Australian Energy Market Commission

AEMC
Australian Energy Market Commission

RULE

Rule determination

National Electricity Amendment (Real-time data for consumers) Rule 2025

National Energy Retail Amendment (Real-time data for consumers) Rule 2025

Proponents
Energy Consumers Australia

18 December 2025

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About the AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

Acknowledgement of Country

The AEMC acknowledges and shows respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

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Summary

1 The Commission considers that all consumers should have access to real-time data as part of their electricity service. We have made a more preferable final electricity rule and a more preferable final retail rule (referred to in this determination as the final rule), in response to a rule change request from Energy Consumers Australia (ECA).

2 Under our final rule, from 30 November 2028, all new smart meters installed will be able to wirelessly communicate real-time data. Customers with these meters can request their retailer to facilitate access to real-time data, free of charge.

3 Our final rule would benefit consumers, who can use real-time data to help manage their energy consumption habits, their consumer energy resources (CER), or to gain a better understanding of the way they use electricity. Third party service providers, such as aggregators and CER companies, can use the data to provide other services that would deliver value for consumers now and into the future, such as services that support the integration of CER into the grid and help lower overall system costs.

4 Access to real-time data is a key enabler of the efficient integration of CER. This can provide significant benefit to all consumers, including lower system costs through better access to more low-cost, low-emissions energy from CER and demand response.

5 Over time, all consumers will have access to real-time data free of charge. Until that time, those customers who want to access to real-time data can request it for a reasonable charge, and those that do not wish to pay a charge will still benefit from better CER integration.

6 Our final rule supports a future where all consumers benefit from the availability of real-time data and delivers this outcome at low cost. It implements recommendations made as part of the Review of the Regulatory Framework for Metering Services (Metering Review), published by the Commission on 30 August 2023. Our final rule is informed by stakeholder input on our consultation and directions papers, our draft determination, and an independent cost-benefit analysis (CBA) published alongside our final determination.

Enabling access to real-time data from smart meters benefits all consumers

7 As part of the Commission's vision of our shared energy future, we considered that improving data flows is essential for the transformation of our energy system into one that is smarter, more flexible and responsive to consumer needs, and more affordable.

8 Innovative technologies and market developments are creating new opportunities for consumers. All consumers should have the opportunity to benefit from these developments, and the Commission has a range of initiatives recently completed or in train that seek to deliver on this ambition.

9 Our Metering Review found that providing access to real-time data would benefit consumers. We considered that access would enable consumers to maximise the benefits of smart meters by using data from the meter to inform better energy management practices. The Metering Review recommended a set of reforms including accelerating the rollout of, and accessing real-time data from, smart meters.

10 The new framework created by our final rule increases the amount of information available to consumers about their energy use, allows consumers to better understand and manage their bills, and opens up access to new and better retail service options. More broadly, it will benefit all consumers by enabling a more efficient, lower-cost, and lower-emissions energy system.

11 Providing consumers and their appointed representatives with access to real time data represents the next step in the reform agenda established in the Metering Review, and enables all consumers to access the opportunities that new metering technologies offer. Real-time data from smart meters can help consumers lower their bills, unlock rewards for using their energy flexibly and help deliver the energy transition.

12 Our final rule directly benefits consumers. An independent quantitative cost-benefit analysis conducted as part of this rule change process confirms that accessing real-time data from smart meters is lower cost than alternative approaches, and delivers benefits.

13 The cost of providing access to real-time data wirelessly from a smart meter is lower than also providing access through a physical data port. Based on stakeholder feedback, we expect wireless access to provide no less benefits. These benefits more than outweigh the cost of the final rule even under the updated cost analysis that includes additional costs and sensitivity to higher cost estimates.

14 More broadly, our final rule complements our broader CER reform agenda, including supporting the integration of CER. This contributes to downward pressure on system and wholesale costs for all consumers.

Our final rule introduces a framework to facilitate access to real-time data from smart meters

15 Under our final rule:

- the meter minimum services specification will be changed, so that all meters installed from 30 November 2028 will be able to communicate real-time data wirelessly
- all customers can request their retailers to facilitate access to real-time data from smart meters from 30 November 2028
- customers with a meter installed from 30 November 2028, or with a meter that already meets the new minimum services specification, will have access real-time data free of charge
- customers who want access to real-time data and have meters installed before 30 November 2028 that do not meet the new minimum services specification may be charged no more than a reasonable amount to either replace or retrofit the meter, or for another lower cost solution if available
- customer appointed representatives who want access to real-time data must first obtain a customer's consent and, if they are not registered participants, must be accredited by AEMO
- real-time data will be defined in the NER to create a clear and consistent understanding of real-time data
- by 30 November 2026, AEMO must publish real-time data procedures that further specify relevant standards, protocols and technical requirements. Any specifications in these procedures will:
  - support greater interoperability between third party devices and smart meters
  - create a minimum level of data protection
  - clarify any obligations in respect of real-time data
- MCs will be required to facilitate access to real-time data in accordance with a retailer's request and any requirements specified in AEMO's real-time data procedures. Specifically, MCs will be required to ensure that devices can pull real-time data from the smart meter. MCs would not be responsible for translating data and delivering real-time data to any customer or

third party device or platform. Responsibility for taking the data and using it lies with the customer or the customer's appointed service provider.

- MCs will be required to implement appropriate protections to protect data from unauthorised access.

Our final rule improves choice for consumers who wish to access real-time data

16 Under current market arrangements, consumers' access to real-time data from smart meters is limited. Consumers who wish to access real-time data generally install alternative devices on or near the smart meter to access the data stream. These devices can be costly, ranging from $50 to $450, plus installation costs in some circumstances.

17 These alternative devices mimic the data collection functionality of the smart meter, and have the functionality to communicate that data to a customer device. A lower cost solution is to embed this communications functionality in the smart meter.

18 Our final rule improves choice for customers who wish to access real-time data. The framework introduced by our final rule means that from 30 November 2028, all customers can request access to real-time data from the smart meter. This represents a new access option that was previously unavailable to consumers.

19 Importantly, our final rule does not prohibit alternative access options. Customers can still choose to install an alternative device if that is their preference. Indeed, we consider that it may be more cost-effective to do so for some customers whose meters do not meet the new minimum services specification.

There are several key differences between our final rule and draft rule

20 Following stakeholder feedback and our own further analysis, we have made some changes between the draft rule and final rule. Unlike our draft rule, our final rule:

- commences on 30 November 2028, not 1 January 2028, to allow more time for AEMO to develop procedures and industry to develop and test technology and functionality
- does not require all meters to include an accessible physical communications port, because avoiding this requirement means lower costs. Feedback from stakeholders suggested the lack of a physical port would not materially affect the uptake real-time data in the future and therefore the expected benefits.
- enables MCs to recover reasonable costs to facilitate access to real-time data from retailers, rather than limit cost recovery to once per connection point
- is less prescriptive about the information that retailers and MCs must provide each other and instead, enables these participants to leverage existing processes and systems, including the B2B procedures and Market Settlement and Transfer Solutions (MSATS) system, to ensure MCs and retailers have all the necessary information to meet their obligations under the final rule
- does not apply to type 4A meters because the cost of embedding communications functionality in these meters is likely to outweigh the benefits
- requires retailers to:
  - revoke access to real-time data within 3 business days of receiving a customer's request to revoke access or becoming aware that real-time data is being accessed without a customer's consent. Our draft rule did not specify a timeframe within which retailers must

revoke access and required retailers to automatically revoke access when a customer vacates a premises.
    - verify consumer consent and keep a record of consent for a period of 2 years. Our draft rule did not require retailers to verify or keep a record of consent.
    - ensure access to real-time data is ongoing when an MC at a connection point changes. This is a change from the draft rule which placed the responsibility of ongoing access on MCs.
- enables distribution network service providers (DNSPs) and AEMO to access real-time data without a customer's consent in certain circumstances. Our draft rule did not enable any parties to access real-time data without a customer's consent in any circumstance.
    - DNSPs do not need a customer's consent where accessing real-time data will not impact the customer's infrastructure. This is because DNSP access in this circumstance would not impose any cost or cybersecurity risk to customers, or affect the value of a customer's infrastructure
    - AEMO does not need a customer's consent where AEMO requires access to real-time data for the purpose of fulfilling its accreditation obligations.
- our final rule also requires customer authorised representatives to:
    - only use real-time data for the service that was consented to by the customer. This was not an explicit requirement under our draft rule.
    - comply with dispute resolution requirements in the Rules. This was not a requirement under the draft rule.

Our final rule delivers a real-time data service at low cost

21 While our final rule enables consumers to access real-time data from their smart meter free of charge provided the meter meets the new minimum services specification, this does not mean that consumers would not incur any costs to access real-time data. All customers will pay an additional small amount to ensure that everyone has access free of charge over time. We have taken this approach because it is the lowest cost way of achieving universal access to real-time data from smart meters.

22 There are costs involved in enabling access to real-time data from smart meters. These include technology costs - such as upgrading meter capabilities, and other costs that will be incurred by industry and market bodies to implement the changes. These costs are expected to be recovered from all consumers through their bills, consistent with how the costs of metering services are already recovered.

23 We agree with stakeholders that the costs to consumers should be carefully considered against the benefits. We recognise that not all consumers may choose to access real-time data or benefit directly in the short term. However, we consider that ensuring all consumers have access to real-time data now is critical to efficiently integrate CER, and providing it free of charge to all customers will maximise long-term benefits. However, given there are costs of providing access to real-time, we have adopted the lowest cost option - that is, embedding minimum functionality in smart meters as they are rolled out and replaced over time.

24 We engaged Oakley Greenwood to conduct a CBA of a range of options to deliver universal access to real-time data from smart meters. Their final CBA report is published alongside this final determination. It adopts stakeholder input to the draft determination in updating the cost estimates from the draft CBA report to include additional costs to test the resilience of results to

variations in costs. Rather than providing point estimates of costs, the analysis includes a range - representing stakeholder input in response to the draft determination that the costs could be higher than modelled in the draft CBA. The alternative estimates were calculated using information provided to the AEMC in confidence by a stakeholder. We consider that these costs represent an upper bound estimate.

25 The costs of our final rule can be broken down into three components:

- upfront implementation costs
- ongoing implementation costs
- costs to change the minimum services specification and embed wireless functionality

26 The final CBA report finds that, in nominal terms:

- implementation costs - could range between $5 and $25 per customer. Most of these costs are once off.
- incremental costs to change the minimum services specification and embed wireless functionality in smart meters - could range between $5 and $20 per customer. We consider that economies of scale and innovation would drive down these costs over time.

27 Based on the results of the updated cost analysis, we estimate that the final rule will impose a cost of between $10 and $36 per customer over the economic life cycle of a smart meter, which is typically approximately 15 years. Due to commercial sensitivities regarding the input data, we are unable to show a breakdown of the $36 into its cost components.

28 Assuming that the economic life cycle of a smart meter is 15 years, our final rule will cost between $0.66 and $2.40 per customer, per year, for the next 15 years. This is in nominal terms. Our final rule is estimated to cost between $0.83 and $2.70 per customer per year on a net present value basis.

29 While we have represented the estimated costs as a range, we expect that the costs would:

- be more likely to be towards the lower end of the range, because the higher cost estimate is considered an upper bound
- be likely to be indiscernible in a consumer's final bill even if a retailer chooses to pass these costs through
- reduce over time, due to competition in the retail and metering services markets.

30 Our final rule is estimated to be at least $5 per customer per year lower than the draft rule, because it does not include the cost of embedding an accessible physical data communications port in all meters. The updated cost analysis provides a range of the cost of a physical data port of between $5 and $20 (alternative estimate).

31 We consider the benefits of the final rule are not likely to be materially lower than the draft rule. This is because, based on stakeholder feedback on the draft determination, we expect that the uptake of wireless access to real-time data from smart meters would be more consistent with that assumed for the physical data port in the draft determination. This means that the benefits are assumed to be the same and the incremental benefit of adding a port would not outweigh the cost.

We assessed our final rule against four assessment criteria

32 The Commission has considered the NEO and NERO[1] and the issues raised in the rule change

1 Section 7 of the NEL and Section 13 of the NERL.

request and assessed the final rule against the four assessment criteria outlined below. The Commission considers this rule change will help promote efficiency in the investment in and use of real-time data for the long-term interests of consumers.

33 The final rule will contribute to achieving the NEO and NERO by:

- **Delivering good consumer outcomes** - our final rule will ensure all consumers have access to real-time data from smart meters, free of charge, in the long term. Our final rule would also facilitate simple access to real-time data to support good customer experiences when accessing real-time data. Our final rule provides more consumer protections than the draft rule, particularly around improving the AER's ability to enforce compliance and impose more obligations on customer appointed representatives to protect customers' data.
- **Improving market efficiency** - The final rule will lower the cost of efficiently integrating CER by reducing the cost of accessing real-time data. It will also reduce the cost of any future services that use real-time data to deliver value for consumers. The final rule adopts a solution that costs less than the solution in the draft rule and rule change proposal.
- **Encouraging innovation and maintaining flexibility** - easy access to real-time data that is interoperable facilitates new services that could use real-time data to deliver value for consumers. Our final rule will facilitate a flexible approach to accessing real-time data from smart meters to enable MCs to provide a range of solutions to access real-time data.
- **Facilitating smooth implementation** - industry will have until 30 November 2028 to implement the final rule. This is sufficient time for industry to update and consider relevant procedures and guidelines. Our final rule would leverage the existing responsibilities of market participants to implement the final rule. Our final rule gives industry more time to implement a real-time data access framework than our draft rule and the rule change proposal.

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1 The Commission has made a final determination

The Commission's final determination is to make a more preferable final electricity rule and a more preferable final retail rule (referred to in this determination as the final rule). Our final rule is in response to a rule change request from Energy Consumers Australia (ECA) to enable universal access to real-time data from smart meters.

The final rule introduces a low-cost framework that will enable a future where all consumers can access and benefit from real-time data from smart meters, free of charge. We consider that the final rule approach imposes lower costs on consumers than the rule change request proposal and the draft rule, and so better contributes to the achievement of the NEO and the NERO.

1.1 Our final determination will benefit all consumers

As part of the Australian Energy Market Commission's (AEMC) vision of our shared energy future, we considered that improving data flows is essential for the transformation of our energy system into one that is smarter, more flexible, responsive to consumer needs and more affordable.[2]

The energy market is evolving, driven by technological innovation and accompanying increases in the types and volumes of energy data being made available. A growing number and variety of devices are creating and potentially sharing data as they connect to the system, such as smart meters. These are positive developments with potential benefits for energy consumers, however we are observing challenges for consumers and their representatives in accessing and coordinating disaggregated pieces of information to draw meaningful insights and inform decisions.

One of those challenges relates to access to real-time data on consumers' energy use. As appendix A.4 explains in more detail, it is currently costly to access real-time data. Consumers need to install additional devices to access a real-time data stream due to challenges in accessing the data directly from their smart meter. Addressing this challenge is the focus of our final rule.

1.1.1 Our final rule introduces a framework to enable consumers and their appointed representatives to access real-time data from smart meters

The Commission considers that all consumers should have access to real-time data as part of their electricity service. This is because consumers can derive value from real-time data. Section 1.2.5, section 1.3 and appendix A explains the value of real-time data in more detail.

We consider that all consumers should be able to access real-time data, and that enabling access to real-time data directly from smart meters would achieve this outcome at low cost to consumers.

Our final determination is therefore to:

- enable all consumers to request access to real-time data from their smart meter from 30 November 2028
- enable customer appointed representatives who have the customer's consent and are accredited by the Australian Energy Market Operator (AEMO) to also access the data
- change the meter minimum services specification so that all new meters, installed from 30 November 2028, would be capable of wirelessly communicating real-time data (this is a

2 AEMC, *A consumer-focused net zero energy system: The AEMC's vision for our shared energy future*, 10 October 2024, p. 23.

change from our draft rule which required all meters to also be capable of communicating real-time data through a wired connection)

- enable customers with new meters installed from 30 November 2028, which would have the new minimum service specifications, to access real-time data free of charge.

Access free of charge does not mean that consumers would not incur any costs to access real-time data. It means that consumers could access the service without being directly charged any upfront or ongoing fee by their retailer. The costs of providing access are expected to be recovered from all consumers through consumers' bills, consistent with how the costs of metering services are already recovered.

Our final rule would benefit all consumers, who can use real-time data to inform their energy choices, including to help manage their consumer energy resources (CER). Real-time data can also be used for other services that would deliver value for consumers now and into the future, such as services that reward consumers for activities that support the integration of CER into the grid and help lower overall system costs. Better CER integration lowers costs for all consumers, not just consumers with CER or those who access real-time data.

Our final rule would also improve data availability for other types of energy service providers, where these providers have secured a consumer's consent. Better access to more data can enable a more competitive and innovative market for consumer energy services, contributing to better products and services and lower costs for consumers.

The Commission encourages all service providers, including retailers and CER service providers, to integrate real-time data directly from smart meters into their service offerings to customers so that the benefits of real-time data are easily accessible to all customers.

The Figure 1.1 below summarises the key elements of the real-time data access framework under our final rule. These are discussed in detail in chapter 4.

Figure 1.1: Key elements of the framework under our final rule

What is the cost to consumers of accessing real-time data?	All new meters installed from 30 November 2028 will be able to communicate real-time data wirelessly. Consumers with new meters installed from 30 November 2028 will be able to access real-time data free of charge. We estimate that the final rule will impose a cost of between $10 and $36 per customer over the economic life cycle of a smart meter. Assuming that the economic life cycle of a smart meter is 15 years, our final rule will cost between $0.66 and $2.40 per customer, per year, for the next 15 years in nominal terms. Consumers may have to pay an additional cost if they want access to real-time data but their meter was installed before 30 November 2028. To facilitate access to real-time data, a retailer may charge customers to either: • replace the meter, or • retrofit the meter, where this is available, or • provide another low-cost option, where this is available. Alternatively, the customer may choose to: • install an alternative device, consistent with current practice, or • wait until their existing meter is replaced to access real-time data free of charge.	Chapter 2
What data will be accessible as part of a real-time data service?	Real-time data is defined as measurements of voltage, current and phase angle made available from the smart meter every second. It is raw, unvalidated data that is not translated into energy consumption values. AEMO's real-time data procedures will further clarify this.	Chapter 3
How can consumers access the data?	Consumers request access from their retailer. Retailers and MCs facilitate access according to requirements set out in the final rule.	Chapter 4
How can customer appointed representatives access the data to offer services to their customers?	Appointed representatives are required to become real-time data authorised recipients to access real-time data. This means a representative must first obtain their customer's consent. If these parties are not registered participants, they are required to be accredited by AEMO.	Section 4.2

Source: AEMC

1.2 We considered multiple factors when making our final determination

1.2.1 Our final rule is shaped by the Commission's Metering Review findings

Our *Review of the regulatory framework for metering services* (metering review) identified that the current regulatory settings for metering services may not maximise the value of data for consumers. We found that under the current regulatory framework:[3]

- consumer access to smart meter data is limited to historical billing and settlement data, or representations of estimated consumption data through their retailer's app
- consumers are unable to access real-time data from the smart meter transparently, seamlessly, and in an easy-to-understand or useable way

3 AEMC, Metering Review, p.129.

- neither consumers nor market participants can share real-time data in a way that captures potential economies of scale and scope.

The metering review found that providing access to real-time data would benefit consumers. We considered that access would enable consumers to maximise the benefits smart meters offer by using data from the meter to inform better energy management practices. We recommended changes to the regulatory framework to provide clarity and certainty for accessing and sharing real-time data.[4]

The metering review acknowledged that a subsequent rule change would need to develop a framework for consumers to access real-time data based on the costs and benefits of various approaches.

1.2.2 We considered stakeholder feedback on our consultation and directions papers

ECA's rule change request, submitted in response to the metering review recommendation, seeks to enable consumer access to real-time data from smart meters at no charge to consumers. The rule change request is outlined in appendix B.

We published a consultation paper in October 2024 to seek stakeholder feedback on the elements of the rule change request. Across 39 submissions, stakeholders generally supported our ambition to enable access to real-time data from smart meters.

We published a directions paper on 30 January 2024. The directions paper proposed enabling all consumers to access real-time data, free of charge, by 2040 and proposed requiring the AER to publish the prices charged by retailers to access real-time data before 2040. The Commission received 41 submissions as part of the second round of consultation.

1.2.3 Our final determination is largely consistent with our draft rule reflecting stakeholder support for our draft rule

We published a draft determination on 11 September 2025, which proposed a draft rule that would progressively enable all consumers to access real-time data at low cost. This was to be achieved by enabling all consumers with new meters installed from January 2028 to access real-time data free of charge.

Our draft determination addressed stakeholder feedback to our directions paper that consumers with new meters should not have to wait until 2040 to access real-time data, free of charge, if the meter already has real-time data communications functionality.[5]

We received 33 submissions from stakeholders on our draft determination. Stakeholders broadly agreed that our draft rule would be beneficial to stakeholders.[6]

Morse Micro considered that our draft rule would remove one of the largest barriers to consumer engagement.[7]

ECA, JEC and AGL acknowledged that the draft rule reflected a meaningful change from our directions paper approach in response to stakeholder feedback.[8]

However, some stakeholders questioned the costs and benefits of the draft rule.

4 AEMC, Metering Review, p. 129.
5 Submissions to the directions paper: Energy Consumers Australia, p. 5; Energy Policy Research, p. 4; Erne Energy, p. 1.
6 Submissions to the draft determination: CEC, p. 2; SMA, p. 1; ENGIE, p.1, Blue Current, p. 1; Origin, p. 1; SAPN, p. 1.
7 Morse Micro, submission to the draft determination, p. 1.
8 Submissions to the draft determination: AGL, p. 1; ECA, p. 1; JEC, p. 5.

