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South Australian Government

Department for Energy and Mining

24 December 2024

South Australia's Firm Energy Reliability Mechanism

AGL Energy (AGL) welcomes the opportunity to respond to the South Australian Department for Energy and Mining Firm Energy Reliability Mechanism Proposed Scheme Design Consultation Paper.

About AGL

Proudly Australian for more than 185 years, AGL supplies around 4.3 million energy and telecommunications customer services. AGL is committed to providing our customers simple, fair and accessible essential services as they decarbonise and electrify the way they live, work and move.

AGL operates Australia's largest private electricity generation portfolio within the National Electricity Market, comprising coal and gas-fired generation, renewable energy sources such as wind, hydro and solar, batteries and other firming technology, and gas production and storage assets. We are building on our history as one of Australia's leading private investors in renewable energy to now lead the business of transition to a lower emissions, affordable and smart energy future in line with the goals of our Climate Transition Action Plan.

Key points:

- AGL supports the South Australian Government's leadership in recognising the necessity of long duration firm capacity and the current lack of investment signals for new and existing assets that provide this service.
- We generally support the stated objectives and core principles as outlined in the consultation paper, however we do not necessarily support the concept of revenue certainty for these assets, rather that they provide a service that needs a mechanism to value it and provide a means of being compensated for that service.
- The use of a cap and collar type scheme has risks in terms of complexity, reduced incentives to contract, and market distortion and recommend consideration of alternative incentive mechanisms such as the use of an annuity mechanism or development of a long duration firm capacity certification scheme.
- The time frame for development and implementation of the scheme outlined in the paper is also unlikely to provide the necessary support in the short term for existing assets with impending closure dates.

Consultation paper

AGL welcomes the South Australian Government's leadership in recognising the risks around the current investment signals to support existing and new long duration firm capacity. Further, AGL supports South Australia's development of the Firm Energy Reliability Mechanism (**FERM**) as a considered policy response to these risks.

Ensuring effective investment signals are in place to support existing and new long duration firm capacity will deliver benefits to consumers and the economy by reducing emissions, and ensuring safe, reliable, secure and low cost energy.

The current market settings do not appropriately value the role long duration firm capacity plays in the provision of both energy and non-energy services which strengthen both system security and reliability. As a

result, existing assets are regularly faced with revenue streams that fall short of the value and the costs of providing these essential services. Understandably, these market outcomes do not make a strong business case for investing in new long duration firm capacity. Currently, investment in replacing existing long duration firm capacity is not proceeding at the pace required to match the timing of planned retirements of generators.

The consultation paper sets out three objectives and six core design principles of the FERM. Together, they are intended ensure the FERM operates effectively, guide its implementation and provide a basis for the performance of the mechanism to be assessed.

AGL supports each of the FERM's objectives, which are to:

1. provide certainty to energy users in the resilience and reliability of the power system and protect them from energy price shocks
2. provide certainty for the state government and industry that the power system will not inhibit economic activity; and
3. incentivise investment in long duration firm capacity at the lowest cost to consumers and within emission reduction targets

The FERM's core design principles are to:

1. operate independently from the Government of South Australia
2. promote competitive tension between new and existing generators to enable long-term 'value for money' assessment
3. increase certainty around when existing firm capacity will exit the market
4. reduce the barriers for long-lead time generators to enter the market
5. provide revenue certainty to firm generators whilst allowing for consumers to share in upside; and
6. remain agile to market volatility

Broadly, AGL also supports these core design principles. However, we consider the fifth principle – providing revenue certainty to firm generators whilst allowing for consumers to share in upside – could be amended to help ensure the objectives of the FERM are met at a lower cost to consumers.

To achieve this, we consider a more appropriate principle would focus on recognising the value of long duration firm capacity in the market to ensure efficient investment.

The 'case for action' set out in the consultation paper states there is a need for South Australia to assess the amount of long duration capacity required and provide an efficient market signal to meet these long duration capacity needs that balances system resilience, cost to consumers and carbon emissions.

As acknowledged in the consultation paper, providing revenue certainty to firm generators is essentially a form of underwriting support, which, in the case of the FERM, is provided by energy consumers. It follows that by allowing consumers to share in the upside of this support the risk to consumers may be balanced appropriately.

