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Dear Sebastian and Chris

Joint Submission on a revised Contingent Capital Expenditure Sharing Scheme for Australian Gas Networks and AusNet Services gas distribution networks for the 2018-22 Access Arrangement period

1. Introduction

Australian Gas Networks (AGN) and AusNet Services (ANS or AusNet) are pleased to make this joint submission on our revised Contingent Capital Expenditure Sharing Scheme for our respective Victorian gas distribution networks for the 2018-22 Access Arrangement (AA) period. This submission responds to stakeholder feedback received since we submitted our AA revision proposals to the AER in December 2016, and is part of the ongoing engagement with stakeholders in respect of incentives for gas businesses.

2. Background

A Capital Expenditure Sharing Scheme (CESS) provides a regulated business with a consistent incentive to deliver capital expenditure efficiencies throughout the five-year regulatory period, and balances the incentives provided through an operating expenditure incentive scheme.

Following a significant process of consultation and analysis, Australian Gas Networks and AusNet Services proposed a 'contingent' CESS scheme as part of our respective access arrangement proposals for the 2018-22 Access Arrangement (AA) period.[1] [2]

The contingent CESS design proposed that any potential payments of CESS incentive reward amounts would be conditional on the businesses meeting specified asset performance indicator targets, and that CESS penalties for overspending capex would remain unaffected. The contingent CESS was designed to offset incentives to reduce costs in a way that undermines service outcomes, but also to reflect customer's stated preference to maintain rather than improve current reliability levels.

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1 Section 11.5, AusNet Services, Gas Access Arrangement Review 2018-2022: Access Arrangement Information

2 Section 11.5.2 Australian Gas Networks (Victorian and Albury), Final Plan Access arrangement Information for our Victorian and Albert natural gas networks 2018-2022

Our proposal for a contingent CESS was expected to evolve based on feedback from stakeholders and the AER. This submission revisits some of the elements of our original proposal, considers AER and stakeholder feedback (including additional possible indicators provided by the AER's consultant Zincara) and sets out our proposed revised contingent CESS scheme.

This submission is structured as follows:

- Our Contingent CESS proposal (section 3)
- The feedback received on the Contingent CESS proposal (section 4)
- The further work we have undertaken and how we have responded to feedback (section 5)
- Our proposed revised Contingent CESS (section 6).

3. Our contingent CESS proposal

This section sets out the Contingent CESS scheme we proposed in our AA revision proposals for the 2018-22 AA period.

The proposed Contingent CESS had the following characteristics:

- CESS penalties remain unaffected by improved asset performance outcomes (that is, the scheme is asymmetric);
- Full CESS rewards are only payable where asset performance outcomes do not drop below historical levels; and
- To the extent CESS rewards are being earned at the expense of asset performance outcomes relative to the historic levels, they are discounted accordingly.

We proposed three asset performance indicators that reflected those that the businesses used for monitoring asset integrity and performance. The measures were:

- Unplanned SAIDI per customer – which measures the average duration (in minutes) of unplanned service disruptions. Reliability of supply is a direct measure of service reliability and can be measured using readily available data regularly reported to Energy Safe Victoria.
- Gas leaks – which measures the number of reported gas leaks that require corrective works.
- Water in mains – which measures the number of instances of water seeping into the network through degraded pipe assets.

The asset performance indicators were determined following a review by Farrier Swier Consulting (FSC) of possible performance measures. This review sought to identify measures that performed well against four criteria (set out in section 5.3 below).

We proposed that

- the scheme would be applied once every five years as part of applying the CESS;
- targets for each of the measures would be set using the longest period of historical data available, up to and including the five most recent years; and
- service performance targets were to be based on maintain historic service performance, as per the stakeholder feedback that underpinned the asymmetric design of the contingent CESS.

We calculated targets for the next AA period as set in Table 1, which reflect average historic performance delivered by each business. For the purposes of measuring performance, we consider it

was reasonable that the three measures would be aggregated into an index (with base 100) with 1/3 weight applied to each. Any CESS reward would then start reducing if actual performance – in terms of an index – falls below a minimum threshold and falls to zero if performance falls to a maximum threshold.

