

10 May 2013

Review of Unaccounted for Gas Benchmarks

Response to ESC's Draft Decision



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Executive Summary

On 2 April 2013, the ESC published its Draft Decision on its review of the Unaccounted for Gas (UAFG) benchmarks. This document sets out Multinet's response.

The Draft Decision did not accept Multinet's submission that benchmarks for 2013-17 should be based on the company's most recent actual level of UAFG. In rejecting Multinet's proposal, the Draft Decision stated that the company had provided insufficient information to substantiate its proposed benchmarks. In particular, the Draft Decision said that Multinet needs to provide more information on:

- why the company has been unable to meet the current benchmarks;
- the causes of UAFG; and
- how Multinet has taken steps to seek out efficiencies to minimise UAFG.

This submission responds to the issues raised by the ESC and substantiates Multinet's proposed benchmarks for the 2013-17 period. To assist it in preparing this response, Multinet commissioned Asset Integrity Australia (AIA) to review the company's current UAFG management policies.

AIA's report concluded that:

"AIA considers 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 to 2012 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.

AIA's report provides a detailed assessment of Multinet's UAFG against 18 categories of UAFG causes, and calculates the contribution of each category to UAFG. AIA highlighted the inherent uncertainty and difficulties in measuring and managing UAFG. Multinet is reviewing AIA's commentary and recommendations, and will refine and augment its current policies and practices where it is appropriate to do so.

Importantly, AIA's report concludes that:

- Multinet's UAFG management and policies are consistent with best practice and have been effective in maintaining UAFG at a cost effective level over the 2008 to 2012 period.
- Factors that have influenced the recent increases in Multinet's UAFG up to 4.33% (for 2010) relate to the ramping up of the lower HHV Bass Gas and the ongoing connection of customers to the HP network.
- There are no immediate cost effective actions that Multinet could take to reduce the current UAFG level of 4.33%, and this level would be an appropriate benchmark going forward.

- Multinet needs to ensure that any expenditure in reducing UAFG is economic, because any investment that is not judged by the AER to be prudent may be removed from the company's regulated asset base.

In addition to AIA's findings, 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. It is not reasonable to abandon the principles of incentive regulation and 'revealed costs' in setting the UAFG benchmark for the forthcoming period. A departure from using historic actual data to set future benchmarks is a particular concern given the very substantial financial costs that have been incurred by Multinet in the current period because the benchmark was set too low.

Accordingly, Multinet proposes to use a three-year average of historic data measured over 2009 to 2011 to set the benchmarks for Class B and non-PTS benchmarks. The 2009 to 2011 period incorporates the best available information regarding current UAFG levels. The table below shows the actual UAFG for the 2008-12 access arrangement period.

Table E1: Multinet's actual UAFG for 2008-12

	Year Ending 31 December				
	2008	2009	2010	2011	2012
	Settled	Settled	Settled	Actual	Estimate
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	3.9%	4.1%	4.3%	4.4%	4.4%
Non PTS	n/a	n/a	n/a	TBD*	TBD*

* Awaiting final injection data from AEMO

The average Class B UAFG measured over 2009 to 2011 is 4.3% (rounded). Multinet's proposed benchmarks are set out in the table below.

Table E2: Multinet's UAFG benchmarks for the 2013-18 Access Arrangement period

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	4.3%	4.3%	4.3%	4.3%	4.3%
Non PTS	3.0%	3.0%	3.0%	3.0%	3.0%

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

As already noted, Multinet has incurred substantial financial penalties in relation to UAFG over the 2008-12 period. The magnitude of these penalties is a matter of considerable concern to management and shareholders. Multinet is very concerned that under the Draft Decision, for



the period between 1 January 2013 and the time that the new benchmarks take effect, Multinet will continue to be subject to the old benchmarks, which have been shown to be too low. Multinet estimates that a six month extension of the current benchmarks will cost the company a further \$1.5 million.

Multinet submits that the absence of appropriate UAFG benchmarks from 1 January 2013 is a result of a series of administrative oversights which have been beyond Multinet's control. Considerations of procedural fairness point to the need for the revised benchmarks to take effect from 1 January 2013. Multinet therefore urges the ESC to reconsider its Draft Decision, and to adopt 1 January 2013 as the date of effect for the revised benchmarks.

1. Introduction and background

The UAFG benchmarks in the Gas Distribution System Code (Code) were previously determined by the ESC for the 2008 to 2012 access arrangement period. On 21 December 2012, a Ministerial Order extended those benchmarks so that they now apply for the 2013 to 2017 period. At around the same time, the ESC received a formal request from the AER to amend and update the UAFG benchmarks in the Code. It is intended that the amended benchmarks determined by the ESC will replace those in the Ministerial Order.

The ESC commenced its review of the UAFG benchmarks by calling for submissions, to which Multinet responded in December 2012¹. On 2 April 2013, the ESC published its Draft Decision on its review of the UAFG benchmarks.

This document sets out Multinet's response to the Draft Decision. It builds on the information already provided to the ESC by Multinet in its December 2012 submission, and responds to the various matters raised by the ESC in its Draft Decision.

This submission is structured as follows:

- Section 2 provides a brief summary of the Draft Decision.
- Section 3 describes Multinet's UAFG performance over the 2008-12 period, by
 - detailing Multinet's policies and practices for managing UAFG efficiently;
 - describing the financial incentives for Multinet to manage UAFG efficiently; and
 - exploring the impact of low pressure mains replacement programs on UAFG.
- Section 4 sets out detailed information on the drivers of Multinet's UAFG.
- Section 5 explains the basis for setting Multinet's UAFG benchmarks for the 2013-17 period.
- Section 6 presents Multinet's position regarding the date of effect of the UAFG new benchmarks to be set by the ESC.
- Section 7 concludes the submission by presenting Multinet's proposed UAFG benchmarks for the 2013-17 period.

