THE HON CHRIS BOWEN MP
MINISTER FOR CLIMATE CHANGE AND ENERGY

MS26-000973

Ms Anna Collyer
Chair
Australian Energy Market Commission
Level 15
60 Castlereagh Street
SYDNEY NSW 2000

anna.collyer@aemc.gov.au

Dear Chair Anna

Please find attached two related rule change requests to amend the National Electricity Rules. The first seeks to ensure data centres entering the National Electricity Market (NEM) support the development of sufficient firm electricity supply to meet their growing demand. The second seeks to create a clear pathway for connection for large energy users, including data centres, where those users are co-locating with renewable generation and storage or offering demand flexibility to the grid.

The rule change requests aim to align with the Australian Standards for Artificial Intelligence being developed by the Australian Government following agreement by National Cabinet in August 2026 to a nationally consistent regulatory framework that sets minimum requirements for large data centres. They also implement part of the commitment the Commonwealth made to Energy Ministers in July 2026 to develop rule change requests to ensure NEM data centres demonstrate they can offset their demand by procuring new renewable generation, adequate firming, and demand flexibility.

The Commonwealth has worked closely with states, territories and energy market bodies to develop these rule change requests to help ensure the costs associated with the entry of large data centres are not borne by consumers. I endorse these rule change requests and ask that the AEMC initiate and progress their consideration as a priority.

Yours sincerely

CHRIS BOWEN 18/12 /2026

Enc Firming rule change request
Connection agreement rule change request

Request for standard rules

September 2026

Data centre contracting obligation for use of firmed energy rule change request

Contents

1. Request to make a Rule 3
1.1 Name and address of person making the Rule 3
2. Background and purpose of the rule change request 3
2.1 Purpose of the rule change request 3
3. The nature and scope of the issue 4
4. Description of the proposed rule 5
4.1 Coverage 6
4.2 Demonstrating and assessing firmness 6
4.3 Incentivising investment 9
4.4 Compliance and enforcement 10
5. How the proposed rule change would address the issue 12
6. How the proposed rule change will contribute to the National Electricity Objective 12
7. What is the potential impact of the proposed rule change 13
Appendix A – Interactions with other rule change requests and Australian Government reforms 16

1. Request to make a Rule

1.1 Name and address of person making the Rule

The Hon Chris Bowen MP

Minister for Climate Change and Energy

Parliament House

Canberra ACT 2600

2. Background and purpose of the rule change request

Growing investment in data centres presents both opportunities and challenges for Australia's electricity systems. The Australian Government is working with states and territories and energy market bodies through the Energy and Climate Change Ministerial Council (ECMC) to harness these opportunities in a way that protects consumers and supports the energy transition.

On 26 August 2026, National Cabinet agreed that the Australian Government will introduce a new set of mandatory standards for large data centres (the AI Standards). These standards will complement the reform package agreed by ECMC on 28 July 2026. Energy Ministers (excluding Queensland and the Northern Territory) agreed to progress regulatory arrangements for data centres to offset their electricity demand through investment in additional renewable generation, firming, and demand flexibility.

This decision built on targeted advice from the Australian Energy Market Commission (AEMC), which set out a package of complementary policy recommendations. The AEMC's recommendation 2 identified that new data centres should be backed by sufficient firm contracting arrangements to manage the reliability and price impacts associated with their high demand and operational characteristics. This is the focus of this rule change request.

The proposed rule change would complement other reforms being considered as part of the broader policy framework to ensure data centres represent a net benefit to Australian consumers and the economy more broadly. This includes the related rule change request to improve the NEM connections framework for integrated facilities, co-located plant and flexible loads.

2.1 Purpose of the rule change request

Electricity demand from data centres is expected to have a significant impact on the NEM. The 2026 Electricity Statement of Opportunities (ESOO) forecasts data centre consumption to increase to around 15 TWh or 7.8 per cent of operational consumption by 2029-30 and then to approximately 34 TWh or 13 per cent by 2035-36.[1] This is nearly

[1] AEMO, 2026 *Electricity Statement of Opportunities*, p. 38.

equivalent to the 2025-26 household electricity demand across New South Wales and Victoria (38 TWh).[2] This growth will occur alongside other significant sources of load growth, including the electrification of commercial and industrial processes and the decarbonisation of transport.