However, as the revenue certainty – or underwriting support – partially shields supported capacity from market signals and would be provided 'outside' of the market, this introduces the risk of distorting the effectiveness of market signals on existing and new long duration firm capacity providers. In turn, this could lead to adverse unintended consequences and cost consumers more than necessary. Perhaps most importantly, revenue certainty would in part mute the market signals which incentivise capacity providers to respond to market needs and support customers through contracting to manage their risks. Experience to date with the Commonwealth Governments Capacity Investment Scheme highlights the risk that under a revenue underwriting model FERM supported capacity will have reduced incentives to contract and will be restricted from providing a broad range of hedge contracts to manage customer risks.

AGL considers that alternative mechanisms to value long duration firm capacity to support efficient investment and operating decisions would be preferable. Previously AGL has supported the development of an operating reserve to value firm dispatchable generation. Further, in our specific answers below we also would support consideration of less complex mechanisms that value long duration services while ensuring supported capacity is fully exposed to market signals either through tendered annuities for capacity to meet set targets or the use of a certificate scheme, similar to the RET, to drive investment in firm dispatchable energy.

In addition, we would note that the timeframe for design, implementation and tendering is unlikely to allow for revenue support to be in place for those existing assets that are already nearing market exit. We understand that the FERM is intended to work with the Orderly Exit Management Framework, however more clarity on this interaction is sought.

In response to the consultation paper's questions, AGL has provided feedback detailing some ideas on how the FERM could be strengthened to achieve its objectives, while preserving market signals and minimising costs to consumers. We support further consideration of alternative support mechanisms such as provision of an annuity, or through the use of a long duration firm capacity certificate scheme aimed at meeting the Firm Energy Target (**FET)**.

Please find AGLs response to the specific questions in the consultation paper outlined below. We would appreciate the opportunity to engaging further with the Department to assist in the development of this mechanism. If you would like to discuss any aspect of this submission please contact Warren Vosper at wvosper@agl.com.au or on 0402 983 634.

Yours sincerely,

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Section 3 - Proposed policy framework to support long duration firm capacity

QUESTION	RESPONSE
1. Do you consider that the proposed framework to support long duration firm capacity provides a sound basis to meet the challenges to maintaining reliability and resilience for the South Australian power system?	AGL considers the proposed framework to support long duration firm capacity presents a good starting point for broader consultation with stakeholders. We consider there are aspects of the framework that could be improved. We understand that the proposed framework is comprised of the following three key components: 1. The Firm Energy Requirements Assessment (**FERA**) – the South Australian government will assess the requirements for firm long-duration capacity to meet expected demand under a range of normal and 'shock' conditions. 2. The Firm Energy Target (**FET**) – the South Australian government will define a rolling five-year FET that prescribes the required amount of firming capacity to manage risks to energy reliability for South Australia. The FET is intended to meet forecast demand at the lowest cost. 3. the Firm Energy Reliability Mechanism (**FERM**) – to meet the FET, eligible long duration firm capacity will be able to bid for contracts that underwrite a portion of their revenue through the (**FERM**). AGL considers the first two components – the FERA and FET provide a sound basis to meet the challenges faced by the South Australian power system. However, we note it is not clear to AGL how the FET – in and of itself – will meet forecast demand *at the lowest cost*. Of the three components, it appears the third component – the FERM – under which eligible long duration firm capacity will be able to bid for contracts that underwrite a portion of their revenue through the FERM – will play a critical role in ensuring the framework will operate at the lowest cost.

We understand long duration firm capacity providers that choose to submit bids for contracts under the scheme will also need to submit three financial bid variables as part of the tender process. This represents the scheme's commercial model, which is also referred to as the 'cap and collar model' in the consultation paper.

It is also this component which AGL considers presents the most significant opportunities for improvement to help ensure the proposed framework meets the three policy objectives.

More information on how this component could be improved is provided in our responses to some of the more detailed questions below.

However, simply described, our main suggestion is that the South Australian Government consider replacing the scheme's commercial model, which is also referred to as the 'cap and collar model', with an alternative mechanism of either an annuity style payment or a certificate based mechanism to meet the FET. Either of these would be more suitable in terms of valuing and supporting long duration storage, while minimising complexity and distortion of the existing contract market.

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2. Do you consider that the Objectives and Core Principles outlined in this chapter provide a sound basis for developing the FERM. Should we be considering others?

We consider that the objectives are the most important aspect for assessing of the proposed scheme. On the other hand, the core design principles set out the elements of the scheme's design which will help ensure the achievement of the objectives.

With this in mind, AGL supports each of the three objectives, and five of the six core design principles and considers they provide a sound basis for the continued development of the FERM.

