68 customers per km of network).

b) The remaining LP / MP network is subject to continuous deterioration with age. This can be demonstrated by the trends in PRE's per km Distribution Network / PRE's Km LP Cast Iron / Leaks per km Cast Iron / Breaks per Km Cast Iron.[10]

Revealed cost approach

Multinet states that it faces strong commercial incentives to minimise UAFG. It is noted that in previous regulatory reviews, the Commission has relied on these commercial incentives in presuming that actual performance is efficient.

Multinet submits it is not reasonable to abandon the principles of incentive regulation and 'revealed costs' in setting the UAFG benchmark for the forthcoming period. Further, Multinet states a departure from using historic actual data to set future benchmarks is a particular concern given the substantial financial costs that have been incurred by Multinet in the current period because the benchmarks were set too low.

Non-PTS benchmark

Multinet acknowledges that its non-PTS network is a recently-constructed polyethylene network, with low leakage rates.

Multinet submits that UAFG data relating to the network is yet to be finalised, but initial indications are that the actual UAFG in relation to the non-PTS network will exceed Multinet's class B UAFG for the following reasons:

- The town of Lang Lang is supplied without a heater. The resulting pressure reduction reduces temperature by 27 degrees centigrade, translating to a 9 per cent change in volume which is not corrected. The Lang Lang town area covered by the network is so small that there is very little heat recovery.

10 Multinet submission, May 2013, p. 10.

- Korumburra is supplied by a heater but it is not economical to heat the gas to standard conditions of 15 degrees Centigrade. Korumburra would therefore be subject to a 5 percent loss due to temperature.

- The towns of Inverloch and Wonthaggi have lower temperature-related losses because the distances over which gas is transported in those towns provides some temperature recovery.

In the absence of final UAFG data for the non-PTS network, Multinet proposes, as an intermediate step, the adoption of a benchmark of 3 per cent. Multinet expects that actual non-PTS UAFG will be well in excess of the 3 per cent benchmark.

Delay in benchmark implementation

Multinet maintains its view that the amended benchmarks should apply from 1 January 2013.

Multinet submits that the absence of appropriate UAFG benchmarks from 1 January 2013 is a result of a series of administrative oversights that have been beyond Multinet's control. Multinet estimates that over the first 6 months of 2013, it faces a potential obligation to pay an additional $1.5 million in UAFG payments above that which would be incurred by Multinet if (a) the Commission accepts the proposed benchmarks and (b) they applied from 1 January 2013.

As stated by Multinet, 'considerations of procedural fairness point to the need for the revised benchmarks to take effect from 1 January 2013.'

Multinet submits:

- There are no obvious barriers to AEMO making the necessary changes to its process to facilitate wholesale market settlements using UAFG benchmarks determined now to apply from 1 January 2013.

- It is open to the Commission to seek the agreement of distributors and the Customer Consultative Committee to apply the revised benchmarks from 1 January 2013, and Multinet would expect that consent to be readily forthcoming.

- It is open to the Commission to exercise discretion to set the benchmark to have effect from 1 January 2013.

4.4 SP AusNet

SP AusNet welcomes a number of aspects of the draft decision, including the Commission's decision to:

- recognise that historical data from SP AusNet's network is the appropriate basis for setting benchmarks for 2013 to 2017.
- recognise the efforts SP AusNet has made to better understand the drivers of UAFG (reflected in the AIA report that accompanied the initial submission) and to develop further strategies to reduce UAFG in its network.
- accept evidence that there is no downward trend in UAFG—recognising that the drivers of UAFG are complex and do not uniformly act to reduce UAFG over time.
- use the average of settled data from the previous period to set the benchmark.

That said, SP AusNet raises concerns about: the potential for the Commission to apply a downward trend to SP AusNet's class B benchmarks to reflect increased mains replacement (section 2.4.1), the application of a downward trend to the non-PTS network (section 2.4.2), and the delay to the benchmark adjustment (section 2.4.3).

Flat or declining PTS benchmarks?

As noted in section 3.1 above, the Commission accepted SP AusNet's proposal for the PTS class B benchmarks to be flat over 2013–17 in the draft decision. However, the Commission stated it may be appropriate to allow for a decline in UAFG to some extent to reflect increased mains replacement.

SP AusNet maintains its position that a flat benchmark based on the historical average is appropriate.

SP AusNet submits that mains replacement cannot explain UAFG levels as shown in figure 4 above. SP AusNet notes any benefit from its 2008–12 mains replacement program that may have resulted in a reduction in UAFG would be factored into the actual data. Further, the AIA report submitted as part of SP AusNet's initial submission highlighted that any reduction in UAFG resulting from mains replacement could be counterbalanced by increases from UAFG from other contributors, and the continued deterioration of the network.

Flat or declining non-PTS benchmarks?

In contrast to the approach for the PTS network where the historical average was used, the Commission applied a declining trend to set the benchmarks for SP AusNet's non-PTS network.

As stated by SP AusNet, the Commission reasoned that there had been a consistent reduction in UAFG in the network since 2006, and that it was likely that the trend could continue.

SP AusNet disputes the trend analysis and 'the setting of a benchmark based on what is possible rather than what is expected under normal operating practices.' SP AusNet submits the UAFG benchmark should be the neutral outcome—consistent with the way the UAFG scheme is set up, and the way the GDB are regulated to fund costs for the efficient operation of their networks. SP AusNet contends UAFG benchmarks should not be a 'stretch target'.

If a trend analysis is used to set forward UAFG benchmarks, SP AusNet states the incentive properties of the scheme will be undermined. This is because improvements in the future period are not rewarded. The effective reward for improvements in the current period is decreased. Only costless initiatives to reduce UAFG would be unaffected.

SP AusNet highlights that for the broader PTS-network, the Commission accepted the evidence that UAFG has complex drivers and applied a flat benchmark. This position reflected evidence that UAFG can vary significantly from year to year.

SP AusNet believes that it is similarly appropriate to apply a flat benchmark based on average historical performance for the non-PTS network. While there has been a downward trend in actual UAFG, the recorded reductions (from 2008 to 2011) are not clearly linked to activity on the non-PTS network. SP AusNet submits this is reinforced by initial estimates for UAFG on the non-PTS for 2012 of 7.56 per cent, showing a departure from the downward trend.

Further, the trend applied to SP AusNet's non-PTS network in the draft decision results in such a significant drop in the benchmark in the regulatory period, that by 2015 the benchmark actually falls below the benchmark for the PTS network. SP AusNet considers this outcome is not credible. SP AusNet claims its non-PTS network exhibits UAFG rates similar to that of aged low pressure networks within the PTS network.

The Commission's draft decision also suggests that the installation of custody transfer meters will support the further improvements in UAFG suggested by the benchmark.

SP AusNet does not agree with the assumption that a downward trend would continue if custody transfer meters are installed at Ararat, Stawell and Horsham. SP AusNet submits a reduction in UAFG is not expected from the installation of custody transfer meters at Ararat, Stawell and Horsham, and that the Commission has not provided any evidence to support its finding.