At the same time Australia's electricity system is transforming. Retiring coal fired power stations are being replaced with variable renewable energy (VRE) and short and long duration storage. In the absence of appropriate arrangements, the costs and risks associated with meeting data centre demand could be borne by consumers.

The proposed rule change amends the National Electricity Rules (NER) to require qualifying data centres to manage the potential reliability and price impacts of their demand through appropriate contracting arrangements and demand flexibility.

This rule change request seeks to ensure, where possible, all data centres over a threshold size have a net positive impact on system security, reliability and affordability by:

- Introducing a minimum, mandatory **contracting obligation** that adequately covers a data centres' demand load shape and profile.
- **Bringing forward investment** in new renewable generation, storage and demand flexibility, located in the same jurisdiction as the data centre, by establishing standards and guidelines in relation to the characteristics of the types and categories of technologies that data centres contract with under the obligation.

3. The nature and scope of the issue

The projected scale, pace and operational characteristics of data centre demand may create risks for reliability, system security and wholesale prices unless supported by sufficient generation, storage and dependable demand flexibility.[3]

Requests to connect data centres to the grid are occurring at significant pace and scale. AEMO's 2026 ESOO identified 225 data centre projects under development, with a combined capacity of 67 gigawatts (GW).[4] While not all proposed projects will proceed, or operate at rated capacity, the size of the development pipeline creates uncertainty about the timing, location and scale of future demand.

Data centres may also be developed more quickly than traditional, industrial large loads, creating a risk that their demand outpaces the delivery of new generation, storage and network capacity. This timing mismatch may be particularly significant if large data centre developments proceed in locations with limited network or supply capacity.

---

[2] AEMO, 2026 *Electricity Statement of Opportunities Results Workbook*, Energy Forecasts – NSW and VIC.
[3] Ibid.
[4] Ibid.

Once operational, a data centre's demand profile will depend on its design, workload and operating model. Some facilities may maintain relatively high and steady consumption to meet uptime requirements while others may be capable of shifting or reducing demand or alternatively may experience short periods of sharply increased consumption. These characteristics can influence a data centres' responsiveness to wholesale prices. This consumption profile could place additional stress on the market during periods of tight supply, especially given the timing mismatch with new generation and storage coming online noted above.

The system impacts of these demand characteristics need to be considered as the NEM transitions to a higher share of weather-dependent VRE as ageing coal-fired generation retires. Maintaining reliability will require sufficient generation, storage and dependable demand flexibility to be delivered as demand grows. If supporting capacity does not keep pace with data centre demand, periods of tight supply may become more frequent, increasing reliability risks, load shedding, or placing upward pressure on wholesale prices.

Given the issues above, the proposed rule change seeks to ensure data centres have appropriate arrangements to manage the reliability and price impacts of their demand. As proposed data centre demand grows, the absence of such an obligation creates a risk that the associated costs and system impacts are borne more broadly by consumers. The proposed data centre contracting obligation has four principal design decisions set out in this rule change request:

- **Coverage:** which data centres should be subject to the obligation and which entity should be responsible for meeting it.
- **Demonstrating and assessing firmness:** how contracts, generation, storage and demand flexibility should be assessed against a data centre's demand profile
- **Incentivising new investment:** how the obligation should ensure that eligible contracts are underpinned by new generation and storage.
- **Compliance and enforcement**: how compliance under the policy will be implemented.

The following section outlines each principle, the proposed changes to the rules, and how those changes address the issues identified.

4. Description of the proposed rule

The proposed rule change would establish a mandatory contracting obligation for qualifying data centres. The obligation would require each liable entity to demonstrate that its electricity demand is supported by eligible firming arrangements, including new generation and storage and dependable demand flexibility, located in the same region as the data centre. The detailed design would need to specify the data centres and entities covered, the level and profile of demand to be supported, how eligible arrangements are

assessed, and the compliance and enforcement framework. This section sets out the proposed approach to coverage, assessment, new investment, and compliance and enforcement.

4.1 Coverage

The obligation could apply to data centres exceeding a certain size threshold or operational profile, with the objective of minimising reliability and affordability impacts of data centres on consumers. Consideration is required around whether the obligation should be tiered based on the size of the data centre, with larger data centres facing higher firming requirements than smaller data centres. Introducing tiering may allow for more efficient accounting of the different types and capabilities of data centres and address the proportionality of impact.