Table 1: Asset performance indicator targets for the 2018–22 AA period[3]

Measure	AGN	ANS
Unplanned SAIDI	3.694 mins	0.914 mins
Leaks	13,854	12,341
Water in mains	0.073 per kilometre of main	0.071 per kilometre of main

We proposed using a 'weighted and scaled index approach' to calculate the amount of CESS reward at risk as follows:

- Apply a sliding-scale to reduce CESS rewards where the asset performance indicator thresholds are not met on average over the 2018-22 (four year) period
- Where performance below a minimum threshold results in a reduction to any CESS rewards, with any CESS reward removed if performance is below the maximum threshold. The minimum and maximum thresholds are set using an approach informed by customer expectations that reliability not fall below historical performance and the variations previously experienced therein. To achieve this, we settled on an index range where CESS rewards:
    - start decreasing where actual performance is below 80% of historical average – the 80% threshold was reflective of the minimum performance delivered relative to the average
    - are removed entirely if actual performance is below 60% of the historical average.

4. Stakeholder feedback

This section summarises specific stakeholder feedback we received on the contingent CESS described in section 3 above.

4.1 Customer Challenge Panel (CCP)

The CCP considered that the efficiency of capital expenditure is of critical importance to consumers and that a well-designed CESS provides one mechanism for driving improvements in capex efficiency which can benefit consumers. The CCP noted that consumer representatives had welcomed the consultative nature and transparency of this process. The CCP suggested the final form of any new CESS should be subject to further stakeholder engagement so that consumers have input on the actual scheme adopted.

CCP supported many aspects of the contingent CESS design but considered further consideration was required of:

1. Whether sufficient account had been taken of the time-lag between deferred capex and potentially adverse consequences in service quality.

[3] It is important to note that the basis for reporting some data, such as unplanned SAIDI, varies between AGN and ANS and that this explains at least some of the variation between the targets.

2. Whether a volumetric hurdle should be introduced to reduce the incentives to defer capex between regulatory periods

3. Whether non-network capex should be excluded from the scheme because it did not have a sufficiently direct relationship with the service measures.

4.2 Australian Energy Regulator (AER)

In response to our Contingent CESS proposal the AER, in summary, considered that:

4. to the extent possible the measures should be linked to as many capex activities as practical, as opposed to a subset of those activities;

5. the measures should be appropriately weighted in light of importance and our ability to influence those measures;

6. whether thresholds appropriately reflected the objective of ensuring historic performance is maintained; and

7. whether targets should change over time.

The AER also:

- engaged a consultant, Zincara, to develop a list of potential measures that could be used in an asset performance index

- requested that the businesses consider adopting tolerance band thresholds of 100 – 80 (i.e. zero tolerance on performance outcome decline before CESS rewards begin to reduce, with rewards ceasing below an index result of 80. CESS penalties are passed through in full).

4.3 Origin Energy and Lumo / Red Energy

Origin Energy supports the proposed introduction of the CESS with the counterbalance performance targets. Lumo / Red Energy at this time does not support the introduction of a CESS scheme given the current level of efficiency of capital expenditure, however, it supports the ongoing engagement between AGN, AusNet and the AER on the CESS.

4.4 ATCO Gas, Jemena Gas Networks and Energy Networks Australia

ATCO Gas, Jemena Gas Networks and Energy Network Australia each support the proposal to introduce a gas CESS, Jemena Gas Networks considers that such schemes should be targeted to the specific network's circumstances.

5. The further work we have undertaken and how we have responded to feedback

This section sets out the further work we have undertaken and how we have responded to the stakeholder feedback. We have considered the following matters:

- Whether a contingent CESS scheme should be introduced

- What type of counter-balance should contingent payments seek to provide

- What measures support this counterbalancing

- What target setting supports this counterbalancing

- What weights support this counterbalancing

- What index thresholds support this counterbalancing

- Should there be exclusions, and/or growth or volume adjustments.

Having considered stakeholder feedback and examined these matters, we have now:

- Further explained what we see the contingent payment aspect of the CESS is seeking to achieve (our 'counterbalancing objective'), and what this means for choosing measures, and for setting weights and targets.

- Revisited the performance measures to include in the scheme, taking into consideration the measures listed by Zincara, using the same criteria we originally employed.

- Further refined the weights assigned to these measures by looking at what outcome the contingent approach seeks to achieve and how the weights can best support this.

- Provided our quantitative analysis showing the interactions between the historical performance of the measures – which we use to set targets – and the performance index thresholds used to determine the share of CESS benefits retained by the distributor.

5.1 Whether a contingent CESS scheme should be introduced

We maintain that a Contingent CESS should be introduced because:

- it complements the current operating expenditure efficiency scheme (EBSS);

- provides ongoing incentives to expend capital efficiently and smooths incentives throughout an AA period, noting that we spend more on capex than we do opex; and

- through operation of the asset performance index counterbalance:

    - appropriately reflects stakeholder feedback that customers are satisfied with our current levels of performance and therefore we should not be rewarded for improvements to service and reliability,

    - whilst ensuring any deterioration in asset performance and customer service outcomes will result in reductions to CESS rewards.