Unless otherwise stated, the term "UAFG benchmarks" means the UAFG benchmark applying to Class B customers.

¹ Multinet Gas, Review of Unaccounted for Gas Benchmarks: Response to call for submissions, December 2012.

2. Overview of the Draft Decision

The Draft Decision did not accept Multinet's submission that UAFG benchmarks for 2013-17 should be based on the company's most recent actual level of UAFG. In rejecting Multinet's submission the Draft Decision stated²:

- The Commission does not have sufficient information to understand why Multinet was unable to meet previous benchmarks. For example, Multinet failed to explain why it did not complete its funded low pressure mains replacement programs, and how that decision impacted UAFG levels. Without this information, the Commission does not have a basis for moving away from the current class B benchmarks.
- The information burden is on Multinet to explain the high levels of UAFG.
- The Commission accepts that although mains replacement would lower UAFG levels over time, it is possible 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.
- The Commission is concerned that the gas distributors have not made sufficient attempts to identify and understand the causes of UAFG. The exception is SP AusNet, which commissioned a study to determine the contributors to UAFG and to help SP AusNet develop a strategy to reduce UAFG levels.
- The Commission considers that all gas distributors should have been concerned about exceeding the UAFG benchmarks in the 2008–12 period. The gas distributors were also aware they would be required to make a submission for the next regulatory review. Accordingly, the Commission 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 expects Multinet to provide a more detailed assessment of the causes of UAFG to support its UAFG benchmark proposals for the 2013–17 period. Multinet should also demonstrate how it has taken significant steps to seek out efficiencies to minimise UAFG.
- Multinet has an opportunity to explain how it acted prudently in light of concerns about high levels of UAFG. The Commission will consider all further information in making its final decision.

The remainder of this submission responds to the concerns and issues raised by the ESC, and provides the additional information sought by the ESC to substantiate Multinet's proposed benchmarks for the 2013-17 period.

² ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, pages 2 and 3.

3. Multinet's UAFG performance

3.1 Multinet's policies and practices for managing UAFG

Multinet 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:

1. SCADA pressure control is undertaken to minimise the operating pressure of controlled networks, in order to minimise fugitive emissions.
2. Minimisation of operating pressure is targeted through the application of time clock operation on District Regulators.
3. Multinet conducts an annual leakage survey. Ad hoc surveys are also undertaken in response to suspected problems.
4. Consistent with good industry practice and the requirements of Multinet's Gas Safety Case, the company responds promptly to all reported gas escapes, and undertakes repairs immediately where gas leaks are found.
5. The company has a meter replacement program in accordance with Australian Standards.
6. Multinet has a policy of replacing larger industrial and commercial (I&C) meters more frequently than required under the standard to minimise metering error.
7. Under its asset management policy, I&C customer meter/regulator sets (including set pressure checks) are undertaken as part of scheduled maintenance.
8. Custody Transfer Meter calibration is undertaken in accordance with market rules and OEM requirements.
9. Monthly monitoring and internal reporting of UAFG, with investigation of adverse outcomes as required.
10. There is an annual reconciliation process to identify errors, duplications of meter readings, and any other anomalies.
11. Pressure and temperature corrections are applied to large consumers.
12. All gas used within the Multinet system (such as gas used for water bath heaters) is metered.
13. Multinet applies meter sizing charts to ensure that the meter size is appropriately matched to loads.
14. Daily metered customer data is monitored to detect any indications of plant breakdown or incidence of faulty equipment.
15. 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.

16. Multinet undertakes regular maintenance and calibration of sites with temperature and pressure transducers.
17. Contractors carrying out calibration and maintenance of daily metered sites are subject to audit, to ensure that they perform in accordance with required standards.
18. Multinet undertakes type testing and batch testing of meter manufactures and meter repairs to ensure compliance with applicable accuracy standards.
19. Multinet currently has a program to replace Welkerjet and Jetstream regulators.

Multinet would be pleased to provide further information on these activities to the ESC on request.

Multinet recently commissioned Asset Integrity Australia (AIA) to review the company's current UAFG management policies. AIA's report concluded that³:

"AIA considers 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 to 2012 period."

The key results of AIA's work are summarised in section 4 of this submission. It is worth noting at this point, however, that AIA's report found that the areas actioned by Multinet in its UAFG management policies target the main UAFG sources. Importantly, AIA's review has confirmed that Multinet's activities and policies are consistent with a goal of managing UAFG efficiently, in accordance with good industry practice over the 2008-12 period. Multinet is now reviewing the recommendations set out in the AIA report, and will refine and augment its current policies and practices accordingly.

The remainder of this section provides information on the financial incentives Multinet faces to manage UAFG efficiently (section 3.2), and further information on the impact of low pressure mains replacement programs on UAFG (section 3.3) in response to concerns raised by the ESC in the Draft Decision.

3.2 Financial incentives for Multinet to manage UAFG efficiently

As already noted in section 2, the Draft Decision stated:

"The Commission considers that all GDBs [gas distribution businesses] should have been concerned about exceeding the UAFG benchmarks in the 2008–12 period."

Multinet agrees with the ESC that it has been unable to meet the UAFG benchmarks set for the 2008-12 period. Table 1 below compares Multinet's actual performance against the UAFG benchmarks. The table also shows the financial penalties that Multinet has incurred as a result of not meeting the benchmark.