Coverage decisions should take account of related AEMC work on these issues including the Improving the NEM access standards – Package 2 rule change and the Operational integration and visibility of large inverter-based loads (OIV) rule change. Additionally, the Australian Government's AI Standard will also consider size thresholds for obligations.

To achieve the objectives of this rule change proposal, and to avoid creating barriers to competition, it is important that, where possible, the rule covers all data centre load over the threshold size. The OIV rule change is considering whether a registration requirement should apply to certain large inverter-based loads, including data centres. Subject to the outcome of that rule change, a registration framework could provide a mechanism through which future obligations may be applied to registered participants.

In this way, any future reforms relating to data centre obligations (including firming obligations) could potentially be designed to apply to registered participants, which may include both existing and future data centres if they are required to register under the operational visibility framework.

4.2 Demonstrating and assessing firmness

Under the proposed rule change, data centres would be required to demonstrate their load is backed by firm generation, storage and/or dependable demand flexibility that is appropriate to their demand shape and profile.

In this context, firmed supply is electricity supported by resources or arrangements that reliably meet the timing, duration and magnitude of the demand being served. For example, an extremely reliable source of generation that is not subject to weather or supply constraints would have a high firmness factor, compared to a resource or contract with a high delivery risk, which may receive a low firmness factor. This borrows concepts from the Retailer Reliability Obligation (RRO), and the supporting Australian Energy Regulator (AER) Interim Contracts and Firmness Guidelines.[5]

[5] In the RRO the AER defines firmness as "the extent to which the contract will reduce the buyer's exposure to spot price volatility during the forecast reliability gap period." A firmness factor is then

To demonstrate the firmness, a data centre could have a portfolio of electricity derivative contracts (e.g. power purchase agreements, cap contracts, tolling agreements) sold by operators of physical generation and storage located within the same region as the data centre, in addition to dependable demand flexibility including behind-the-meter resources such as storage and demand response capabilities. Allowing flexibility for data centres to source their 'firmness' within the region they are located, could support more efficient outcomes for data centres and the market more broadly. The AEMC should also consider whether qualifying contracts held by the customers of a colocation data centre could be eligible in specified circumstances.

To inform the level of firming required by the data centre, the AER could draw on the defined demand ramp profile,[6] as set out in its connection agreement.[7] This may require including a requirement for these ramp profiles to be explicitly set out in connection agreements. The AER could also consider the data centre's full 24-hour load profile, rather than focusing solely on peak-hour load. This is a more conservative approach, that prioritises minimising a data centre's impact to the market at all times – both during times of peak demand and periods of low demand. This also avoids the need for a data centre to forecast its consumption. Further consideration and testing would be required to ensure these design features are practically implementable, are compatible with other requirements such as the Australian Government's renewable electricity obligation for data centres, and are in the long-term interests of consumers.

A data centre's firm contract coverage and behind-the-meter resources would be assessed based on its portfolio of firm contracts as a whole, rather than on the firmness of individual contracts or resources. This approach is intended to account for interrelated risks between contracts. For example, if multiple solar power purchase agreements are signed, the delivery risk may be higher than a diverse portfolio of contract/resource types. Further consideration will need to be given as to how the AER would assess whether the requirement is satisfied, including whether this approach can be efficiently administered and monitored or if there are any alternate approaches that should be considered to achieve the intended policy outcome.

There will be a number of key variables, set out in the proposed rule, that will dictate how a data centre approaches its firming. These include:

- **The level of 'firmness' required**: the proportion of load that is covered by 'firm' generation, storage and/or demand response. This would be set centrally across all jurisdictions, determined based on advice from AEMO. The AEMC should consider

---

calculated and allocated to each qualifying contract the retailer holds. AER Interim Contracts and Firmness Guidelines – final decision – 20 August 2025, p.13.

[6] Ramp profile is the maximum consumption capacity, which ramps as the data centre increases its capacity. This is different from ramp rate, which relates to the speed and rate at which a resource increases or decreases imports or exports in response to dispatch instructions.