AGL does not support the core design principle of providing revenue certainty to firm generators. We consider this principle does not align with each of the three objectives. In other words, this core design principle presents a risk that the proposed scheme will fail to meet the three objectives.

We consider a more appropriate principle would focus on recognising the value of long duration firm capacity in the market to ensure efficient investment.

The 'case for action' set out in the consultation paper states there is a need for South Australia to assess the amount of long duration capacity required and provide an efficient market signal to meet these long

duration capacity needs that balances system resilience, cost to consumers and carbon emissions. AGL supports these points.

However, as is acknowledged in the consultation paper, providing revenue certainty to long duration firm capacity is essentially a form of underwriting support, which, in the case of the FERM, is paid for by energy consumers. It follows that by allowing consumers to share in the upside of this support the risks to consumers may be balanced.

A potential problem with this model arises because the revenue certainty – or underwriting support – would be provided 'outside' of the market. This creates a risk of distorting the effectiveness of market signals on existing and new long duration firm capacity providers. In turn, this could lead to adverse unintended consequences and cost consumers more than necessary. Revenue certainty would in part mute the market signals which incentivise capacity providers to manage their risks – for example, by entering into contracts with third parties.

The core design principle of providing revenue certainty while allowing customers to share in upside appears to be the basis of the third component of the proposed framework described above – under which eligible long duration firm capacity will be able to bid for contracts that underwrite a portion of their revenue through the FERM.

For long duration firm capacity providers that choose to submit bids for contracts under the scheme, we understand they will also need to submit three financial bid variables as part of the tender process. This forms part of the scheme's commercial model, which is also referred to as the 'cap and collar model'.

AGL's concerns with the core design principle of providing revenue certainty to firm generators whilst allowing for consumers to share in upside are consistent with its concerns about the scheme's proposed 'cap and collar' commercial model.

Our response to question 7 below provides more detail on how the scheme's proposed 'cap and collar' commercial model could be improved.

Section 4 - Scheme design overview

QUESTION	RESPONSE
3. What factors do you consider most important to encourage the retention or development of long duration firm capacity in order to meet the Scheme's objectives?	We consider the scheme's core design principles have the primary purpose of ensuring the scheme's objectives are met. In AGL's view, the most important factor (which should be reflected in the scheme's core design principles) is to focus on recognising the value of long duration firm capacity in the market to ensure efficient investment. Focussing on providing revenue certainty to firm generators whilst allowing for consumers to share in upside is *not* a factor that will encourage the retention or development of long duration firm capacity in order to meet the scheme's objectives. Achieving the objectives of the scheme could be approached in a variety of different ways, depending on – for example – the type of long duration firm capacity (e.g. batteries, GPG, pumped hydro), the nature of the investment (e.g. investment to allow for an existing asset to continue operating or for its expansion, or investment in a greenfield long duration firm capacity asset), the urgency of the investment, and South Australia's performance at a particular point in time against its emission reduction targets. These complexities cannot be avoided; they are the inherent realities of the energy system which this scheme is required to work with. AGL considers that, because of these complexities, there should be more optionality in the scheme than is currently provided by the scheme's commercial model (the 'cap and collar model').

AGL encourages further consideration of how the scheme can provide for more optionality, while reducing the complexity in the commercial model. As noted previously, AGL considers the South Australian Government should consider alternatives to the scheme's proposed commercial model, including an annuity mechanism or a long duration firm capacity certificate based mechanism to meet the FET.

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4. Do you agree with the proposed standard FERM tender eligibility criteria, relating to technology, location and operational status, in order to meet the Scheme's objectives?

We consider that the eligibility criteria are broadly appropriate for meeting the stated objectives of the proposed scheme. Further, the eligibility criteria set out in the consultation paper could be used as part of a simplified commercial scheme which provides more optionality.

That said, the requirement that all existing eligible capacity that is energised as of 1 January 2026 must participate in the scheme may be at odds with the fourth core design principle which is to "increase certainty around when existing firm capacity will exit the market". While not strictly part of the eligibility criteria, the contract duration design feature whereby existing long duration firm capacity providers are eligible for one-year contracts only (compared to 15 year contracts for new capacity) may create more uncertainty particularly for generators which have already announced their retirement due to reaching the end of their technical lives.

AGL is supportive of the flexibility provided for in aspects of the eligibility criteria, for example allowing for specific locational requirements being prescribed from time to time to reflect network conditions and transmission infrastructure development.