Delay in benchmark implementation

SP AusNet submits the delay that has occurred in updating UAFG benchmarks has resulted in a penalty to SP AusNet and is inconsistent with the design of the scheme. This is because the effective benchmark that applies for the 2013 calendar year is different to the benchmark that has been deemed appropriate by the Commission. Therefore, SP AusNet contends the updated benchmark for the second half of 2013 must be adjusted to correct this penalty.

SP AusNet accepts that a mechanism for retrospective adjustments to benchmarks may not exist. However, the administrative hurdles identified by the Commission do not negate the need to ensure a fair outcome for the 2013 calendar year. SP AusNet proposes that the Commission could redress the penalty that has been imposed on SP AusNet from the delay by making appropriate adjustments to the benchmark that will apply from 1 July 2013.

SP AusNet provides two possible mechanisms that could be used to set a blended target for 2013. Both, SP AusNet submits, would substantially reduce the error over the 2013 year relative to the draft decision. The two proposed options are:

- An adjustment to the part year 2013 (July to December) benchmark so that the weighted average benchmark for the full calendar year remains consistent with the Commission final decision on UAFG benchmarks.
- Base the blended benchmark on historical gas consumption patterns.

SP AusNet set out calculation methodologies for the two options in its submission.

4.5 AGL

AGL supports the proposed UAFG benchmarks in the draft decision. AGL further endorses the decision to have the amended UAFG benchmarks apply prospectively from 1 July 2013. Any retrospective application back to 1 January 2013 would require significant adjustments to billing and settlement systems throughout the industry and the cost would significantly outweigh any benefits.

AGL endorses the Commission's concern that, apart from SPAusNet, the GDBs did not provide independent analysis and data in support of their claims for new (higher) benchmark rates. Further, AGL contends that in spite of the higher benchmark rates being claimed, there has been no strategy put forward to manage this upward drift. That said, AGL is disappointed that SPAusNet is not prepared to share its consultant's report with industry.

AGL notes that some of the submissions from the distributors were suggesting a weak or questionable nexus between expenditure on mains renewals and its impact on UAFG levels:

> *If that is the view, then a claim for capex towards mains replacement would surely have to be set aside by the economic regulator. If distributors are of the belief that expenditure on mains renewals has minimal impacts on reported UAFG levels, then it is simply wrong for them to be holding out for capex funding. Furthermore, it is incumbent on distributors to suggest where alternative investment might provide the better return in terms of a lower UAFG benchmark rate.*[11]

AGL questions the Commission's finding that external comparisons of UAFG benchmarks are tenuous, and the retailers have not provided any supporting evidence to suggest the comparisons can be made on a like-with-like basis.

AGL states that regulators often engage in benchmark comparisons as this is one effective way of gauging performance or at least relativities. That is why AGL believes that the class A and class B dichotomy is not helpful in comparing across Victorian gas distribution businesses and that we would be better served by moving to a single benchmark rate for each distributor.

AGL further states it is unrealistic for the Commission to suggest that retailers have not suggested how we might be able to compare 'oranges with oranges':

> *We are retailers and are not privy to the sort of details around each distribution network that would allow us to effect meaningful comparisons—we would argue that it is up to the distributors to demonstrate that comparisons with industry benchmarks may not be meaningful or what allowances might have to be made for local factors. Comparison with like entities in the gas distribution business may be somewhat crude but is also an effective starting point for any analysis—we should not be too hasty to discard this.*[12]

4.6 Energy Australia

Energy Australia (EA) supports the draft decision findings. It is concerned about the lack of information provided by most parties:

> *The issue of setting unaccounted for gas (UAFG) benchmarks in Victoria has long suffered from a lack of understanding about the causes of UAFG. This matter has been amplified by an inability to suitably allocate the proportion of UAFG to fugitive emissions and measurement inaccuracies. These factors are in the direct control of the gas distributors and they should therefore be held accountable to minimise UAFG. It is somewhat disappointing that once again*

11 AGL submission, May 2013, p. 1.

12 AGL submission, May 2013, p. 2.

most distributors are unable to improve industry understanding of the key drivers of UAFG and subsequently been unable to minimise its impact and deliver savings to the environment and consumers.

...

The UAFG study commissioned by SP AusNet appears to have revealed valuable information regarding UAFG causes identifying 17 different components. Unfortunately this report was commercial in confidence and not provided to other industry participants. Multinet and Envestra did not undertake similar studies and hence offered minimal explanations as to the causes and projections for UAFG going forward.[13]

EA acknowledges that every distribution network has its own unique characteristics, such as varying supply pressures, pipeline composition, length of piping and supply points, and it may be unreasonable to make accurate benchmark comparisons. EA suggests that the Commission should commission an independent detailed study of each Victorian gas distribution system to clearly determine the key drivers of UAFG and to provide greater transparency to the market. The study should also make recommendations for the ongoing control and management of UAFG with cause and effect analysis ensuring UAFG is managed efficiently from both an environmental and commercial perspective.

EA further raises concerns about underspending on mains replacement:

The ESC has commented that lower mains replacements have resulted in windfall gains for two gas distribution companies. These mains replacement budgets were largely justified on fugitive UAFG and would have resulted in lower UAFG in the regulatory period 2008-12. It appears untenable that the very distribution companies that failed to install these replacement gas mains also benefit financially by retaining the return on the capital allocated even though it was not spent in 2008-12. Consumers and the environment have therefore suffered the consequences of this unpalatable situation that should not be allowed to continue. EA would also be interested to understand why these two distribution companies did not complete their low pressure funded mains replacement programs, despite receiving funding to undertake them.[14]

4.7 Origin

Origin supports the proposed UAFG benchmarks in the draft decision and the decision to not allow increases in UAFG benchmarks where distributors have not substantiated why UAFG is increasing.

Origin questions Multinet's assertion that spending on mains replacement will have no effect on reducing UAFG because leakage on remaining pipes will increase. This does

13 EA submission, May 2013, p. 1.

14 EA submission, May 2013, p. 2.

not seem logical. The rate of leakage from remaining pipes may increase, but these leaky pipes will make up a shrinking proportion of the overall network. As a result, for the effect of mains replacement to be negated entirely, leakage on the remaining cast iron pipes would need to increase at a growing rate, eventually approaching very high levels. This seems intuitively unlikely. Were this the case, it would also bring into question the safety of the older portion of the network.

Origin notes and supports the Commission's finding that 'the study SP AusNet commissioned recommends a broader understanding of UAFG is needed, and that the quality of data available in all UAFG categories can be improved'.[15] While distributors may not be in a position to control all the factors driving increases in UAFG, as owners of the distribution networks they have control over more of these factors than any other party. As such, they are best placed to monitor and understand these. Origin notes that even the research funded by SP AusNet is inconclusive as to which measures distributors should focus on to reduce UAFG.

[15] Origin submission, May 2013, p. 1.

5 COMMISSION ASSESSMENT OF SUBMISSIONS AND ISSUES RAISED

The focus of the Commission's assessment for the final decision is on class B (PTS) UAFG benchmarks for Envestra and Multinet and, to a lesser extent, the non-PTS benchmarks for Multinet and SP AusNet. Submissions did not contest the draft decision for the class A (PTS) benchmarks.