³ AIA, Review of Multinet UAFG Management and A Desktop UAFG Review, 3 May 2013, page 7.

Table 1: Multinet's UAFG benchmarks, actual performance and penalties for 2008-12

	Year Ending 31 December				
	2008	2009	2010	2011	2012
Benchmarks					
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	3.2%	3.2%	3.2%	3.1%	3.1%
Non PTS	2.0%	2.0%	2.0%	2.0%	2.0%
Status	Settled	Settled	Settled	Actual	Estimate
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	3.9%	4.1%	4.3%	4.4%	4.4%
Non PTS	n/a	n/a	n/a	TBD*	TBD*
Financial penalty	\$0.6 million	\$1.7 million	\$2.4 million	\$3.0 million	\$3.1 million

* Awaiting final injection data from AEMO

The magnitude of the financial penalties faced by Multinet over this period has been, and remains a matter of considerable concern to management and shareholders. Any suggestion that Multinet has not been concerned about exceeding the UAFG benchmarks in the 2008–12 period is incorrect.

As already noted, Multinet has implemented a range of actions and policies to minimise UAFG over the 2008-12 period. Notwithstanding these initiatives, actual UAFG has remained well above the benchmarks. The AIA report commissioned by Multinet examines the reasons for this in further detail, and it states:

“Factors that have influenced the recent increases in UAFG up to 4.33% (for 2010) relate to the ramping up of the lower HHV Bass Gas and the ongoing connection of customers to the HP network (new and from replacement activities).

[...] It is considered by AIA that there are no immediate cost effective actions that would effectively reduce the current UAFG level of 4.33% and this level should be the appropriate benchmark going forward.”

3.3 Impact of low pressure mains replacement programs

The Draft Decision states that Multinet failed to explain why it did not complete its low pressure mains replacement programs, and how that decision impacted UAFG levels.

Section 5.7 of Multinet's Access Arrangement Information (AAI) for the 2013-18 period sets out a detailed explanation of the reasons for the company's actual level of expenditure on low



pressure mains replacement programs over the 2008-12 period. Section 5.7 of the AAI is provided in Attachment 1 of this submission.

Multinet notes that the Draft Decision discusses the relationship between UAFG and mains replacement program as follows⁴:

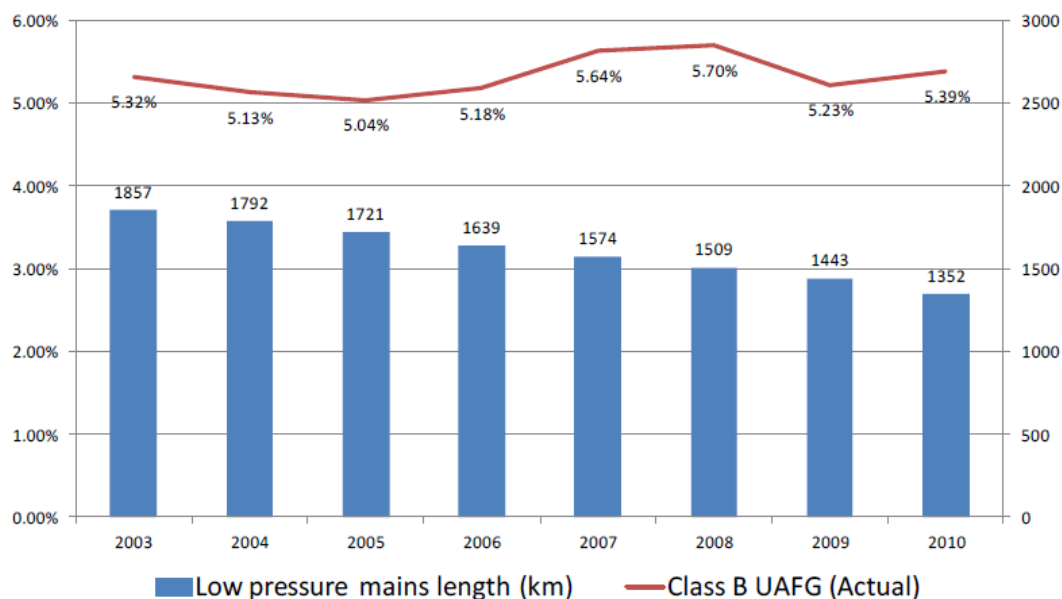
“The Commission accepts that although mains replacement would lower UAFG levels over time, it is possible these other factors may have a more significant effect on UAFG levels, as shown by the actual results over the 2008–11 period. There appears to be a high degree of uncertainty about the extent to which the various factors contribute to UAFG levels. They seem to pull in opposite directions and affect each distribution system differently.”

In addition, the Draft Decision provides the following commentary in relation to SP AusNet’s UAFG performance alongside its mains replacement program:

“SP AusNet provides further data comparing UAFG levels and the length of the low pressure network (figure 3.4). 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 3.4.”

For convenience, Figure 3.4 from the Draft Decision is reproduced on the following page.

Figure 3.4 SP AusNet comparison of mains replacement and UAFG, 2003–10



Source: ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, p 15

⁴ ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, page 2.

Whilst the analysis cited by the ESC's Draft Decision relates specifically to SP AusNet, the broad conclusions of that analysis also apply to Multinet. In relation to Multinet's specific situation, the AIA report concludes⁵:

"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."

Section 4 below provides further information from the AIA report on the sources of UAFG in Multinet's network, and examines the implications Multinet's future UAFG benchmarks.