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5. Please provide feedback on how the proposed bid options and obligations outlined in this chapter may influence decision-making to operate existing long duration firm capacity or incentivise the construction of new plant

For existing plant, downside protection is required to prevent early closure in the event of supressed prices. While contracting can provide some revenue certainty, there is still likely to be a gap given the lack of revenue for non-energy services provided by long duration firm capacity. The scheme as described in the consultation paper is likely to mean that there are still revenue shortfalls during periods of low spot prices for assets that are not fully contracted. Given ageing assets also face significant risks from fully contracting (due to outage risk) it is likely that these assets will not be made whole under this scheme. In other words, this scheme falls short in incentivising existing long duration firm capacity to remain in the market – particularly aging assets. While AGL does not support the core design principle of

providing revenue certainty to firm generators whilst allowing for consumers to share in upside, this example demonstrates that the scheme fails to meet one of its own core design principles.

Section 5 - Scheme operation

QUESTION	RESPONSE
6. How suitable do you consider the LOR 2/3 event performance to be as the primary contract performance obligation?	The use of Lack of Reserve (**LOR**) 2 or 3 events as a primary contract performance obligation appears to suggest that the key objective of the scheme is for new or existing long duration firm capacity providers to provide energy, and not other ancillary services which are critical to power system reliability and resilience. The consultation paper states: *There is currently around 2.3 gigawatts (**GW**) of operational long duration firm capacity in South Australia. The generation fleet currently consists of Open Cycle Gas Turbines (**OCGT**), Combined Cycle Gas Turbines (**CCGT**) and a small number of diesel reciprocating engines.* *These generators typically operate when demand is high, when VRE output is low and/or in response to system security directions from the Australian Energy Market Operator (AEMO). In Q1 2024, AEMO directions were issued to South Australian generators to support system security in 62 per cent of dispatch intervals, at a cost of $23 million for thermal generators.* *The NEM provides strong operational incentives for generators to provide capacity during times when demand and supply are tight through higher wholesale pool*

prices. However, short and infrequent periods of higher prices may lead to lower investment incentives for long duration firm capacity due to the high start-up costs and operational constraints commonly associated with these technologies.[1]

The consultation paper also notes the following about the challenges faced by long duration firm capacity owners in South Australia's energy market:

1. There are longer periods of very low or negative wholesale prices
2. It is often less economical for long duration firm capacity generators to run outside of times of negative wholesale prices
3. Existing long duration firm capacity generators are directed to run during non-economic times for system security

In this context, it is difficult to determine the suitability of LOR 2/3 event performance as the primary contract performance obligation under the scheme.

It may be worth considering whether circumstances could arise during an LOR 2 or 3 events where a generator is not already sufficiently incentivised to operate under existing market signals. Similarly, it may be useful to consider how generator performance would differ if LOR 2 or 3 events were included as a primary contract performance obligation. For example, it would be useful to consider whether requiring long duration firm capacity providers to be available to bid during forecast LOR 2 or 3 events result in them withholding a portion of their capacity in order to be able to meet this contractual obligation, while also contributing to an increase in LOR 2 or 3 events.

Also, the suitability of LOR 2/3 event performance as the primary contract performance obligation under the scheme should be considered in the context of different types of long duration firm capacity assets. For example, the economics of a battery – where it recharges during low prices, and discharges at high prices – may already mean it performs in a way that is consistent with the objectives of the scheme. On the other hand, for thermal generators, access to fuel is a key driver behind its performance in the market.

Further, generator may meet the requirements to be categorised as 'long duration capacity' (i.e. be over 30 MW and be capable of being dispatched for a minimum of eight hours) however the period of time, and

[1] Government of South Australia – Department for Energy and Mining – *Firm Energy Reliability Mechanism – Proposed Scheme Design Consultation Paper* – p.17 of 56

the capacity it can be dispatched for during an LOR 2/3 event may vary. Further detail on how this would work will be necessary.

We would welcome further consideration of whether any such performance triggers might be more appropriately limited to LOR 3 events only, particularly as forecast LOR 2 and actual LOR 2 events often serve as effective signals for increased unit availability or closer to the actual time of dispatch are often withdrawn. In any event, we would welcome clarity on the precise trigger and performance mechanism, as the consultation paper refers to both forecast and actual LOR events.

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7. Please provide any feedback on the proposed 'cap and collar' commercial model. Do you consider it properly balances value for money for consumers with revenue certainty for long duration firm capacity providers?