We also note that there was general support from stakeholders for the introduction of a contingent CESS scheme, and that Lumo / Red Energy, despite not supporting the introduction of a CESS at this time, supported our ongoing engagement with the AER on this matter.

5.2 What type of counterbalance should contingent payments seek to provide

The contingent payment aspect of our CESS proposal was to address stakeholder feedback that the scheme should provide a counter-balance to incentives for inefficient cost reduction. For example, CUAC wanted to ensure incentive measures that were adopted were the '*most appropriate metrics to address compromised reliability, safety and quality of supply standards resulting from capex underspend*'[4]

In response to this stakeholder feedback, we considered what the contingent payment is seeking to achieve. Options for the contingent payment objective were:

- Forecast capital expenditure – Is the counterbalancing incentive seeking to make sure networks deliver the scope of their forecast capex?

[4] Incentives findings paper, p.17.

- Capital base (RAB) – Is the counterbalancing incentive needed to make sure the asset health is maintained?
- Customer experience – Is the counterbalancing incentive needed concerned with service outcomes irrespective of the particular assets or activities (e.g. operating or capital) employed in delivering services?

We considered that there can be arguments made for each of these:

- The equivalent electricity STPIS targets customer experience as a counterbalance to their opex and capex efficiency schemes.
- The health index concept applies at a total asset (i.e. RAB) level not just forecast capex.
- CCP noted concerns about rewarding businesses for capex deferrals (where these are inefficient) which may suggest targeting the forecast capital expenditure.

At a principle level, we consider customer outcomes have primacy under the National Gas Objective. Asset health is a lead indicator for customer service outcomes, and forecast capital expenditure reflects the investments needed to meet customer growth and preserve asset integrity and health.

5.3 What measures support our counterbalancing objective

The implications of our counterbalancing objective for our choice of measures (and weights) is that those measures that have the greatest impact on customer experience, and constitute the greatest shares of our asset base and expenditure, should be prioritised over measures that do not affect customer experience or affect relatively minor aspects of our assets and investment.

Originally, AusNet Services' and AGN's Access Arrangement Information submissions (AAIs) included the following measures with equal weights in the proposed contingent payment CESS:[5]

- Unplanned SAIDI
- Total gas leaks across mains, services and meters
- Water in mains incidents per kilometre of total pipeline length.

These measures were determined following review by FSC of possible performance measures to include in a contingent payment CESS. This process started with a broad set of possible and desirable measures, and then sought to identify measures that performed well against the following criteria:[6]

- Customers value the measure enough that current service levels should be maintained in a CESS design;
- The businesses can sufficiently control performance relative to the targets set, such that there is a direct relationship between capex incurred and service outcomes;
- Are not otherwise sufficiently incentivised (for instance, through existing mandated performance requirements or incentive schemes); and
- There is data readily available of sufficient quality to set targets for and measure performance over the forthcoming 2018–22 AA period, including data that is already reported to regulators.

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[5] AusNet Services, *Gas Access Arrangement Review 2018-22: Access Arrangement Information*, December 2016, p.271

[6] Farrier Swier Consulting, *Gas service incentives in Victoria and Albury - Report for AusNet Services and Australian Gas Networks*, December 2016, p.28

We have always acknowledged that further refinement would be warranted based on feedback and as data improves over successive AA periods. To ensure the appropriate incentives are provided by the contingent payment aspect of the CESS, in response to stakeholder feedback we have now looked to broaden the measures we propose. The AER's consultant, Zincara, has provided a list of possible gas asset management measures and metrics to inform this work, which we have considered.

Our further review of potential performance measures, and weights, sought to identify whether refining the proposed measures shown above, or adding or removing measures, would enhance the scheme's operation and result in improved customer outcomes.

This review was undertaken by assessing alternative performance measures against the criteria established by FSC (shown above), and in particular had regard to the feedback provided by the AER and the analysis prepared by Zincara Consulting. We considered all of the options put forward by Zincara, and have adopted the key measures in our revised proposal.

Following this review, we have decided to:

- Add a new measure for unplanned system average disruption frequency (USAIFI)
- Disaggregate the reported leaks measure
- Remove the water in mains measure (which doubles up on the same performance issue as USAIFI)

Following the principle of our customer experience measures having primacy, we have now included both unplanned SAIDI and SAIFI. These go to the heart of customer experience arising from our asset condition and its resulting performance, by capturing the reliability of our assets. These are considered to be the key measures of asset health for gas distribution businesses.