⁵ AIA, Review of Multinet UAFG Management and A Desktop UAFG Review, 3 May 2013, pages 6-7.

4. Understanding the drivers of Multinet's UAFG

As noted in section 2, the Draft Decision states that:

- The Commission is concerned that Multinet has not made sufficient effort to identify and understand the causes of UAFG.
- The Commission expects Multinet to provide a more detailed assessment of the causes of UAFG to support its UAFG benchmark proposals for the 2013–17 period.

As already noted, Multinet engaged AIA to provide advice to assist Multinet in responding to these aspects of the Draft Decision. A copy of AIA's report is provided as part of this submission. The key points from the AIA report are summarised in this section of the submission.

AIA explained that UAFG is difficult to break into its component parts due to the inherent uncertainty associated with metering a compressible fluid, and the lack of data associated with determining unmetered physical losses.

AIA recommends that UAFG should be classified into two broad groupings, being:

1. measurement based UAFG; and
2. fugitive emissions.

This separation allows the UAFG due to leakage (i.e. fugitive emissions) to be assessed separately. AIA notes that in some environmental reports, fugitive emissions are referred to as UAFG, but this is incorrect as the UAFG also includes measurement based UAFG.

To assist in understanding the complexity of UAFG, AIA has identified 18 categories of UAFG sources within the two broad groupings noted above. AIA's categorisation of the sources of UAFG is based on its industry expertise and historic classifications. The detailed classification of UAFG facilitates targeted initiatives to manage UAFG.

AIA allocated Multinet's UAFG to each of the 18 categories, as shown in Figure 1 below. AIA also undertook analysis to assess the uncertainty surrounding each of these values, which is also depicted in Figure 1.

The allocation of UAFG to each category results in 36% 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. In Figure 1, the unattributed or 'unknown' UAFG has been redistributed across all categories in proportion to AIA's assessment of the uncertainty of each category.

Figure 1: Annual Reconciled UAFG Breakdown for Multinet for 2010

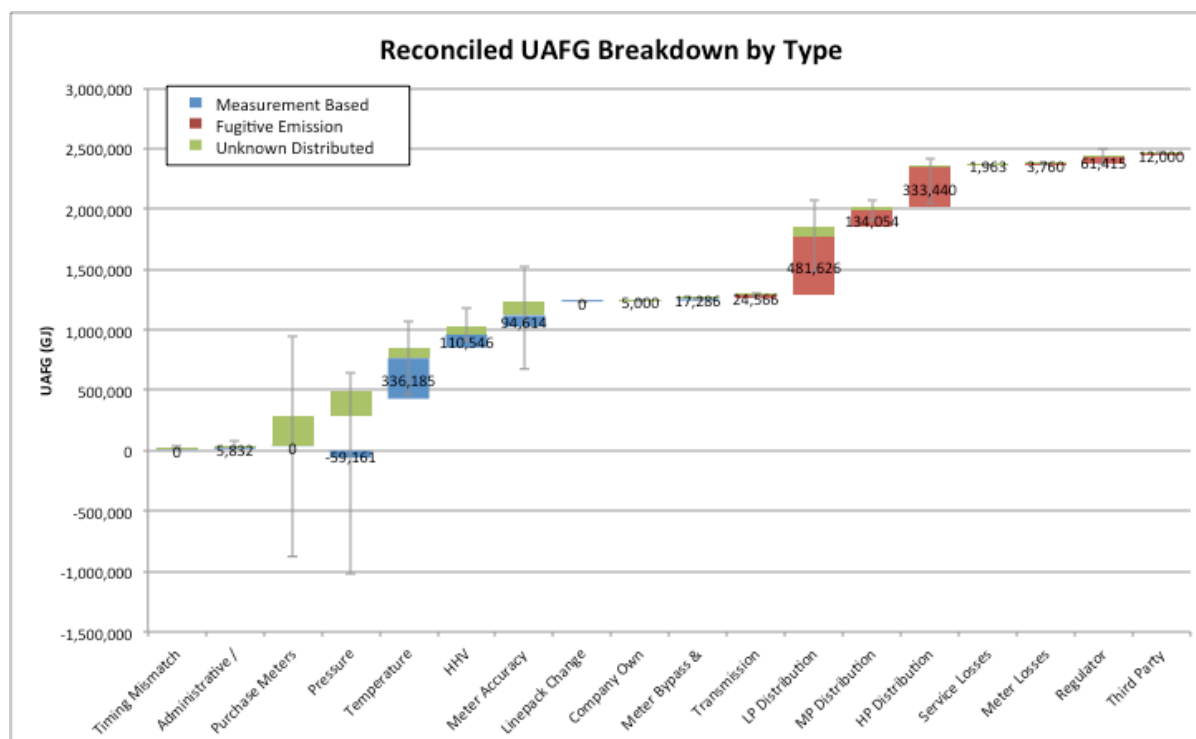


Table 17 of the UAFG report (reproduced below) provides a detailed breakdown of Multinet's 2010 UAFG. As shown in section 2.2 of the AIA report, system-wide UAFG of 4.03% equates to actual UAFG for Class B of 4.33%.