Stakeholders also suggested several changes to the draft rule to lower costs to consumers and improve the workability of the rule in practice. The rest of this determination explains how we have considered stakeholder feedback and how our final rule is different from our draft rule based on stakeholder feedback.

These changes are relatively minor, reflecting the broad stakeholder support for the overall intent and approach of the draft rule.

1.2.4 The CBA results helped confirm that our final rule will impose lower costs to consumers than our draft rule

Given material uncertainties surrounding the direct costs and benefits associated with different use cases for real-time data and various approaches to achieving universal access, we engaged Oakley Greenwood to conduct a cost-benefit analysis (CBA) of different options to deliver universal access to real-time data from smart meters.

Oakley Greenwood's draft CBA informed the approach we adopted in our draft determination. It estimated the costs and benefits of real-time data from smart meters across a range of scenarios. We published Oakley Greenwood's draft CBA report alongside our draft determination to invite stakeholder feedback.

In response, stakeholders expressed mixed views of the CBA estimates and assumptions.

Some stakeholders considered the net benefits were reasonable or potentially understated.[9] Other stakeholders considered the net benefits would be materially lower because:

- the likely cost to consumers would be higher than the CBA estimates. This is because stakeholders considered that the CBA did not consider all implementation costs and underestimated the cost of changing the minimum services specification.[10]
- the benefits may be lower because the estimated uptake of access to real-time data from smart meters and the expected benefit derived from the use cases would be lower than what the draft CBA estimates.[11]

As part of the final CBA, we asked Oakley Greenwood to undertake a cost analysis that adopts stakeholder input to the draft determination. It does so by updating the cost estimates from the draft CBA report to include additional costs to test the resilience of results to variations in costs. Rather than providing point estimates of costs, the analysis includes a range - representing stakeholder input in response to the draft determination that the costs could be higher than modelled in the draft CBA. The alternative estimates were calculated using information provided to the AEMC in confidence by a stakeholder. We consider that these costs represent an upper bound estimate.

The updated cost analysis shows that based on a range of cost estimates:

- the costs of our final rule are estimated to be low
- the costs of our final rule are estimated to be lower than the cost of the draft rule, as the final rule no longer requires newly installed meters to have an accessible data communications port.

9 Submissions to the draft determination: Rheem, p. 6; JEC, p. 9.

10 Submissions to the draft determination: PLUS ES, pp. 5-6; Intellihub, pp. 11-12, Powershop, pp.1-2; AGL, p. 1.

11 Submissions to the draft determination: Red & Lumo Energy, p. 6; AGL, p. 1; Powershop, pp. 1-2.

Based on stakeholder feedback, we expect wireless access to provide no less benefits. These benefits more than outweigh the cost of the final rule even under the updated cost analysis that includes additional costs and sensitivity to higher cost estimates.

For more detail on the CBA analysis see the final CBA report attached.

Chapter 2 outlines how the CBA shaped our final determination in more detail.

1.2.5 We agree with stakeholders that the final rule would likely deliver additional benefits that were not included in the CBA

The CBA only considered direct market benefits including:

- the avoided cost of devices currently used to access real-time data
- lower wholesale costs driven by more efficient household energy use

These benefits are discussed in more detail in the final CBA report and in appendix A.

Stakeholders considered that enabling low-cost access to real-time data would have additional broader benefits including:

- supporting innovation and competition: this arises from new business models that create consumer value from real-time data, innovative retail pricing and customer products and partnerships between companies in the CER supply chain.[12]
- avoiding the cost of switchboard upgrades: The space on the switchboard may be limited. A lack of space necessitates a switchboard upgrade to accommodate more devices. The need to upgrade the switchboard would be avoided if consumers did not need to install more devices to access real-time data.[13]
- enabling broader participation in the energy transition: stakeholders considered that universal access to real-time data is essential to enabling broader participation in, and a more equitable distribution of, the benefits flowing from the energy transition.[14] ECA's research in the Consumer Energy Report card 2025 shows that consumers believe that access to real-time data would help them change their behaviour.[15]
- improving local decision-making and planning for extreme circumstances: This includes smoother integration of community batteries, and resilience planning during extreme weather events.[16] Stakeholders consider that previous work with solar-battery installations in community halls and emergency hubs shows that access to live data can help shift load and conserve energy during extended outages.[17]

We agree with stakeholders that there are additional, important benefits to consumers from real-time data. These include the benefits of an interoperable and portable service.

These benefits were not quantifiable and therefore not included in the modelling. If these additional benefits were realised, the net benefits to consumers of the final rule would be greater than represented in this determination and the final CBA.

12 Submissions to the draft determination: SMA, p. 1; CEC, p. 2.
13 SMA, submission to the draft determination, p. 1.
14 JEC, submission to the draft determination, p. 5.
15 ECA, submission to the draft determination, p. 6.
16 Gippsland Climate Change Network, submission to the draft determination, p. 2.
17 Submissions to the draft determination: Gippsland Climate change Network, p. 1; CEC, p. 2.

1.3 Our final rule will also support broader reform to maximise the value of CER to all consumers

The Energy and Climate Change Ministerial Council's National CER Roadmap (the Roadmap) provides a national approach to reforms to ensure Australians can harness the full potential of CER.[18]

The Commission's CER work program outlined in Figure 1.2 supports the objectives of the Roadmap. Elements of these reforms are interdependent, meaning they have greater benefit to consumers as a package rather than as standalone reforms. Enabling access to real-time data from smart meters is part of this reform package.

Access to real-time data is a key enabler of the efficient integration of CER which can provide significant benefit to all consumers. CER and demand side response will further lower system costs to all consumers as more consumers access real-time data.

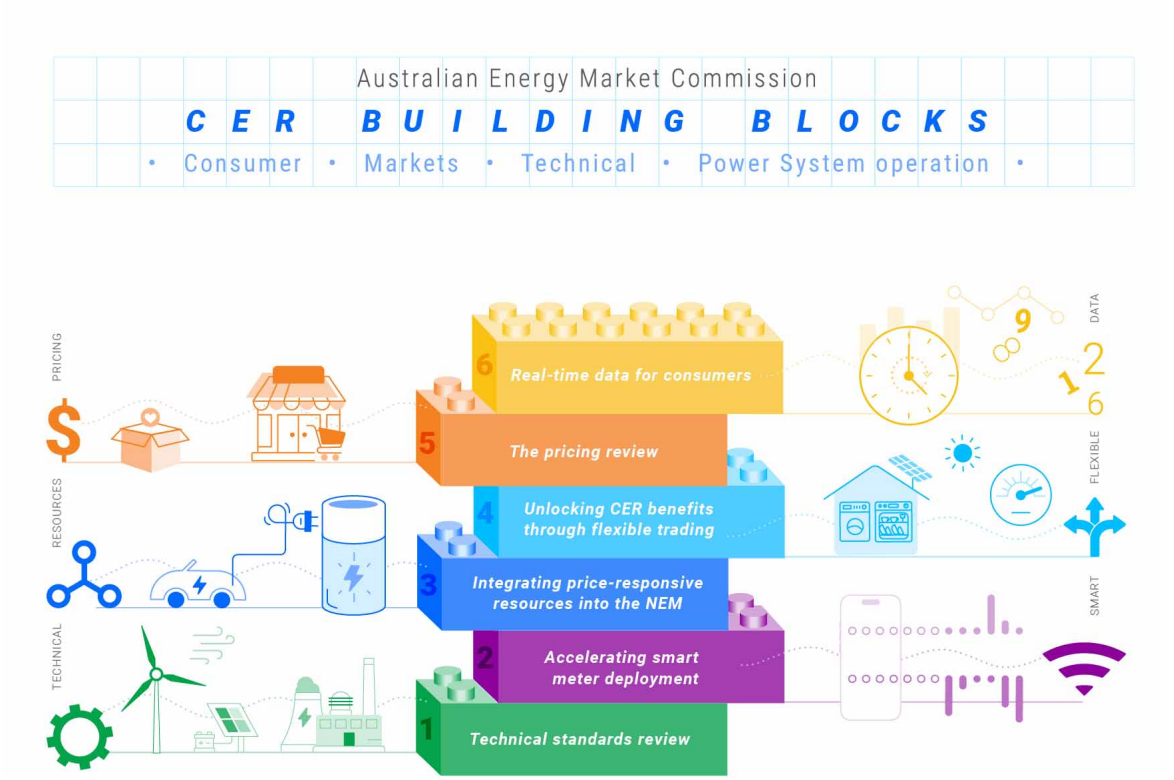
As noted by Rheem and Combined Energy Technologies (CET), real-time data is increasingly being used for both local and grid-related CER services, including:[19]

- home energy management system (HEMS) orchestration of CER
- compliance with CER import/export limits. This is discussed in more detail in appendix A.2.2
- participation of aggregated CER in off-market grid services, such as minimum and peak demand abatement
- participation in virtual power plants (VPPs).

18 See Roadmap here.

19 Rheem & CET, submission to the draft determination, p. 4.

Figure 1.2: The AEMC's work program to unlock the value of CER



Source: AEMC

1.3.1 Reforms through the AEMC's pricing review could increase the value of real-time data from smart meters

The *Pricing review: electricity pricing through a consumer-driven future* (pricing review) published a draft report on 11 December 2025.

The review considers the important role that electricity pricing, products, and services will play in supporting the diverse needs of customers. This includes enabling the CER that customers are acquiring (and will continue to acquire) as part of the energy transition.

Our draft report outlines a range of recommendations that would contribute to a smarter and fairer electricity pricing framework that meets consumers' needs at lowest cost.

The pricing review has identified issues with the current pricing arrangements that can encourage inefficient electricity consumption and export behaviours. The pricing review draft report outlines reforms that could reduce these inefficiencies, thereby encouraging consumption and export patterns that are more compatible with lowering overall system costs.

To the extent that the reforms outlined in the pricing review draft report are adopted and achieve more efficient price signals, particularly for consumers with CER, the benefits of real-time data from smart meters may be higher than estimated by the CBA. This would potentially increase the net benefits of the r this final determination and rule.

Importantly, low-cost access to real-time data is an important precursor for the consumer benefits envisioned by the pricing review. Without this access, consumer offerings could be more limited,

less beneficial and could constrain achievement of our vision for a consumer-focused, net zero energy system.

1.3.2 Our final rule will change the minimum services specification of some meters that are installed as part of the accelerated rollout

The AEMC's Accelerating smart meter deployment rule change (metering rule change)[20] enables the universal uptake of smart meters by 2030 by accelerating their deployment to consumers in a timely and cost-effective way, and with appropriate consumer safeguards in place.

Our final rule will require meters installed between 30 November 2028 and the end of 2030, as part of the accelerated rollout, to have the capability of communicating real-time data.

Stakeholders raised concerns that our rule would make it challenging to meet the requirements under the accelerated rollout because MCs would be required to install meters with new minimum services specification part way through the accelerated rollout.[21]

As explained in section 2.2.5, we consider that MCs have sufficient time before our final rule commences to ensure meters with the new minimum services specification can be installed in the final months of the accelerated rollout according to MCs existing legacy meter replacement plans (LMRP).

Essential Energy raised concerns that customers who receive meters without the new minimum services specification may have to pay to access real-time data yet these customers would have had no control over what meter is installed at their premises.[22] Essential considered that consumers should be able to defer the replacement of the meter, where reasonably practicable, until after the final rule commences.[23]

We consider that enabling consumers to defer meter replacements would make it challenging to replace meters according to the network service providers' approved LMRPs and would make it more costly to complete the accelerated rollout by 2030. However, our final rule does not prevent retailers from giving their customers the option of deferring the meter replacement where retailers consider it is reasonably practicable.

We recognise that consumers who already have smart meters, and those receiving new meters as part of the accelerated rollout between 2025 and 30 November 2028, may get access to real-time data from the smart meter, at free of charge, at a later date, or may instead choose to pay for access either via the smart meter or through an alternative device.

Our final rule would nonetheless ensure that all consumers would, in the future, have meters with the in-built functionality to communicate real-time data, so all consumers can access real-time data free of charge.

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20 AEMC, *National Electricity Amendment (Accelerating smart meter deployment) Rule 2024 No.20* and the *National Energy Retail Amendment (Accelerating smart meter deployment) Rule 2024 No.6*.

21 Submissions to the draft determination, Powershop, p. 2; ENGIE, p. 2.

22 Essential Energy, submission to the draft determination, p. 1.

23 Ibid. p. 3.

2 Our final rule will progressively achieve universal consumer access to real-time data, free of charge

Box 1: Summary

Consistent with ECA's rule change request, the Commission considers that all consumers should have access to real-time data at lowest practicable cost. This would unlock the value of real-time data for all consumers, rather than the service being available only to those who can afford to pay.

To achieve this goal, our final determination is to enable all consumers to access real-time data directly from smart meters free of charge. This would avoid the need to install any other devices to access real-time data.

To achieve this objective, our final rule:

- changes the minimum services specification to require all new meters installed from 30 November 2028 to be able to communicate real-time data wirelessly
- enables consumers with new meters installed from 30 November 2028 to access real-time data free of charge
- enables consumers with meters installed before 30 November 2028 to:
  - pay for the existing smart meter to be retrofitted, replaced or for any other available lower cost option to access real-time data, if retailers charge them for access
  - arrange for the installation of a separate measurement device to access real-time data, consistent with current practice
  - wait until the existing meter is replaced to access real-time data, free of charge.

Our final determination is a change from the draft determination. Key changes include:

- removing the requirement for all meters to include an accessible physical communications port
- requiring retailers to offer customers available low-cost options as an alternative to retrofitting or replacing any smart meter installed before 30 November 2028
- enabling MCs to recover all reasonable costs from retailers
- moving the commencement date of the rule from 1 January 2028 to 30 November 2028.

Our final rule would impose lower costs on consumers than our draft rule without materially reducing benefits. This is because our final rule does not require all customers to pay for physical communications ports on new meters and instead relies on wireless access to deliver the benefits of real-time data to all consumers.

This chapter sets out:

- how the final rule will deliver access to real-time data through an update in smart meter technology
- when the final rule will commence and the technology will be available to consumer
- the costs of the final rule

We also outline other issues we considered when making the rule. A more detailed structure of the chapter is outlined in Table 2.1 below.

2.1 The Commission considers that universal access to real-time data should be enabled at the lowest cost practicable

We consider that all consumers should have access to real-time data as part of their electricity service. This maximises the value of smart meters to consumers.

We recognise, however, that any real-time data service would have a cost that would ultimately be borne by consumers. We consider that consumers should pay the lowest practicable cost to access real-time data. Our final rule achieves this objective by enabling all consumers to access real-time data from smart meters at low cost.

This rule change process has explored a range of options to deliver access at low cost to all consumers. Before discussing the core features of our final rule, we outline below the consultative process that has led to the final rule introduced in this determination.

2.1.1 The rule change request proposal would have imposed material costs on consumers

As explained in appendix B, ECA proposed enabling all consumers to access to real-time data from smart meters, free of charge, from when the rule would commence. Most existing smart meters lack the capability to communicate real-time data and would need to be replaced or retrofitted to enable this functionality. We therefore considered that the rule change request proposal would impose high costs on all consumers, because it would lead to the early replacement of a significant number of smart meters. We considered that these costs could overwhelm the benefits of the proposal.

2.1.2 The directions paper proposed a lower cost approach but meant consumers would have to wait 15 years for free access

We proposed to require retailers to provide all customers access to real-time data from smart meters, free of charge, 15 years after our rule would commence.[24]

This would mean that retailers could only charge customers for access to real-time data for a period of 15 years.

We considered that our directions paper approach would impose lower costs on consumers, relative to the rule change proposal. This is because it would only result in meters being replaced once they had reached the end of their economic lives, not earlier. This means that the costs of early meter replacement should not be socialised.

Under the directions paper proposal, industry would have the flexibility to decide how to enable access, free of charge, after 15 years. They could do this by installing meters with higher specs capable of enabling access to real-time data without using other devices, or some other means.

2.1.3 The draft rule would have imposed higher costs than the directions paper approach but would have delivered greater benefits including enabling more consumers to access real-time data, free of charge, sooner

Whilst stakeholders supported our directions paper approach, they considered that consumers should not have to wait 15 years to access real-time data, free of charge. This is because meters installed within the 15 years timeframe could have real-time data functionality.[25]

24 AEMC, directions paper, pp. 11-17.

25 Submissions to the directions paper: Western Sydney University, p. 1; Ausgrid, p. 3; Erne Energy, p. 1; ECA, p. 6; Tecasa, p. 3; Avionix inc, p. 2; Endeavour Energy, p. 2; Energy Policy Research, p. 3; Rosetta Analytics, p. 1; Justice and Equity Centre, p. 5; Essential Energy, p. 7.

Our draft rule enabled all consumers with a new meter installed from 1 January 2028 to access real-time data free of charge. This means that consumers with new meters would not have to wait for 15 years to access real-time data, free of charge.

Our draft rule also changed the minimum services specification to require these meters installed from 1 January 2028 to be able to communicate real-time data wirelessly and through a wired connection. We considered that changing the minimum services specification would improve market certainty and support interoperability to unlock broader benefits for consumers. Whilst this would impose the cost of changing the minimum service specifications on all customers, we considered that changing the minimum services specification was in the interest of all consumers because we considered the cost of changing the minimum services specification to be low. This meant that our draft rule would impose the lowest practicable costs on consumers who do not want access to real-time data. We considered the benefits of the draft rule would be greater than the cost and that the draft rule would cost significantly less than the rule change proposal.

We considered that the cost of our draft rule to each consumer would be $15 spread across the economic life of the meter. This includes $10 to change the minimum services specification ($5 to add wireless functionality and $5 for a physical data communications port) plus $5 to implement the rule in accordance with other requirements specified by the draft rule. If we assume the economic life of the meter is 15 years, the draft rule would cost each consumer 66 cents per year to change the minimum services specification and another 33 cents for implementation, resulting in a total of approximately $1 per year per customer.

The estimates are based on the CBA estimates but are presented in nominal terms for simplicity, and therefore they do not consider the time value of money.

2.1.4 Our final rule is a change from the draft rule

The final rule is consistent with the draft rule in that:

- consumers would still be able to access real-time data from every new meter installed
- all new meters would be required to communicate real-time data wirelessly.

However, as explained in section 2.2 below, we have made the following key changes from the draft rule:

- our final rule does not require all new meters to have an accessible physical communications port.
- our final rule commences on 30 November 2028, instead of 1 January 2028.

Table 2.1 outlines how this chapter is structured.

Table 2.1: Chapter structure overview

Sections	Headings	Purpose
2.2.1	• Requiring an accessible port would increase cost, complexity and security risks	outlines why we have changed our draft determination position and no longer require an accessible physical data port.
2.2.2, 2.2.3, 2.2.4	• Accessing real-time data via Wi-Fi from a smart meter is currently the lowest cost access method	explains the benefits of changing the minimum service specifications to require all meters to have wireless functionality.

Sections	Headings	Purpose
	• Changing the minimum services specification improves market certainty and interoperability to unlock broader benefits for consumers • Changing the minimum services specification imposes low costs on customers who do not want access to real-time data	
2.2.5	• Changing the minimum services specification from 30 November 2028 facilitates smooth implementation	explains why the commencement date of the minimum service specifications change in our final rule is later than our draft rule.
2.3	• Customers would get access to real-time data, free charge, when the meter is upgraded from 30 November 2028	explains how the new minimum service specifications enables all customers to access real-time data free of charge
2.4	• Our final rule will impose low costs on all consumers	explains the cost of changing the minimum service specifications and enabling access to real-time data free of charge from meters with the new minimum service specifications
2.5	• Retailers may charge customers with meters installed before 30 November 2028 who request access to real-time data	explains how customers that do not have meters with the new minimum service specifications can access real-time data and what these customers may be charged
2.6	• Customers may still choose other pathways to access real-time data	explains alternative pathways to access data than what is provider for under the final rule
2.7	• Competition is important to lower costs for consumers	explains how we have considered competition when making our final determination

2.2 All new meters from 30 November 2028 must be able to communicate real-time data wirelessly

Theminimum services specification requirements in Table S7.5.1.1 of Chapter 7 of the NER set out the minimum functionality all meters are required to have.[26] Currently, meters are not required to be capable of providing access to real-time data.

Our final determination is to require all new small customer metering installations installed from 30 November 2028 to have the in-built functionality to enable wireless access to real-time data.[27]

26 Clause S7.5.1 of the NER.

27 Clause S7.5.1(e) and new row (g) in Table S7.5.1.1 of the *National Electricity Amendment (Real-time data for consumers) rule 2025 No.12* (Final Electricity Rule).

We consider that changing theminimum services specification is a low-cost way of providing the option to access real-time data from smart meters to the greatest number of consumers. An excerpt of the proposed amendment to the minimum service specifications table in the final electricity rule is set out below.

Table 2.2: Changes to the minimum services specification

Service	Description	Access party
(g) real-time data access service	The wireless communication of real-time data.	Real-time Data Authorised Recipients

Source: The amendment to Item (g) of table S7.5.1.1 in the final electricity rule.

Every new meter installed for a small customer must meet the minimum services specification in the Rules.[28] Including wireless real-time data communications functionality will ensure that all new meters have this functionality at minimum. This means that every customer that gets a new meter will be able to access real-time data.