Our leakage measures affect customers and reflect the condition of our assets, and as such, are the indicator we rely upon to target most of our replacement capex. By disaggregating these to mains, services and meters, we can assess with greater granularity the performance of the key elements of our replacement program, and classes of assets that collective account for 85-90% of our capital expenditure forecasts and regulated asset bases (RAB).

The following table sets out the revised performance measures identified as a result of the further review, and assesses these against our criteria.

Table 2: Revised performance measures

	Measure	Customers value?	Within network control?	Can be measured?
1	Leaks on mains per km*	Yes, gas leaks impact both safety risk and reliability	Yes, through proactive mains replacement programs	Recorded and reported quarterly to ESV
2	Leaks on services per 1,000 customers*	Yes, gas leaks impact both safety risk and reliability	Yes, through proactive mains replacement programs	Recorded and reported quarterly to ESV
3	Leaks on meters per 1,000 customers*	Yes, gas leaks impact both safety risk and reliability	Yes, through meter replacement programs	Recorded and reported quarterly to ESV
4	USAIFI	Yes, customers value existing levels of reliability	Yes, able to be influenced by a range of capex programs	Recorded and reported quarterly to ESV
5	USAIDI	Yes, customers value existing levels of reliability	Yes, able to be influenced by a range of capex programs	Recorded and reported quarterly to ESV

We observe that none of our proposed measures are adequately captured by an existing incentive scheme or mandate. While others exist, they do not have a link back to maintaining existing levels of reliability, which is what our customers have told us they value. For example, GSLs are minimum performance obligations and apply to the service levels received by a particular (and small) segment of the customer base that receive service below defined thresholds.

Mapping these measures to our assets and forecast expenditure

In addition to capturing service outcomes of high value to our customers, these measures provide a good coverage of the key classes of asset represented in our RAB and our forecast investment for the next AA period.

Given that the contingent health index approach to a CESS is seeking to monitor and account for both the asset health (RAB) and required investment to maintain that health (forecast capex), measures that focus on: mains, services, meters and augmentation will achieve a good coverage.

These four asset types account for the majority of both our asset base and our forecast expenditure:

- For AGN they comprise 78% of forecast capex - Figure 1, and 97% of RAB assets - Figure 3.
- For AusNet Services they comprise 80% of forecast capex – Figure 3, and 91% of RAB assets.

Table 3: summarises the links between our proposed measures, our capex program and RAB.