The Commission considers Envestra and Multinet have provided a detailed assessment of the causes of UAFG and demonstrated how they have taken steps to seek out efficiencies to minimise UAFG. As stated by the Commission's consultant, Zincara,

> *'... the activities carried out by Envestra and Multinet are what you can reasonably expect from a gas distributor which will have an impact on UAFG.'*[16]

Further, the Commission accepts that it is not possible to accurately explain the difference between the 2008–12 benchmarks and Envestra and Multinet's actual UAFG levels due to the inherent uncertainty of the causes of UAFG.

The additional information provided by Envestra and Multinet gives the Commission confidence that it can use these GDBs' historical data to set forward benchmarks for class B customers. The Commission accepts the assumption that the GDBs have an incentive to minimise UAFG to the extent possible (section 5.1). The historical data can be relied on to reveal relatively efficient UAFG levels overall. The data therefore provides a reasonable basis for an efficiency forecast.

The 'revealed cost approach' has the advantage that it avoids the need to undertake a detailed bottom-up analysis, which is not feasible based on the information available (section 5.2). External comparisons are also not possible.

To account for Envestra and Multinet's underspending on low pressure mains replacement in the previous period, the Commission has made a modest adjustment to the 'base' of the class B UAFG benchmarks (section 5.3). The Commission has not applied a downward trend to account for increased mains replacement for each GDB over the 2013–17 period.

For the non-PTS benchmarks, Multinet has not provided evidence to support its argument that the benchmarks should be higher (section 5.4). The Commission has

16 Zincara, June 2013, p. 10.

used the historical data provided by SP AusNet to set the forward benchmarks, which also include a downward trend to account for scope for ongoing efficiencies.

The following sections discuss the key issues considered by the Commission in arriving at its final decision.

5.1 Incentives to minimise UAFG

The intent of the regime and ex ante benchmarks is to incentivise the GDBs to minimise UAFG levels. The GDBs are rewarded for reducing UAFG levels below the benchmarks set by the Commission. On the other hand, they are penalised for UAFG levels above the benchmarks. As stated by Multinet:

> *... it is important to recognise that Multinet faces strong commercial incentives to minimise UAFG. In previous regulatory reviews, the ESC has relied on these commercial incentives in presuming that actual performance is efficient.*[17]

The benchmarks rely on basic profit-maximising incentives. The level of the UAFG benchmarks does not actually influence incentives.[18] As noted by SP AusNet in a submission to the Commission for the 2008 decision, there is no incremental incentive property derived from the implementation of declining UAFG benchmarks because any marginal change in UAFG will be rewarded or penalised regardless of the benchmarks.[19]

It is important to note that higher UAFG levels do not necessarily indicate a failure in the GDBs' performance.

Although the GDBs have an incentive to minimise UAFG to maximise profits, a number of exogenous factors influence UAFG. UAFG levels are partly determined by causes that neither the GDBs nor the retailers can practically control.

Further, UAFG is not necessarily a big enough 'problem' to drive investment decisions—the GDBs' priority is not necessarily to minimise UAFG. The GDBs' primary obligations relate to safety and reliability. These factors largely drive business decisions on, for example, mains replacement programs and maintenance

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17 Multinet submission, May 2013, p. 2.

18 Notably, the GDBs' expectation of what the regulator will do in the future when the time comes to set the new benchmarks can influence their incentives to minimise UAFG in the current period. In setting UAFG benchmarks, although the performance targets have no impact on the power of the incentive in the current regulatory period, there may be an indirect effect. When a GDB anticipates that its performance will affect future performance targets, it will take this into account when choosing its level of effort.

19 ESC, Gas Access Arrangement Review 2008–2012, final decision, March 2008, pp. 193–194.

expenditure. Such activities potentially reduce UAFG levels, which is a benefit to the GDBs in terms of revenue. This potential extra revenue is taken into account when the GDBs' make investment decisions and plan maintenance, but it is only one factor.

Some business programs go directly to reducing UAFG, as described in the GDBs' submissions (see section 4). However, such initiatives will be proportional to the 'UAFG problem'. From an overall efficiency perspective, the GDBs should be incentivised to allocate resources to their highest valued use. It may be possible for the GDBs to reduce UAFG below current levels, but it would not necessarily be justified on an economic basis.

Additionally, evidence provided by the GDBs shows significant uncertainty about how much each factor contributes to UAFG levels. Although low pressure mains replacement is expected to reduce UAFG levels, the evidence suggests the correlation is not high.

Control over the causes of UAFG

UAFG drivers can pull in opposite directions and will affect each distribution system differently. Factors contributing to UAFG include:

- Physical leakage—caused by transmission and mains distribution losses, service and meter losses, regulator leakage, and third party damage.
- Metering accuracy—caused by physical accuracy of meters, timing mismatch and administrative process error. Uncertainty in the measurement of volume, temperature, pressure and heating value will influence metering accuracy.
- Meter bypass and theft.

It is possible that a one-off event could contribute to UAFG levels—such as leaving a gas valve open.

Even in the case of a new gas distribution system, there will be some amount of UAFG. In this sense UAFG could be considered a cost of business similar to transaction costs. Also, although new technology and improved business practices can reduce UAFG levels, continued expansion of the networks may increase the absolute level of system-wide UAFG.

The GDBs can control leakage to an extent, most notably through mains replacement. Also, the GDBs own the meters and therefore have some control over meter accuracy. However, there are elements that the GDBs do not practically control such as theft and heating value.

It appears that retailers and end users cannot necessarily influence any of the causes of UAFG. As noted by Origin:

> *While distributors may not be in a position to control all the factors driving increases in UAFG, as owners of the distribution networks they have control over more of these factors than any other party.*[20]

The Commission asked its consultant, Zincara, to assess the steps the GDBs have taken to seek out efficiencies to minimise UAFG to the extent they can. As noted above, Zincara found that the activities carried out by the GDBs were reasonable. Zincara probed the initiatives undertaken by the GDBs. For example:

> *... at the meetings with the gas distributors, the issue of ensuring that the meters installed in large customer premises are monitored to ensure that they are accurate and appropriately sized for the gas loads was discussed. SP AusNet, at the meeting in January, said that this is an issue that it is aware of and has a process for ongoing monitoring. Envestra referred to its May submission where it said that it carries out ongoing review of the consumption pattern of large customers to ensure that the meters are adequately sized. In the May meeting, Multinet indicated that it does monitor the consumption patterns of large customers from time to time.*[21]

GDB investment decisions and UAFG

Although the GDBs can control leakage to some extent through mains replacement, UAFG is unlikely to drive investment decisions. Moreover, other regulation and incentive schemes apply to the GDBs' capital works programs.

Such factors were highlighted by the GDBs in their submissions to the Commission. As stated by SP AusNet:

> *SP AusNet's analysis shows that if the implied relationship of leak rate per km is assumed to be true, replacing the entire low pressure network would only achieve a UAFG saving of $1 million per annum compared to a capital cost of $275 million. This analysis illustrates that the current incentive mechanism cannot drive the LPMR program [low pressure mains replacement], instead, its focus must remain the safety of the network.*
>
> *...*
>
> *Although the current incentive arrangement does not drive mains replacement, it does provide an important focus on maintaining downward pressure on UAFG in making operating and capital expenditure decisions.*[22]

Similarly, Multinet stated:

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20 Origin submission, May 2013, p. 1.