Consequently, in the long-term, when every customer has these new meters installed at their premises, every customer will have the option to access real-time data from their smart meter.

We consider that it is not appropriate for the minimum services specification to specify what wireless access solutions should look like. As discussed in chapter 3, the definition of real-time data and the requirements in AEMO's real-time data procedures would specify what access solutions should look like.

Based on stakeholder discussions and feedback, we consider it likely that meters would use Wi-Fi to communicate real-time data wirelessly. This is because Wi-Fi solutions would likely satisfy the required speed and interoperability expectations set out in section 3.2.

Our final determination is a change from the draft determination in two ways:

1. it does not require meters to have an accessible, physical data communications port - our rationale for this change is discussed in section 2.2.1
2. new meters must meet the new minimum service specifications from 30 November 2028 instead of 1 January 2028 - our rationale for this change is discussed in section 2.2.5

2.2.1 Requiring an accessible port would increase cost, complexity and security risks

In our draft determination we considered that requiring both wireless and wired communications functionality makes real-time data more accessible and would lead to higher benefits

Our draft rule required all new meters installed from January 2028 to have both wireless and wired data communications functionality.[29]

Based on the draft CBA, we estimated the cost of changing the minimum service specifications to be 66 cents per customer per year in nominal terms (33 cents for wireless and 33 cents for wired capability).

28 Clauses 7.8.3(a) and S7.5.1 of the NER.

29 Clause S7.5.1(e) and new row (g) in Table S7.5.1.1 of the Draft National Electricity Amendment (Real-time data for consumers) Rule (Draft Electricity Rule).

The draft CBA illustrated that the more consumers access real-time data from smart meters, the greater the benefits. The draft CBA concluded that scenarios 4 and 5, whilst higher in cost, would lead to the highest net benefits to consumers.[30] This is because, amongst other factors, scenarios 4 and 5 included both wired and wireless communications functionality which would lead to the greatest take up of real-time data from smart meters.

The draft CBA assumed that only 7% of new CER customers would access real-time data wirelessly from smart meters. This increased to 35% with the inclusion of an accessible data communications port. Therefore, a wired solution would have greater benefits relative to a wireless only solution.

We considered that this assumption was reasonable based on bilateral discussions with stakeholders. Stakeholders considered that many CER service providers would prefer a wired connection to access real-time data over wireless access. Giving industry the option of choosing between wireless and wired access to real-time data would encourage the greatest take-up rate.

Our draft determination was therefore to require both wireless and wired communications functionality. We considered that the benefits of requiring a physical data port would be greater than the costs (33 cents per customer per year).

Submissions to the draft determination suggested that the benefits of adding an accessible data port would not outweigh the increase in cost and security risks

In submissions to the draft determination, some stakeholders welcomed the requirement for all meters to have both a wired and wireless communications and agreed it would lead to a higher take up of real-time data from the smart meter because:

- it would support a wider range of use cases.[31] Morse Micro considered that a wired connection would be suitable solution for legacy or high noise environments whilst wireless connectivity enables frictionless access without the cost or complexity of physical installations.[32]
- it offers a range of reliability to satisfy the use cases. Stakeholders considered that wired connections are typically more reliable than wireless connections or that it would be costly to improve the reliability of wireless access.[33]

However, in submissions to the draft determination and in bilateral discussion with metering manufacturers, MCs and other stakeholders, they considered that adding a physical data port to all meters is complex and would impose higher costs on consumers than previously anticipated. This included costs:[34]

- **to redesign, test and certify meters:** metering manufacturers consider that an accessible data communications port cannot be retrofitted to the existing design of type 4 meters and still meet the relevant Australian metering standards. Adding a physical port would require a fundamental redesign of the meter which would then have to go through a testing and certification process
- **to resolve unintended consequences:** adding a physical port could affect the form factor of the meter, i.e. the meter would need to be larger. This could cause issues in installation

30 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Draft Report, 18 August 2025, p. 21.

31 Submissions to the draft determination: Rheem and CET, p. 6; Morse Micro, p. 1; SMA, p. 1; JEC, pp.. 6-7, Origin, p. 2.

32 Morse Micro, submission to the draft determination, p. 1.

33 Submissions to the draft determination: Rheem and CET, p. 6; Origin, p. 2; Essential Energy, p. 4.

34 Submissions to the draft determination: Landis + Gyr, p. 3; Intellihub, pp. 3-4; Bluecurrent, p. 2; PLUS ES, pp. 3-4, Citipower, Powercor, & United energy, p. 1.

resulting in a lower adoption of smart meters, given physical space is often quite limited inside existing panels.

- **to maintain the integrity of the meter**: unsealed ports are exposed to ingress (eg moisture, dust, insects)
- **as a result of delaying the commencement of the rule:** While major smart meter manufacturers either already have wireless local access options or have these options in their product roadmaps, we are not aware of any meter manufacturer with pre-existing plans for adding an accessible wired port suitable for real-time data. The addition of a wired port specifically for RTD could take years to specify, design, test, certify and then scale up in manufacturing. Stakeholders suggest this could delay the commencement of the rule by between 12-24 months. This would reduce the benefits of the final rule.

Considering stakeholder feedback, the final CBA report reflects an alternative upper-bound cost estimate of $10-$20 per customer to add an accessible data port.[35] This is discussed in more detail in section 2.4.

Stakeholders noted that currently all data ports are sealed to prevent damage and reduce security risks. In addition to higher costs, stakeholders considered that an unsealed accessible port would create significant safety, privacy and cyber-security risks because MCs would be unable to control who interacts and may tamper with the meter.[36]

Importantly, stakeholders considered that there is limited benefit to a wired connection. Whilst only some devices may connect to the smart meter through a wired connection, wireless access is a universal solution because almost all new devices can connect to the smart meter wirelessly. This is because most CER devices already have in-built wireless functionality.[37] Stakeholders considered that wireless communications present a more practical and cost-effective regulatory pathway to enable real-time data access for all consumers.[38]

Stakeholders consider that the draft CBA my have underrepresented the uptake of wireless access. Energy Queensland noted that its discussions with vendors to date have indicated a preference for Wi-Fi only as the more affordable option for consumers.[39]

We consider that our final rule would lead the market to safe and reliable wireless connectivity

As explained earlier, the minimum service specifications set out the minimum functionality all meters should have. We consider that wireless access is the simplest and most universal solution to access real-time data. Whilst all consumers and energy service providers would be able to make use of wireless access, not all could use a wired connection.

We acknowledge that some CER service providers currently prefer a wired connection. We consider that our rule change is future-focused, and whilst wired connections may be preferred by some providers today, we consider that our final rule will steer the market towards greater uptake of wireless solutions.

Our final rule does not require meters to have an accessible port for the following reasons:

- **the benefits of wireless are greater than anticipated** - based on stakeholder submissions and bi-lateral engagement with stakeholders, we consider that more customers and customer

35 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Final Report, 18 December 2025, p. 5.
36 Submissions to the draft determination: Intellihub, p. 4; Bluecurrent, p. 2; PLUS ES, p. 2; Citipower, Powercor & United Energy, p. 1.
37 Plus ES, submission to the draft determination, p. 24.
38 Submissions to the draft determination: Landis + Gyr, p. 3; Intellihub, p. 3.
39 Energy Queensland, submission to the draft determination, p. 3.

appointed representatives will access real-time data wirelessly, than previously anticipated. We consider that existing CER technology can already make use of wireless access to satisfy all use cases. We expect our final rule to encourage greater wireless connectivity behind the meter. We expect wired access to provide a low incremental benefit because it would enable legacy technologies to connect to the meter, most of which is expected to be phased out in the future.

- **removing this requirement would reduce unnecessary costs for all consumers** - having two functionalities in a meter that serve the same use cases is duplicative and poses unnecessary costs on consumers. The draft determination considered that the additional benefit of a wired connection would outweigh the $5 cost of the port. We now consider that the incremental benefits are lower and the costs potentially higher ($10-$20) than those considered in the draft determination.
- **removing this requirement would reduce security risks** - wireless access can be managed more safely and securely than wired access through cybersecurity standards and protocols. MCs would have less control over who could interact with an accessible meter port.

The final CBA report reflects the Commission's view that removing this requirement for an accessible port would not materially reduce uptake. The demand assumptions in the final CBA are thus the same regardless of the technology in the meter.

This means that we consider that while removing the requirement for an accessible port will reduce costs to all consumers anywhere between $5 (original draft CBA estimate) to $10-$20 (upper-bound cost estimate) relative to our draft rule, we do not consider that the benefits of our rule will be lower.

2.2.2 Accessing real-time data via WiFi from a smart meter is currently the lowest cost access method

The CBA estimates that the cost of a smart meter with Wi-Fi functionality is approximately $5 (original CBA estimate) to $10-$20 (alternative estimate) more than a meter without these features.[40]

Spread across the life cycle of the meter, this would be approximately be between $0.33 - $1.33 per customer per year, excluding other upfront implementation costs of the rule.[41] We consider that economies of scale could further drive down these costs.

This is lower cost than other existing alternatives to access real-time data. The draft CBA estimated the cost of accessing real-time data:

- from a smart meter without Wi-Fi functionality and a port would be approximately $500-$700. This is because the meter would either need to be retrofitted with communications functionality or replaced with a meter that has this functionality. The customer would pay the cost of the retrofit or the cost of bringing forward the replacement of the meter. A large part of these costs would be the cost of a technician needing to visit a customer's premises to change the metering installation.
- using a current transformer (CT) would be approximately $50.
- using a power meter would be approximately $450.

Introducing a requirement in the minimum service specifications for wireless real-time data access therefore means that every customer that gets a new meter will be able to access real-time data at no material additional cost to the market. We therefore consider that our final rule

40 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Final Report, 18 December 2025, p. 5.

41 This assumes a life cycle of 15 years for the meter.

would be significantly less costly than the rule change request proposal and is therefore likely to better contribute to the achievement of the NEO and the NERO.

Whilst we acknowledge that innovation may deliver a lower cost technology in the future, we consider it is beneficial to embed wireless technology in smart meters now.

2.2.3 Changing the minimum service specifications improves market certainty and interoperability to unlock broader benefits for consumers

Changing the minimum service specifications provides greater certainty to industry participants regarding the functionality of all new meters. This will clarify the types of technology market participants should invest in to access real-time data from the smart meter and deliver value for consumers. This would also make smart meters more interoperable, because the market would not need to develop different devices to communicate with different smart meters. Greater interoperability supports a more integrated system, which would place downward pressure on system and wholesale costs for all consumers. It also means that a broader range of technology would be able to access real-time data from smart meters, encouraging innovation and leading to a broader range of services that provide value to customers.

We consider that embedding wireless functionality in all meters future-proofs the technology of smart meters. We consider that smart meters could, using its wireless functionality, provide other innovative services in the future that will deliver benefits for all consumers. Embedding greater functionality now would avoid the need to upgrade smart meters at potentially higher cost in the future.

2.2.4 Changing the minimum service specifications imposes low costs on customers who do not want access to real-time data

The cost of changing the minimum service specifications would be borne by all consumers. Smart meters with real-time data functionality are marginally more costly than those without, and therefore, over time, all consumers would be required to pay slightly more capital costs for metering services ($0.33 - $1.33 per annum per meter).

In addition to capital costs, MCs and retailers would incur implementation costs related to facilitating access to real-time data. We consider that these costs would also be spread across consumers.

The final CBA report considers implementation costs could range between $5 to $25 per national meter identifier (NMI) upfront.[42]

We expect these costs would be indiscernible in a final bill to customers, even if a retailer chooses to pass these costs through. As discussed in section 2.6, we consider that the continued competition in the retail and metering services markets would reduce these costs over time.

The Commission acknowledges that not all customers may want or need real-time data from the smart meter. From an equity perspective, these customers would face higher metering services costs without necessarily experiencing direct benefits. We nonetheless consider this outcome appropriate given the broader benefits of this rule change would likely outweigh the low cost of implementing the final rule.

42 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Final Report, 18 December 2025, p. 5.

2.2.5 Changing the minimum service specifications from 30 November 2028 facilitates smooth implementation

Our final rule commences on 30 November 2028. This means that from 30 November 2028:

- all customers can request access to real-time data from smart meters
- all new meters installed must be able to communicate real-time data wirelessly

This is just under one year later than commencement date proposed in our draft rule of 1 January 2028. Our draft rule gave industry 2 years to implement the rule including 18 months from when our draft rule required AEMO to publish its real-time data procedures discussed in section 3.2.

AEMO noted that participant and market system changes are typically aligned to May and November release cycles. Commencement outside these cycles – particularly in January, where system change-freezes are implemented to ensure that systems can be dedicated to support the resolution of emergency events over the summer period – creates unnecessary risk.[43]

AEMO prepared a draft High Level Implementation Assessment (HLIA) to test the viability of these timelines. AEMO considered that it required more time to publish procedures.[44] As discussed in section 3.2, our final rule requires AEMO to publish real-time data procedures by 30 November 2026, five months later than our draft rule.

Stakeholders considered that industry requires 24 months from when the real-time data procedures are published to implement the rule.[45]

MCs considered additional time is required because:[46]

- following the completion of the design and testing of any necessary hardware changes, additional time is required for manufacturing new hardware
- retailers, MCs, and energy service providers must develop and test new systems and processes to support RTD access securely and reliably:
  - new wireless meters would have to go through testing and certification processes and MCs would have to make changes to metering software, including firmware and applications.

As stakeholders suggest, we acknowledge wireless communication technology currently exists.[47] However, from discussions with metering manufacturers, there are a range of wireless technologies with different functionalities that could be integrated into the meter. The type of wireless technology that should be integrated into the meter depends on the specifications included in AEMO procedures. This means that while the technology is available now, MCs would need to wait for AEMO to publish its procedures before ordering meters with wireless technology that aligns with the procedure requirements. This means that the time between when AEMO procedures are published and the commencement of the rule should allow MCs sufficient time to order and receive stock.

Our final determination is to give industry 24 months from the publication of AEMO procedures to implement the rule. This would align with the November market system changes. Whilst we consider that our final rule could be implemented sooner, we consider that it is beneficial to allow industry more time to effectively implement the rule to ensure any new technology or process provides the greatest value for consumers.

43 AEMO, submission to the draft determination, p. 2.
44 Ibid, p. 1.
45 Submissions to the draft determination: Bluecurrent, pp. 1-2; Intellihub, pp. 5-6, Plus ES, p. 5; AGL, p. 4.
46 Submissions to the draft determination: Bluecurrent, pp. 1-2; Intellihub, pp. 5-6, Plus ES, p. 5.
47 Essential Energy, submission to the draft determination. p. 2.

The Commission acknowledges other stakeholder concerns around commencing the rule later.[48] We consider that commencing the final rule 11 months later than the draft rule would not materially reduce benefits to consumers. The final CBA report notes that commencing the rule later would reduce net benefits by only $24 million-$39 million.[49]

Based on the Legacy Meter Replacement Plans published this year, approximately 6 per cent of customers across New South Wales, South Australia, the Australian Capital Territory and Queensland would receive a new meter that meets the new minimum service specifications between 30 November 2028 and 2030. It is unlikely that many meters in Tasmania and Victoria would have real-time data communications functionality by 2030 because the rollout of meters would likely be completed before 30 November 2028.

To avoid the risk of sunk costs, some stakeholders suggested grandfathering provisions to enable MCs to install meters that have already been ordered, but do not meet the new minimum service specifications, after the final rule commences.[50] We consider that the almost three-year implementation timeframe of the final rule enables MCs to appropriately manage stock to avoid material sunk costs.

2.3 Customers would get access to real-time data, free of charge, when the meter is upgraded from 30 November 2028.

Our final determination is to require retailers to facilitate access to real-time data free of charge where the small customer's current meter:[51]

- was installed from 30 November 2028; or
- can communicate real-time data wirelessly (meets the new minimum service specifications).

This means any customer with a new meter installed from 30 November 2028 would not need to pay any charge to access real-time data from the smart meter.

JEC considered that it was unclear whether the consumers who secure access to real-time data, free of charge are exclusively those receiving meters installed after 2028, or whether some consumers who receive upgraded meters prior to 2028 may (or could) also be included.[52]

Our final rule requires prevents retailers from charging to facilitate access to real-time data from any small customer metering installation that already meets the minimum service specifications (can communicate real-time data wirelessly). This means that even customers with meters installed before 30 November 2028, may have access to real-time data, free of charge.

We encourage retailers to proactively inform customers with meters installed from 30 November 2028 or can communicate real-time data wirelessly about the benefits of real-time data including how customers can access these benefits.

Our final determination represents no change from the draft determination other than to reflect a later commencement date.

48 Submissions to the draft determination, ECA, p. 2; Essential Energy, p. 2.
49 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Final Report, 18 December 2025, p. 11.
50 Submissions to the draft determination: Bluecurrent, p. 2; Powershop, p. 4; PLUS ES, p. 16.
51 Division 9B, rule 59E(2) of the *National Energy Retail Amendment (Real-time data for consumers) Rule 2025 No.6* (Final Retail Rule).
52 JEC, submission to the draft determination. p. 7.

2.3.1 Access, free of charge will be aligned with the natural meter replacement process

Our final rule does not impose a date by which all consumers should be provided access, free of charge. As explained in our draft determination, this is because prescribing a date when access must be provided, free of charge, would effectively encourage all meters to be replaced before that date. We consider that it would be inefficient to replace meters before the end of their useful lives for customers who have not requested real-time data.[53]

We consider that customers should get access to real-time data, free of charge, as part of the natural meter replacement process, in accordance with clause 7.8.3(a) of the NER.

This means that the cost of accessing real-time data will be inconsistent across customers in the near term, until all meters have been upgraded to those with real-time data capability in accordance with the requirements of the new minimum service specifications. Depending on when the existing meter was installed, some customers may have to wait longer before the meter at their premises is replaced with one that enables access to real-time data, free of charge. The Commission acknowledges that customers do not generally have control over what type of meter is installed, or when.

This does not mean that customers would have to wait until the meter is replaced to access real-time data. Our final rule improves choice for consumers - giving all customers the option to access real-time data from smart meters from 2028, whether they receive a new meter in 2028 or at a later time.

While some customers would get access, free of charge once their meter is replaced, as discussed in section 2.5 below, customers whose meters are not due for replacement until a later time may choose to pay their retailer to enable real-time data access from the meter, or alternatively, they could install an alternative device of their choosing, consistent with current practice.

We consider that it is unlikely that any customer who would materially benefit from real-time data would wait 15 years to access it.[54] We consider that these customers would either pay to access real-time data from the smart meter because the value to them outweighs the cost, or that the market would provide these customers with alternative pathways to access real-time data.

2.4 Our final rule will impose low costs on all consumers

In submissions to the draft determination some stakeholders considered that the draft CBA did not reflect the full cost to consumers of implementing the final rule. Some stakeholders suggested that the following implementation costs were not fully considered as part of the draft CBA analysis:[55]

- costs to MCs including:
  - the costs of developing, testing and obtaining compliance approvals for new meters
  - software, system and process upgrades to implement necessary security processes and protocols
- cost to retailers including costs related to:
  - changing IT systems
  - B2B operational changes

53 AEMC, Real-time data for consumers, Draft rule determination, 11 September 2025, p. 4.

54 Or within whatever timeframe their meter is due for replacement.

55 Submissions to the draft determination: AGL, p. 5, Intellihub, p. Energy Queensland, p. 4; Landis+Gyr, p. 4; PLUS ES , p. 5; Secure Meters, p. 3.

- management of customer requests and ongoing service costs including, consumer communications, access enablement and revocation, customer service, and complaint handling.

MCs also consider that the cost of changing the minimum service specifications is likely greater than the CBA estimates.[56]

We received a confidential submission from a stakeholder with alternative cost estimates.

The draft CBA implicitly considered many of the costs raised in stakeholder submissions, however, given stakeholder feedback, the Commission considers that it is reasonable to explore what it would mean if the costs of the rule are higher than the draft CBA estimates.

We requested Oakley Greenwood to update their CBA model with the alternative cost estimates provided in confidence. Based on bi-lateral discussions with industry about potential cost thus far, we consider the alternative estimates are likely the upper-bound estimate of the costs of the final rule. We considered that it was beneficial to model our rule against upper bound estimates to stress test the rule against a potential worst case scenario. Table 2.3 compares the alternative cost estimates with the original CBA estimates in nominal terms.

Table 2.3: Breakdown of the cost of the final rule

Item	Original costs in the draft CBA	Alternative cost estimates[1]
Cost of changing the minimum service specifications to require wireless real-time data communications functionality	$5	$10-$20
Cost of changing the minimum service specifications to require a physical data port	$5	$10-$20
Implementation costs	$5	$15-$25

Source: See Oakley Greenwood, Final CBA report, pp. 4-5.
Note: [1]This is represented as a range of costs to reflect the commercial sensitivities of the information. A single cost was used for the CBA model, not a range.

The final CBA report assesses the draft and final rules against both the original CBA and the new cost estimates. We consider that the actual costs and benefits of the final rule would sit somewhere between the results using the original CBA cost estimates and the results using the new cost estimates. We consider that the new cost estimates are likely an upper bound estimate, based on bilateral engagement with industry in the course of preparing this determination. We therefore consider that the cost of the final rule is more likely to fall considerably closer to the original draft CBA estimates than the new cost estimates.

In making our final determination, we acknowledge the range of costs our final rule could impose on consumers outlined in the final CBA report.

The cost of our final rule, as shown in Table 2.3, include:

- implementation costs - these could range between $5 (original CBA estimate) to $15-$25 (alternative estimate). Most of these costs are once off.