[7] A connection agreement is an agreement under Chapter 5 of the NER that sets out the terms and conditions of a data centres connection to a network. Under the NER the technical requirements for connection of plant to the NEM (performance standards) must be specified.

coverage that is most likely to support reliability and affordability outcomes for electricity consumers, including full coverage.

- **The level of 'newness' required**: the proportion of 'firm' resources used to cover a data centre load that comes from new sources, including behind-the-meter resources. We propose a high default level (e.g. full newness), but Ministers may be able to change this level for their jurisdiction. To achieve the objectives of this rule change, a high portion of newness will be required as it will assist in minimising wholesale price impacts of data centres. While some jurisdictions have excess firming capacity provided by legacy plant, if these existing sources of generation are used to meet new data centre load that will, by definition, negatively impact the supply-demand balance, resulting in higher prices and the potential for system inadequacy.
- **Eligible technologies**: the types of technologies that would be eligible to be used to meet firming requirements. Consideration should be given to whether primary power firming from high emission sources should be excluded. Ministers may be able to exclude specific technologies for their jurisdiction.

Maintaining a consistent level of firmness across jurisdictions would help avoid unintended consequences from differing firming requirements applying in interconnected jurisdictions. Enabling Ministers to have the capacity to set the level of newness and technologies for their jurisdictions would help to ensure the firming being brought in meets the needs of their jurisdiction. However, if this additional right or function is introduced, the AEMC will need to seek consent from the ECMC as part of the rule change process.[8]

A core element of the proposed design is that new generation is located in the same region as the data centre is located, which will minimise the risk of reliability and price impacts during periods of network constraints. There may be instances where a jurisdiction would prefer to relax this design constraint, for example following an investment in an interconnector. The AEMC may seek to consider whether allowing this flexibility is appropriate, and if it would create any unintended consequences.

Further consideration may be required to ensure that having a NEM-wide level of firmness, and variations between jurisdictions for 'newness' and technologies, does not create any unintended consequences for jurisdictions. Additionally, the AEMC will need to consider how to account for the dynamic nature of evolving demand and supply dynamics over time.

[8] Under section 35 of the National Electricity Law the AEMC must not, without consent of the 'MCE' (Ministerial Council on Energy, or ECMC for current purposes), make a rule that confers a right or function on, or imposes an obligation on, the MCE or a Minister of a participating jurisdiction. As such, if this flexible design, where Ministers can set the level of newness or technologies included in the firming obligation, is included in the final design, the AEMC will need the consent of the ECMC.

4.3 Incentivising investment

One of the primary objectives of this rule change request is to incentivise investment in new generation, storage and dependable demand flexibility. One option for defining 'new' is based on when the underlying asset has reached a final investment decision (FID) or financial close (FC), as this will help to ensure that the investment is additional. Once an asset is declared 'new' relative to the age of the data centre, this status will be considered enduring for the asset. This definition will require some further consideration around how it is implemented, including defining FID/FC in a way that can be consistently verified/ audited, and alignment with other related policies such as the Australian Government's data centre renewable electricity obligation policy.[9] The 'newness' requirement may preclude the use of some financial contracts (e.g. exchange-traded caps) to be used for firming as it would be difficult to attribute the generation to a specific plant. The AEMC should consider this issue and if there are any ways to directly link exchange traded contracts to physical plant.

There is some risk that developers will postpone decisions to invest in firming plant until after this rule comes into operation, so as to ensure the plant will be able to sell eligible firming contracts to data centres. The AEMC should consider this risk and the potential mitigations available, which could include setting a transition period before the rule commences where plant reaching FID would still be eligible. Any transition period should be time bound. Additionally, the AEMC should consider any other measures that will help to ensure that investments required under the scheme are bankable, including possibly requiring minimum tenure of firming contracts.

Behind-the-meter demand response would also be eligible to count towards a data centre's firm capacity. The AEMC may need to consider how to distinguish between the capacity for a data centre to offer demand response compared to how often the data centre actually uses this demand response capacity to firm its load. Possible approaches to consider the firmness of demand response include:

- **Applying a conservative firmness rating**: a data centre would be required to demonstrate it has demand response capacity, but could receive a low firmness rating. While this approach would be simple to administer, it may understate a data centre's actual capacity and provide limited incentive to use demand response in practice.
- **Utilising historical performance**: a data centre's firmness rating would be adjusted over time based on its actual demand response performance. While this would incentivise participation, it would require continuous monitoring from the AER, which may be administratively burdensome.
- **Require a minimum level of response:** a data centre would be required to respond to a specified minimum number of events every year. This approach

[9] See Appendix A for details.

would provide greater certainty around a data centre's demand response contribution, but it may be more challenging to monitor and enforce.

