

15 June 2017

Anna Panarina
Project Administrator, Energy
Essential Services Commission
Level 37, 2 Lonsdale Street
Melbourne VIC 3000

www.ausnetservices.com.au

Dear Anna,

AusNet Services welcomes the opportunity to make a submission in response to the Essential Services Commission's (ESC) draft decision on its proposed methodology for calculating Unaccounted for Gas (UAFG) benchmarks, which will apply to the Victorian gas distributors for the 2018-22 Access Arrangement (AA) period.

UAFG refers to the difference between the measured quantities of gas entering the gas distribution system and the measured quantity of gas withdrawn by customers. UAFG can arise because of metering errors; theft; inaccuracy in the conversion from quantity of gas measured to energy (reflecting discrepancies in temperature, pressure, heating value, altitude or the gas compressibility factor); leakage and a number of other minor factors.

AusNet Services' gas distribution network is subject to a UAFG incentive mechanism, which requires it to compensate retailers for any UAFG in excess of its benchmark and, conversely, retailers to compensate AusNet Services where actual UAFG is lower than the benchmark. Accordingly, this mechanism is designed to ensure that capital and operating expenditure decisions take UAFG into account, to the extent that these decisions can impact UAFG. It is recognised that there is a large degree of uncertainty regarding the degree to which individual factors drive UAFG, and to which these factors are within the control of networks.

In its draft decision, the ESC proposes to calculate UAFG benchmarks in accordance with the following approach:

1. The Commission proposes to use the revealed cost approach with a multi-year average to calculate the UAFG benchmarks.
2. The Commission proposes not to account for possible reductions in UAFG resulting from the distributors' mains replacement programs.
3. The Commission proposes not to account for possible increases in UAFG caused by continued deterioration of the distribution networks.
4. The Commission proposes to consider whether there are any efficiencies that can be achieved by the distributors, and may decide to adjust the forward UAFG benchmarks accordingly.
5. The Commission proposes to retain separate UAFG benchmarks for class A and class B customers.

The remainder of this submission sets out our views in respect of the five elements of the ESC's draft methodology set out above.

1. Use of the revealed cost approach with a multi-year average

AusNet Services supports the use of the revealed cost approach to setting UAFG benchmarks.

As noted by the ESC, the revealed cost approach “has the major advantage of taking into account the actual circumstances of distributors, even when the individual drivers of UAFG are not known with the required level of precision or where the drivers are out of the control of the distributors.”¹ This is a particularly important characteristic of the revealed cost approach relative to the alternative bottom-up or external benchmark approaches, given the uncertainty around the specific drivers of UAFG and the limited extent to which networks can control UAFG.

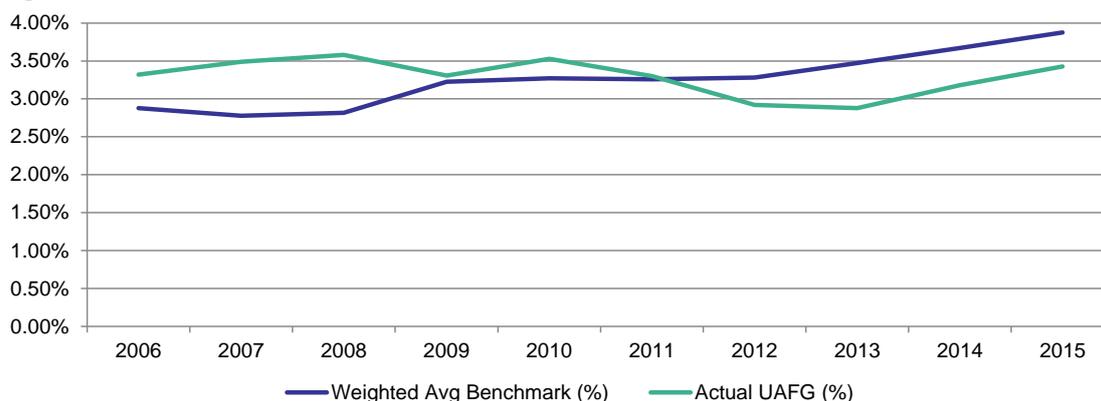
While we support the revealed cost approach, whether a multi-year average is appropriate will depend on the underlying trend observed in historical performance. Where the historical performance data appears to have no trend and is either stable or exhibits ‘random walk’ characteristics, a multi-year trend is likely to be the most appropriate method.