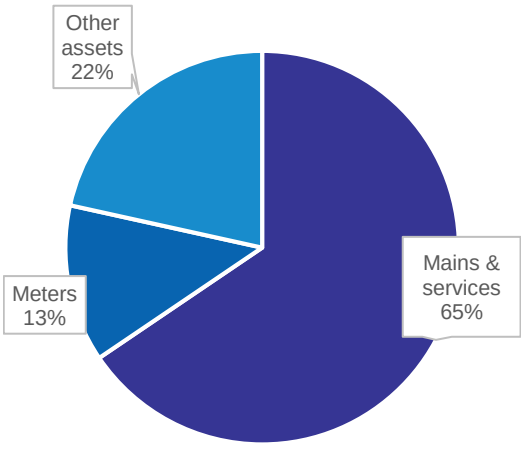


Figure 1. AGN capex

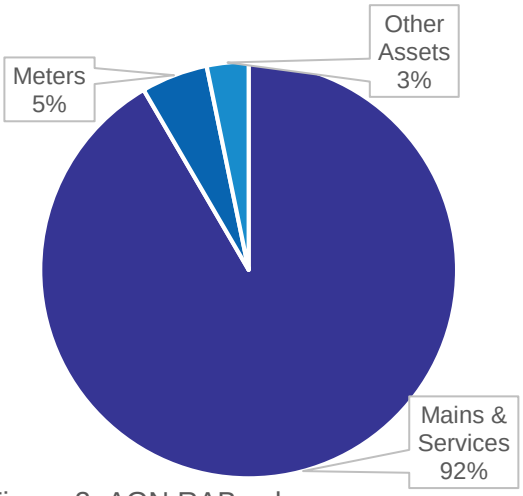


Figure 2. AGN RAB value

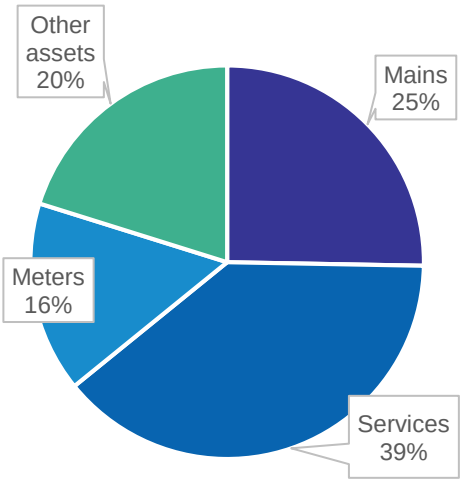


Figure 3. ANS capex value

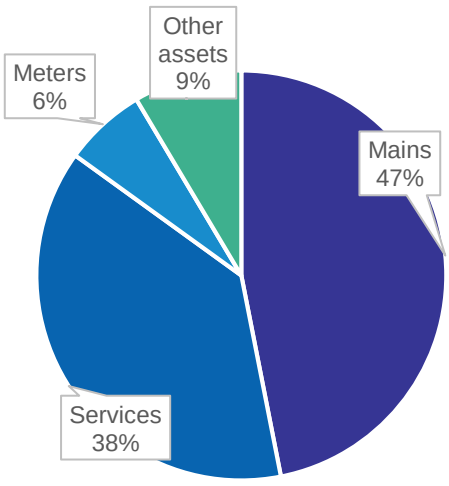


Figure 4. ANS RAB value

Table 4: How proposed measures link to capex forecast and RAB assets

Measure	Capex link	RAB link
Reliability | Unplanned SAIDI	• Mains replacement – effects mains condition which influences repair times • Augmentation – effects capacity availability and ability to backfeed which influences outage duration • Telemetry – effects SCADA which influences response times • IT – effects call centre performance and the ability to access customer and network data, which influences timeliness of outage notification and therefore repair times	All assets
Reliability | Unplanned SAIFI	• Mains replacement – effects mains condition which influences frequency of failure • Augmentation – effects capacity availability and ability to backfeed which influences outage frequency • Growth capex – effects the physical size of the network	All assets, particularly mains, services and meters
Leaks | mains	• Mains replacement – effects mains condition which influences number of leaks • Telemetry – effects SCADA which influences response times • Growth capex – effects the physical size of the network	Mains
Leaks | services	• Mains replacement – effects mains condition which influences number of leaks • Growth capex – increases physical size of the network • Meter replacement – influences number of meter leaks	Services
Leaks | meters	• Meter replacement – influences number of meter leaks	Meters

5.4 What target setting supports our counterbalancing objective

The counterbalancing objective means it is appropriate to set targets using average historical performance. Our consultation with customers indicated that they are satisfied with current levels of performance, and are not seeking further reliability improvements nor are they seeking declines in service. Our proposed contingent payment design and average historical performance target setting approach reflects the stakeholder feedback.

With additional measures now in the index, we have rerun the historical performance target setting calculations. These calculations and the underlying data are provided in the models at Appendix 1.

Our objective is to preserve current performance

The contingent payment mechanism is asymmetric – it is designed to offset CESS rewards only where performance reduces from historical outcomes (and not increase the CESS reward if performance improves). This means that average measures of historical performance are fit for this purpose and are consistent with customers' requirements.

The historical averages reflect a baseline level of performance. As detailed above, we are proposing to accept the use of 100 and 80 as the thresholds, which imply a zero tolerance of any decline in current historic average levels of service. The proposed thresholds are more stringent than what would apply if a statistical approach to determining the thresholds were adopted, which is explained in 5.6 below.

It is not appropriate to apply stretch targets

It is not appropriate to have contingent payment targets that build in some estimated stretch improvement in reliability or asset health.

Adjusting the baseline targets is not consistent with the intent of the scheme being to ensure that any potential reductions in capex (and hence reward provided by the CESS) do not come at the expense of current reliability levels. Our stakeholders supported this principle. For example, CUAC emphasised that the role of the 'contingent' part of the CESS is to "ensure a capex underspend does not result in compromised service standards".

The CESS seeks improvements in capex cost efficiency outcomes. Having a contingent aspect of the scheme designed around historical performance thresholds – whereby CESS payments are reduced once service falls outside of historical levels – is different to a scheme that provides direct incentives aimed at seeking improvements in service levels, such as the electricity STPIS

Even under such a service improvement scheme, historical average targets are commonly used. We note that the electricity STPIS scheme – a symmetrical reliability scheme – also relies on average historical outcomes to set its targets. This is even though, unlike our proposed CESS and contingent payment mechanism, this STPIS actually does seek to reward reliability improvement.