UAFG Classification	UAFG Source	% UAFG Total	% Network Load	Energy (GJ)
Measurement Based UAFG	Timing Mismatch	0.00%	0.00%	0
	Administrative / Process Errors	0.24%	0.01%	5,832
	Purchase Meters	0.00%	0.00%	0
	Pressure Compensation	-2.41%	-0.10%	-59,161
	Temperature Compensation	13.69%	0.55%	336,185
	HHV Compensation	4.50%	0.18%	110,546
	Meter Accuracy	3.85%	0.16%	94,614
	Linepack Change	0.09%	0.00%	2208
	Company Own Use	0.20%	0.01%	5,000
	Meter Bypass & Theft	0.70%	0.03%	17,286
Fugitive Emissions	Transmission Losses	1.00%	0.04%	24,566
	LP Distribution Losses	19.61%	0.79%	481,626
	MP Distribution Losses	5.46%	0.22%	134,054
	HP Distribution Losses	13.57%	0.55%	333,440
	Service Losses	0.08%	0.00%	1,963
	Meter Losses	0.15%	0.01%	3,760
	Regulator Leakage	2.50%	0.10%	61,415
	Third Party Damages	0.49%	0.02%	12,000
Other	Unknown	36.28%	1.46%	891,248
Measurement Based UAFG subtotal		20.9%	0.8%	512,511
Fugitive Emissions subtotal		42.9%	1.7%	1,052,824
UAFG		100.00%	4.03%	2,456,582

Commenting on the data presented above, AIA stated⁶:

“This summary of the sources of UAFG and their relative contribution to total UAFG indicates the complexity of the nature of UAFG, how some activities that reduce UAFG such as replacement are being counteracted by the connection of the “replaced” customers to higher pressure mains that will increase UAFG, and how some factors such as altitude can reduce UAFG.”

The AIA report provides commentary on a number of issues associated with UAFG. Some of AIA’s comments relate to the inherent uncertainty of measuring UAFG and the drivers for recent increases. Other aspects of AIA’s commentary note initiatives that could potentially improve the measurement or management of UAFG over time. The broad range of UAFG issues discussed by AIA include:

- Purchase Meters (CTMs) metering accuracy;
- Large Tariff D customer uncertainty;
- Temperature compensation;
- Classification of Class A meters;
- Fugitive emissions; and
- Higher Heating Value (HHV) of gas.

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.

Of the 6 items noted above, AIA’s discussion of temperature compensation and HHV explain why Multinet’s UAFG has shown an upward trend in recent years. As already noted, Multinet has strong commercial incentives to reduce UAFG where it is economic to do so. AIA explain, however, that there are a number of matters that will drive UAFG upwards, which are beyond Multinet’s control. For example, AIA notes that the injection of lower HHV Bass Gas coincides with the recent upward trend in Multinet’s UAFG from 4.1% to 4.3%.

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 two sources:

- 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 Effect from this pressure reduction causes cooling of the gas by

⁶ AIA, Review of Multinet UAFG Management and A Desktop UAFG Review, 3 May 2013, page 56.

approximately 2 degree C. This cooled gas delivered to the meter increases the UAFG by 27 GJ /km of network.

- The remaining LP / MP network is subject to continuous deterioration with age.

Importantly, AIA's report concludes that⁷:

- 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 levels at a cost effective levels over the 2008 to 2012 period.
- Factors that have influenced the recent increases in Multinet's UAFG up to 4.33% (for 2010) relate to the ramping up of the lower HHV Bass Gas and the ongoing connection of customers to the HP network.
- There are no immediate cost effective actions that Multinet could take to reduce the current UAFG level of 4.33%, and this level would be an appropriate benchmark going forward.
- Multinet needs to ensure that any investment in reducing UAFG is economic, because any investment that is not judged by the AER to be prudent may be removed from the company's regulated asset base.

Multinet considers that the information set out above and in the accompanying AIA report:

- explains the causes of UAFG on its network;
- demonstrates that Multinet has taken appropriate steps to minimise UAFG;
- explains why the previously accepted relationship between low pressure mains replacement and UAFG levels no longer holds⁸;
- provides a detailed assessment of the causes of UAFG to support Multinet's UAFG benchmark proposals for the 2013–17 period; and
- confirms that Multinet's current level of UAFG provides the best benchmark for the 2013-17 access arrangement period.

⁷ AIA, Review of Multinet UAFG Management and A Desktop UAFG Review, 3 May 2013, page 7.

⁸ See page 15 of the ESC's Draft Decision.

5. Basis for setting forward benchmarks

5.1 Class B benchmarks

The Draft Decision states⁹:

“The broad argument presented by Multinet that there is significant uncertainty about the causes of UAFG does not justify considerably higher benchmarks without detailed, supporting information.”

Multinet wishes to clarify that it has never advanced arguments that the significant uncertainty regarding the causes of UAFG justifies the adoption of higher future benchmarks. The company has consistently argued that in the face of material financial incentives to minimise UAFG, it is reasonable to infer that the level of actual UAFG achieved by the company in response to those incentives should form the basis of future benchmarks.

During the 2008 Gas Access Arrangement Review, Multinet proposed a starting point Class B UAFG benchmark of 3.6 per cent declining by 100 GJ per annum per kilometre of pipe replaced¹⁰. As shown in Table 1 in section 3.2 above, the benchmark adopted by the ESC was considerably lower than that proposed by Multinet, and the company has been unable to meet the ESC’s UAFG performance benchmarks, despite the strong financial incentives to do so. It is not surprising or unreasonable, therefore, that the future UAFG benchmark must be considerably higher than the current one.

As previously noted, Multinet has presented information in sections 3 and 4 of this submission that addresses the concerns raised in the Draft Decision, including:

- further information to enable the ESC to understand why Multinet was unable to meet previous benchmarks;
- an explanation of the causes of UAFG, including a detailed breakdown by category;
- a detailed explanation of the actions Multinet has taken over the course of the 2008-12 period to manage UAFG efficiently; and
- a proposed benchmark for the 2013–17 period which reflects average UAFG performance over the most recent 3 year period for which data is available.