56 Submissions to the draft determination: Bluecurrent, p. 4; Plus ES, p. 5.

- incremental costs to change the minimum service specifications and embed wireless functionality in smart meters - these could range between $5 (original CBA estimate) to $10-$20 (alternative estimate). We consider that economies of scale and innovation would drive down these costs considerably.

Based on the results of the final CBA report, we consider that the final rule will impose a cost of between $10 to $36 per customer over the economic life cycle of a smart meter. Due to commercial sensitivities we are unable to show a further break down of the $36 into its cost components.

Assuming that the economic life cycle of a smart meter is 15 years, our final rule will cost between $0.66 - $2.40 per customer, per year, for the next 15 years. This is in nominal terms. Our final rule would cost between $0.83 - $2.70 per customer per year on a net present value basis.[57]

Our final rule will be lower cost than our draft rule by between $5 (original draft CBA estimate) to $10 - $20 (new cost estimate). This would be the cost of adding an accessible port.

This is a low-cost rule that can deliver upwards of $132 million - $326 million in net benefits to all consumers.[58]

2.5 Retailers may charge customers with meters installed before 30 November 2028 who request access to real-time data

Meters installed before 30 November 2028 may need to be retrofitted or replaced with a new meter that has the functionality to enable access to real-time data.

As illustrated by the draft CBA report, the cost of replacing meters well before the end of their economic lives is costly. Given the materiality of these costs, we do not consider that it is appropriate to spread the cost of replacing and retrofitting meters, before the end of their economic lives, to all consumers. This will increase the cost of the final rule well beyond $0.66 - $2.40 per customer per year. As illustrated by scenarios 1 and 3 in the draft CBA report, socialising the cost of replacing meters would increase the cost of the rule beyond the expected benefits.[59]

To avoid socialising the cost of replacing meters early or retrofitting meters, our final determination is to enable retailers to charge a customer, or an appointed representative, for facilitating access to real-time data where the small customer's current meter:[60]

- was installed before 30 November 2028; and
- cannot communicate real-time data wirelessly (does not meet the new minimum service specifications).

We acknowledge the concerns raised by SACOSS that our final rule would postpone benefits for some customers, however, as explained above, the CBA analysis does not support enabling free access to all consumers as soon as the final rule commences.[61]

In this regard, our final determination represents no change from the draft determination other than to reflect a later commencement date.

57 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Final Report, 18 December 2025, p. 11. Oakley Greenwood has modelled the cost over a 20 year horizon, not 15 years.

58 Ibid.

59 Oakley Greenwood, Costs and Benefits of Real Time Data from Smart Meters, Draft Report, 18 August 2025, p. 11.

60 Division 9B, rule 59E(2)(b) of the Final Retail Rule.

61 SACOSS, submission to the draft determination, pp. 4-5.

If a customer requests access to real-time data in this case, retailers must offer the small customer the choice of the following options to enable access to real-time data:[62]

1. replacing the meter;
2. retrofitting the meter, where this is available; or
3. another lower cost option, where this is available.

Retailers must inform customers of any charge that customers will be required to pay for these options.[63] This charge must not exceed the reasonable cost retailers would incur to facilitate access to real-time data.[64] We consider that this charge should only include upfront costs, and no other ongoing administrative costs should be included in this charge. Importantly, customers are not being charged for the data that the smart meter produces, but rather, are being charged for the mechanism required to facilitate access to the data.

This is a change from our draft rule which required all retailers to have a retrofit option available and did not require retailers to offer any other lower cost options.[65]

Intellihub considered that, in practice, not all meter models would be able to be retrofitted.[66] This means that for some customers, retrofitting the meter is not an option. Our final determination therefore requires retailers to offer a retrofit option, only where this option is available.[67]

AGL considered that retailers and MC should be able to find the most cost-effective pathway to deliver RTD data which could be an alternative to replacing or retrofitting the meter.[68] We agree that customers should be offered the lowest cost option available. Our final determination is to require retailers to offer any other lower cost option where available to satisfy their customer's use case. This would ensure that customers pay the lowest practicable charge to access real-time data in the interim until the smart meter is replaced, as part of its natural replacement cycle, when access would be facilitated free of charge.

We consider that customers are best placed to decide whether paying to access real-time data from meters installed before 30 November 2028 is beneficial for them.

Importantly, the cost of bringing forward the replacement of a meter is not fixed. As a meter nears the end of its economic life, the cost of replacing the meter is lower. Some customers may then choose to pay to replace the meter closer to the end of its economic life to access real-time data. Alternatively, as discussed in section 2.7, customers could also choose other pathways to access real-time data that may satisfy their use case.

2.5.1 Retailers may only charge once per small customer premises

Once a meter has been retrofitted or replaced with a new meter that can enable access to real-time data, there would be no additional cost in the future.

This means once access is enabled for one party, the incremental cost to enable access for another party at the same premises is immaterial. Hence, there can be no charge for any subsequent requests to access real-time data at that premises.

62 Division 9B, rule 59E(2)(b) of the Final Retail Rule.
63 Division 9B, rule 59E(3) of the Final Retail Rule.
64 Division 9B, rule 59F(1)(a)(ii) and the definition of 'real-time data facilitation charge' in rule 3 of the Final Retail Rule.
65 Division 9B, rule 59E(2)(b) of the Draft National Energy Retail Amendment (Real-time data for consumers) Rule 2025 (Draft Retail Rule).
66 Intellihub, submission to the draft determination, p. 10.
67 Division 9B, rule 59E(2)(b)(iv) of the Final Retail Rule.
68 AGL, submission to the draft determination, p. 9.

Our final determination is to prohibit retailers from charging more than once per premises to facilitate access to real-time data.[69]

This prevents retailers from charging customers and customer appointed representatives to access real-time data from a smart meter where real-time data is already accessible from the small customer's metering installation.

In practice, this means that while the first party to request access to real-time data at a premises may pay a charge in some cases, subsequent parties who request access at that premises would not be charged.

Stakeholders consider that there are ongoing costs involved in providing real-time data services, not just the upfront cost to facilitate access.[70] We consider that any ongoing costs are immaterial and may be socialised. We do not consider that customers should be directly charged any ongoing costs to facilitate access to real-time data.

2.5.2 Customers may pay the charge in instalments

The Commission acknowledges that the cost of retrofitting or replacing a meter early could be material for some consumers. Nevertheless, it may be beneficial for these customers to pay this charge instead of using alternative ways to access real-time data.

Some customers may find it difficult to pay this charge upfront. Our final determination is to require retailers to offer customers the option to pay the charge as a one-off payment, or in instalments - whichever suits the customer.[71]

If a customer elects to pay the charge in instalments but subsequently terminates their customer retail contract early, a retailer may charge the outstanding amount as an exit charge.[72]

This represents no change from the draft determination.

2.5.3 The charge will reflect the reasonable costs the MC would incur

The costs that retailers may charge customers to facilitate access to real-time data will include the costs that MCs would pass on to retailers. This is because, as discussed in section 4.3, MCs will be required to facilitate access to real-time data upon a retailer's request.

Under our final rule, the amount that an MC may charge a retailer for facilitating access to real-time data must not exceed a reasonable estimate of the costs incurred, or likely to be incurred, by the MC to facilitate access to real-time data.[73]

This represents a change from our draft rule which limited MCs to charging retailers once per connection point and proposed a tier 2 civil penalty.[74]

MC considered that the Rules should not deviate from existing practice where all costs for metering services are negotiated between retailers and MCs:

- Intellihub considered that the rules should not restrict how MCs and retailers negotiate their charges, noting that charges for real-time data will just be one part of a broader agreement for

69 Division 9B, rule 59F(2) of the Final Retail Rule.
70 Submissions to the draft determination, AGL, p. 9; Powershop, p. 3.
71 Division 9B, rule 59F(3) of the Final Retail Rule.
72 Division 9B, rule 59F(4) of the Final Retail Rule.
73 Clause 7.15.7(i) of the Final Electricity Rule.
74 Clause 7.15.7(f) and (g) of the Draft Electricity Rule.

a range of metering services. MCs generally recover their costs through a bundled monthly metering charge that is negotiated with retailers and covers all metering-related costs.[75]

- Plus ES considered that all costs of enabling real-time data access should be passed through in line with existing metering cost recovery mechanisms.[76]
- Bluecurrent considered that the draft rule would prevent MCs from recovering all reasonable costs incurred to facilitate access to real-time data including costs for activities such as security key resets, diagnostics and fault investigations will continue after initial enablement. Bluecurrent recommended that the final rule support retailers and metering providers (MPs) being able to charge a customer for support services where the issues are found to be unrelated to the meter (e.g. issues with the customer's device or home Wi-Fi). This approach avoids cross-subsidisation and ensures consumer charges remain transparent and fair, while also protecting retailers and metering parties from unfunded ongoing obligations.[77]

Our final determination is to align the way MCs recover costs for real-time data services with all other costs for metering services. This enables MCs to recover all reasonable costs incurred to facilitate access to real-time data. Importantly, the final rule only allows MCs to only charge reasonable costs incurred, which prevents MCs from charging twice for the same service or charging retailers where no costs are being incurred. Consistent with existing arrangements, it is up to commercial negotiation between retailers and MCs to ensure only efficient costs are passed onto consumers.

Currently, the NER states that: "a Metering Coordinator may supply services in respect of the metering installation... on terms and conditions (including as to price) to be commercially agreed between the Metering Coordinator and the requesting party."[78]

To restrict, or specify, how or what MCs charge retailers for real-time data services from the meter would treat real-time data differently from other metering services. We do not consider that there is a clear reason to treat real-time data differently from other metering services.

Though we acknowledge stakeholder concerns in section 2.6, we consider that metering services are provided in a competitive market and do not consider additional price regulation to be appropriate at this time.

Since the final rule also leaves important technical matters to AEMO's real-time data procedures, as discussed in section 3.2, which AEMO can amend from time to time, changes to AEMO procedures could require meters to be modified, replaced or have firmware upgrades installed to comply with the amended procedures. These modifications could involve new costs for MCs which we consider should be recoverable.

There is also a timing issue for MCs recovering their costs since RTD uptake will be unknown and occur over time. For example, MCs will incur both upfront costs for implementing processes and systems to manage RTD requests, as well as ongoing costs to provide the service. These costs will not necessarily be attributable to one customer, and will need to be recovered over time as the demand for RTD services evolve, or the technical requirements for the service are modified.

75 Intellihub, submission to the draft determination, pp. 8-9.
76 PLUS ES, submission to the draft determination, p. 11.
77 Bluecurrent, submission to the draft determination, p. 3.
78 Clause 7.6.1 of the NER.

2.5.4 Vulnerable consumers are not exempt from this rule

In June 2025, the Commission made the *Improving consumer confidence in retail energy plans* final rule (retail plans rule).[79] The retail plans rule prohibits retailers from charging retail fees, except for network charges, to hardship customers, non-hardship customers experiencing payment difficulty and experiencing family violence (vulnerable customers).[80]

In bilateral discussions, stakeholders sought clarity over how the retail plans rule would apply in the context of a request to access real-time data from a smart meter. In this rule change, the AER submitted that customers experiencing payment difficulty and or hardship should not be charged to access real-time data.[81]

Our final rule allows retailers to charge vulnerable customers for access to real-time data if the smart meter installed at their premises was installed before 2028 and does not meet the new minimum service specifications. This is the same as our draft rule.

Stakeholders recommended preventing retailers from charging vulnerable consumers to facilitate access to real-time data from meters that do not have the new minimum service specifications.[82] They considered that vulnerable consumers would benefit from real-time data and that enabling free access would be low cost to the market.[83] The Commission agrees with stakeholders that vulnerable customers would benefit from information that would help support vulnerable customers make energy choices.

However, real-time data as raw data values is not helpful to vulnerable consumers. We consider that real-time data could be valuable if packaged with other services that support vulnerable customers. We encourage retailers to consider ways of leveraging real-time data to provide value for vulnerable customers. We do not expect retailers to charge vulnerable customers for these services.

However, the Commission still considers that other reforms would be more effective at ensuring vulnerable customers can access tools that may help lower bills. This includes reforms that specifically consider ways to support vulnerable customers, such as reform that would progress from the AER's *Review of payment difficulty protections in the National Energy Customer Framework*.

Therefore, our final rule amends rule 52A of the NERR, which was amended by the retail plans rule, so that retailers are not prevented from charging customers for facilitating access to real-time data from smart meters in those circumstances where the draft rule allows for charging.[84]

2.6 Competition is important to ensure consumers pay efficient costs

The Commission considers that the markets for metering, retail and CER services should be competitive to keep costs low for consumers.

2.6.1 Competition should lower the cost of accessing real-time data further

Consumers would incur costs under our final rule in two ways:

79 The *National Energy Retail Amendment (Improving consumer confidence in retail energy plans) Rule 2025 No.3*.
80 AEMC, Improving consumer confidence in retail energy plans, Rule determination, 19 June 2025, pp. 42-49.
81 AER submission to the directions paper, p. 2.
82 Submissions to the directions paper: EWON, EWOQ and EWOSA, p. 4; ECA, p. 5; JEC, p. 9.
83 Ibid.
84 Schedule 1, item [2] of the Final Retail Rule amends rule 52A, which will be consolidated into the NERR on 1 July 2026 and then subsequently amended by the Final Retail Rule on 30 November 2028. See also Division 9B, rule 59F(5) of the Final Retail Rule.

1. the implementation cost of the final rule, which includes the cost to change the minimum service specifications and other implementation costs. This is spread across all consumers which we expect to be $0.66 - $2.40 per customer per year for the next 15 years in nominal terms.
2. an upfront charge directly to consumers who want access to real-time data but do not have meters that meet the new minimum service specifications.

As explained in section 2.5, in respect of upfront charges, our final rule includes consumer protections to ensure consumers do not incur reasonable costs. Our final rule:

- enables MCs to charge retailers only the reasonable cost incurred to facilitate access to real-time data[85]
- enables retailers to charge customers only once for the reasonable cost incurred to facilitate access to real-time data from meters installed before 30 November 2028 and do not meet the new minimum service specifications.[86]

Our final rule therefore prohibits MCs and retailers from passing costs to consumers that exceed the reasonable costs incurred to facilitate access to real-time data.

In practice, the costs that MCs charge retailers and the costs that retailers charge consumers will vary between different MCs and retailers. This is because the costs that consumers ultimately incur is a result of commercial negotiation between retailers and MCs.

Competition in metering services should lower the costs passed onto retailers

In implementing recommendations from the *Power of choice review - giving consumers options in the way they use electricity*, the Commission introduced competition in metering services. We considered that shifting metering services from distribution network service providers (DNSPs) to other metering service providers would lead to more efficient costs.

MCs compete for retail contracts. Competition between MCs is essential to ensure the market for metering services remains efficient.

We expect competition in metering services to exert downward pressure on the cost of changing the minimum service specifications and any other costs passed onto retailers incurred to facilitate access to real-time data.

Competition may also encourage MCs to offer better real-time data services to retailers.

Competition in retail services should lower the costs passed onto consumers

Retail competition should encourage retailers to work with MCs and limit the costs passed onto consumers indirectly through bills and as a direct upfront charge.

Stakeholders consider that competition alone is not sufficient to lower costs and greater regulation is needed

Stakeholders consider that there are issues with competition in the market for metering services which delivers poor outcomes for consumers.[87]

85 Clause 7.15.7(i) of the Final Electricity Rule.
86 Division 9B, rule 59E(2)(b) and 59F(1) of the Final Retail Rule.
87 Submissions to the draft determination: ECA, p. 3; SACOSS, p. 5, JEC, p. 10.

The energy ombudsmen noted that evidence from customer complaints suggests that there are issues with metering competition, and commercial negotiation between MCs and retailers do not always result in good outcomes for consumers.[88]

Essential Energy considered that a lack of competition in metering services is exacerbated by a lack of retail competition in many regional and remote areas which exposes consumers, outside of metropolitan areas, to higher prices.[89]

ECA considers that it is challenging for consumers to regularly search for better offers, and in practice, are unlikely to. This reduces competitive pressures amongst businesses.[90]

Due to concerns over ineffective competition, stakeholders supported greater price regulation such as greater transparency measures or other regulatory tools to ensure consumers are not exposed to higher prices.[91]

We do not consider that price regulation is currently appropriate

Additional regulation of prices would impose administrative costs on the AER and retailers. The AER must consider costs in respect of real-time data services when setting the Default Market Offer. We do not consider that there is a clear case to regulate these costs any more that the cost of other services.

Whilst we acknowledge that additional price regulation may put downward pressure on costs, as explained in section 2.7, there are currently lower cost alternatives that customers can use to access in the interim before the meter is replaced with a meter that meets the new minimum service specifications.

We do not consider that further regulating the costs of real-time data appropriately addresses the broader concerns raised by stakeholders around the state of competition in the market. As explained below, these concerns are best addressed holistically through a separate rule change process.

2.6.2 Access to real-time data from smart meters supports competition in the market for CER services

As discussed in the directions paper, MCs' exclusive control of the smart meter may give them a competitive advantage in the market for CER services.[92] This is because MCs could exclusively leverage smart meter technology to provide CER services.

This creates barriers for third parties to compete on a level playing field. These parties would need to install other devices to provide services that smart meters may already be capable of providing. Third parties would incur additional costs to install these devices, which may make their service offering higher cost than services offered by the MC using the smart meter.

For example, currently, depending on the smart meter installed, MCs and third parties do not face similar costs to access real-time data. Third parties would have to incur the cost of additional devices to access real-time data. It would be difficult for third parties to provide some CER services, that require real-time data, at lower cost than an MC.

88 EWON, EWOQ and EWOSA, submission to the draft determination, pp. 3-4.
89 Essential Energy, submission to the draft determination, p. 8.
90 ECA, submission to the draft determination, p. 3.
91 Submissions to the draft determination: Essential Energy, p. 3 & 8; ECA, p. 3; SACOSS, pp. 5-6.
92 AEMC, directions paper, pp. 44-45.

We consider that our final rule would facilitate competition

Under our final rule, the existing competitive advantage MCs may have through cheaper access to real-time data would be eroded. This is because third parties would be able to access real-time data, free of charge, with any new meter installed from 2028, where they have the customer's consent. In the longer-term, this would ensure MCs are on an equal footing with other potential service providers in terms of access costs. However, we acknowledge, as noted by the JEC, that other issues with competition raised by stakeholders below, may still persist.[93]

Any interoperability standards as part of our final rule would also support competition, as access to real-time data would not be restricted by proprietary software.

CER devices increasingly have in-built meters with the functionality to provide CER services without the need for smart meters.

We considered that CER providers could couple real-time data from the smart meter with the functionality in the CER device to provide CER services to customers. This service could compete on a level playing field with other services proposed by MCs or their affiliates using the smart meter to provide the same service.

Stakeholders have raised competition concerns regarding the market for CER services

In bilateral discussions, some stakeholders raised concerns that the regulatory framework gives retailers and MCs a competitive advantage over other third party service providers.

JEC considered that MCs have an unfair advantage due their exclusive ability to build functionality into the meter and manage CER integrated with and attached to the meter.[94]

Rheem and CET re-iterated that there are significant issues with competition in the market for CER services.[95]

For example, where secondary meters are classified as a secondary settlement point under the Unlocking CER benefits through flexible trading final rule, MCs may be able to, in effect, exclusively control the secondary meter by preventing third parties from accessing the meter. We have also heard concerns that retailers could switch a customer's CER service provider, primarily for controlled hot water services, without a customer's explicit informed consent.

We welcome further information evidencing potential competition issues in the market for metering and CER services

The Commission remains of the view that issues relating to competition in the market for metering and CER services are broader than this rule change.

The regulatory framework should facilitate effective competition, and we will continue to monitor the state of competition in the market.

We welcome information on any material issues related to competition. We remain open to considering arrangements that would better facilitate competitive outcomes as part of a separate review or rule change process.

93 JEC, submission to the draft determination, pp. 10-11

94 JEC, submission to the draft determination, pp. 10-11

95 Rheem & CET, submission to the draft determination, p. 3.

2.7 Our final rule promotes choice, and customers may still choose other pathways to access data that meets their needs

Some customers will benefit from paying to retrofit or replace smart earlier than its natural replacement cycle. For example, customers who value an interoperable real-time data service and those who would otherwise need to install a power meter to access real-time data because of the nature of their CER.

For other customers, alternative pathways to access data may be sufficient to satisfy their use cases either in the short term while they wait for the meter installed at their premises to be naturally replaced, or in the longer term:

- for CER customers who need access real-time data to manage CER under export limits, the CBA estimates that a current transformer (CT) would be lower cost than retrofitting or replacing a meter
- for customers who want to make informed energy choices, energy consumption at a day's lag can be accessed through the mechanisms described in appendix A.1. These customers may therefore not pursue a real-time data solution in advance of the meter being upgraded according to the existing replacement schedule.

2.7.1 The Commission encourages retailers to improve energy data made available to consumers

A key benefit of smart meters is that retailers can receive data more frequently, at least once per day. Smart meters benefit all consumers because they make more data available to the market. This reduces costs for MCs and retailers, and ultimately, consumers.

Whilst the data itself is produced at no additional cost to customers, communicating the data can be costly. Retailers adopt various approaches in terms of communicating and presenting data to customers. Some retailers, for example, make energy consumption data available on mobile apps or web portals.

The Commission considers that energy consumption data is valuable to all customers to support more informed energy choices. However, we do not consider that all retailers should be required to provide this data in a specific format on an ongoing basis. The CBA found that an obligation of this nature on retailers would have no material benefit to consumers.