21 Zincara, June 2013, p. 10.

22 SP AusNet submission, December 2012, p. 2.

> *The net effect of the tenuous link between actual UAFG and cast-iron pipeline replacement means that the UAFG benchmark figure does not provide a suitable business driver for ensuring on-going system integrity.*
>
> *...*
>
> *Moreover, the economic signals for pipeline replacement that a business sees under the current UAFG regime are not commensurate with the cost of pipeline replacement and so do not provide an effective investment driver in themselves. The main driver for pipeline replacement is safety rather than the economic value of the gas lost.*[23]

The AER's recent gas access arrangement review for the Victorian GDBs accepted that the rationale for low pressure mains replacement is based on safety and reliability, rather than minimising UAFG. Although there is a link between reliability and UAFG, the extent to which mains replacement reduces UAFG is not likely to be high. As stated by Zincara:

> *Leaks management includes activities such as mains replacement, pressure control, leakage surveys and responding to emergencies. The main driver for these activities is the distributor's safety obligation. However, benefit of reducing leaks is that there will be less gas loss which will have an impact on UAFG.*
>
> *In relation to metering, the key driver for accurate metering is so that the distributor can accurately bill for the gas that it is transporting and its obligation under the Gas Distribution System Code. Like leaks management, the improved metering will also reduce the uncertainty in measurement which does has an impact on UAFG.*[24]

Further, it may not always be cost effective to, for example, significantly improve meter accuracy or deter theft. As stated by Multinet:

> *Where the AIA report has identified some further initiatives to be explored by Multinet, it is worth emphasising that it is unclear whether these initiatives would provide an economically efficient means of reducing UAFG. In particular, detailed business cases and further data gathering and analysis would need to be undertaken to determine whether any of the initiatives are likely to be viable. In addition, some initiatives may need to be agreed with the AEMO Industry Reference Group. It should also be noted that the impact on UAFG performance will naturally lag any investment.*[25]

23 Multinet submission, December 2012, p. 3.

24 Zincara, June 2013, p. 3.

25 Multinet submission, May 2013, p. 13.

Uncertainty about the causes of UAFG

The Commission considers it is not possible to accurately explain the difference between the 2008–12 benchmarks and Envestra and Multinet's actual UAFG levels due to the inherent uncertainty of the causes of UAFG.

First, the GDBs submit that there are no clear trends in the data, which supports the view that there is significant uncertainty. The Commission forecast reductions to UAFG over the 2008–12 period which, at the time, the GDBs accepted to an extent (as discussed below). However, for Envestra and Multinet, UAFG levels over 2003–11 appear to be trending upwards, which is only partly explained by changing heating values. Further, UAFG levels have varied significantly from year-to-year in some cases (see figures 3.1 to 3.3 above).

Second, there is a high level of uncertainty about the extent to which factors such as pipe leakage, metering accuracy, heating value impacts caused by new sources of supply, and other UAFG elements contribute to UAFG. As stated by Zincara, '... it is not possible to quantify with any level of certainty the components of UAFG.'[26]

The findings of AIA studies submitted by SP AusNet and Multinet more generally conclude there is a high amount of uncertainty associated with UAFG. The studies of each GDB's network indicate there are almost 20 components that contribute to UAFG, which makes the task of analysing the components of UAFG considerably complex. AIA found significant uncertainty in measuring the various elements of UAFG:

> *Unaccounted for Gas (UAFG) is an easy concept (inputs minus outputs), however in practice many parts make up total UAFG and some of these factors are extremely hard to measure with certainty. Indeed there is an inherent uncertainty with measuring a compressible fluid whose measurement changes with pressure and temperature conditions, composition and flow rates together with the fact that physical unmetered losses from the network are by definition lacking in data.*[27]

AIA assessed how much the various factors contribute to UAFG for each network. It was unable to identify the cause of over half of UAFG levels for SP AusNet's network. For Multinet, AIA finds the allocation of UAFG to each category results in 36 per cent of actual UAFG not being attributable to any specific category.[28]

Subsequent to the draft decision, AIA reviewed Envestra's assessment of its own network to determine how much each of the various factors contribute to UAFG. Similar to the SP AusNet and Mulitnet studies, UAFG was allocated into categories

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26 Zincara, March 2013, p. 7.

27 AIA report, October 2011, p. 7.

28 Multinet submission, May 2013, p. 11.

and an analysis was undertaken to assess the uncertainty surrounding each of the values.

It was found that approximately 15 per cent of Envestra's network UAFG cannot be easily attributable to any particular category, which is significantly less than for SP AusNet and Multinet. However, Envestra finds:

- it is difficult to accurately quantify components of UAFG (and hence the uncertainty bands associated with most components are wide), and that a percentage of UAFG will always be unidentifiable

- such analyses are subject to assumptions and estimations, and accordingly outputs are generally used to identify areas for prioritising actions, rather than for quantification. A notable exception is where detailed data is readily available (eg, heating value)

- only a portion of UAFG is controllable to any significant degree—Envestra's strategy focuses on those aspects of UAFG that are controllable and which have the biggest impact on reducing UAFG.[29]

Zincara confirmed that forecasts of UAFG levels are inherently uncertain.[30]

Third, comparisons of UAFG levels and the length of the low pressure network indicate a low level of correlation between the GDBs' mains replacement programs and reducing overall UAFG.

Leaks from gas pipes were thought to be the major component of UAFG in Victoria. In its 2008 decision, the Commission considered that as the GDBs replaced their old cast iron and unprotected steel networks with welded steel and fused polyethylene distribution systems, UAFG levels would decline over time. For the current review, the GDBs submitted actual UAFG data to suggest the relationship between low pressure mains replacement and UAFG is less clear.

Leakage could still be a factor although there is a degree of uncertainty. For Envestra's network, leakage from the low pressure mains is estimated to comprise around 9 per cent of UAFG.

Also, UAFG caused by continued deterioration of the distribution systems may outweigh the effects of mains replacement—at least where the old cast-iron pipes still serve significant parts of a network. As initially submitted by Multinet:

> *... the net leakage from Multinet's distribution network is unlikely to reduce in proportion to the length of cast-iron pipes that are replaced. In effect, any*

29 Envestra submission, May 2013, p. 13.

30 Zincara, June 2013, p. 11.

reduction in leakage from the replaced pipes is likely to be counter-balanced by increased leakage from the remaining cast iron pipes.[31]

Multinet's position is consistent with the findings by AIA:

It should also be noted that in the current arrangements the Distribution UAFG Benchmark is reduced annually in line with the level of distribution mains replacement at a rate of 200 GJ/Km replaced. Although the replacement of these distribution mains will reduce the fugitive emissions from the network, these reductions are counterbalanced by increases in UAFG from two sources:

a) The majority of mains replaced are from the LP network, and are usually replaced by a HP supply. This HP supply has to be reduced in pressure just before the meter, and the Joule Thomson affect from this pressure reduction causes cooling of the gas by approximately 2 degree C. This cooled gas delivered to the meter increases the UAFG by 27 GJ /Km (based on 68 customers per km of network).

b) The remaining LP / MP network is subject to continuous deterioration with age. This can be demonstrated by the trends in PRE's per km Distribution Network / PRE's Km LP Cast Iron / Leaks per km Cast Iron / Breaks per Km Cast Iron.[32]

Industry understanding of the causes of UAFG seems to have developed in the latest regulatory period. The empirics have not supported the previously accepted theory that the GDBs can largely control UAFG levels. Also, there seems to be a greater awareness of the countervailing effects on UAFG.