The proposed 'cap and collar' commercial model

AGL considers the proposed 'cap and collar' commercial model introduces unnecessary complexity and that other models may be able to achieve the scheme's objectives at a lower cost to consumers. Traditionally cap and collar schemes are overly complex and tend to mute existing market signals and incentives to contract.

The extent to which the cap and collar commercial model is not fit for purpose will depend in part on the type of generator. For example, existing assets – particularly those reaching the end of their technical lives – are not facing the same investment landscape as new assets. Older assets are more focused on adequate returns to cover operational costs and maintenance than delivering a return on investment.

We understand long duration firm capacity providers that choose to submit bids for contracts under the scheme will also need to submit three financial bid variables as part of the tender process. This represents the scheme's commercial model, which is also referred to as the 'cap and collar model'.

Each of the three financial bid variables are based on revenue, and collectively form a 'revenue stack'. From the bottom to the top of the stack, long duration firm capacity providers would be required to submit a revenue floor (which reflects the expected revenue from the market and contracts), the revenue threshold (which reflects the long duration firm capacity viable project revenue), and the revenue ceiling (which reflects the ceiling above which the long duration firm capacity provider retains excess revenue).

The consultation paper does not provide sufficient information to satisfy AGL that the proposed 'cap and collar' commercial model properly balances value for money for consumers with revenue certainty for long duration firm capacity providers.

There are a number of reasons for this. The consultation paper does not:

- define revenue (in either of its three uses), or explain how it is to be calculated
- explain how costs are to be taken into account; or
- identify which market/s or types of contracts the revenue comes from

Also, it is not clear if, in the event financial penalties are imposed on long duration firm capacity providers to the Scheme Financial Vehicle (**SFV**), whether these payments could impact that the costs the provider could recover relating to operating the generator. Is there a risk that financial penalties may cost the provider more than the value of the penalty?

Further, the costs under the scheme would ultimately be paid for by energy consumers through the TNSP based cost recovery model. We consider there may be better alternatives – which would be more aligned with the achievement of the scheme's objectives.

Consideration of alternatives to the 'cap and collar' commercial model

In determining an appropriate alternative commercial model, AGL considers that it is critical to define the precise service(s) the scheme is designed to procure, and then create a market mechanism for valuing and procuring this service(s).

The FERA and FET, as currently proposed under the scheme, could operate to assess the requirements for the service(s) under a range of normal and 'shock' conditions and define a rolling five-year FET that prescribes the required amount of the service(s) to manage risks to energy reliability for South Australia.

If a dynamic market is not able to be established, AGL has a preference for either a certificate scheme or an annuity style scheme over the proposed cap and collar.

A long duration firm certificate scheme – with an obligation on retailers to procure certificates – could be designed in such a way as to minimise costs (i.e. the most efficient / appropriate investments would be made) with the risks sitting with market participants instead of consumers.

The success of certificate schemes has already been observed in Australia's energy market. One example is the Large-scale Renewable Energy Target (**LRET**), which forms part of the Renewable Energy Target. The LRET encourages investment in the development of renewable energy power stations, like wind and solar farms, by:

- providing a financial incentive for electricity generated from renewable sources
- creating a market for creating and selling large-scale generation certificates (**LGC**)

LGCs are tradable certificates created for eligible large-scale renewable energy power stations. The certificates represent the amount of renewable energy generated by these facilities. An LGC is equal to 1 megawatt-hour (**MWh**) of renewable electricity generated or displaced by a power station.

Renewable energy power stations, like wind farms or solar farms, create LGCs for each MWh of eligible renewable energy they produce. These certificates can then be sold or traded to entities with liabilities under the Renewable Energy Target (**RET**), such as electricity retailers. By purchasing LGCs, entities can meet their renewable energy obligations under the RET. LGCs can also be sold to private buyers on the secondary market to meet voluntary corporate ambition.

As noted above, by defining the precise service(s) the scheme is designed to procure, and conducting the FERA and FET, as currently proposed under the scheme but in relation to the required amount of the service(s) to manage risks to energy reliability for South Australia, a certificate scheme could be designed in a relatively simple way that is easier to administer, and efficiently determines the prices for the service(s) required.

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8. Does the proposed cost recovery mechanism for the Scheme represent the most effective way to recover Scheme costs and to ensure Scheme costs are evenly shared across all energy users in South Australia?

AGL supports the proposed recovery mechanism for the Scheme in principle. However, further clarity is needed on how costs will be apportioned across different customer segments.