Many retailers already present energy consumption data to their customers through an app and/or a web interface. We consider that customers can choose a retailer whose data offering they value, including switching to retailers who offer better data products.

We encourage all retailers to improve their data offering to customers. In bilateral discussions, ECA has noted several key insights that customers would find valuable:

- kWh total per day and in regular intervals
- cost per day and in regular intervals
- import/export from the grid
- average kWh used daily
- average daily spend
- monthly trends
- daily energy consumption compared to your average
- carbon intensity of energy consumption

We consider that there are many best practice examples that retailers could consider, including:

- Octopus Home in the United Kingdom
- Oxxio in the Netherlands

3 Real-time data will be defined in the NER and further clarified in AEMO procedures

Box 2: Summary

The Commission considers that it is important to have a clear and consistent understanding of real-time data across industry. This would:

- provide clarity and certainty over any obligations related to real-time data
- ensure consumers and their appointed representatives have access to a real-time data service that meets the requirements of common customer use cases.

It is also important that the way in which real-time data is communicated is standardised to support interoperability between devices.

Under our final electricity rule:

- real-time data will be defined as: Measurements of voltage (in volts), current (in amperes) and phase angle made available by one or more measurement elements in a small customer metering installation at a resolution of no less than once per second in accordance with the requirements of the real-time data procedures.
- by 30 November 2026, AEMO must publish real-time data procedures that further specify any relevant interoperability standards, security protocols and technical features.

Key changes from draft to final

- The definition of real-time data under our final rule does not include type 4A meters, which means our final rule does not apply to type 4A meters.
- The definition of real-time data under our final rule refers to small customer metering installation, rather than type 4 meter.
- Our final rule does not require AEMO procedures to specify the minimum timeframe for real-time data to be received by an external device as this is not within the control of the MC.
- AEMO procedures may additionally include:
  - any circumstances in which facilitating access to real-time data may be challenging and any processes or requirements that should apply in those circumstances
  - a communications mechanism that can be used to provide real-time data to customers and customer representatives
  - any other requirements that AEMO considers are reasonably necessary to facilitate access to real-time data in a way that supports security and interoperability.

3.1 The NER will define real-time data

Real-time data is not currently defined in the Rules or described in AEMO procedures. Industry has not reached consensus over the meaning of real-time data.

We consider that it is important to define real-time data in the Rules to create a consistent understanding across industry over what real-time data means. A definition will support clarity and certainty over any obligations related to real-time data.

Our final determination is to define real-time data as:[96]

> "Measurements of voltage (in volts), current (in amperes) and phase angle made available by one or more *measurement elements* in a *small customer metering installation* at a resolution of no less than once per second in accordance with the requirements of the *real-time data procedures*"

We consider that our definition would ensure that customers and their appointed representatives have access to data that is sufficient to satisfy all use cases.

Table 3.1 explains the key parts of the definition under our final electricity rule.

Table 3.1: Detailed explanation of the definition of real-time data

Parts of the definition	Further explanation
Measurements of voltage (in volts), current (in amperes)	**Voltage and current** are the primary data points needed to calculate electricity consumption at a customer's premises. The definition does not use these words as defined terms, but relies on the ordinary meaning.
and phase angle	**Phase angle** is the angle of the phase between voltage and current, which can be used to determine: • the active power, i.e. the component of power that is used to do real work (such as light, heat or motion) • the reactive power, i.e. the component of power that is not used to do real work, but is necessary to maintain the electromagnetic fields in the system • the direction of active power flow, i.e. the import or export of electricity • the direction of reactive power flow, i.e. whether voltage and current are leading, lagging, or in phase with each other.
made available	This clarifies that real-time data should be able to be "pulled" from the smart meter, rather than the meter itself needing to "push" data out.
by one or more measurement elements	This clarifies that data from each measurement element in a smart meter may be accessed. The term 'measurement element' is itself defined in Chapter 10 of the NER.
in a small customer metering installation	This clarifies that real-time data is only required from small customer metering installations, which in practice, are type 4 meters.
metering installation	This clarifies that real-time data can be accessed from devices attached to or around the smart meter.
at a resolution of no less than once per second	This clarifies that data should flow out of the meter every second. This does not refer to the time it takes for the data to reach another device.
in accordance with the requirements of the real-time data procedures	In its real-time data procedures to be developed, AEMO would further specify requirements for what real-time data is, including specifically how the data should be made accessible and flow out of the meter.

96 Amendment to Chapter 10, Schedule 2 of the Final Electricity Rule.

Real-time data would not be validated data. Access to real-time data would be challenging if the data was required to be validated, because the validation process can take up to two business days to complete. Data that is up to two days old would not satisfy the use cases of real-time data.

3.1.1 Our final rule does not apply to type 4A, type 8 and type 9 meters

Our draft rule defined real-time data as:[97]

> "Measurements of voltage (in volts), current (in amperes) and phase angle made available by one or more *measurement elements* in a type 4 or type 4A *metering installation* at a resolution of no less than once per second in accordance with the requirements of the *real-time data procedures*"

Stakeholders broadly supported the definition in the draft rule.[98]

However, several stakeholders considered that MCs should not be required to facilitate access to real-time data from type 4A meters, and that type 4A meters should therefore be removed from the definition of real-time data.[99] This is because stakeholders noted that type 4A meters do not have remote communications functionality. This would make facilitating and revoking access to real-time data more costly because multiple visits to the customer's premises and outage notifications may be required.[100] This is different from type 4 meters that have remote communication functionality and therefore MCs can facilitate and revoke access remotely, without needing to visit a customer's premises.

The Commission considers that the costs of facilitating access to real-time from type 4A meters would be materially higher than for type 4 meters, that the benefits of facilitating access to real-time data from type 4A meters would outweigh the costs, and that type 4a meters should therefore not be included in the definition of real-time data.

Customers with type 4A meters typically request meters without communications functionality or are in an area with poor telecommunications network signal. Type 4A meters represent a minor portion of the metering fleet. It is likely lower cost for customers with type 4A meters to install a current transformer (CT) or other alternative device to access real-time data. Hence, our final determination is to exclude type 4A meters in the definition of real-time data.

References to type 4 meter are replaced with "small customer metering installation"

A small customer metering installation is: the metering installation at a connection point of a small customer that meets the minimum service specifications.[101]

In practice, all new meters that meet the minimum service specifications are type 4 meters. This is because under the NER, MCs must ensure that new or replacement meters installed for small customers must be type 4 meters that meet the minimum specifications.[102]

Therefore, we consider the definition of real-time data does not need to refer to type 4 meters. Instead, the intention is that those meters that are small customer metering installations will be required to provide real-time data. Currently, this is only type 4 meters, but in future, it is possible

97 Amendment to Chapter 10, Schedule 2 of the Draft Electricity Rule.
98 Submissions to the draft determination: Landis + Gyr, p. 5; ENGIE, p. 3; Morse Micro, p. 3; Bluecurrent, p. 6.
99 Submissions to the draft determination: AEMO, p. 3; Intellihub, p. 5; Bluecurrent, p. 4; AGL, p. 5.
100 Ibid.
101 See definition in Chapter 10 of the NER.
102 Clause 7.8.3(a) of the NER. There are limited exceptions in clause 7.8.4 of the NER.

this changes as technology evolves, and the real-time data framework under the final rule should align with future requirements for small customer metering installations.

Clause S7.5.1(e) of the final rule also replaces the reference to type 4 meter with small customer metering installation for the same reason.

Type 8 and 9 meters are excluded from the definition of real-time data

Rheem and Combined Energy Technologies (CET) suggested that the definition should include type 8 and 9 meters.[103] Rheem and CET considered that CER service providers need access to embedded metering data to provide services to customers who wish to grant CER service providers a level of control over their CER devices, such as EV chargers, smart water heaters, batteries, pool pumps, and solar PV.

The *Unlocking CER benefits through flexible* trading rule change introduced a voluntary framework to enable these 'flexible' CER loads to be separately metered using embedded meters in the CER devices. These embedded meters would be registered as type 8 or 9 meters with AEMO and treated as secondary settlement points if a customer opts into the framework.

When a customer chooses to separately meter their CER device under the framework, the CER device becomes 'on market' and can be managed exclusively by the Financially Responsible Market Participant (FRMP) at the connection point. Rheem and CET considered that to maintain competition between CER services being provided to the consumer, CER service providers should have the same access to all energy data and control capability for any CER device that goes "on market" with embedded metering.[104]

PLUS ES considers that type 8 and 9 meters should be excluded from the definition of real-time data because it would introduce unnecessary cost and complexity without delivering additional consumer or market benefit.[105]

The Commission agrees that these meters should be excluded from the definition. When a customer chooses to separately meter their CER devices, to, for example, participate as part of a virtual power plant (VPP), the customer is allowing the FRMP (usually the customer's retailer) to control their CER devices. No other party can provide services in respect of the CER devices. This means there is little benefit in enabling other parties to access real-time data from these meters because these parties would not be able to provide additional value to customers using real-time data.

The Commission acknowledges that the potential for FRMPs to prevent other service providers from accessing real-time data and controlling the CER devices, when the CER device is 'on market', may impact competition in the market for CER services. However, as discussed in section 2.6, we consider that competition issues are best addressed through a separate rule change process.

Other metering data is excluded from the definition of real-time data

Rheem and CET considered that time-stamped energy interval data should also be provided periodically from the meter by request.[106] They considered that this data is required to validate real-time data to ensure its accuracy. Rheem and CET consider that if the accuracy of the real-time data cannot be validated through the provision of energy interval data, then services provided in

103 Rheem & CET, submission to the draft determination:, pp. 11-12.
104 Ibid.
105 PLUS ES, submission to the draft determination: p. 15.
106 Rheem & CET, submission to the draft determination:, p. 9.

the use of real-time data may be unreliable, inaccurate, and hence less than beneficial to the consumer.[107]

The Commission considers that raw real-time data, that is not validated, sufficiently satisfies customer use cases and that validated data is only required for billing and settlement. We consider that any minor inaccuracies in the data would not materially impact the value of real-time data to consumers.

3.1.2 Real-time data is not stored or recorded data

The definition clarifies that stored data is not real-time data because once data is stored it becomes older than 1 second. It would be significantly costly to store the volume of data coming out of the meter. It is unlikely that parties would store the data because stored data is not a perfect substitute for real-time data and so would not satisfy the relevant use cases.

3.1.3 MCs will not be required to deliver real-time data to the requesting party

An important component of the definition of real-time data relates to whether the data must be pushed from the meter to a receiving device, or instead pulled from the meter by such a device. If the data were required to be pushed from the meter, this would mean that MCs and retailers could be required to deliver or transport data to a requesting party, such as a consumer or third party device. This is discussed further in chapter 4.

Our final rule clarifies that real-time data is not data that is pushed from the meter to some other device or is delivered by another device or software to the data recipient.

Instead, real-time data is data that is made available by the smart meter. This means that real-time data would be pulled from the meter rather than pushed by the meter. This clarifies that MCs and retailers would only be required to ensure that data can be pulled, by the requesting party, from the smart meter.

Our final rule sets out the requirements MCs and retailers must meet, but does not prevent them from providing services that go beyond these requirements, for instance by delivering data to customers instead of simply making it available at the metering installation.

3.2 AEMO will establish procedures to further specify how real-time data should be communicated to support security and interoperability

As stakeholders suggest, consumers would benefit from standardisation and portability of real-time data communications, which support greater interoperability between devices.[108] Interoperability means that real-time data can be accessed by multiple different types of devices. We consider that interoperability is a critical feature of a real-time data service, as it limits the risk that the data may be only accessed using proprietary devices, which could constrain good consumer outcomes. An interoperable service encourages innovation and competition amongst the technologies that could use real-time data to deliver value for consumers, thereby contributing to lower costs and better services for consumers.

Importantly, the definition of real-time data in the rules would not be sufficient to guarantee interoperability. This is because the data could still be communicated or transported in ways that limit certain technologies. We consider that procedures governing how real-time data is communicated should be further standardised to ensure service interoperability.

107 Ibid.

108 Paul Schulz, submission to the draft determination, p. 2.

It is also important for real-time data access to be secure. This is to mitigate the risks of cybersecurity breaches in relation to information about a consumer's energy use, or breaches that may compromise the integrity of the smart meter.

Our final determination is to require AEMO to establish, publish and maintain real-time data procedures.[109]

The real-time data procedures must include:[110]

1. procedures for ensuring that real-time data can be accessed securely by devices outside the metering installation
2. minimum requirements for measuring root mean square (RMS) voltage, current and phase angle, including minimum resolution and sampling frequency
3. open standards-based communications protocols that can be used to provide real-time data to end consumers and to real-time data authorised recipients
4. circumstances in which the timeframe for facilitating access specified may be extended
5. any circumstances in which a retailer will not be required to facilitate access to real-time data, including where it is not feasible to make real-time data available at the premises due to circumstances beyond the control of the MC.

The real-time data procedures are not required to, but may include:[111]

1. minimum security controls for access to real-time data
2. a standard format for provision of real-time data
3. any circumstances in which facilitating access to real-time data may be challenging and any processes or requirements that should apply in those circumstances
4. a communications mechanism that can be used to provide real-time data to customers and customer representatives
5. any other requirements that AEMO considers are reasonably necessary to facilitate access to real-time data in a way that supports security and interoperability.

We consider that AEMO procedures are relatively dynamic and can give effect to continuously evolving standards. It is therefore appropriate to include more dynamic elements of real-time data in AEMO procedures. We consider that a definition of real-time data in the Rules, coupled with further information in AEMO's real-time data procedures, will provide sufficient clarity and certainty of the meaning of real-time data and support a flexible approach to developing requirements for interoperability and cybersecurity, which are necessarily dynamic and evolving.

Our final rule is largely consistent with our draft rule, which was supported by stakeholders.[112] However, our final rule encourages AEMO to provide additional information that stakeholders considered beneficial. Table 3.2 provides more detail on the requirements under our final rule and explains how we considered stakeholder views.

109 Clause 7.16.6E(a) of the Final Electricity Rule.
110 Clause 7.16.6E(a) of the Final Electricity Rule.
111 Clause 7.16.6E(b) of the Final Electricity Rule.
112 Submissions to the draft determination: Gippsland Climate Change Network p. 3; ENGIE, p.3; Origin, p. 1.

Table 3.2: Further detail on elements required to be specified in AEMO procedures

Information in AEMO procedures	Explanation
procedures for ensuring that real-time data can be accessed securely by devices outside the metering installation	These procedures would ensure that devices or cloud technology can access real-time data from smart meters without compromising the integrity and security of the smart meter. As discussed in section 4.3.5, MCs would implement their own security measures to meet security requirements under the existing NER requirements and our final rule. The procedures specified in AEMO's real-time data procedures would be in addition to these measures.
minimum requirements for measuring root mean square (RMS) voltage, current and phase angle, including minimum resolution and sampling frequency	AEMO would specify how many points of the waveform should be measured and the speed of the data signal.
open standards-based communications protocols that can be used to provide real-time data to consumers and to real-time data authorised recipients	An open standards-based protocol is a communication standard that is easily accessible to most devices and low-cost to implement. This supports interoperability because it standardises a common language that most devices understand. CSIP-AUS is widely implemented as an industry standard. However, there could be some variability over how CSIP-AUS is implemented, impacting interoperability. We consider if CSIP-AUS is prescribed as the standard, or if any other standard is adopted, AEMO should provide sufficient guidance to ensure industry applies the standard consistently.
circumstances in which the timeframe for facilitating access may be extended	Section 4.1.1 discusses the requirement for customers to get access to real-time data from smart meters within 15 business days, and the circumstances where this timeframe can be extended. To provide some flexibility for unknown cases, we consider that AEMO should be able to specify other exceptional circumstances that would reasonably impact the timeframe.
any circumstances in which a retailer will not be required to facilitate access to real-time data	Section 4.1.1 explains that retailers would not be required to facilitate access in certain instances, for example, where issues relating to defects cannot be resolved. Similar to the timeframe exceptions above, we consider that AEMO should be able to specify other exceptional circumstances in which a retailer will not be required to facilitate access. This aims to address scenarios where it is impossible or infeasible for the MC to arrange for the meter to provide access to real-time data. For example, when MCs need to access the site but are unable to, or

Information in AEMO procedures	Explanation
	where the customer needs to rectify their infrastructure such as in apartment units where it may be infeasible to enable wireless access to meters that are far away from the unit. Customers would need to resolve signal strength issues before access may be enabled.
may include minimum security controls for access to real-time data and a standard format for provision of real-time data	AEMO procedures currently specify how other types of data should be formatted. We consider that if AEMO considers it applicable, AEMO could specify a format in which real-time data should be communicated. However, as explained in section 4.1.7, real-time data is not translated into energy consumption data. It is raw data values. A specified data format would not relate to how data would be presented as energy consumption data or any other form other than the raw values specified by our final rule definition. AEMO may also consider that it is appropriate to include additional security protocols in addition to other security procedures be specified by AEMO, and other security measures implemented by MCs.
Key change from draft may include any circumstances in which facilitating access to real-time data may be challenging and any processes or requirements that should apply in those circumstances	Bluecurrent considered that it is beneficial to have clear guidance on how physical constraints/challenges should be addressed. For example, the enablement of one or more meters in a multi-occupancy building would require the coordination of a few parties.[1] The Commission acknowledges that there may be circumstances that would make access to real-time data challenging to facilitate. We consider that it is beneficial for AEMO to provide guidance on any processes or requirements that should apply to help MCs overcome these challenges.
Key change from draft may include a communications mechanism that can be used to provide real-time data to customers and customer representatives	PLUS ES suggested that AEMO procedures further specify the mechanism to communicate real-time data in addition to open-standards based communications protocols.[2] PLUS ES considered that the absence of a mechanism may risk interoperability behind the meter as each MC may adopt different mechanisms to communicate real-time data. Morse Micro considered that the role of standard IP-based wireless communication layers—such as Wi-Fi and Wi-Fi HaLow - should be explicitly acknowledged.[3] Morse Micro considered that this would simplify compliance testing, and ensure that real-time access can be achieved via consumer devices already on site, such as routers or smartphones. The Commission considers that a key objective of this reform is to facilitate interoperability

Information in AEMO procedures	Explanation
	behind the meter. We agree that specifying a communication mechanism is beneficial. From discussions with stakeholders, we consider that Wi-Fi is an appropriate communications mechanism that would support the greatest access to real-time data from different devices. We encourage AEMO to consider the challenges with implementing ZigBee in Victoria and avoid imposing technologies that do not support universal access to real-time data or could become outdated as innovation proceeds.
Key change from draft may include any other requirements that AEMO considers are reasonably necessary to facilitate access to real-time data in a way that supports security and interoperability	The Commission considers that is beneficial for the Rules to clarify that AEMO has the flexibility to specify any other requirements it considers are necessary to achieve security and interoperability.

Source: [1]Bluecurrent, submission to the draft determination, pp. 5-6; [2]PLUS ES, submission to the draft determination, p. 21; [3]Morse Micro, submission to the draft determination, p. 3.

3.2.1 Our final rule does not require AEMO to specify latency requirements

Based on stakeholder feedback, our final rule does not require AEMO procedures to specify the minimum timeframe for real-time data to be received by an external device.

Intellihub considered that requirements relating to latency create confusion, because latency will be entirely determined by the equipment and services provided by the CER provider or customer and cannot be controlled by the MC.[113] Rheem considers that the requirement suggests that real-time data would be communicated from the meters at a frequency of greater than one second.[114] Conversely, Gippsland Climate Change Network suggested that AEMO procedures specify latency testing standards that account for weak-signal or rural connectivity conditions.[115]

The Commission considers that this requirement under the draft rule reduces clarity. Therefore, the definition under the final rule explicitly requires MCs to ensure that real-time data can be pulled every second from the meter. This means that MCs must develop real-time data communications solutions that meet this requirement. Once data leaves the meter, it is outside the control of the MC and so there is no benefit in AEMO specifying requirements related to latency. The time it takes for data to reach customers or a customer appointed representative would depend on their communications infrastructure. It is therefore the responsibility of the customer or customer appointed representative to ensure that data is received within a timeframe that satisfies the use case.

3.2.2 AEMO must publish procedures by 30 November 2026

AEMO must develop these procedures and amend any other necessary procedures by 30 November 2026.[116] This is five months later than the requirement in our draft rule, which required AEMO to publish these procedures by 1 July 2026. Our final rule includes a later date because in its submission, AEMO considered that its high level implementation assessment (HLIA) found that the draft rule date did not provide sufficient time for effective pre-consultation, formal consultation, and the development of complex technical frameworks to support the implementation of the final rule.[117] We consider that is reasonable to provide AEMO more time to develop and publish the real-time data procedures to meaningfully engage with stakeholders and thoroughly consider and address the complexity of the final rule.

3.2.3 AEMO should consider broader reform when developing its procedures

Interoperability challenges are broader than the interaction between the smart meter and other devices. The Commission acknowledges that multiple work programs are seeking to achieve greater interoperability across distributed energy resources (DER) and CER devices. We encourage AEMO to engage broadly with technology innovators when developing these procedures and consider broader work on interoperability, including work progressed by the DEIP Interoperability Steering Committee.

As mentioned above, we consider that AEMO procedures are relatively dynamic and can give effect to continuously evolving standards. This means that AEMO would not need to delay the publication of real-time data procedures to give effect to any standards yet to be determined.

113 Intellihub, submission to the draft determination, pp. 10-11.
114 Rheem, submission to the draft determination, p. 11.
115 Gippsland Climate Change Network, submission to the draft determination, p. 4.
116 Schedule 3, clause 11.189.2 of the Final Electricity Rule.
117 AEMO, submission to the draft determination, p. 1.