Also, because the tolerance band starts at 100 – meaning sliding scale reductions to CESS rewards begin at any level of decline below historical average (i.e. a zero tolerance approach) – building in a stretch target would reduce the incentive properties of the CESS.

Our capital program aims to maintain rather than improve reliability

Our capex proposals are concerned with managing our total cost of asset investment, maintenance, and operation over the asset life. Our objective in doing so is to meet our safety obligations and to maintain current levels of reliability as per stakeholder feedback. No material improvements to service level outcomes are expected. We also note the practical issues of reliably forecasting the impact of our proposed performance against our forecast capex.

5.5 What weights support our counterbalancing objective

As noted above, and consistent with the feedback from the AER, our counterbalancing objective requires that our weights favour those measures that have greatest impact on customer experience, and constitute the greatest shares of our asset base and expenditure. We have revised our weights from the former equal weights to reflect this. The new weights and their basis are set out in Table 4 below.

Because the USAIDI and USAIFI measures are the primary measures of customer experience, we have weighted 50% of the index equally to these. For the remaining 50% of index weights, we have used the average shares of capex and RAB asset represented by mains, services and meters, to inform the weights for each type of reported leaks.

Table 5: Revised performance measures and weights

	Measure	Weight ANS	Weight AGN
1	Leaks on mains per km	20%	30%
2	Leaks on services per 1,000 customers	23%	15%
3	Leaks on meters per 1,000 customers	7%	5%
4	USAIFI	25%	25%
5	USAIDI	25%	25%

5.6 What index thresholds support our counterbalancing objective

Our approach to setting contingent payments is based on maintaining historical performance, which requires that our performance index has thresholds below which CESS reward payments are either discounted or not paid at all. In principle, these thresholds should be set to account for historical variance in performance of the chosen measures around the average.

While we investigated statistical methods to set these targets, we initially set the minimum and maximum thresholds using our judgement informed by customer expectations that reliability not fall below historical performance and the variations previously experienced therein. From this we settled on an index range whereby CESS rewards start decreasing from 80 (which coincide with the minimum performance across all measures), and stop being payable below 60.

When determining index thresholds for when the scale starts and finishes several approaches could be used. Setting these thresholds will necessarily involve some level of judgement.

A statistical approach

We considered setting the upper and lower thresholds for the sliding scale using the historical performance of the measures. To do this, we use statistics in the 'Output | Targets' worksheet of the models in Attachment 1 to determine confidence intervals around our average historical performance by:

- Calculating the sample standard deviation of the annual performance for each measure over the available historical data – at cells N15:N19

- Converting each sample standard deviation into a standard deviation of the mean using the central limit theorem – at cells Q15:R19

- Using multiples (like z-factors) for the upper and lower thresholds of 2 and 4 to determine the indexed performance thresholds using the formulas reflected in the model – at cells Q15:R19. The multiples were determined to reflect reasonable confidence bounds for random variation in the average index performance, with a z-factor of 2 reflecting a higher probability that the threshold is exceeded and the z-factor of 4 reflecting a lower probability.

- Combining the upper and lower performance thresholds – at cells Q21:R21 – for each measure into overall upper and lower thresholds using the weights in Table 4 above gives thresholds in Table 5 below. The thresholds for each measure were calculated using the sample standard deviation of past performance and converting this into confidence intervals around the target performance, based on either the probability of an observation falling outside those intervals or by using a fixed multiple of those standard deviations.

With additional measures now in the index, we have rerun the historical variance calculations to inform the threshold testing. This testing suggests statistical bands as set out in Table 5 below would be consistent with our customers continuing to experience current levels of network performance. These are provided in the models at Appendix 1.

A statistical approach means each network's thresholds would differ based on their historical data and the variance experienced therein over the sample period (5 years for AGN and 8 for AusNet Services). This natural variation in historical performance, and thus differing targets, is consistent with the counterbalancing objective of preserving historical outcomes because those outcomes and natural variations differed for each network.

We then considered the AER's request that we explore a zero-tolerance banding approach whereby the upper bound exactly equals historical performance using an index value of 100, and the rewards scale down to an index value of 80. While this creates a more onerous contingent payment threshold than our statistical analysis suggests is warranted, it does have the benefit of giving the simplicity of a single set of thresholds across both networks.

We adopt the 100-80 sliding scale band in this revised proposal. This is on the basis that this alternate approach remains consist with setting the contingent CESS to ensure current levels of reliability are maintained.