For the 2008 Commission decision, some GDBs stated leakage is a significant cause of UAFG, and mains replacement is the most effective means of reducing leakage and hence UAFG. The GDBs engaged the Commission on questions about the leakage reduction rate to forward benchmarks to account for mains replacement. The Commission applied an annual leakage rate reduction of 200 GJ per kilometre of low pressure mains replaced by each distributor. At the time, the GDBs provided information to suggest 100 GJ per kilometre leakage rate is more reasonable.

That said, some GDBs noted there is both significant uncertainty about the reported levels of UAFG, and a lack of clear empirical evidence that suggests a strong correlation between low pressure mains replacement and reduced UAFG levels.

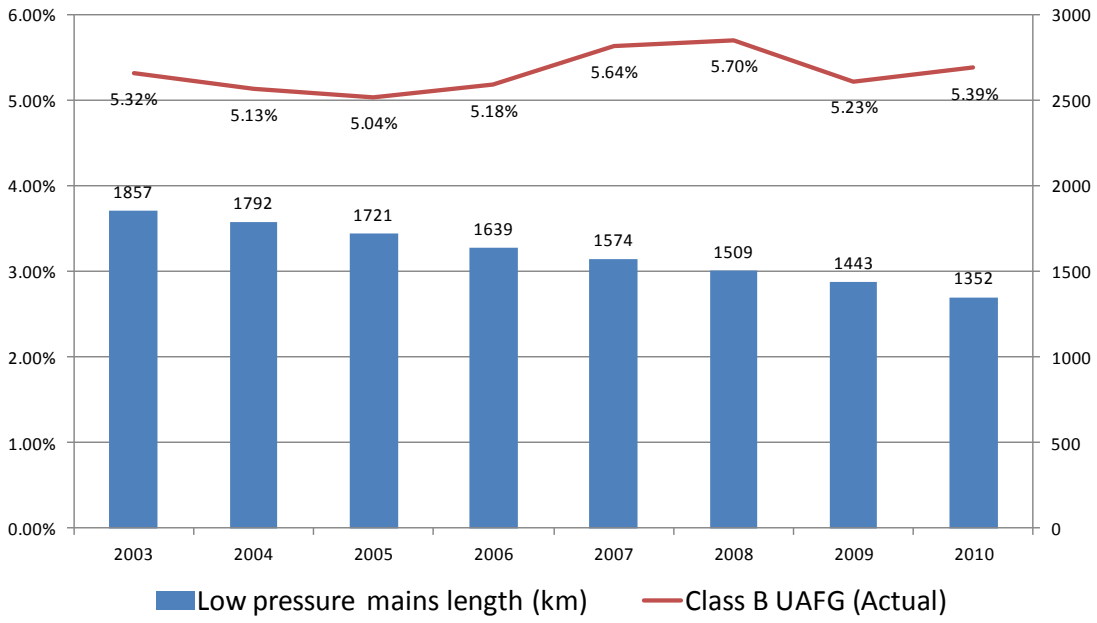
For the current review, the GDBs more strongly argue that there is not a strong correlation between low pressure mains replacement and UAFG levels based on the more recent empirical evidence.

31 Multinet submission, December 2012, p. 2.

32 Multinet submission, May 2013, p. 10.

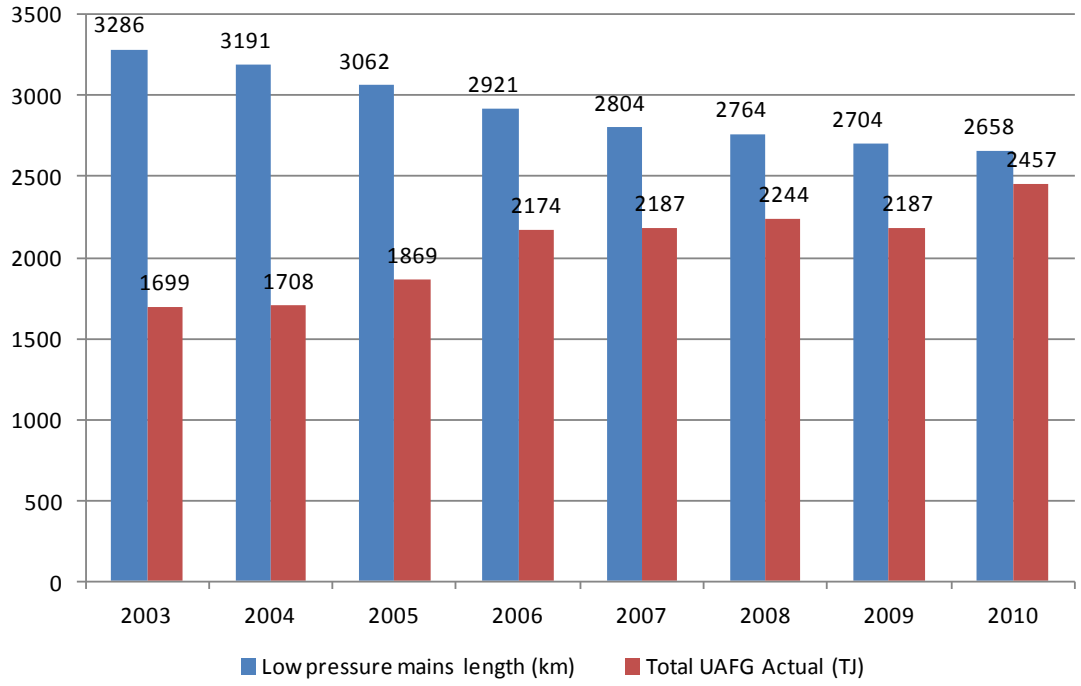
For example, SP AusNet provided data comparing UAFG levels and the length of its low pressure network. Increased mains replacement reduces the length of the low pressure network. SP AusNet submits that although intuitively mains replacement should have a discernible impact on UAFG, the relationship is unclear as shown in figure 5.1.

Figure 5.1 SP AusNet comparison of mains replacement and UAFG, 2003–10



Similarly, Multinet provided information to demonstrate there is not a clear relationship between low pressure mains replacement and UAFG levels (figure 5.2).

Figure 5.2 Multinet comparison of mains replacement and UAFG, 2003–10



The Commission considers there is significant uncertainty about the causes of UAFG, and the correlation between mains replacement is likely to be low. As found by Zincara:

> *... [it] considers the UAFG effect of the three distributors not completing their approved mains replacement programs to be minimal.*[33]

On this basis, the Commission has not applied a downward trend to the forward benchmarks. Accounting for increased mains replacement without also calculating the countervailing effects could potentially bias the forecast. The same problem does not exist for a backward-looking adjustment, as discussed in section 5.3 below.