The Commission considers that there may be tradeoffs between interoperability and cybersecurity. We consider that this should not mean that interoperability should be limited. Instead, AEMO and industry should consider more innovative approaches to achieving interoperability without materially compromising cybersecurity.

We acknowledge that cybersecurity is a broader challenge with the increasing adoption of smart technology, but these risks should not limit the value that this technology can deliver to consumers. We consider that our final rule includes sufficient cybersecurity protections as part the requirements for AEMO to develop real-time data procedures and obligations on MCs to enable secure access to real-time data.

4 Retailers and MCs will facilitate consumers' access to real-time data

Box 3: Summary

We consider that any real-time data framework should enable simple access to contribute to a positive consumer experience. Our final rule will support this by leveraging existing retailer and MC relationships and responsibilities to facilitate consumers' access to real-time data.

Retailers, as the main parties with which customers have a relationship, will facilitate access to real-time data. Under our final rule:

- small customers may request their retailer to facilitate access to real-time data from the smart meter
- customer appointed representatives may request the customer's retailer to facilitate access to real-time data from the smart meter
  - third parties are required to have a customer's consent, with exceptions under specific circumstances for some third parties - being DNSPs and AEMO
  - third parties that are not registered participants are required to be accredited by AEMO
- retailers must facilitate access within 15 business days, unless there are exceptional circumstances
- retailers are required to revoke access in certain circumstances
- retailers must treat real-time data as 'affected customer information' for the purposes of family violence and so must not disclose real-time data without the consent of an affected customer.

MCs will facilitate access to real-time data by ensuring real-time data is accessible from the smart meter. Under our final rule, MCs:

- facilitate access to real-time data in accordance with a retailer's request
- ensure real-time data is accessible from smart meters in accordance with the requirements of AEMO's real-time data procedures
- ensure real-time data is protected from unauthorised access
- provide information to a retailer upon request where it is needed to resolve disputes managed by the energy ombudsman.

Changes between our draft and final determinations

- Our final rule requires retailers:
  - to inform customers within 15 business days whether it would take retailers longer than 15 business days to enable access to real-time data. This is a change from 10 business days under the draft rule.
  - and MCs to provide each other with the information necessary to facilitate real-time data access. Our final rule also requires MCs to ensure that the retailers are aware of whether a customer's metering installation meets the new minimum service specifications required by the final rule. Our draft rule was more prescriptive about the information that should be shared between MCs and retailers.

    - to revoke access within 3 business days of receiving a customer's request to revoke access or becoming aware that real-time data is being accessed without a customer's consent. Our draft rule did not specify a timeframe within which retailers must revoke access and required retailers to automatically revoke access when a customer vacates a premises.
    - verify consumer consent and keep a record of consent for a period of two years. Our draft rule did not require retailers to verify or keep a record of consent.
    - to ensure access to real-time data is ongoing when an MC at a connection point changes. This is a change from the draft rule, which placed the responsibility of ongoing access on MCs.
- Our final rule enables some parties to access real-time data without a customer's consent in certain circumstances. Our draft rule did not enable parties to access real-time data without a customer's consent in any circumstance.
    - DNSPs do not need a customer's consent where accessing real-time data will not impact a customer's infrastructure.
    - AEMO does not need a customer's consent where AEMO requires access to real-time data for the purpose of fulfilling its accreditation obligations.
- Our final rule also requires customer authorised representatives to:
    - only use real-time data for the service for which the customer provided consent. This was not an explicit requirement under our draft rule.
    - comply with dispute resolution requirements in the Rules. This was not a requirement under the draft rule.

4.1 Retailers must facilitate access to real-time data

The Commission considers that retailers should facilitate access to real-time data from smart meters in a way that delivers good customer experiences. Our final determination is to require retailers to facilitate access to real-time data upon request from a small customer or their appointed representative.[118]

A small customer's retailer is the most appropriate party to facilitate access to real-time data. This is because customers have an existing relationship with their retailer to manage the provision of electricity and metering services.

4.1.1 Retailers must facilitate access to real-time data within 15 business days after resolving any exceptional circumstances

Customers and their appointed representatives should be able to access real-time data as soon as practicable once a request is made. This is an important part of achieving a good customer experience and enables customers to derive value from real-time data in a timely way.

Our final determination is to require retailers to facilitate access to real-time data within 15 business days.[119] This is consistent with the timeframe specified in our draft rule.

118 Division 9B, rule 59E(2) of the Final Retail Rule.
119 Division 9B, rule 59E(6) of the Final Retail Rule.

Under our final rule, there is a different process for consumers with meters installed after 30 November 2028 and consumers with meters installed before 30 November 2028. This is because consumers with meters installed before 30 November 2028 may need to pay to access real-time data from smart meters. This is discussed in detail in section 2.5.

Under our final rule:

- If customers are not required to pay for access, then retailers must facilitate access within 15 business days of the request being made.[120]
- If customers are required to pay for access, then retailers must facilitate access within 15 business days of the request being made, or after the customer agrees to pay the charge, whichever is later.[121]

We consider 15 business days is sufficient time for retailers and MCs to coordinate to facilitate a customer's access to real-time data from the smart meter. Retailers manage the process for their customers' access to real-time data, but MCs are responsible for the meter, and therefore, in practice it is MCs (and their appointed metering providers (MP)) who would complete any necessary practical steps to facilitate a customer's access. The role of the MC in this process is discussed in section 4.1.2 and further in section 4.3.

There are circumstances where the 15 business day timeframe may be extended

Our draft determination acknowledged that there are reasonable circumstances where retailers may be unable to facilitate access within 15 business days.[122]

Our final determination is to extend the timeframe within which retailers are required to facilitate access to real-time data by the time it takes to resolve the following:[123]

- retrofitting or replacing the meter
- a defect in the metering installation
- any time taken to verify the customer's consent
- any circumstances specified in AEMO's real-time data procedures.

Our final rule does not require a retailer to facilitate access if a customer does not want to resolve the defect in the metering installation, or if the defect cannot be resolved.[124]

This is consistent with existing exceptions relating to metering installations including amendments made by the metering rule change.[125]

The final rule also enables AEMO to specify circumstances in which retailers are not required to facilitate access to real-time data in the real-time data procedures.[126] This is discussed further in section 3.2.

This represents no change from our draft determination.

120 Division 9B, rule 59E(6)(a) of the Final Retail Rule.

121 Division 9B, rule 59E(6)(b) of the Final Retail Rule.

122 AEMC, Real-time data for consumers, draft determination, 11 September 2025, pp. 30-31.

123 Division 9B, rule 59E(7) of the Final Retail Rule.

124 Division 9B, rule 59E(8)(a) of the Final Retail Rule.

125 See clauses 7.8.10A, 7.8.10B, 7.8.10C and 7.8.10D of the NER, and rule 59AAA of the NERR, which were variously amended and inserted by the *National Electricity Amendment (Accelerating smart meter deployment Rule) 2024 No.20* and the *National Energy Retail Amendment (Accelerating smart meter deployment) Rule No.6* from 1 December 2025.

126 Division 9B, rule 59E(8)(d) of the Final Retail Rule.

Retailers must keep customers updated on the progress of their access request

Our final rule will require retailers to inform customers when retailers have actioned a customers request and real-time data is accessible from the smart meter.[127]

Our final rule also requires retailers to notify customers within 15 business days if it would take longer than 15 business days to facilitate access to real-time data, or if access cannot be facilitated for one of the reasons permitted by the final rule.[128] This keeps the customer informed of the progress of their access request and ensures that they have visibility over any delays to the time it will take for real-time data access to be enabled at their premises.

This is a change from our draft rule, which required retailers to inform customers within 10 business days.[129]

Stakeholders considered that the 10-day timeframe may be insufficient because MCs would have to visit a customer's premises to determine whether it would take longer than 15 days to facilitate access to real-time data or whether the MC would not be able to facilitate access.[130]

As discussed above, our final rule requires retailers to facilitate access within 15 business days. This, in effect, gives MCs 15 days to visit the site and retrofit or replace the meter. We consider it is reasonable to extend the timeframe for when a retailer must notify their customer of a delay from 10 to 15 business days. This is consistent with the time provided for MCs to visit the site.

4.1.2 In practice, retailers will direct MCs to facilitate access to real-time data

Retailers do not directly interact with the metering installation, and would not do so to facilitate access to real-time data. Retailers have a contractual relationship with MCs for metering services.[131] In practice, a retailer will facilitate access to real-time data by arranging for the MC to do so in accordance with the terms of their contract, which would need to be consistent with our final rule.

Where a retailer has received a request from a customer or customer appointed representative to facilitate access to real-time data:[132]

- the retailer and MC must provide each other with the information necessary to facilitate real-time data access
- the MC must ensure that the retailer is aware of whether the metering installation meets the new minimum service specifications required by the final rule.

This is a change from the draft rule which prescribed the information that retailers must provide MCs to facilitate access, including:[133]

- the NMI and address of the customer's premises
- the contact details of the person who requested access.

Stakeholders consider that it is not beneficial for the Rules to prescribe the type of information that MCs and retailers should share between one another to facilitate access to real-time data and instead the Rules should be outcomes focused.[134] For example, AGL said that, rather than be

127 Division 9B, rule 59E(10) of the Final Retail Rule.
128 Division 9B, rule 59E(9) of the Final Retail Rule.
129 Division 9B, rule 59E(8) of the Draft Retail Rule.
130 Submissions to the draft determination, AGL, p. 9; PLUS ES, p. 26; Intellihub, p. 12.
131 See clause 7.6.1 of the NER.
132 Clause 7.15.7(c) of the Final Electricity Rule.
133 Division 9B, rule 59E(9) of the Draft Retail Rule.
134 Submissions to the draft determination: Red & Lumo Energy, p. 3; AGL, p. 9.

specific, the rule should require the retailer to provide the MC with the information necessary to facilitate real-time data access and allow the B2B procedures to specify the content.[135]Stakeholders also consider that the Rules should not prevent participants from using existing systems and processes to facilitate information sharing between MCs and retailers. For example, stakeholders considered that some information could be available through the Market Settlement and Transfer Solutions (MSATS) system.[136] All retailers and MCs have access to MSATS and do not have to share information directly with each other where the information is already in MSATS. For example, MSATS includes NMIs and the corresponding address for the premises.[137]Stakeholders consider that other information necessary for facilitating access could be specified and shared through the B2B process, as discussed in section 4.4.[138]

The Commission agrees with stakeholders that the Rules should not prevent industry from leveraging existing systems and processes for sharing information, including MSATS and B2B processes. Therefore, the final rule removes the prescriptive requirements that were in the draft rule and instead, adopts an outcomes-based approach so that participants can use existing systems and processes for communications relating to real-time data access.[139]

Consistent with stakeholders views, the Commission considers that it is appropriate for MSATS to include information about the metering installation in relation to real-time data services including:[140]

- whether the small customer metering installation meets the new mins specs under the final rule
- who is accessing real-time data from the metering installation.

We consider that changes to the NER are not required to enable AEMO to include this information in MSATS. As noted above, our final rule requires MCs to ensure that the retailer is aware of whether the metering installation meets the new minimum service specifications under the final rule. This ensures that MCs provide AEMO with sufficient data to include in MSATS.

The Commission considers that the B2B procedures are well-placed to provide a process for MCs and retailers to communicate in relation to facilitating access to real-time data through the B2B framework. This is discussed further in section 4.4. However, consistent with existing arrangements, we consider that the B2B arrangements should be voluntary for registered participants. Our final rule, therefore, does not require MCs or retailers to act in accordance with the B2B procedures. MCs and retailers may agree on an alternative method for communicating in relation to facilitating access to real-time data.

Section 4.3 discusses how MCs will facilitate access under the final rule after receiving a request from a retailer.

4.1.3 Retailers must inform customers how to access real-time data once access is facilitated

Our final rule requires retailers to provide information to customers and their appointed representatives about how to access real-time data.[141]

135 Submission to the draft determination: AGL, p.9.

136 Submissions to the draft determination: Red & Lumo Energy, p. 3; AGL, p. 9.

137 Refer to paragraph (a) of the definition of 'NMI standing data'.

138 Ibid.

139 The requirement in rule 59E(9) of the Draft Retail Rule is replaced with the requirement in clause 7.15.7(c) of the Final Electricity Rule. The provision was also relocated from the retail rules to the electricity rules since it is an obligation between MCs and retailers.

140 Submissions to the draft determination: JEC, p. 15, Powershop, p. 4; Red and Lumo Energy, p. 4.

141 Division 9B, rule 59E(10) of the Final Retail Rule.

The final rule provides MCs and retailers with flexibility to offer a range of solutions to enable access to real-time data. It is possible that some solutions may require customers or their appointed representative to actively connect devices to the smart meter to access real-time data. For example, a customer device may need a password from the MC to connect to the meter over Wi-Fi. We consider that customers, or their appointed representatives, need to be sufficiently informed about how to access real-time data once it has been enabled.

We also encourage retailers to make information about real-time data more broadly available on their websites to support customers considering whether to request access to real-time data from smart meters.

Retailers do not need to inform consumers when real-time data is accessible if a customer does not request access

Consistent with the draft rule, our final rule does not require retailers to proactively inform customers about the availability of real-time data.

We expect that most requests for real-time data access would be managed by a third-party service provider or retailer, on behalf of the customer. This is consistent with current practice, where it is generally a service provider that would seek to implement real-time data access to enable a customer service offering, such as a CER installation. We consider that it would be in these parties' commercial interest to inform customers about the availability of real-time data from the smart meter, and that an obligation on retailers to proactively inform customers may not be productive.

ECA and JEC considered that retailers should be required to proactively inform customers when customers can request access to real-time data free of charge, and what the benefits of real-time data are.[142] They consider that retailers would not proactively inform consumers, absent an obligation, and that the final rule should not rely on third parties because third parties do not have access to this information.[143] They considered that an explicit obligation to proactively inform customers would increase the uptake of real-time data services.

As outlined in section 3.1 and section 4.1.7 below, real-time data is raw data that would not satisfy every customer use case without first being translated. The Commission does not consider it beneficial for retailers to proactively inform consumers about the availability of raw data that is not useful for all consumers. As explained in section 4.1.7, retailers may choose to translate real-time data into a meaningful format for customers, but retailers do not have an obligation to do so and may charge for such services. We consider that it is inappropriate to require retailers to proactively offer customers this service.

This Commission considers that, over time, it would become common practice for customer appointed representatives to engage with retailers on behalf of customers. It is in customer appointed representatives' commercial interest to engage with retailers to identify whether real-time data is accessible, free of charge, before installing a more costly alternative device.

The Commission acknowledges the more work needs to be done to inform customers about the benefits of the rule change. Essential Energy suggested a public education campaign should be undertaken.[144] We consider that the Rules are not best placed to direct efforts to raise consumer awareness about the benefits of real-time data.

142 Submissions to the draft determination: ECA, p. 8, JEC, p. 15.
143 Ibid.
144 Essential Energy, submission to the draft determination, pp. 7-8.

We encourage industry to make information about real-time data services accessible to all consumers and businesses so all customers can derive maximum value from the availability of real-time data services.

4.1.4 Customers can switch retailers without affecting their access to real-time data

In our draft determination, we considered it was important that any rule made should not create barriers to customers changing retailers.[145]

Under the final rule, if a small customer who is accessing to real-time data changes retailer, but remains at the same premises, the incoming retailer must continue to provide access to real-time data at the premises free of charge.[146]

This clarifies that free access to real-time data is attached to the premises, not the customer. This is because access is associated with the specific metering installation, not the customer that happens to rely on that installation at a particular point in time. Once access to real-time data is facilitated from a metering installation at the premises, ongoing access to real-time data from the metering installation must be provided free of charge, even if the retailers or MCs change (see section 4.3.2 for details on MC switching).

Our final rule ensures that accessing real-time data from smart meters should not be a barrier to changing retailers. If a customer changes retailer, access to real-time data would be ongoing, without any action required from the customer.

As discussed in the next section, access to real-time data is ongoing for customers and their appointed representatives until access is revoked in certain circumstances.

Our final rule is a change from the draft rule which required the outgoing and incoming retailers to engage with one another when a customer changes retailers. Our draft rule required the outgoing retailer to inform the incoming retailer that real-time data access has been provided to the customer.[147]

Stakeholders considered that, in practice, the outgoing retailer is unaware of customer churn or would become aware of customer churn after the incoming retailer becomes responsible for the customers premises.[148] They considered that, in practice, if a customer switches retailer, the incoming retailer would be able to access the necessary information from MSATS to continue to facilitate access to real-time data.[149] As explained in section 4.1.2 above, we consider that MSATS should include information about whether a customer is accessing real-time data from the smart meter.

We acknowledge that, in practice, outgoing retailers are not best placed to help ensure that access to real-time data remains ongoing at their former customer's premises. Our final determination is therefore to not place any obligations on the outgoing retailer and instead require the incoming retailer to ensure that their new customer's or their customer's appointed representative continues to access real-time data free of charge.

145 AEMC, Real-time data for consumers, draft determination, 11 September 2025, p. 33.
146 Division 9B, rule 59E(11) of the Final Retail Rule.
147 Division 9B, rule 59E(11) of the Draft Retail Rule.
148 Submissions to the draft determination, AGL p. 9; Red & Lumo energy, p. 3.
149 Ibid.

4.1.5 Retailers will revoke access in certain circumstances

Real-time data contains personal and sensitive information about a customer's behaviour. As discussed in section 4.2.1, only parties with a customer's consent will be able to access that customer's real-time data.

It is therefore important for our final rule to provide customers with a clear path to revoke access. To facilitate a good customer experience, it is also important that retailers have the ability to automatically revoke access, in certain circumstances, to remove the administrative burden from consumers.

Our final rule requires a retailer to revoke access to real-time data for a small customer within three business days of:[150]

- receiving a request from the small customer for access to be revoked, or
- becoming aware that real-time data is being accessed without the small customer's consent.

Our final determination recommends that this requirement is classified as a tier 1 civil penalty because non-compliance with this requirement may cause consumer harm, as discussed in appendix C.5.

In practice, the retailer would instruct the MC to revoke access. How a retailer would revoke access would be determined by the retailer and the MC, but the Commission expects that this could potentially leverage existing B2B or consumer data right (CDR) processes. This process could also vary based on how appointed representatives access real-time data from the smart meter. To provide flexibility, the final rule does not prescribe how this should occur.

Our final rule is a change from our draft rule, which did not specify a timeframe by which a retailer must revoke access. Our draft rule also required retailers to revoke access when a customer vacates the premises.[151]

As explained below, our final rule also enables retailers to refuse or revoke access in cases of family violence.

Retailers must revoke access within three business days

The AER recommended the Rules specify a timeframe within which retailers and MCs must revoke access.[152] The AER considered this would support enforcement and compliance with any rule made.

The AER also considered that the Rules should impose obligations on the management of data that is stored, once access has been revoked.

The Commission agrees that the Rules should specify a timeframe for retailers to revoke access because real-time data includes personal and sensitive information. Facilitating access to real-time data to parties without the customer's consent could potentially harm the customer. Our final determination is therefore to require retailers to revoke access within three business days. We consider that this gives retailers sufficient time to ensure access is revoked. From bi-lateral discussions, we understand that access to CDR data can be revoked almost instantaneously. We consider a longer timeframe is reasonable for real-time data because, unlike with CDR data, retailers would have to manage the revocation process with MCs, and the process may be more complex depending on how access is being facilitated.

150 Division 9B, rule 59E(12) of the Final Retail Rule.
151 Division 9B, rule 59E(12) of the Draft Retail Rule.
152 Submission to the draft determination, AER, p.2.

Our final determination places the timeframe obligation on the retailer only, not the MC. Similarly to the obligations in section 4.1.1, we consider that retailers can ensure that MCs meet the specified timeframes through the terms of their commercial arrangement.

Our final determination does not impose any obligations in respect of the management of stored data. As explained in section 3.1, real-time data is not stored data, and we do not expect parties to store real-time data because storing such a large volume of data would be costly and unlikely to have any benefit. As explained in section 4.2.2, non-registered participants must be accredited by AEMO to access real-time data. We expect AEMO's accreditation guideline to specify any relevant data management processes.

Retailers must revoke access after becoming aware real-time data is being accessed without a customer's consent

Our draft rule also required retailers to revoke access when a customer vacates the premises.[153]

Stakeholders raised similar concerns with this requirement as they did with the draft rule requirements around customers switching retailers.

If a customer is receiving real-time data and then vacates the premises, a new customer who moves into the premises is no longer the customer for whom the retailer was facilitating access.

Stakeholders consider that it is unclear from the obligation in the draft rule which retailer must revoke access.[154] Stakeholders also considered that the outgoing retailer may not be aware when their customer vacates the premises before the responsibility of the premises shifts to a new retailer.[155] This is because customers are not required to notify their retailer when they vacate the premises.

To address this, our final determination is to require retailers to revoke access within three business days of becoming aware that access is being facilitated without the customer's consent.[156] This clarifies the revocation process in the following scenarios. If a customer:

- informs a retailer that they are vacating the premises, the retailer can confirm with the customer that access should be revoked and initiate the revocation process.
- vacates the premises, and the new occupant chooses the incumbent retailer at the premises, the retailer must revoke access because the retailer would not have their new customer's consent to facilitate access to real-time data.
- vacates the premises, and the new occupant chooses a different retailer, the incoming retailer must revoke access because the outgoing retailer would not have responsibility for the site and the incoming retailer would not have the customer's consent to facilitate access to real-time data at the premises.