However, when actual performance has been trending in one direction over a number of years, a simple multi-year average will lead to an under- or over-statement of the benchmark. This was recognised by the ESC at the last UAFG review, where non-Declared Transmission System (DTS) UAFG had been falling between 2007 and 2011. To account for this trend, the ESC used a multi-year average of revealed costs, but factored in a continued decline in the benchmark.²

Accordingly, we consider the ESC should not simply just apply an arithmetic multi-year average to set benchmarks for each future year where a clear trend exists in the historical data. Instead, a similar adjustment to that applied at the last review may be appropriate to account for trends. Alternatively, in these circumstances, the most recent year of UAFG data may be a sounder basis for setting benchmarks.

The figures below show AusNet Services’ actual UAFG vs. benchmark from 2006-15 for the DTS.

Figure 1: Actual UAFG vs. benchmark, DTS



Source: AusNet Services analysis

¹ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.13

² Essential Services Commission, *Review of UAFG Benchmarks – Draft Decision*, March 2013, p.30

DTS UAFG has displayed a relatively stable trend since 2006, fluctuating between 2.9% and 3.3%. While DTS UAFG has appeared to trend up since 2013, when considered in the context of the long-term data series, this appears to be attributable to the random walk nature of the data, rather than to an underlying trend that is likely to continue. As the ESC has stated, “under a multi-year average approach, the effect of any variations in year to year UAFG levels are minimised as an average of actual UAFG levels across years is used. For this reason, there is a greater likelihood that a multi-year average will provide a better estimate of future UAFG levels.”³ A multi-year arithmetic average would, therefore, be a sound basis for setting UAFG benchmarks for AusNet Services’ DTS.

However, if this had not been the case and instead a sustained trend had emerged in the data, a multi-year average would under- or over-state the UAFG that is likely to eventuate in the forthcoming AA period. More appropriate methods to setting the non-DTS benchmark in these circumstances include:

- A multi-year average with an adjustment to account for the historical trend; or
- Adopting the most recent year, particularly if there is uncertainty as to whether the trend is likely to continue.

Importantly, both of these approaches still rely on revealed costs, but are likely to produce symmetrical and more robust benchmarks than a simple multi-year average.

For the reasons above, while AusNet Services supports the revealed cost approach, we consider that the ESC’s methodology should not be to automatically adopt a multi-year average when applying this approach. Instead, the existence or otherwise of an historical trend should inform the most appropriate revealed cost approach to apply.

2. Not accounting for possible reductions in UAFG resulting from mains replacement

AusNet Services supports the ESC’s proposed approach of not accounting for possible UAFG reductions due to mains replacement activities in UAFG benchmarks.

There is no clear evidence to suggest that mains replacement activities can improve UAFG performance. The mains replacement programs are justified on a safety and operational risk mitigation basis, not by the extent to which they might reduce UAFG. The UAFG profile shown in Figure 1 above, which coincides with the replacement of large volumes of poor performing low pressure mains, suggest a lack of correlation between mains replacement and UAFG. In particular, AusNet Services is on track to replace 500km of low pressure mains during the current 2013-17 AA period, consistent with the volume approved by the AER. Although intuitively mains replacement should have a discernible impact on UAFG, in reality, the relationship is unclear.