5.2 Applying the revealed cost approach

Under the revealed cost approach, UAFG benchmarks are set on the basis of the GDBs' past performance. Although exogenous factors can significantly influence UAFG levels, the revealed cost approach leads to:

- downward pressure on UAFG levels

[33] Zincara, June 2013, p. 15.

- consistent policy over time
- reduced risk of setting the performance targets in a way that leads to persistent over or under compensation for the GDBs.

Importantly, the relatively good incentives of the regime described above applied to the previous regulatory period (2008–12). The GDBs had an incentive to minimise UAFG to the extent that the benefits (lower payments to the retailers) exceeded the costs (of investments or other cost initiatives to reduce UAFG). Again, the GDBs' primary obligations relate to safety and reliability. UAFG is only one factor which in some cases is a 'by-product' of other business decisions.

Further, past performance is likely to be a reasonable indicator of future likely expenditure requirements, given UAFG is largely recurrent.

The Commission considers data from recent years can be relied on to reveal relatively efficient UAFG levels overall. An average of the 2008–12 data provides a good basis to set the forward benchmarks. Concerns about underspending on mains replacement raises a separate question of whether an adjustment should be made to the 'base' of the forecast, as discussed in section 5.3 below.

The alternatives to the revealed cost approach—a bottom-up approach or external comparisons—cannot be used to provide a reasonable basis for the forward benchmarks.

Under a bottom-up approach, UAFG drivers would need to be estimated to determine the efficient level of UAFG overall for each network, which provides a forecast base. The uncertainty of both the causes of UAFG and how much each factor contributes to UAFG levels means a bottom-up approach is not feasible. As stated by Envestra in its recent submission:

> *The analysis above demonstrates that various factors comprise UAFG, of which only a few are materially within Envestra's control. It is clear that the combination of factors, and variability of factors, together with levels of uncertainty, make it difficult to precisely forecast UAFG using a 'bottom up' approach over long periods of time. Reductions in one area can be countered by increases in other areas, eg. deterioration of existing mains, impact of more mains operating at higher pressure, etc.*[34]

A major advantage of the revealed cost approach is that it avoids the need to undertake detailed bottom-up analyses—particularly where individual drivers are not

[34] Envestra submission, May 2013, p. 17.

known with the required level of precision, or where drivers are not all within the control of the regulated business, as stated by Envestra in its more recent submission.[35]

Setting benchmarks independently of the GDBs' performance through external comparisons may provide stronger incentives to efficiency. External comparisons, which measure a GDB's efficiency against a reference performance, can be used to reduce the size of the reward offered to the GDBs, without necessarily reducing the strength of incentives.

However, external comparisons are limited because they would not necessarily take into account the specific circumstances of each gas distribution network in Victoria. There are a number of factors that cause UAFG, which will affect each distribution system differently. Infrastructure for each GDB is different and network characteristics such as size, age and condition of networks, operating environment and geographical considerations will impact UAFG. Further, external comparisons could potentially expose some GDBs—perhaps those with older, leaky pipes—to the threat of systematic revenue under-recovery.

In short, like-with-like comparisons cannot be made based on the available information. The use of external comparisons is therefore limited. This means 'internal information' provided by the GDBs must be relied on to make an assessment of the appropriate benchmarks.

Another significant advantage of the revealed cost approach is that it ensures that the performance target is unlikely to deviate too far from a reasonable level for each GDB. This approach allows for higher UAFG benchmarks when past performance is worse than expected. Equally, it could lead to lower performance targets in the future if performance is better than expected.

The primary drawback with setting the target level of performance on the basis of past performance is that it can weaken the incentives for good performance. Moreover, if the GDBs expect a revealed cost approach will be used in the future based on the most recent performance, the power of the incentives to minimise UAFG may decline over the current regulatory period. The GDBs will keep any cost savings achieved in the first few periods for three to four years. But cost savings in the final years may only be enjoyed for a short period until the benchmarks are reset after year 5.

A multi-year average can strengthen incentives for the GDBs to seek out efficiencies. Assuming the GDBs' efforts can reduce UAFG levels over time, benchmarks based on a multi-year average would in principle be higher than using the most recent year as the base—all other things being equal. Under this scenario, a multi-year average

[35] Envestra submission, May 2013, p. 21.

allows the GDBs to essentially keep any cost savings achieved in the final few periods for longer.[36]

A multi-year average can also reduce the potential for perverse outcomes. If the GDBs expect future benchmarks will be based on the most recent year, they may have an incentive to allow UAFG levels to rise in that period to some extent. The GDBs would potentially benefit from UAFG levels subsequently returning to the 'normal' rate rather than through efficiency improvements. This may distort, for example, the GDBs' incentives to undertake some network maintenance in the final years. A one-off event such as leaving a valve open could also impact overall UAFG levels in a period.

5.3 Envestra and Multinet mains replacement allowance underspend

SP AusNet largely completed its low pressure mains replacement program. In contrast, Envestra and Multinet delivered a lower volume of mains replacement than approved by the Commission for the 2008–12 regulatory period. Multinet replaced less than half of the kilometres of pipes previously approved by the Commission, while Envestra replaced just over 60 per cent.

The Commission rejects Envestra and Multinet's argument that they were unable to complete their low pressure mains replacement programs because the GFC created severe capital constraints. The GDBs claim they responded to these financial pressures by deferring expenditure where it would not unreasonably compromise safety and service performance.

The Commission's 2008 access arrangement review allowed funding for capital works that needs to be completed. Part of the 2008–12 mains replacement program was deferred. The GDBs requested new funding for the 2013–17 regulatory period from the AER for capital works they had already been funded for.

The lower mains replacement has resulted in a windfall gain to the two GDBs. Because of how the regulatory framework operates, consumers have paid gas prices reflective of the higher volumes of replacement approved in the previous regulatory period, not the actual volumes completed. Although underspending will result in a lower capital base, and therefore lower projected return on capital and depreciation

[36] Similarly, the AER applies the efficiency benefit sharing scheme (EBSS) to opex forecasts. The scheme allows businesses to keep savings over a number of years. Any rewards (or penalties) for efficiency gains (or losses) are added to the service provider's total revenue allowance—as determined using the building block approach—and carried forward for five years after the year in which the efficiency gain (or loss) is made. This five year period corresponds to the length of the access arrangement period. The incentive properties of the EBSS scheme are replicated to some extent by using a multi-year average.

allowances for future periods, the GBDs will retain the return on, and have the use of the return of, capital for the increment of approved expenditure not spent in 2008–12.

Further, the Commission rejects Envestra's claim that it prudently reduced capital expenditure and increased operating expenditure to manage leakage. It is possible that Envestra's delay to investment meant it had to undertake higher maintenance on worn out infrastructure that would not otherwise have been required. Indeed, the GDBs justified their proposed mains replacement programs in 2008 based on the significant deterioration of the low pressure pipelines. No evidence was provided by Envestra to demonstrate- the extent to which operating expenditure was substituted for capital expenditure, the 'trade-off' was efficient, nor the link between the increased operating expenditure and UAFG.

Accordingly, the Commission has decided to make an adjustment to the forecast base. The Commission considers that if the GDBs undertook the level of mains replacement that they were funded for in the previous regulatory period, UAFG levels would be lower than the historical data.