The ESC’s Draft Decision noted that¹¹:

“The data provided by the GDBs shows UAFG levels are highly variable from year-to-year with no clear downward trend.”

⁹ ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, page 3.

¹⁰ Multinet Gas, Submission to Essential Services Commission Re: Gas Access Arrangement Review 2008 to 2012 Draft Decision, October 2007, p. 79.

¹¹ ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, page 2.

Multinet concurs with the ESC's observations regarding the annual variability of UAFG levels, and that there is no clear downward trend in the UAFG levels reported by any of the distributors.

Multinet also accepts the ESC's conclusion that it is preferable to use a three year average, rather than a single year's data. However, Multinet notes that the averaging period adopted by the ESC (2008 to 2010) concluded some 2½ years ago, and 2008 data is now 5 years old. Multinet considers it is preferable to use the most recent 3 year period, which is 2009-2011.

Multinet has a robust and verifiable estimate of Class B UAFG for 2011 of 4.3%¹². Multinet therefore proposes that this value be used in the three-year series to calculate an average annual Class B UAFG for Multinet over the years 2009, 2010 and 2011. This calculation is shown in section 7, along with Multinet's proposed benchmarks for the 2013-17 period.

5.2 Non-PTS benchmarks

In relation to non-PTS benchmarks, the Draft Decision proposed the continuation of the current benchmark of 2% instead of Multinet's proposed 3% benchmark.

In response, Multinet acknowledges that its non-PTS network is a recently-constructed polyethylene network, with low leakage rates. 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.
- 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%. It is emphasised that when the UAFG data is finalised, Multinet expects that actual non-PTS UAFG will be well in excess of the 3% benchmark. This will need to be addressed at the next Gas Access Arrangement Review in 2017.

¹² See Attachment 2

6. Date of effect of new benchmarks

The Draft Decision states¹³:

“The GDBs submitted that any amendments to the GDSC [Gas Distribution System Code] should be retrospective and apply from 1 January 2013.

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

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

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

Multinet is very concerned that under the ESC's proposal, for the period between 1 January 2013 and the time that the new benchmarks take effect, Multinet will continue to be subject to the old benchmarks, which have been shown to be too low¹⁴. Multinet estimates that over the first 6 months of 2013, the company faces a potential obligation to pay an additional \$1.5 million in UAFG payments under the old benchmarks compared to the payments it would make if the company's proposed UAFG benchmarks (set out in section 7 of this proposal) applied from 1 January 2013.

In effect, a series of administrative oversights will result in the continued application of inappropriately low UAFG benchmarks in the first 6 months of the 2013-18 access arrangement period. As a result of these oversights, and through no fault of its own, Multinet faces an exposure of the order of \$1.5 million over that 6 month period.

Multinet submits that:

- 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.

¹³ ESC, Gas Distribution System Code – Review of Unaccounted for Gas Benchmarks – Draft Decision, March 2013, page 5.

¹⁴ In addition to the information set out in this submission, please see: Multinet, Gas Access Arrangement Review: January 2013-December 2017 - Access Arrangement Information, March 2012, pages 189-192; and Multinet, Revised Proposal and Response to Draft Decision, 9 November 2012, pages 67 to 69.

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

Given that the current circumstances have arisen as a result of a series of administrative oversights which have been beyond Multinet's control, considerations of procedural fairness point to the need for the revised benchmarks to take effect from 1 January 2013. Multinet therefore urges the ESC to reconsider its Draft Decision, and to adopt 1 January 2013 as the date of effect for the revised benchmarks.

7. Multinet's proposed benchmarks

Multinet accepts the Draft Decision's proposed Class A benchmarks.

For the reasons set out in this submission, Multinet proposes to use a three-year average of historic data measured over 2009 to 2011 to set the benchmarks for Class B and non-PTS benchmarks. The table below shows the actual UAFG for the 2008-12 access arrangement period.

Table 2: Multinet's actual UAFG for 2008-12

	Year Ending 31 December				
	2008	2009	2010	2011	2012
	Actual	Actual	Actual	Estimates	Estimates
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	3.9%	4.1%	4.3%	4.4%	4.4%
Non PTS	n/a	n/a	n/a	TBD*	TBD*

* Awaiting final injection data from AEMO

The average Class B UAFG measured over 2009 to 2011 is 4.3% (rounded).

Multinet's proposed benchmarks are set out in the table below.

Table 3: Multinet's UAFG benchmarks for the 2013-18 Access Arrangement period

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	4.3%	4.3%	4.3%	4.3%	4.3%
Non PTS	3.0%	3.0%	3.0%	3.0%	3.0%

Attachment 1: Excerpt from Multinet's AAI

The material below is taken from Multinet's Access Arrangement Information, submitted to the AER on 30 March 2012. It explains, among other things, the reasons for the company's actual level of expenditure on low pressure mains replacement programs over the 2008-12 period.

5.7 Pipeworks upgrade program

5.7.1 Introduction and Overview

In 2002, Multinet's Gas Access Arrangement Review submission to the Essential Services Commission (ESC) demonstrated a requirement to replace low pressure mains and associated services in order to maintain system integrity. This was the first tranche of a 30-year program to replace Multinet's low-pressure network. The name "Pipeworks" was given to this project.

The aims of the Pipeworks project are to:

- Minimise repeated consumer outages
- Minimise risk associated with leakage
- Minimise maintenance activities associated with aged assets
- Alleviate the growing demand for gas supply on the low pressure distribution system.