Accordingly, we agree with the ESC that “accounting for possible reductions in UAFG resulting from the distributors’ mains replacement programs, without also accounting for possible variations related to the other known causes of UAFG, may bias the forecast for UAFG.”⁴

³ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.14

⁴ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.17

3. Not accounting for possible increases in UAFG caused by continued asset deterioration of the network

We also support the ESC's proposal to not account for possible increases in UAFG due to asset deterioration. This approach would be consistent with not accounting for possible UAFG reductions due to mains replacement, as discussed in the section above. We agree with the ESC that "there are many factors causing UAFG which pull in opposite directions, and collectively they affect the levels of UAFG in a distribution network."⁵

4. Adjusting the forward UAFG benchmarks for potential efficiencies

We do not support adjusting forward UAFG benchmarks to reflect potential efficiencies if these efficiencies cannot be clearly established and robustly quantified.

The draft decision does not explicitly identify the source of such potential efficiencies.⁶ However, to make such adjustments, the ESC must first quantify a causal link between initiatives the distributor can undertake (e.g. asset replacement programs) and UAFG. This has proved to be problematic in the past due to the inherent uncertainty in the causes of UAFG and the degree to which distributors can reduce it.

In 2013, AusNet Services engaged Asset Integrity Australasia (AIA) to undertake a study of the categories of drivers of UAFG on AusNet Services' gas distribution network. Importantly, a key finding of AIA's study was that the cause of a large proportion of UAFG on our network is essentially unknown:⁷

The estimation of UAFG to each category results in 54% of actual UAFG not attributed to any category. This emphasizes the uncertainty associated with UAFG.

Accordingly, we would caution the ESC against pre-empting efficiencies due to distributor-initiated programs of work as doing so will produce a benchmark that systematically penalises distributors.

The draft decision provides an example where, at the last UAFG review, the ESC applied a downward adjustment to AusNet Services' non-PTS benchmarks to reflect an historic downward trend that the ESC considered would continue. The ESC stated:⁸

The Commission considers that it is appropriate to use this trend to set the starting point and the forward benchmarks. A regression analysis of historical data was used to set the SP AusNet non-PTS UAFG benchmarks for 2013–17.

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. SP AusNet noted in discussions with the Commission that it has not

⁵ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.17

⁶ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.19

⁷ Asset Integrity Australia, *Review of SP AusNet Strategy and Data Requirements for Desktop UAFG Review*, May 2011, p.2

⁸ Essential Services Commission, *Review of UAFG Benchmarks – Draft Decision*, March 2013, p.30

focused a specific infrastructure improvement program to minimise non-PTS UAFG. It also noted the higher UAFG is attributable to the older age of the network and the metering used to allocate UAFG. The Commission therefore considers there is further scope for significant UAFG efficiencies to be extracted over the forecast period, especially in optimising metering and replacement of older piping.

The “further scope for significant UAFG efficiencies” forecast by the ESC has not eventuated during the 2013-17 period. Despite AusNet Services’ reasonable endeavours to reduce UAFG below the benchmark, outturn non-DTS UAFG has increased since 2011. This highlights the danger of reflecting possible efficiencies into benchmarks when it is not clear distributors are able to achieve such efficiencies.

Furthermore, we consider the revealed cost approach provides sufficiently strong incentives to distributors to drive UAFG improvements where they are able to do so. As the ESC has stated:⁹

The level of the UAFG benchmarks does not actually influence incentives as the marginal incentives for distributors are constant for any given level of UAFG. Regardless of the level at which the UAFG benchmarks are set, the distributors will be rewarded or penalised for any reduction or increase in UAFG at the same rate. It is the existence of a benchmark that underpins the incentive for distributors to efficiently invest in minimising UAFG.

The merits of driving UAFG reductions by including efficiency improvements in benchmarks are, therefore, not established. Added to this, the historical evidence suggests that imposing efficiency improvement in benchmarks is highly problematic due to the inherent uncertainty around the drivers of UAFG.

5. Retaining separate UAFG benchmarks for class A and class B customers

AusNet Services supports the current approach of determining separate benchmarks for class A and class B customers.

Should you have any questions on this submission, please don't hesitate to contact Rob Ball, Senior Economist, on

Sincerely,



Charlotte Eddy
Manager, Economic Regulation
AusNet Services

⁹ Essential Services Commission, *Review of Unaccounted for Gas Benchmarks, Draft Decision – Methodology*, May 2017, p.10