The Commission did not have scope to undertake a detailed study of the impact of the lower mains replacement on UAFG in the time available and has therefore relied on its previous work. This work identified that leakage rates of 200GJ/km and 100 GJ/km could be used to assess the impact on UAFG. For the purpose of this assessment the Commission has used a leakage rate of 100 GJ/km for each km of LP mains not replaced[37] and has calculated a slight downward adjustment of 0.04 percentage points for Envestra and 0.05 percentage points for Multinet. The Commission notes that SP AusNet also did not complete is full replacement kilometres—therefore on a similar basis to Multinet and Envestra the Commission has calculated a reduction for SP AusNet of 0.01 percentage points. The Commission has applied these downward adjustments to the base Envestra, Multinet and SP AusNet UAFG benchmarks. The adjustments made were found to have a relatively insignificant impact on the UAFG benchmarks.

The Commission notes that in its response to the draft decision Envestra has estimated the theoretical impact on UAFG, had it completed the approved level. Envestra states that if it had undertaken all of its approved mains replacement, all things being equal, the level of Victorian Class B UAFG would have been 3.62 per cent as opposed to the actual figure of 3.68 per cent—a difference of 0.06 per cent.

5.4 Non-PTS benchmarks

Envestra did not comment on the non-PTS benchmarks set by the Commission in the draft decision.

[37] Envestra, Multinet and SP AusNet did not complete 205 km , 302 km and 35 km respectively of funded LP mains replacement during the 2008-12 period.

Multinet proposes a higher benchmark of 3 per cent—rather than 2 per cent set in the draft decision—based on the expectation that actual non-PTS UAFG will be well in excess of even a 3 per cent benchmark.[38] Multinet provided qualitative information to support its proposal (see section 4.3 above) but did not provide any historical data.

The Commission has relied on its expert consultant, Zincara, to assess the qualitative information. As stated by Zincara:

> *The UAFG for Multinet's non-PTS network should continue at 2% as there are no actual data to show the effects of temperature changes due to Lang Lang not having a heater at the city gate and Korumburra's heater not operating to maintain the temperature to standard condition.*[39]
>
> *...*
>
> *Zincara acknowledges that the lack of heaters in some of the city gates for the Multinet's non-PTS network may have an impact on the UAFG. However, there is no actual data to show the effects of such temperature change. As such, Zincara considers that the most appropriate benchmark for the Multinet's network is 2% consistent with what has been adopted for the period 2008-2012.*[40]

The Commission accepts Zincara's recommendation to apply a non-PTS benchmark of 2 per cent for Multinet—consistent with the draft decision.

For SP AusNet, the Commission has given consideration to the business' circumstances in setting the non-PTS UAFG benchmarks. In this context the historical data provides a reasonable basis for the determination of its non-PTS benchmarks.

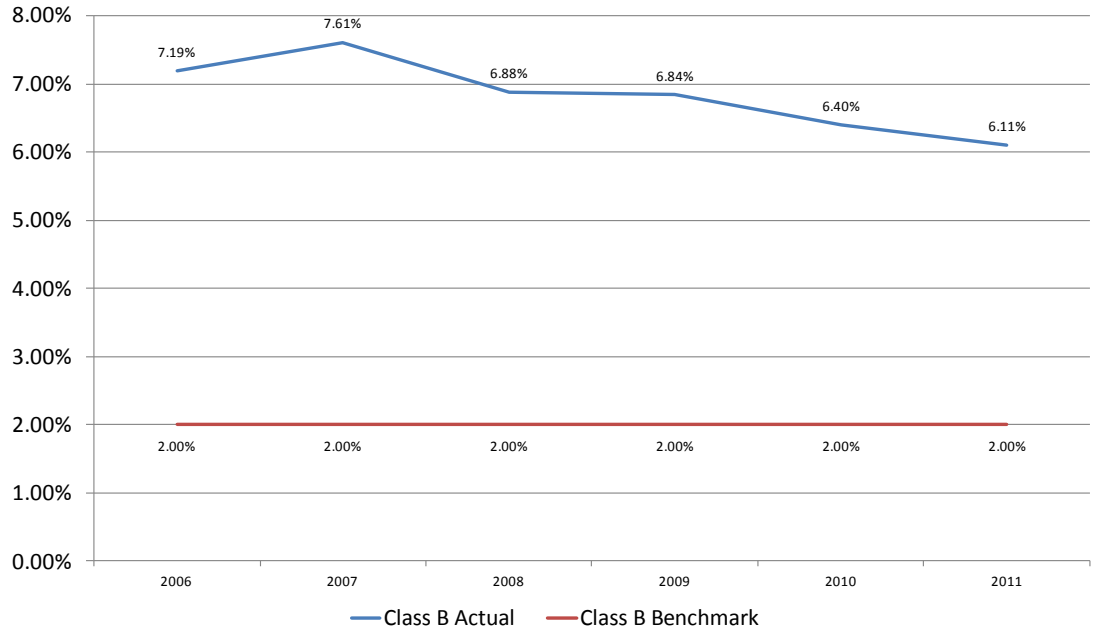
In the draft decision, the Commission found there has been a consistent declining trend in UAFG since 2006, as shown in figure 5.1. A downward trend was applied to the forward non-PTS benchmarks to account for scope for ongoing efficiencies.

38 Multinet submission, May 2013, p. 16.

39 Zincara, June 2013, p. 5.

40 Zincara, June 2013, p. 21.

Figure 5.1 SP AusNet non-PTS UAFG volumes: actual and benchmark, 2006–11



SP AusNet disputes the trend analysis and 'the setting of a benchmark based on what is possible rather than what is expected under normal operating practices.'[41] Further, SP AusNet states 'while there has been a downward trend in actual UAFG, the recorded reductions (from 2008 to 2011) are not clearly linked to activity on the non-PTS network.'[42]

In assessing SP AusNet's claims, Zincara states:

> *SP AusNet has not provided any information outlining what it has done to achieve a declining UAFG for the non-PTS network and that these activities will not sustain an ongoing decline for the forthcoming period. In addition, during the meeting in January, SP AusNet said that it was considering installing meters in the inlet to the gas supply to Ararat, Stawell and Horsham which should improve the accuracy of the UAFG measurement for the non-PTS network as it would eliminate any line pack effect from the transmission network. This could further improve the UAFG for the non-PTS network.*
>
> *Zincara therefore considers it appropriate to adopt the actual declining trend to determine the UAFG benchmark for the forthcoming period of 2013-2017.*

The onus is on the GDBs to provide detailed, supporting evidence to justify their proposals. The time series of non-PTS data for SP AusNet shows a consistent

41 SP AusNet submission, May 2013, p. 8.

42 SP AusNet submission, May 2013, p. 8.

reduction from 2006. SP AusNet appears to have achieved on-going efficiencies that the Commission expects will continue into the 2012–17 period. SP AusNet has not presented evidence that the efficiencies it achieved in the 2008–12 period have been exhausted. Therefore, the Commission has not changed its position from the draft decision.

6 FINAL DECISION: 2013–17 UAFG BENCHMARKS

The Commission's final decision for the class A UAFG benchmarks for the 2013–17 period is shown in table 6.1. The Commission has not altered class A benchmarks from previous levels. The GDBs did not provide evidence to suggest a change is warranted.