Therefore, rather than imposing the obligation specifically on an incoming or outgoing retailer, the rule adopts an outcomes-based approach to ensure revocation of access is achieved across a variety of scenarios.

To strengthen the consumer protections in these scenarios, the final rule also includes a prohibition on any person facilitating or providing access to a small customer's real-time data without their consent.[157] This means existing and incoming retailers will need to ensure they are

153 Division 9B, rule 59E(12) of the Draft Retail Rule.
154 Submissions to the draft determination, AGL p. 9; Red & Lumo energy, p. 3.
155 Ibid.
156 Division 9B, rule 59E(12) of the Final Retail Rule.
157 Division 9B, rule 59D(1) of the Final Retail Rule.

aware of the real-time data consent status at any premises they are responsible for, or become responsible for. The consent requirements are discussed further in section 4.2.1.

4.1.6 Retailers will seek consent of customers affected by family violence before facilitating access to real-time data

The NERR defines affected customers as any customer, including a former customer of a retailer, who is or was a small customer and who may be affected by family violence.[158]

We acknowledge that data could potentially be misused to perpetrate family violence and financial abuse, as it contains personal and sensitive information about the customer's behaviour.

To help protect the data of customers who may experience family violence, the NERR includes protections for affected customers.

Our final determination is to classify real-time data as affected customer information for the purposes of rule 76G of the NERR.[159] Affected customer information refers to any information that may be used to identify, communicate with or locate an affected customer, including information about their whereabouts, contact details, or financial or personal circumstances.[160]

This means that a retailer will be prevented from disclosing or providing access to real-time data of an affected customer to any other person without the consent of the affected customer.[161] The final retail rule also deems real-time data authorised recipients to be 'any other person' for the purposes of these provisions.[162] Therefore, in practice, a retailer may refuse a request to facilitate access to real-time data to protect a customer affected by family violence.

There is no change from our draft rule, which was supported by stakeholders.[163]

The AER considered that there may be situations in which it is appropriate for a person who is not the small customer to request revocation of access.[164] This may be the customer appointed representative or someone else living at the customers premises, who is not the account holder and is affected by family violence.

The Commission acknowledges the importance of protecting consumers from family violence and supports reform to improve consumer protections.

While we acknowledge the potential benefits of flexibility for other parties to be able to request revocation of access, in practice, retailers are not able to respond to requests from parties that are not the retailer's customer (the account holder). Therefore, the final rule does not provide for parties other than the customer to request revocation of access to real-time data.

4.1.7 Retailers are not required to translate real-time data from raw data values

As discussed in chapter 3, real-time data is raw data values, that is not validated.[165] It is not energy consumption data presented in a particular way.

158 Definition of 'affected customer' in rule 3 of the NERR.
159 Division 9B, rule 59E(13)(a) of the Final Retail Rule.
160 Rule 76G of the NERR.
161 See rule 76G(1) of the NERR.
162 Division 9B, rule 59E(13)(b) of the Final Retail Rule.
163 JEC, submission to the draft determination, p. 12.
164 AER submission to the draft determination, pp.1-2.
165 See definition of 'real-time data' introduced into Chapter 10 by Schedule 2 of the Draft Electricity Rule.

Under the final rule, the extent of the obligations on retailers to facilitate access to real-time data end once the MC makes the real-time data accessible from the smart meter and the retailer confirms completion of the request with the customer.[166] How real-time data is actually delivered and presented to the customer is the responsibility of the customer, or their appointed representative.

Consumer groups considered that raw data is not useful to all consumers and recommended requiring retailers to translate real-time data into something that is meaningful and actionable to help consumers make informed energy decisions.[167] They considered that it would be not be costly for retailers to integrate real-time data into retailers' existing data provision services.

The Commission agrees that raw real-time data itself is not valuable to consumers and that a third party is likely required in most cases to support consumers to realise the value of real-time data. This may for example be through energy services that integrate real-time data, or through a data visualisation service.

The CBA shows that the primary direct market benefit of real-time data relates to CER services. Raw data, that is not validated, satisfies all the use cases for CER services.

In practice, consumers do not manage CER without the support of CER service providers. CER service providers have devices and other technologies that retrieve and read the real-time data from the smart meter. It is in CER service providers' commercial interests to translate this data into a format that is meaningful for the customer and their particular use case, as part of the broader CER service.

We therefore consider that the primary benefit of the rule change would be realised without requiring any party to translate real-time data.

The CBA also contemplates additional benefits from customers using energy more efficiently. For this benefit to be realised, real-time data must be translated into energy consumption data and presented in a format that is meaningful and actionable to consumers.

We consider that it is in the commercial interest of retailers and other energy service providers to translate real-time data for customers who see value in accessing real-time data. Indeed, many retailers already provide data visualisation services to their customers, for example through phone applications or web pages, albeit with energy consumption data at a day's lag. We consider that competition will deliver a range of services that customers can choose to derive value from real-time data.

In line with consumer groups' recommendations, the Commission encourages retailers and industry more broadly to integrate real-time data into customer energy services so that all customers can derive value from real-time data.

However, the Commission considers that the Rules should not require all retailers to translate real-time data because it would increase the cost of the final rule and may deliver little direct market benefits:

- The CBA considers that the market benefit of requiring retailers to translate real-time data for all consumers would be low. We consider that this benefit is difficult to realise in practice because it requires long-term customer behaviour change. There is no evidence that the provision of digital meter readers and associated visualisation tools in Victoria materially changed consumer behaviour and lowered system costs.

166 The notification requirement is in rule 59E(10) of the Final Retail Rule.

167 Submissions to the draft determination, ECA, pp. 8-9, JEC, pp. 12-13, SACOSS, p. 7.

- Translating real-time data is costly to retailers. Whilst some retailers already provide data to consumers, from bi-lateral discussions, we understand it is not easy to integrate real-time data into existing services. This is because retailers would have to develop new technological infrastructure to pull real-time data directly from smart meters. Not all retailers have the same level of technology and may have to substantially upgrade their technological infrastructure to translate real-time data for customers. We consider that retailers should have the flexibility to choose whether translating and presenting real-time data to customers is compatible with their business models.

We also consider that requiring retailers to translate real-time data would reduce competition because it would potentially inhibit other energy service providers from providing these services to consumers.

4.2 Retailers will facilitate access for customer appointed representatives

As explained previously, raw real-time data is not valuable for consumers without some further translation, use, or presentation. It is therefore important for service providers, which could be retailers or third-party service providers, to be able to access real-time data from smart meters so that they can offer services that customers value. In most cases, we consider that service providers would access real-time data to deliver value for customers instead of customers accessing real-time data themselves.

However, only service providers that are appointed by customers should be able to access real-time data. This mitigates the risk that real-time data is accessed and shared without a customer's consent.

Our final determination is to require any party that wishes to access a customer's real-time data to become a 'real-time data authorised recipient'. A real-time data authorised recipient is any person that has obtained a customer's consent to access real-time data and is:[168]

- a registered participant (this includes retailers, DNSPs and MCs)
- AER, AEMO, or a jurisdictional regulator
- a person accredited by AEMO (these would be customer appointed representatives who are not registered participants).

The process described in section 4.1, which explains how customers can access real-time data, also applies to real-time data authorised recipients in that:

- real-time data authorised recipients must request retailers to facilitate access to real-time data[169]
- retailers must facilitate access to real-time data for real-time data authorised recipients within 15 business days, or within the permitted timeframe for an extension to resolve any exceptional circumstances[170]
- retailers must inform real-time data authorised recipients when the request has been completed and provide information about how to access real-time data.[171]
- real-time data authorised recipients may be charged to access real-time data where charges are permitted.[172] Whether the real-time data authorised recipient pays the charge, or the

168 Division 9B, rule 59D(2) of the Final Retail Rule.
169 Division 9B, rule 59E(1) of the Final Retail Rule.
170 Division 9B, rule 59E(6) of the Final Retail Rule.
171 Division 9B, rule 59E(10) of the Final Retail Rule.
172 Division 9B, rules 59E(2) and (3) and 59F of the Final Retail Rule.

customer pays the charge, would be agreed between those parties - the customer could choose to directly pay their retailer,[173] or the real-time data authorised recipient could agree to pay the retailer on behalf of the customer.[174] The costs to access real-time data are discussed in section 2.5.

- retailers must revoke access to real-time data by real-time data authorised recipients within three days if the customer requests the access to be revoked.[175]

Under our final rule, retailers and MCs must not facilitate or provide access to real-time data for anyone who is not the customer or a customer appointed representative (real-time data authorised recipient).[176] The AEMC also recommends that this provision is classified as a tier 1 civil penalty. This is a change form our draft rule, where the equivalent provision was more passively worded and our draft determination had no civil penalty recommendation.

In response to the draft determination, the AER considered that the draft rule provision should be reworded to expressly impose an obligation on retailers and metering coordinators not to facilitate or provide access to real-time data for any person other than the small customer or their appointed representative.[177] The AER also suggested that the reworded provision should be proposed as a tier 1 civil penalty, as this is an important customer protection, and a lack of associated civil penalty would limit their ability to take appropriate action.[178]

The Commission considers that it is important for the AER to be able to take action in the event of non-compliance since a breach of this obligation could result in consumer harm. Further discussion on the proposed civil penalty, and reasons for it, is in appendix C.5.

Throughout this determination we have referred to real-time data authorised recipients as customer appointed representatives. The rest of this section clarifies how customer appointed representatives access real-time data. That is, they become real-time data authorised recipients.

4.2.1 Customer appointed representatives must obtain customer consent to access real-time data

The Commission considers that customers should have control over who has access to the real-time data from a smart meter installed at their premises.

Our final determination is to require any person who wants access to real-time data to, first, obtain that customer's consent.[179]

There are various ways parties can obtain a customer's consent. This creates the risk that some parties may not provide sufficient information for customers to have a good understanding of what they are consenting to, and why.

Under the final rule, when seeking customer consent, parties must:[180]

- specify the service for which real-time data is to be used - this is so customers know how real-time data would be used to deliver value for them
- specify any charge that may be payable by the small customer to the real-time data authorised recipient for the service for which real-time data is used - this is so customers are aware of the

173 Division 9B, rules 59E(6)(b) and 59F(2), (3) and (4) of the Final Retail Rule.
174 For example, payment by the real-time data authorised recipient under rule 59E(6)(b) of the Final Retail Rule.
175 Division 9B, rule 59E(12) of the Final Retail Rule.
176 Division 9B, rule 59D(1) of the Final Retail Rule.
177 AER submission to the draft determination, p. 3.
178 Ibid.
179 Division 9B, rule 59D(2) of the Final Retail Rule.
180 Division 9B, rule 59D(4) of the Final Retail Rule.

full cost of the service and are not double-charged by retailers and customer appointed representatives to access real-time data.

  - This is a change from the draft rule which did not specify what the charge is payable for. It is unlikely that a customer authorised representative would only want access to real-time data without providing a broader service, using real-time data, for the customer. The customer should be aware of the full cost of the service. It is also important for the customer to know whether the customer appointed representative has paid the retailer for any applicable real-time data facilitation charge, or whether the customer will be responsible for paying that charge.[181]
- present the customer with an active choice to give consent, which would not be the result of default settings or pre-selected options - this is so customers do not unknowingly provide consent, and are actively aware that they have provided their consent
- present the customer with information on how to revoke access to real-time data - this is so customers have ongoing control of who has access to data about them (section 4.1.5 outlines when access may be revoked).

Customer appointed representatives must inform retailers that they have obtained customer consent in line with these requirements when requesting access to real-time data.

These consent requirements are consistent with the requirements under our draft rule. In submissions to the draft determination, stakeholders agreed that these requirements are necessary to ensure that third parties provide adequate information to customers before the customer consents, so that the customer can make an informed decision.[182]

Retailers must verify consumer consent and keep a record of consent for a period of 2 years

Our final rule requires retailers to verify a customer's consent after receiving a request from a customer appointed representative.[183] This is a change from our draft rule which acknowledged that retailers may verify consent but did not explicitly require retailers to verify consent.

Our final rule also requires retailers to keep a record of the customer's consent for a period of two years. The record must be in a format, and include information necessary, for the AER to assess and enforce compliance.[184] Our draft rule did not require retailers to keep a record of consent.[185]

After a retailer has verified consent, retailers would facilitate access to real-time data within 15 business days, as discussed in section 4.1.1.[186]

The AER recommended that retailers should keep a record of customer consent because it would improve the AER's ability to effectively enforce compliance. The AER considered that this would improve alignment with the existing Explicit Informed Consent (EIC) provisions.[187] The existing EIC requirements under section 40 of the NERL require retailers to keep a record of customer EIC for at least two years in a format that is accessible to the AER.

We consider that it is beneficial to consumers for the AER to have access to sufficient information to enforce compliance. The AER's enforcement powers are an effective consumer protection to

181 Division 9B, rules 59E(3) and 59F of the Final Retail Rule.
182 Submissions to the draft determination: AER, p. 2; ECA, p. 9; ENA, p. 1; JEC, p. 15.
183 Division 9B, rule 59E(4) of the Final Retail Rule.
184 Division 9B, rule 59D(5) of the Final Retail Rule.
185 However, other legislative requirements generally impose record keeping obligations on businesses.
186 Division 9B, rules 59E(6) and 59E(7)(c) of the Final Retail Rule.
187 AER submission to the draft determination, p.2.

ensure retailers only facilitate access to real-time data where customers have consented, according to requirements under the final rule.

Our final determination is therefore to require retailers to keep a record of consent consistent with existing EIC requirements.[188] It follows that retailers must verify consumer consent in order to keep a record of consent.

Retailers can leverage their existing processes to verify and record consent

Retailers have established processes to verify and record customer consent to satisfy their EIC and CDR requirements, and obligations under the *Privacy Act 1998 (Cth)* when providing other services to customers. We consider that the final rule will not impose a material cost on retailers because retailers can leverage these existing processes to satisfy their obligation to verify and record customers' consent for real-time data under the final rule.

Origin suggested that the rules should provide greater specificity over how retailers will authenticate and verify consent, including verification methods and minimum security protocols.[189]

We consider that the consent process it is best managed by retailers in accordance with their existing processes. Further prescription may require material changes to existing processes that could impose unnecessary costs on retailers, which are ultimately passed on to customers.

Some stakeholders raised concerns that consent requirements under the final rule are duplicative of the CDR and therefore would impose unnecessary costs on retailers to establish a process separate to the existing CDR process of verifying and recording consent.[190]

As outlined in section 4.2.6, the Commission does not have the rule making power to amend the CDR to include real-time data. Consent requirements are a key consumer protection in the final rule, and we consider that it is inappropriate for consumer protections relating to the final rule to be contingent on a process beyond the scope of the Rules.

The final rule does not prevent retailers from using the existing architecture of their CDR data processes for real-time data. Retailers could use similar online consumer interfaces to verify consent. From bi-lateral engagement with some retailers, we understand that existing technological infrastructure used for CDR data could be leveraged to meet the requirements under the final rule.

Retailers could also combine the CDR data and real-time data online interfaces to improve customer experiences. Whilst providing consent to access CDR data and real-time data are distinct, separate decisions, retailers could use the same platform so that customers are not required to navigate multiple interfaces.

DNSPs do not need a customer's consent where accessing real-time data will not impact a customer's infrastructure

MCs will be required to provide DNSPs with basic PQD from small customer metering installations on an ongoing basis without charge from 1 July 2026.[191] This requirement was introduced by the metering rule change. As part of the metering rule change final determination, the AEMC

188 Although the requirement is consistent with the EIC requirements, the consent under the final rule is not 'explicit informed consent', as defined in the NERL. This is because the consent under the final rule is between the customer and real-time data authorised recipient. EIC under the NERL is between a retailer and customer and so EIC cannot apply to the consent process under the final rule.

189 Origin Energy submission to the draft determination, p.4

190 Submissions to the draft determination: AGL, p. 7; ENGIE, pp. 3-5; JEC. p. 15; Red Energy & Lumo, p. 2.

191 Paragraphs (j)-(n) to be inserted into clause 7.3.2 of the NER on 1 July 2026 by Schedule 2 of the National Electricity Amendment (Accelerating smart meter deployment) Rule 2024 No.20.

considered that DNSPs required basic PQD to efficiently operate and improve the safety of the distribution system.[192] We further considered that any more data (advanced PQD) should be commercially negotiated between DNSPs and MCs because the costs to consumers, to require MCs to provide DNSps more than basic PQD, may not outweigh the benefits. This is because it is costly to transmit data to DNSPs over the telecommunications network.[193]

As an alternative to commercially negotiating access to real-time data with MCs, the draft rule enabled DNSPs, as registered participants, to access real-time data, free of charge, if a DNSP obtained the consent of the small customer.[194]

In our draft determination, we acknowledged that DNSPs and other registered participants do not require a small customer's consent to access other forms of data.[195] However, we considered that all registered participants, including DNSPs, should seek customer consent to access real-time data. This was because, unlike accessing other forms of data, accessing real-time data may impact a customer's infrastructure, such as their Wi-Fi network.[196]

Some stakeholders considered that DNSPs could use real-time data to deliver value to customers, through better visibility of the grid, improved network planning, and better CER integration.[197]

Stakeholders suggested that requiring DNSPs to obtain consent from a customer would pose a barrier to achieving these benefits, and that obtaining consent from multiple customers would be onerous and inefficient for DNSPs, especially when they lack a direct or primary relationship with many of those customers.[198] They therefore proposed that DNSPs should be able to access real-time data without a customer's consent, consistent with current arrangements for other datasets.

We maintain view that DNSPs should be required to obtain a small customer's consent because accessing real-time data could impact the small customer's infrastructure.

However, an unintended consequence of our draft rule was that it prevented DNSPs from commercially negotiating access to real-time data without a customer's consent, even where a customer's communications infrastructure is not impacted. For example, when using the telecommunications network, rather than the customer's Wi-Fi network, to access real-time data. We consider that DNSPs should not be prevented from commercially negotiating access to real-time data with MCs where accessing real-time data would not impact the small customer's communications infrastructure. That is, where it would not use the customer's Wi-Fi network. Therefore, our final determination is to exempt DNSPs from the consent requirements where access would not impact a customer's communications infrastructure.[199] This would allow DNSPs to commercially negotiate access with MCs, consistent with the framework for advanced PQD.

Stakeholders considered that if DNSPs are required to obtain customers' consent then retailers should bundle consent on a DNSP's behalf.[200] In requesting access on the DNSP's behalf, the retailer would need to clearly articulate the DNSP's use case, any potential impacts to their internet service, and the benefits to that consumer of providing consent.

192 AEMC, Accelerating Smart Meter Deployment, Rule determination, 28 November 2024, p. 20.

193 Ibid. South Australia Power Networks (SAPN) requested $1.4M p.a. in operating expenditure, and $9.1M in capital expenditure in its revenue proposal for the 2025-2030 regulatory control period to acquire and process advanced PQD for network monitoring.

194 Division 9B, rule 59D(2) of the Draft Retail Rule.

195 AEMC, Real-time data for consumers, Draft rule determination, 11 September 2025, pp. 37-38.

196 Ibid.

197 Submissions to the draft determination: ENA, p.1; Ausgrid, p.2; Endeavour Energy, p.2; TasNetworks, p.2; Essential Energy, pp.5-6; Energy Queensland, p.10; JEC p.14; SAPN, p. 1.

198 Submissions to the draft determination: Endeavour Energy, p.2; SAPN, p.1; Energy Queensland, p.10; Essential Energy, pp. 4-6; TasNetworks, p.2.

199 Division 9B, rule 59D(3)(b) of the Final Retail Rule

200 Stakeholder submissions to the draft determination: SAPN, p. 2; TasNetworks, p. 2.

For example:

- when a new meter gets installed from 30 November 2028, retailers could include a request, on the DNSP's behalf, for their customer's consent for the DNSP to access real-time data .
- when a customer appointed representative requests access to real-time data, retailers could include in the request, on the DNSP's behalf, their customer's consent for the DNSP to also access real-time data during the verification process.
- retailers could seek several of their customer's consent to access real-time data on the DNSP's behalf, at once.

Most retailers would have pre-existing consumer consent processes that can be leveraged to bundle consent.

SAPN considers that maintaining the retailer as the key consumer interface for the management of real-time data would ensure that the same customer is contacted for all matters relating to real-time data access.[201]

The Commission agrees that there is value in DNSPs requesting retailers to seek and bundle consent on DNSPs' behalf. The final rule does not prevent DNSPs negotiating with retailers to seek and bundle consent on their behalf. However, this is not a requirement under this rule because this may impose a cost on retailers and consistent with our metering rule change final determination, we do not consider providing DNSPs access to real-time data is necessary to provide distribution system services.

We consider that retailers should be able to charge DNSPs the reasonable cost incurred to seek and bundle consent. We expect these costs should be lower than the cost to DNSPs of commercially negotiating access with MCs. Our final rule will therefore lower the costs of accessing real-time data for DNSPs.

Table 4.1 outlines the options available to DNSPs who want to access real-time data from a small customer's metering installation.