Table 6: Revised sliding scale thresholds

Network	Lower bound	Upper bound
AGN (statistical)	58	79
AusNet Services (statistical)	69	85
AGN and AusNet Services - **proposed**	**80**	**100**

5.7 Should there be exclusions, and/or growth or volume adjustments.

The CCP questioned:

1. if there should be exclusion from the CESS for non-network expenditure, as they considered this had a lesser impact on customer service outcomes

2. whether potential incentives for inefficient rates of capex deferral should be accounted for by adjusting CESS capex targets for volumes actually completed.

We consider that the primary objective of the CESS is to support incentives for efficient capex investment, and all capex should be covered by the scheme. This is consistent with how the AER applies the equivalent scheme in electricity. There is no reason why an incentive scheme should cause the extent of the direct link to customer service to affect the networks' incentives to incur that expenditure efficiently.

We do not consider the additional complexity of adjustment for actual replacement volumes is needed. Our reasons for this are twofold:

- firstly, experience over the current period has shown that our replacement volumes have aligned to those proposed, which we consider is a function of the business need for this replacement rather than the revenue adjustment mechanism the AER applied

- secondly, our revised measures and weights are more directly targeted at the activities affected by capex meaning these will preserve our incentive to deliver the intended performance outcomes.

We see a scheme that adjusts for volume as an alternate to a scheme linked to asset health such as the proposed contingent CESS. We consider the latter provides a better scheme that is most closely aligned with the objectives of providers to incur efficient capex, and therefore in the longer term interests of consumers.

6. Our proposed revised contingent CESS scheme

This section sets out our revised proposal for the Contingent CESS scheme to apply over the 2018-22 AA period and be reflected in revenues for the 2023-28 AA period.

The proposed Contingent CESS has the following characteristics:

- CESS design reflects the AER's guideline for its electricity CESS, with the addition of a contingent payment mechanism;

- CESS penalties remain unaffected by improved asset performance outcomes (that is, the scheme is asymmetric);
- Full CESS rewards are only payable where asset performance outcomes do not drop below historical levels;
- To the extent CESS rewards are being earned at the expense of asset performance outcomes, they are discounted accordingly; and
- The scheme is applied once every five years as part of applying the CESS at an AA review.

We propose five asset performance indicators with targets based on average historical performance, up to and including the five most recent years, as set out in Table 6. The historical performance period used to set targets reflects the availability of data for each business. These five measures will be aggregated into an index (with base 100) with weights applied to each as shown in Table 6.

Table 7: Asset performance indicator parameters for the 2018–22 AA period

Measure	AGN Target	AGN Weight	ANS Target	ANS Weight
Reliability | Unplanned SAIDI	3,388.673	25%	891.633	25%
Reliability | Unplanned SAIFI	27.832	25%	20.519	25%
Leaks | mains	0.039	30%	0.090	20%
Leaks | services	3.039	15%	5.520	23%
Leaks | meters	18.959	5%	15.986	7%

We propose using the resulting weighted and scaled performance index to calculate the amount of CESS reward at risk as follows:

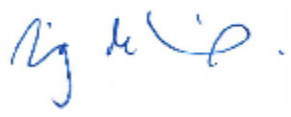
- Apply a sliding-scale to reduce CESS rewards where the asset performance indicator targets are not met on average over the 2018-22 (four year) period; and
- Adopt a tolerance band, where performance below an index result of 100 results in a reduction to any CESS rewards, and an index result below 80 results in the removal of any potential CESS reward.

7. Further consultation

We provide this revised contingent CESS proposal and supporting analysis to enable future consideration of a scheme that now accounts for stakeholder feedback, and to allow the AER's draft decision to now reflect our updated proposal.

If the AER wish to contact us further about our proposal, please do so on the details below.

Yours sincerely,



Tom Hallam
General Manager, Network Regulation and Strategy

Craig de Laine
General Manager, Strategy and Regulation

Attachment 1 | Updated AGN AA Annexure G Asset Performance Index

The Asset Performance Index is calculated for the 2018–2022 Access Arrangement Period as follows:

1 Calculate the arithmetic average of the annual unplanned SAIDI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year *t* as follows:

$$Unplanned\ SAIDI_t = \frac{\sum_{i=1}^{12} OUD_i^t}{C_j^t}$$

where:

$\sum_{i=1}^{12} OUD_i^t$ is the summation of the total number of unplanned minutes off supply for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year *t*;

C_j^t is total customers of the Service Provider sourced from December quarterly reports submitted to Energy Safe Victoria in Calendar Year *t*.