By the conclusion of the 30-year project, practically all the low pressure systems will be removed from Multinet's gas network. The target for mains renewal for the forthcoming period is an average of 90 km per year.

The forecast Pipeworks expenditure for the forthcoming access arrangement period is shown in Table 5-4.

Table 5-4: Forecast Pipeworks upgrade program capital expenditure 2013 – 2017
(\$m, real 2012)

	YEAR ENDING 31 DECEMBER				
	2013	2014	2015	2016	2017
Pipeworks	21.8	25.4	25.8	23.3	26.4

Detailed information to explain and substantiate Multinet's forecast of Pipeworks program capital expenditure is provided below. A comparison of actual expenditure in the current access arrangement period and the forecast for the forthcoming period is also provided.

5.7.2 Basis for Pipeworks upgrade program

The earlier phases of the Pipeworks programs were focused principally in the geographic areas abutting the existing high pressure networks, to ensure high pressure supply remained available to the upgraded areas without the need for extensive grid main construction. The condition of assets in some inner suburban areas is such that some grid main construction work must now be programmed over the forthcoming access arrangement period.

Consequently, over the forthcoming period, the Pipeworks project will require work in more difficult (higher population density) areas, and therefore average unit costs will increase. Cost increases will be driven by:

- The additional difficulty and complexity of the work in areas with high vehicular traffic volumes and multi-unit residential developments, including high-rise buildings
- Materials costs have increased substantially for both polyethylene (PE) and steel pipe over the last five years as a result of the resources boom and increases in the price of oil. PE pipe prices are directly linked to the price of oil.

Many of these areas are either distant from high pressure supply or are in inner suburban areas. Earlier trial projects carried out in Hawthorn, Toorak and South Melbourne confirmed that substantially higher unit rates apply in higher density areas than in outer suburban projects.

In the course of preparing its current AMP, Multinet has re-examined the Pipeworks program. Multinet's assessment of Pipeworks renewals requirements uses a uniform distribution between the 'pessimistic' and 'optimistic' asset lives shown in the table below (which is reproduced from Section 5.5.10 of Multinet's AMP).

Table 5-5: Technical lives of assets for assessment of Pipeworks renewals requirements

Material Type	Wall Thickness	Diameter (mm)	Pessimistic Life (years)	Optimistic Life (years)	Reference
Cast Iron	Thin	0-150	60 (70)*	90 (100)*	SSL Report
Lead Joints	Medium	175-450	70 (80)*	140	Table 2
	Thick	500-750	90	140	Gascor
Cast Iron	Thin	0-150	40	60	SSL Report
Mechanical	Medium	175-450	50	90	Table 2
Joints	Thick	500-750	60	90	Gascor Estimate
Steel -	Thin	25-40	40	90	SSL Report
Coated	Medium	50-80	40	90	Table 3
No CP	Thick		40	90	Gascor Estimate
Steel -	Pre 1930		70	140	
Coated	1930 -49		90	180	SSL Report
With CP	1950 -69		100	220	Table 5
	1970 -79		100	240	Author's Estimate
	1980 -on		115	250	
PVC			37	72	Distribution Spread
PE			50	100	

The asset lives adopted for analytical purposes are consistent with industry-accepted asset lives of pipes. Multinet's analysis uses existing age profile information obtained from the SAP system to derive an estimate of long-term asset renewal requirements.

Multinet's analysis indicates that approximately 90 km per annum of low pressure mains should be replaced for the next 10 years, to appropriately manage network reliability, supply security and safety and to also achieve a smooth replacement works program during this period and subsequent periods.



Multinet's analysis confirms that:

- The renewal rates established under the Pipeworks program in 2002 are sufficient, if maintained over the forthcoming access arrangement period, to ensure a smooth works program, and such that there would be no future increases to the program (to achieve performance and safety standards) if a lower rate was adopted in this period
- In terms of affordability in the context of current financial market conditions and Multinet's proposed WACC, a 90 km per annum replacement rate is appropriate and deliverable
- The proposed level of replacement and capital expenditure under the Pipeworks program for the forthcoming period is prudent, and complies with the requirements of Rule 79 of the National Gas Rules.

It is worth noting that the relatively high rainfall which occurred over the winter of 2011 exposed many areas of the network where water ingress into the ageing low pressure system occurred, resulting in customer interruptions and high operating costs to repeatedly siphon the network. This demonstrates the benefits of continuing to renew the system under the Pipeworks project.