- **Require response during Lack of Reserve (LOR) or Minimum System Load (MSL) events:** a data centre would be required to reduce demand during specified LOR events or increase consumption during MSL events. This would be intended to ensure demand response is available when the system needs it most, but it may be more complex to implement and administer.

One possible avenue for sourcing new investments in firming would be through the proposed Electricity Services Entry Mechanism (ESEM). However, this mechanism is yet to be legislated. The jurisdictional working group progressing the ESEM may consider how data centres are treated in the final design. The AEMC could consider any opportunities to leverage the ESEM following a decision to legislate the mechanism.

Requiring eligible firming to come from new sources could strengthen investment signals for additional capacity as data centre demand grows. Recognising a range of eligible resources, including storage and dependable demand flexibility, could support technology-neutral investment while allowing the detailed treatment of newness, demand flexibility and interactions with other mechanisms to be settled through the rule change process.

4.4 Compliance and enforcement

Under the proposed rule change, the onus would be on the participant to prove it has firmed its load, including verifying the 'newness' of underlying assets as required. This may be supported by an independent audit, which would then be submitted to the AER to assess and approve. This would occur at key stages throughout its lifecycle. This might include:

1. **Pre-connection**: a data centre would be required to demonstrate sufficient firm contract coverage as a precondition for connecting to the network.
2. **Scheduled reviews**: a data centre would be required to periodically demonstrate sufficient firm contract coverage. The frequency of this assessment could be determined by factors such as system conditions and risk profiles (for example, resubmitting every 5–10 years).
3. **Reassessment triggers**: a data centre's compliance would be reassessed where there is a material increase in its load and associated increase in its firming obligation (for example, if a data centres' load increases by more than 10 per cent or when a major contract ends).
4. **Targeted spot audits**: the AER could undertake risk-based assessments and require participants to conduct independent audits of the adequacy of a data centre's contract positions if particular risks are identified.

These compliance assessment points are intended to ensure a data centre fulfils its firm contracting obligation while balancing the administrative burden on the AER and participants from having to submit/assess contracting requirements on a regular basis.

If a data centre fails to demonstrate sufficient firm contract coverage at any of these compliance assessment points, it would be subject to enforcement action by the AER. Financial penalties would serve as a primary enforcement mechanism, with penalties set using the AER's existing compliance and enforcement framework.[10] However, further design considerations are required to determine how penalties would accrue, including whether they should apply on a daily, monthly, or other basis.

Financial penalties alone may not be an adequate disincentive for non-compliance and could be complemented by a 'turn-down' or load-shedding penalty. Under this approach, a non-compliant data centre could be required to reduce its demand until it demonstrates sufficient firm contract coverage as required by the obligation. This could potentially be enforced via the network service provider, AER or AEMO. The intent of this approach is to provide a strong enforcement mechanism beyond financial penalties. Further design consideration is needed to assess the practicality of implementing such a mechanism, including how a 'turn down' would work with existing requirements for the *Jurisdictional System Security Coordinator (JSSC)*. Any form of load shedding will need to be coordinated with state requirements, particularly where data centres provide 'essential' services to the state.

Collectively, these compliance assessment points and enforcement mechanisms would ensure data centres fulfil their obligation by imposing penalties that are proportionate to the risks being managed. This framework is also intended to be practical to administer, as it would leverage some of the AER's existing compliance, monitoring and enforcement architecture.

Further work is required to work through the detailed compliance process, including the timeline and process for data centres to notify the AER that they are a liable entity and the exact point at which non-compliance is deemed to have occurred. Consideration may be warranted on additional information gathering powers for the AER and record keeping requirements for data centres to support this function.

Defined assessment points, monitoring requirements and proportionate enforcement mechanisms would help ensure that firming commitments can be relied upon over time. Building on the AER's existing compliance and enforcement framework could support practical administration, while retaining scope for the AEMC to determine the appropriate review frequency, reassessment triggers and consequences for non-compliance. These settings will also need to account for the broader compliance framework applicable to large data centres under the AI Standards legislative package, once developed.