2 Calculate the arithmetic average of the annual unplanned SAIFI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year *t* as follows:

$$Unplanned\ SAIFI_t = \frac{\sum_{i=1}^{12} OUF_i^t}{C_j^t}$$

where:

$\sum_{i=1}^{12} OUF_i^t$ is the summation of the total number of unplanned outages for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year *t*;

C_j^t is total customers of the Service Provider sourced from December quarterly reports submitted to Energy Safe Victoria in Calendar Year *t*.

3 Calculate the arithmetic average of the annual publicly reported gas leaks for mains of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

4 Calculate the arithmetic average of the annual publicly reported gas leaks for services of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

5 Calculate the arithmetic average of the annual publicly reported gas leaks for meters of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

6 Convert each of the averages from the measures in paragraphs (1), (2), (3), (4) and (5) above into index scores using the following formula:

- $Index_n = 200 - \left(1 - \frac{Actual_n}{Target_n}\right) \cdot 100$

where:

$Index_n$ is the index score for each measure $n = 1,2,3,4,5$ corresponding to the measures in paragraphs (1), (2), (3), (4) and (5) above respectively;

$Actual_n$ is the arithmetic average of the actual performance for each measure $n = 1,2,3,4,5$ calculated as per paragraphs (1), (2), (3), (4) and (5) above;

$Target_n$ is the target performance for each measure $n = 1,2,3,4,5$ as follows:

Unplanned SAIDI	$n = 1$	$Target_1 = 3{,}388.673$
Unplanned SAIFI	$n = 2$	$Target_2 = 27.832$
Mains leaks	$n = 3$	$Target_3 = 0.039$
Services leaks	$n = 4$	$Target_4 = 3.039$
Meter leaks	$n = 5$	$Target_5 = 18.959$

7 Calculate the arithmetic average of the index scores calculated in paragraph (6) above for each of the measures $n = 1,2,3,4,5$. The resulting average is the Asset Performance Index.

Attachment 2 | Updated AusNet Services AA Annexure A – Asset Performance Index

The Asset Performance Index is calculated for the Fifth Access Arrangement period as follows:

(1) Calculate the arithmetic average of the annual unplanned SAIDI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year *t* as follows:

$$Unplanned\ SAIDI_t = \frac{\sum_{i=1}^{12} OUD_i^t}{\sum_{j=1}^{12} C_j^t / 12}$$

where:

$\sum_{i=1}^{12} OUD_i^t$ is the summation of the total number of unplanned minutes off supply for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year *t*;

$\sum_{j=1}^{12} C_j^t / 12$ is arithmetic average of total customers of the Service Provider sourced from annual reports submitted to Energy Safe Victoria over the 12 months in Calendar Year *t*.

(2) Calculate the arithmetic average of the annual unplanned SAIFI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year *t* as follows:

$$Unplanned\ SAIFI_t = \frac{\sum_{i=1}^{12} OUF_i^t}{\sum_{j=1}^{12} C_j^t / 12}$$

where:

$\sum_{i=1}^{12} OUF_i^t$ is the summation of the total number of unplanned outages for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year *t*;

$\sum_{j=1}^{12} C_j^t / 12$ is arithmetic average of total customers of the Service Provider sourced from annual reports submitted to Energy Safe Victoria over the 12 months in Calendar Year *t*.

(3) Calculate the arithmetic average of the annual publicly reported gas leaks for mains of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

(4) Calculate the arithmetic average of the annual publicly reported gas leaks for services of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

(5) Calculate the arithmetic average of the annual publicly reported gas leaks for meters of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.

(6) Convert each of the averages from the measures in paragraphs (1), (2), (3), (4) and (5) above into index scores using the following formula:

$$Index_n = 200 - \left(1 - \frac{Actual_n}{Target_n}\right) \cdot 100$$

where:

$Index_n$ is the index score for each measure $n = 1,2,3,4,5$ corresponding to the measures in paragraphs (1), (2), (3), (4) and (5) above respectively;

$Actual_n$ is the arithmetic average of the actual performance for each measure $n = 1,2,3,4,5$ calculated as per paragraphs (1), (2), (3), (4) and (5) above;

$Target_n$ is the target performance for each measure $n = 1,2,3,4,5$ as follows:

Unplanned SAIDI	$n = 1$	$Target_1 = 891.633$
Unplanned SAIFI	$n = 2$	$Target_2 = 20.519$
Mains leaks	$n = 3$	$Target_3 = 0.090$
Services leaks	$n = 4$	$Target_4 = 5.520$
Meter leaks	$n = 5$	$Target_5 = 15.986$.

(7) Calculate the arithmetic average of the index scores calculated in paragraph (6) above for each of the measures $n = 1,2,3,4,5$. The resulting average is the **Asset Performance Index**.