Table 6.1 Final decision: UAFG Class A benchmarks 2013–17 (per cent)

	2013	2014	2015	2016	2017
Envestra Victoria	0.3	0.3	0.3	0.3	0.3
Envestra Albury	0.1	0.1	0.1	0.1	0.1
Multinet	0.3	0.3	0.3	0.3	0.3
SP AusNet	0.3	0.3	0.3	0.3	0.3

The Commission's final decision for the class B UAFG benchmarks for the 2013–17 period is shown in table 6.2.

For the class B benchmarks, the Commission is confident it can use the GDBs' historical data to set the forward benchmarks based on the information provided. The Commission considers a multi-year average is appropriate given significant variances from year-to-year in the actual data could otherwise create distortions in the forecasts.

The Commission has used a three-year average of the settled data from the previous period for each GDB to set the class B benchmarks—that is, average UAFG levels from 2008 to 2010.

Envestra and Multinet provided an estimate of the 2011 data. However, it has not been settled with the gas retail businesses and it is possible that the settled amount will be different to the estimate.[43] As noted by Zincara:

[43] It is noted that Envestra provided information to suggest the difference between the estimated and settled data has historically been small. However, Envestra did not show how the calculations had been made, nor did the retail businesses have an opportunity to comment on the information provided by Envestra.

> *The issue in regard to using unsettled data is that parties have not finally agreed and there could be differences in the final stages. Zincara therefore considers that it is not appropriate to include the 2011 data given that AEMO has also not carried out the settlement process for 2011. As such, the latest data available is the declared data by AEMO in 2010.*[44]

Further, SP AusNet did not provide an estimate for 2011.

Envestra submits that the Commission cannot use 2009 data because of a structural break in the time series due to a change in gas supply, which has affected heating values.[45]

The Commission accepts that the change to heating value has had a negative effect on UAFG for Envestra and Multinet's networks since 2006. That said, no evidence was provided to suggest the structural break occurred between 2009 and 2010. The Commission notes that Multinet, which is equally affected by the change in gas supply, proposes to use the 2009 data. Further, Zincara finds:

> *Using [the 2008–10] period raised the issue of whether the period chosen incorporates any changes due to heating value from the different gas sources ... It is noted that in 2009, AEMO carried out a similar calculation and confirmed that Envestra's analysis was correct. The data used by AEMO to carry out the analysis was for 2008. This would mean that adopting the period 2008–2010 would incorporate any changes in heating value due to gas supply from multiple sources.*
>
> *Zincara therefore recommends that the 2008–2010 data be used to set the benchmark for the period 2013 – 2017.*[46]

Finally, the Commission has made an adjustment to the base forecast to account for underspending on mains replacement by Envestra, Multinet and SP AusNet. This has resulted in downward adjustment of 0.04, 0.05 and 0.01 percentage points to the class B benchmarks for Envestra, Multinet and SP AusNet, respectively.

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44 Zincara, June 2013, p. 16.

45 It is noted that UAFG levels for Envestra in 2009 were significantly lower than 2008 and 2010–11.

46 Zincara, June 2013, pp. 16.

Table 6.2 Final decision: UAFG Class B benchmarks 2013–17 (per cent)

	2013	2014	2015	2016	2017
Envestra Victoria	3.7	3.7	3.7	3.7	3.7
Envestra Albury	3.7	3.7	3.7	3.7	3.7
Multinet	4.1	4.1	4.1	4.1	4.1
SP AusNet	5.4	5.4	5.4	5.4	5.4

The Commission's final decision for the non-PTS UAFG benchmarks for the 2013–17 period is shown in table 6.3.

In the absence of evidence provided by Envestra and Multinet, the Commission considers that the current benchmarks should be retained.

For SP AusNet, the Commission is confident it can use the historical data to set the forward benchmarks based on the information provided. Consistent with the draft decision, the Commission has applied a downward trend to the non-PTS benchmarks to account for expected efficiency improvements. A regression analysis of historical data was used to set the SP AusNet non-PTS UAFG benchmarks for 2013–17.

Table 6.3 Final decision: UAFG Non-PTS benchmarks 2013–17 (per cent)

	2013	2014	2015	2016	2017
Envestra	2.0	2.0	2.0	2.0	2.0
Multinet	2.0	2.0	2.0	2.0	2.0
SP AusNet	5.8	5.6	5.3	5.1	4.9

6.1 When will the updated UAFG benchmarks apply?

In its response to the draft decision AEMO maintained its concern that amendments to the UAFG benchmarks need to be prospective as applying the benchmarks retrospectively would conflict with its market settlement processes.

Multinet submitted that the delay in amending the GDSC by 1 January 2013 was beyond its control and considerations of procedural fairness point to the need for revised benchmarks to apply from 1 January 2013.

Envestra also submitted that the amended benchmarks should apply from 1 January 2013. However in an email dated 31 May 2013 Envestra noted that, after discussion with AEMO it now concurred that it was preferable not to apply benchmarks in a retrospective manner.

SP AusNet accepted in its response to the draft decision that it may not be possible to apply the amended benchmarks retrospectively.

The Commission has considered the views of participants and maintains its draft decision that the UAFG benchmarks will apply from 1 July 2013.

The issue then becomes: should the benchmarks from 1 July 2013 be adjusted (or blended) to account for them not being updated during 2012 to be effective on 1 January 2013.

The options are to maintain the draft decision that UAFG benchmarks are set until they are amended in the GDSC; or to adjust the benchmarks by increasing them to account for the January to June 2013 period.

Envestra and SP AusNet proposed adjusting the benchmarks from 2013 to account for the benchmarks not being effective from 1 January 2013. Both proposed adjusting the 2013 benchmark to account for the full effect. Envestra also provide a second option to adjust the benchmarks for all years over the 2013–17 period to account for the full effect.

Envestra also submitted in its email of 31 May 2013 that the Commission must have regard to the financial viability of the industry and if the benchmarks are not adjusted from 1 July 2013 it will be denied a reasonable opportunity to recover its efficient costs.

The Commission does not accept this argument, as in context, the level of reconciliation payments for the January to June 2013 period will not be known for some period of time. In addition, based on the level of payments over the last few years the Commission does not consider they are material enough to negatively impact the financial viability of the gas industry.

The Commission notes that for the last UAFG review, the benchmarks did not come into force until the GDSC Version 9.0 became effective. This date was 1 January 2009 and resulted in the 2007 benchmarks being used during 2008.

The Commission has considered Envestra's and SP AusNet's proposals to adjust the benchmarks from 1 July 2013, however it does not consider it prudent to do so as this

would be an “artificial” adjustment to account for a perceived process delay. The Commission does not agree there was a delay in its processes. Further, the Commission considers that appropriate benchmarks are currently in place and are valid until the GDSC is amended. The Commission also notes that blending has not been deemed necessary for previous reviews and is not convinced that it is appropriate for this review. The Commission has therefore decided that no blending or adjustment of the UAFG benchmarks is warranted.

The Commission’s final decision is that the UAFG benchmarks will not be adjusted from 1 July 2013 to account for the January to June 2013 period.