[10] AER, Civil and criminal penalty indexation.

5. How the proposed rule change would address the issue

The proposed rule change would require qualifying data centres to put in place eligible firming arrangements that reflect the scale and profile of their electricity demand. By linking new data centre demand to new generation and storage, supplemented by dependable demand flexibility, the obligation would reduce the risk that reliability and price impacts are transferred to other consumers.

The obligation would support reliability by requiring firming arrangements to be in place as data centre demand is brought online and increases over time. This would help reduce the risk that data centre demand growth outpaces the generation, storage and demand flexibility available during periods of peak demand, low renewable generation, or system stress.

Requiring eligible arrangements to be underpinned by new investment would also strengthen demand signals for additional generation and storage. This would help support capacity to enter the market alongside data centre demand, reducing upward pressure on wholesale prices and supporting efficient market outcomes.

Recognising dependable demand flexibility as part of the obligation would allow data centres to reduce the level of contracting required to meet the obligation where it can be credibly employed. This would support a more proportionate approach to the obligation while preserving the reliability and consumer-protection objectives of the rule change.

6. How the proposed rule change will contribute to the National Electricity Objective

The National Electricity Objective (NEO), as stated in the National Electricity Law (NEL), is:

> "to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> a. price, quality, safety, reliability and security of supply of electricity; and
> b. the reliability, safety and security of the national electricity system; and
> c. the achievement of targets set by a participating jurisdiction—
> i. for reducing Australia's greenhouse gas emissions; or
> ii. that are likely to contribute to reducing Australia's greenhouse gas emissions."

The proposed rule change will contribute to the NEO by promoting efficient investment and operation while supporting price, reliability and security outcomes for consumers.

- **Efficient investment:** requiring qualifying data centres to support their demand through eligible firming arrangements underpinned by new generation and storage would create a clear demand signal for the capacity needed as data centre load grows. Recognising dependable demand flexibility would allow the obligation to be met through the least-cost combination of supply-side and demand-side resources.
- **Price:** linking new data centre demand to new supporting capacity would reduce the risk that the costs of meeting that demand are transferred to consumers through higher wholesale prices.
- **Reliability and security:** requiring firming arrangements to reflect the scale and profile of data centre demand would reduce the risk that demand growth outpaces the generation, storage and dependable demand flexibility available during periods of tight supply or system stress.
- **Emissions reduction targets:** to the extent that the obligation supports investment in new renewable generation and storage it may also contribute to emission reduction targets.

Overall, the proposed rule change is intended to ensure the reliability and price impacts of demand from large, new data centres are managed by the entities creating that demand. The AEMC's assessment should test whether the proposed coverage, level of firming, newness requirement and compliance framework represent a proportionate and efficient means of achieving that outcome in the long-term interests of consumers in line with the NEO.

7. What is the potential impact of the proposed rule change

The proposed data centre contracting obligation would affect data centres, market participants, energy project developers, network service providers, and market bodies such as the AER and AEMO. Its overall impact will depend on design choices relating to coverage, the level of firming required, the treatment of new investment and demand flexibility, and the compliance framework. The rule change may deliver material benefits relating to reliability, price and investment decision, but could also impose costs or create unintended market effects if these settings are not proportionate or practical.

Potential benefits include:

- **Reliability and security to the benefit of all consumers:** the proposed rule change may improve reliability and security outcomes for all consumers and reduce the cost impacts from data centres entering the market.

- **Consumer price outcomes:** requiring data centres to support the additional capacity needed to meet their demand could reduce the risks that associated costs and long-term wholesale price impacts are transferred to other consumers.
- **Investment certainty:** a clear and enduring obligation could provide stronger demand signals for investment in new generation and storage.
- **Flexible compliance:** allowing eligible portfolios to combine both dependable behind-the-meter resources and front-of-meter resources could enable data centres to meet the obligation in a way that meets their operational requirements, location and risk profile.
- **Implementation efficiency:** drawing on relevant elements of the RRO framework may reduce design and implementation costs, although the proposed obligation would still require new assessment methods and administrative capability.