5.7.3 Trend analysis: Pipeworks upgrade capital expenditure

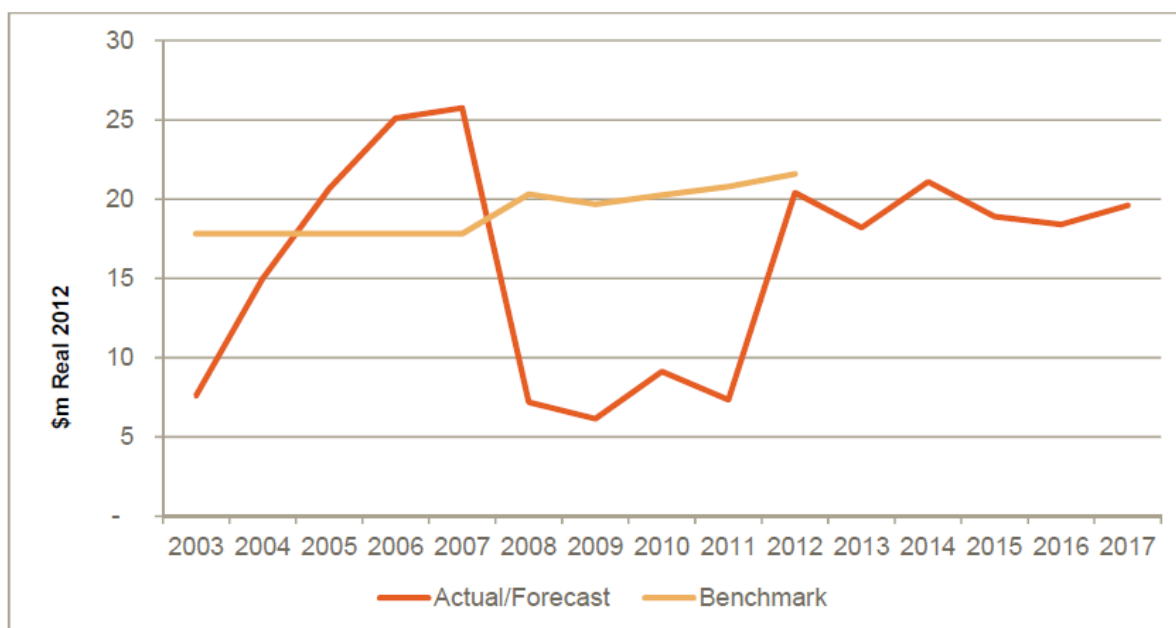
Table 5-6 shows the actual pipeworks capital expenditure for the current access arrangement period alongside the regulatory benchmark for the period.

Table 5-6: Actual and benchmark pipeworks capital expenditure for current period (real \$2012)

Category	Actual (2008-2012)	Benchmark (2008-2012)	Variance	% Variance
Volume Connection	241	556	315	56.7%
Unit Price	\$224,708	\$184,551	(\$40,157)	(21.8%)
Total (\$m)	54.2	102.6	48.5	47.2%

The figure below shows Multinet's actual pipeworks capital expenditure, compared to regulatory benchmarks since 2003.

Figure 5-2: Multinet's actual and benchmark pipeworks expenditure since 2003(\$m, real 2012)



- The actual unit rate for pipeworks capital expenditure was greater than the benchmark unit rate determined by the ESC in its 2008 decision.
- However, Multinet's actual Pipeworks expenditure fell short of the forecast, due a reduction in the volume of Pipeworks delivered compared to the regulator benchmark.

There are two main reasons for this:

- As noted earlier, capital expenditure programs will only attract the necessary investment funds if investors have reasonable confidence that the rate of return to be provided over, say, 10 successive regulatory periods (50 years) will be commensurate with the risks involved. In the 2008 GAAR, the ESC made an unprecedented decision to reduce the equity beta from 1 to 0.8, which was out-of-step with all previous regulatory decisions. The ESC also flagged the possibility of a further reduction in the equity beta, 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 global financial crisis in September 2008, Multinet faced further severe capital constraints. The unprecedented shift in perceptions of risk reinforced investors' concerns that followed the 2008 GAAR decision. 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.

Fortunately, the deferral in Pipeworks capital expenditure has been achieved without affecting service performance in the current Access Arrangement Period. In addition, customers will benefit from lower prices in future as Multinet's regulated asset base is lower as a result of the deferral.

It is essential, however, that the funding problems in the current period are not repeated in the next. While financial markets remain unsettled, there remains a possibility of capital constraints and undesirable deferrals of capital expenditure. As discussed in section 8, Multinet regards the determination of a regulated WACC that accords with the requirements of the National Gas Law and Rules as an important element in minimising the risk of capital constraints.

In light of the explanation provided above, Multinet regards its forecast capital expenditure for the Pipeworks program as prudent and efficient, and is achievable in the current financial environment.

Attachment 2: Multinet's actual and estimated UAFG

	Actual 2006	Actual 2007	Actual 2008	Actual Calculated 2009	Actual Calculated 2010	Forecast 2011	Forecast 2012	Forecast 2013	Forecast 2014	Forecast 2015	Forecast 2016	Forecast 2017
Class B Benchmark Rate	3.6%	3.6%	3.6%	3.2%	3.2%	3.1%	3.1%					
Class A Benchmark Rate	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%					
CTM Injection (TJ)	63,060	56,968	60,764	58,434	60,896	58,615	60,158	58,043	57,340	56,922	56,690	56,506
Class A >250 TJ	5807	5,257	4,344	4,647	4,411	3,933	3,836	3,687	3,572	3,490	3,432	3,390
ClassB<250 TJ (D customers)												
ClassB	55079	49,523	54,197	51,600	54,028	52,279	56,321	54,356	53,767	53,433	53,258	53,116
Total Withdrawals (TJ)	60,886	54,780	58,540	56,247	58,439	56,212	57,691	55,663	54,989	54,589	54,366	54,189
Actual UAFG (TJ)	2,174	2,187	2,224	2,187	2,457	2,312	2,490	2,403	2,376	2,362	2,354	2,347
% UAFG	3.45%	3.84%	3.66%	3.74%	4.03%	3.94%	4.14%	4.14%	4.14%	4.15%	4.15%	4.15%
Class A UAFG (TJ)	17	16	13	14	13	12	12	11	11	10	10	10
Class B UAFG (TJ)	2,157	2,171	2,211	2,173	2,443	2,300	2,478	2,392	2,366	2,351	2,343	2,337
% Class A UAFG	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
% Class B UAFG	3.8%	4.20%	3.92%	4.04%	4.33%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%