Potential costs and risk include:

- **Administrative and compliance costs:** the AER would incur costs to develop guidance, assess portfolios, monitor compliance and undertake enforcement. The proposed portfolio approach may be complex to administer and monitor, particularly where firmness ratings, "newness" requirements and behind-the-meter resources need to be assessed consistently over time. Additionally, if jurisdictions adopt different levels of newness and technologies, this may increase the complexity of the policy to implement. The AER may require additional funding and a staged implementation approach to establish the necessary systems and processes to support this rule change.
- **Compliance costs:** a data centre will need to provide its portfolio of contracts and behind-the-meter resources to prove that it has sufficient firming. This will result in administration and compliance costs for data centres to meet their obligations.
- **Over-procurement risk:** assessing the obligation against a data centre's maximum demand portfolio could require firming above its actual demand, particularly while the facility is ramping up. This may increase costs for data centres and demand for eligible firming products, potentially affecting contract prices and liquidity. The design should consider ways to minimise any unintended impacts to contract markets and liquidity.
- **Residual physical supply risk:** financial contracts may manage financial exposure without guaranteeing that physical capacity is available during periods of tight supply.
- **Additionality risk:** if existing resources can be used to satisfy the obligation, the rule change may not lead to additional capacity. The effectiveness of the obligation will therefore depend on how the "newness" requirement is designed and applied.

The table below outlines some potential impacts for a range of stakeholders.

Stakeholder	Potential impact
Data centres	Data centres would be required to invest in firming either behind the-meter or in the market. They would also be required to contract for their load to prioritise firmness. This could introduce additional costs for data centres. Additionally, data centres would need to meet the compliance obligations to demonstrate their firmness, including any penalties for non-compliance. One potential benefit is that data centres would contract with more resilient energy sources and minimise their spot market exposure.
Retailers	Retailers would support data centres in meeting their firming obligations. This may involve sourcing firm contracts from the market, and ensuring these contracts meet the data centres requirements.
Networks	Networks may be required to provide information to the AER regarding data centres joining the grid or on data centre demand profiles.
Developers	Energy developers would have the opportunity to engage with data centres to build firm sources
Generators/storage operators/demand response providers	Generators, storage operators and demand response providers would be incentivised to prioritise firmness in contracts they sell to data centres.
AER	The AER would be required to administer the firming obligation. This would involve developing a guideline covering how they would assess firmness in contracting and account for behind-the-meter assets. The AER would also be required to conduct assessments of data centre firmness as required.
AEMO	AEMO would be required to conduct analysis to inform the level of firmness that data centres are required to demonstrate. This would be captured in AER guidelines. Additionally, AEMO may be involved in administrating loadshedding if required.

Appendix A – Interactions with other rule change requests and Australian Government reforms

This rule change request has several possible interactions with other rule change requests and policy reforms being considered by the AEMC and the Australian Government. These interactions are outlined in the table below.

Rule change/reform	Possible interactions
Supporting demand flexibility and co-location through connection agreements rule change request	The connection agreement rule change request explores a requirement for data centres to consider demand flexibility capability as part of its connection process. This overlaps with requirements for data centres to firm their load in this rule change request, of which demand response is a potential option to firm. The interactions between these two rule change requests will need to be monitored to ensure appropriate alignment.
Data centre renewable electricity obligation	The data centre renewable electricity obligation being developed by the Australian Government places an obligation for data centres to offset their load from new renewable generation sources. This will have a direct impact on how the data centre contracts for its electricity. Both the renewable electricity obligation and firming obligation will need to work in conjunction to avoid duplication, administrative burden and unnecessary costs.
Operational Integration and Visibility of large inverter-based loads (OIV) rule change request	The OIV rule change request is exploring the introduction of a designated registration category or classification for large inverter-based loads, which would capture data centres. Definitions and requirements considered in the OIV rule change could be considered for leveraging in this rule change request.
ESEM	The Australian Government is currently leading the consideration of the ESEM, which seeks to address the tenor gap for new generation including firming resources Depending on the design, the ESEM may present some opportunities for data centres to source firm contracts.
AI standard	The Australian Government is progressing the development of national AI Standards. Decisions in the AI Standards, for example in relation to data centre size thresholds for obligations to apply, may create opportunities for synergies in the firming rule change.