Table 4.1: DNSP options to access real-time data

Option to access real-time data	How are costs recovered?	How is consent obtained?
DNSP **commercially negotiates with an MC** to access real-time data via the cellular network	DNSP pays MCs a commercially agreed charge. DNSP recovers costs charged by MCs from customers through their revenue reset process, subject to AER approval.	No applicable consent requirement as consumer infrastructure is not leveraged. See rule 59D(3)(b).
DNSP **commercially negotiates with retailers** to bundle consent and access real-time data using Wi-Fi	DNSP would be acting in its capacity as a 'real-time data authorised recipient.' DNSPs may pay retailers a	Retailers would seek their customers consent, in line with the consent requirements, for the DNSP to access real-time

201 SAPN, submission to the draft determination, p. 2.

Option to access real-time data	How are costs recovered?	How is consent obtained?
	commercially agreed charge. The cost to retailers to bundle consent may be lower than the cost to MCs to provide data through the cellular network. DNSPs applies to the AER to recover costs charged by retailers through their revenue reset process.	data.
DNSP seeks **individual consent from each customer** and accesses real-time data using Wi-Fi	DNSPs would not pay retailers any cost if DNSPs request access to real-time data from meters that have the new minimum service specifications. However, DNSPs may incur some costs to seek every small customer's consent given they do not have a pre-existing process to do so and must develop and implement one. DNSPs applies to the AER to recover any costs incurred through their revenue reset process.	DNSP would engage directly with the small customer and seek consent, in line with the the consent requirements, to access real-time data. The DNSP would then request the retailer to facilitate access after receiving the small customer's consent.

Source: AEMC

AEMO does not need a customer's consent where AEMO requires access to real-time data for the purpose of fulfilling its accreditation obligations

As discussed in section 4.2.2, AEMO must manage the accreditation process for parties that are not registered participants and want access to real-time data. AEMO considered that it should be exempted from consent requirements where it requires access to real-time data to satisfy its accreditation obligations.[202]

In bi-lateral discussions, AEMO explained that this would not involve ongoing access to real-time data. AEMO considers that it requires access to real-time data when undertaking audits to ensure parties comply with the accreditation requirements. AEMO suggests that accessing real-time data would enable AEMO to better understand the data being accessed, and verify that the party applying for access has satisfactory systems and processes to manage the data.

202 AEMO submission to the draft determination, p. 3.

AEMO considers that being required to seek each individual small customer's consent would unnecessarily increase accreditation costs.[203]

The Commission agrees that AEMO should be exempt from seeking consumer consent only when fulfilling its accreditation obligations.[204] This would lower the cost of managing the accreditation process. We do not consider that this would create a risk of consumer harm because AEMO is a fit and proper party to manage data. Given that access would be temporary and infrequent, we do not consider that it would materially impact a small customer's communications infrastructure in any material way.

However, AEMO would be required to seek an individual customer's consent to access real-time data if AEMO uses real-time data for any purposes other than to fulfil its accreditation obligations.

AEMO also proposed that exceptions to the consent requirements should also extend to the AER and jurisdictional regulators.[205] Our final determination is not to enable the AER and jurisdictional regulators to avoid seeking a customer's consent to fulfil their obligations. This is because we do not expect these parties to require access to real-time data to fulfil their obligations.

These consent requirements only apply in respect of requesting access to real-time data

Rheem and CET suggested that these same consent requirements should apply to MCs and retailers for all meter data not used strictly for settlement and billing.[206]

The Commission does not consider it appropriate to apply the final rule beyond real-time data. The rule change process did not consider the implications of applying the final rule to other forms of metering data.

4.2.2 Some customer appointed representatives will be accredited by AEMO

The NER places several obligations on registered participants and other accredited parties to ensure that they appropriately manage data, including energy and metering data. However, these obligations do not extend to parties that are not registered participants or accredited. For example, MCs are registered participants,[207] and metering providers (MPs) and metering data providers (MDPs) are accredited by AEMO.[208]

This creates the risk that parties who request access to real-time data may not be appropriately equipped to handle the data.

To become a real-time data authorised recipient, our final determination is to require all parties, who are not already registered participants,[209] to be accredited by AEMO, in addition to obtaining the customer's consent.[210]

This would mean MDPs and MPs, who are not registered participants, would need to be accredited under clause 7.4.5 of the final rule. This would therefore be in addition to their existing accreditation under the NER. We do not consider that it is likely that MDPs and MPs would require ongoing access to real-time data to provide services to customers. Data to which MDPs and MPs currently have access may be sufficient to perform their existing responsibilities. If MDPs and

203 AEMO submission to the draft determination, p. 3.
204 Division 9B, rule 59D(3)(a) of the Final Retail Rule.
205 AEMO submission to the draft determination, p.3.
206 Rheem and CET, submission to the draft determination, p. 2.
207 Under Chapter 2 of the NER.
208 Under Chapter 7 of the NER.
209 Or are not the AER, AEMO or a jurisdictional regulator.
210 Division 9B, rule 59D(2)(c) of the Final Retail Rule.

MPs want to pull real-time data from smart meters to provide other services, we consider that it is unlikely that the AEMO accreditation process would be onerous on these parties. AEMO could already be satisfied that these parties would meet the accreditation criteria.

SAPN considered that requiring parties to be accredited would introduce barriers for smaller third parties to access real-time data and realise benefits for consumers.[211] The Commission acknowledges the relative cost of accreditation to smaller third parties but, on balance, we consider that accreditation is a necessary consumer protection.

ENGIE considered that AEMO is not best placed to manage the accreditation framework.[212] They considered that the Commission should collaborate with the Australian Government to develop broader reforms and appoint an alternative body.

We consider that AEMO is an appropriate body to manage the accreditation framework because AEMO currently manages accreditation and registration in respect of data management for other parties. AEMO currently manages the registration and accreditation of MPs, MDPs, embedded network managers and NMI service providers.

Under the final rule, AEMO would only accredit parties where it is satisfied that the party applying to be accredited:[213]

- is a fit and proper person to handle real-time data in accordance with the Rules; and
- will take steps to adequately protect real-time data from misuse, interference, loss, unauthorised access, modification or disclosure.

Some stakeholders proposed that the accreditation framework should be strengthened and leverage the CDR.[214]

In section 4.2.6 we outline why the Commission cannot apply the CDR accreditation in the context of real-time data. Therefore, parties who are accredited under the CDR must also become accredited by AEMO to access real-time data. However, the final rule would not prevent AEMO from recognising CDR accreditation as part of AEMO's accreditation in respect real-time data. This could make the accreditation process less onerous for parties who are already accredited under the CDR.

AEMO's accreditation will only apply for the purpose of accessing real-time data

In its submission to the draft determination, AEMO also suggested broadening the scope of the accreditation.[215] AEMO considered that the wording of the draft rule limited the scope of the accreditation framework solely to the access and use of real-time data.

AEMO considered that requirements to become real-time data accredited may be a suitable test to determine whether parties can access other data sets in the future. Therefore, AEMO suggested broadening the scope of the accreditation to give AEMO flexibility to apply it to other data sets in the future, without the need for another rule change.

We consider that any future changes to the scope of the accreditation framework should be considered as part of any separate rule change process to expand the datasets that may be accessible to parties. We do not consider broadening the scope of AEMO's accreditation would avoid the need for a rule change in the future, as a rule change would still be required to expand

211 SAPN, submissions to the draft determination, p. 2.
212 ENGIE submission to the directions paper, p.4.
213 Clause 7.4.5(d) of the Final Electricity Rule.
214 Submissions to the draft determination: AGL, p. 2; ENGIE, pp.3-4; Red Energy and Lumo, pp. 1-2.; Plus ES, p. 17.
215 AEMO, submission to the draft determination, p. 2.

the data sets that third parties can access. Any accreditation requirements could also be considered at that time.

AEMO must publish accreditation guidelines by 1 May 2027

Our draft rule required AEMO to publish accreditation guidelines by 1 November 2026.

During the consultation period for the draft determination, AEMO conducted a high level implementation assessment (HLIA) to understand what an appropriate implementation timeframe for the real-time data procedures and accreditation guidelines may look like.[216] The HLIA found that the draft rule would not provide sufficient time for AEMO to develop and publish accreditation guidelines.

We consider that it is reasonable to give AEMO more time to develop and publish accreditation guidelines. Our final determination is to require AEMO to publish guidelines in respect of the accreditation process and requirements by 1 May 2027.[217]

We do not consider that parties should have to wait for any final rule to commence on 30 November 2028 to become accredited. This would delay the benefits of real-time data until parties are accredited. Therefore, our final rule enables parties to apply to AEMO for accreditation as a real-time data authorised recipient the day after the procedures are published. That is, from 2 May 2027.[218] However, if an accreditation is granted, it would only take effect from 30 November 2028.[219]

Customer appointed representatives must comply with dispute resolution requirements in the Rules

Our final determination is that the existing requirements in the NER for registered participants to participate in dispute resolution should extend to customer appointed representatives.[220]

Stakeholders proposed that real-time data authorised recipients should also be subject to dispute resolution requirements in the NER given that disputes may arise between real-time data authorised recipients, retailers, and MCs in relation to access to, or use of, real-time data.[221]

We agree that disputes may arise between customer appointed representatives and other registered participants. Our final determination is to apply the existing dispute resolution process specified in the NER to customer appointed representatives, as if they were a registered participant. This is consistent with the requirement on MPs and MDPs. We consider that an effective dispute resolution process is in the best interests of consumers.

We consider that these requirements are not onerous on customer appointed representatives and therefore would not impose material ongoing costs. Customer appointed representatives would need to establish a dispute management system and a key contact responsible for the dispute management system. This system would only be activated if a dispute is raised against them.

216 AEMO, submission to the draft determination, pp. 1-2.
217 Clause 7.4.5(b) and transitional provision in Schedule 3, clause 11.189.2(b), of the Final Electricity Rule.
218 Transitional provision in Schedule 2, clause 11.189.3(a) of the Final Electricity Rule.
219 Transitional provision, clause 11.x189.3(c) of the Final Electricity Rule.
220 Amendments to clause 8.2.1(a1) in Schedule 2 of the Final Electricity Rule.
221 Submissions to the draft determination: AEMO, p. 3; EWON, EWOQ and EWOSA, pp. 5-6.

AEMO may deregister real-time data authorised recipients

Our final determination is to apply the existing deregistration process for MPs, MDPs and embedded networks managers to customer appointed representatives (real-time data authorised recipients).[222]

This is a change from our draft rule, which did not require the existing deregistration process to apply.

We consider that it is beneficial for AEMO to have a clear and transparent process to deregister customer appointed representatives where they no longer want access to real-time data or no longer satisfy AEMO's accreditation requirements.

4.2.3 Customer appointed representatives must keep real-time data confidential

The final rule specifies that real-time data is confidential information.[223] Under the NER, registered participants (and other parties deemed to be registered participants for this purpose) must use all reasonable endeavours to keep confidential any confidential information that they are aware of or comes into their possession or control.[224]

However, as discussed in section 4.2.2, although customer appointed representatives are accredited by AEMO, they are not registered participants. For the purposes of the confidentiality requirements of the Rules, our final determination is to treat real-time data authorised recipients as registered participants.[225]

This would ensure that real-time data would be treated as confidential information by real-time data authorised recipients in accordance with the requirements of the NER. This would be consistent with the arrangements for MPs and MDPs, who are deemed to be registered participants for this purpose.[226]

This means that customer appointed representatives that have access to real-time data would be required to satisfy all requirements under Chapter 8 Part C of the NER including:

- not sharing or reproducing real-time data for purposes not permitted by the Rules
- using all reasonable endeavours preventing unauthorised access to real-time data from their devices or systems.

In addition to AEMO accreditation, and customer consent requirements, this would mitigate the risk that information about a customer's data use is not appropriately protected.

4.2.4 Customer appointed representatives must not misuse real-time data

Our final rule requires customer authorised representatives to only use real-time data for what was agreed with the customer to provide the service that was agreed to by the customer.[227]

The AEMC also recommends that this provision is classified as a tier 1 civil penalty provision because misuse of real-time data could lead to customer harm. The reasons for this are discussed further in appendix C.5.

222 Amendments to clause 7.4.4 in Schedule 2 of the Final Electricity Rule.
223 Amendments to clause 7.15.1(a) in Schedule 2 of the Final Electricity Rule.
224 Clause 8.6.1(a) of the NER.
225 Amendment to clause 8.6.1A, Schedule 2, of the Final Electricity Rule.
226 See clause 8.6.1A of the NER.
227 Division 9B, rule 59D(5) of the Final Retail Rule.

This is a change from the draft rule, which did not place this requirement on customer appointed representatives.

The AER considered that the Rules should embed appropriate and fair use protections to make sure that real-time data is only used for purposes the customer is aware of and consents to.[228]

As part of our draft determination we considered that requiring parties to be accredited would sufficiently reduce the risk of data being misused because AEMO would audit parties to ensure that data is being used appropriately. However, as discussed in section 4.2.2, AEMO's accreditation would not apply to registered participants who could misuse real-time data.

The Commission's final determination places an explicit requirement on all parties who access real-time data not to misuse this data. The explicit requirement and recommended civil penalty should better facilitate enforcement by the AER to protect consumers against the risk that real-time data is misused.

4.2.5 Customer appointed representatives have multiple pathways to access real-time data

Table 4.2 describes the multiple pathways appointed representatives could access real-time data.

Table 4.2: Pathways to access real-time data

Pathway	Description
1. Directly from a smart meter under our final rule	A party must become a real-time data authorised recipient before requesting access to real-time data from a customer's retailer.
2. Using alternative devices	Consistent with the status quo, a third party could install a device near the meter to access real-time data.
3. Directly from a customer	It may be possible for customers to directly share real-time data that they access from the smart meter with other parties. This would require third-party software to access real-time data from smart meters in a way that enables customers to share data. Parties would not be required to become real-time data authorised recipients if a customer shares real-time data directly with them.

4.2.6 Our final rule is consistent with the CDR

As outlined in the box below, it is not within the AEMC's rule making power to make changes to the CDR framework. Our final rule adopts principles of the CDR, but does not apply or amend the CDR framework. This promotes consistency between the CDR and our final rule to the extent possible, which enables industry to leverage existing technology, processes and mechanisms used in respect of the CDR and apply them to meet their requirements under the final rule.

We acknowledge stakeholder concerns that a separate process, from the CDR, to access real-time data is potentially duplicative.[229]

We consider that it is currently appropriate to have separate processes to access CDR data and real-time data. This is because CDR data and real-time data have distinct technical characteristics

228 AER submission to the draft determination, p. 2.

229 Submissions to the draft determination: AGL, p.2; ENGIE, pp.3-4; Red Energy and Lumo, pp.1-2; Plus ES, p. 17.

and use cases. It would be complex and costly to amend the CDR to include real-time data because the CDR does not consider the distinct characteristics of real-time data. This would have a long implementation timeframe. Relying on a future process to amend the CDR that is beyond the scope of the Rules would delay the benefits of real-time data to consumers.

Box 4: The limitations of our rule making power to apply CDR

We consider that our final rule would not duplicate the CDR. Our final rule specifically deals with the unique circumstances of facilitating access to real-time data directly from smart meters. This is different to the data sets under the CDR, which cover data received at a later frequency and that is verified and reconciled by market settlement processes.[1] Because of the material differences between the types of data, many of the CDR requirements are not directly relevant in the context of real-time data and should not be reflected in our final rule.

Under the CDR, designated data holders can share specified classes of information with accredited third parties that have a consumer's consent to access this information.[2] AEMO and retailers are designated data holders, and can share CDR data with consumers and accredited third parties.

This means that under the CDR, a third party that is an accredited data recipient can seek a consumer's consent to access their energy data. If a consumer provides third parties with consent, AEMO and retailers can share the data from their databases with the third party. The CDR gives consumers more control over their data and enables consumers to share data with accredited third parties using secure automated data technology.

There are also circumstances where unaccredited third parties can access data, for example as a CDR representative who has a written contract in place with a customer.[3]

Real-time data, as defined by our final rule, is not a specified class of information that could presently be shared with third parties under the CDR. This means that the CDR framework would need to be amended to apply to real-time data.

To do so, the CDR framework would need to be amended to include MCs as designated data holders and expand the specified classes of information. These changes are significant, requiring the reopening of the CDR designation instrument for the energy sector for a sectoral assessment of regulatory impacts and costs. It would involve significant consequential reforms to the CDR Rules and the Data Standards.

Source: [1]CDR data includes metering data, NMI standing data and DER register information

Source: [2]Section 12 of the Energy Designation Instrument sets out the 'specified data holders', which are the persons who hold the 'specified classes of information' in sections 7 to 10

Source: [3]see more here.

4.3 MCs are required to facilitate access to real-time data from smart meters

Facilitating access to real-time data will involve changes to the physical metering infrastructure at a customer's premises or engaging with a meter's software and communications technology. Retailers do not directly engage with any metering infrastructure at a consumer's premises, nor do they have any remote control of the meter. This means that retailers cannot facilitate access to real-time data from smart meters without the help of an MC.

4.3.1 MCs will facilitate access to real-time data from smart meters

Our final determination is to require MCs to facilitate access to real-time data for small customer metering installations when requested by retailers.[230]

Currently, retailers enter into commercial arrangements with MCs for services relating to the metering installation at a small customer's premises.[231] The MC then appoints metering providers (MPs) and metering data providers (MDPs) to provide metering services, including the provision, installation and maintenance of the metering installation and to provide metering data services.[232]

The Commission considers that it is important to place an explicit obligation on MCs to facilitate access to real-time data from the smart meter. This sets a clear expectation that facilitating access to real-time data is to be regarded as a standard metering service for small customers. Treating real-time data access as a standard metering service means that customers and their appointed representatives will not have to commercially negotiate with MCs to access real-time data. As explained in appendix A.4, the existing commercial negotiation process is a barrier to accessing real-time data from smart meters.

An explicit obligation also clarifies that the terms and conditions commercially agreed between the MC and the retailer who appoints the MC need to cover services in respect of facilitating access to real-time data. We consider that no party, other than the MC, could more appropriately perform this role under existing market arrangements.

Our final rule is designed as an alternative to commercially negotiating directly with MCs to ensure simple and low cost access to real-time data for small customers and their appointed representatives. However, our final rule does not prevent those parties, who do not require the customer's consent under the final rule (see section 4.2.1), to directly negotiate with MCs to facilitate access to real-time data.

There are three scenarios where MCs could facilitate access to real-time data. MCs could be requested by:

1. **retailers under the framework set out in the final rule:** As explained above, the final rule only requires MC to facilitate access to real-time data when they receive a request from the retailer to do so. No other party can require an MC to facilitate access to real-time data from a smart meter through the framework created by the final rule. There are pathways outside the framework of the final rule, as noted in the next two paragraphs. As explained in Chapter 2, the final rule permits MCs to pass on to retailers their reasonable costs incurred to facilitate access to real-time data=For most customers, customer appointed representatives, and other registered participants, requesting retailers to facilitate access to real-time data would be the most simple and low cost pathway to access real-time data.
2. **DNSPs through commercial negotiation:** As explained in section 4.2.2, DNSPs do not require a customer's consent to access real-time data from the customer's smart meter where this does not impact the customer's communications infrastructure. Where a DNSP does not require a customer's consent, the final rule does not prevent DNSPs from commercially negotiating access to real-time data directly with MCs. MCs may charge DNSPs for facilitating access on negotiated terms.

230 Clause 7.15.7(b) of the Final Electricity Rule.
231 Clauses 7.6.1 and 7.6.2(a)(3)(i) of the NER.
232 Clauses 7.3.2(b) and (d) of the NER.

3. **customers through commercial negotiation:** Powershop noted that some small customers, such as a small business, may have a direct relationship with the MC.[233] Our final rule does not prevent a small customer from requesting access to real-time data directly from an MC. However, the final rule provides small customers with an explicit right to request real-time data from their retailer and certain protections where they do so. Therefore, since the framework under the final rule would not apply to such an arrangement, MCs could charge small customers any costs incurred to facilitate access, even where the small customer has a meter installed after 30 November 2028. If the small customer made a request directly to their MC but considered that their MC's charges were unreasonable, the small customer could then request access to real-time data through their retailer under the framework of the final rule, and then the protections of the final rule would apply.

4.3.2 MCs must facilitate ongoing access to real-time data

For real-time data to deliver value for consumers, it is important that customers' and customer appointed representatives' connection to the real-time data stream is ongoing.

Our final rule explicitly requires MCs to facilitate ongoing access to real-time data.[234] This means that MCs must ensure that real-time data is continuously accessible from the smart meter to the small customer and customer authorised representatives who are permitted to access real-time data under the final rule (see section 4.2).

An MC will only revoke access to real-time data when requested to by a retailer (section 4.1.5 explains when a retailer would request an MC to revoke access).[235]

If a retailer appoints a new MC, the new MC must continue to facilitate ongoing access to real-time data

Where an MC appointed at a connection point changes, the final rule requires retailers to ensure that the new MC continues to facilitate ongoing access to real-time data.[236] Retailers are responsible for managing the customer experience and should ensure limited disruption to a customer's real-time data service if the retailer appoints a new MC at the connection point. In such a scenario, small customers or their appointed representatives will not have to engage with retailers again to request access to real-time data. We consider that it may be beneficial for the B2B procedures, outlined in section 4.4, to include guidance on how MCs and retailers should communicate to ensure access remains ongoing, with as little disruption as possible, when an MC at a connection point changes.

This is a change from our draft rule which required:[237]

- the outgoing MC to transfer control of any existing real-time data stream, including any security controls, to the new MC
- the new MC to facilitate ongoing access to real-time data at no charge.

Stakeholder feedback to the draft determination considered that the draft rule is inconsistent with current practice. This is because, in most cases, where an MC at a connection point changes, the new MC will replace the metering installation with its own technology because MCs, MPs and MDPs do not operate other metering businesses' meters.[238] This means that, in practice, MCs

233 Powershop, submission to the draft determination, p. 4.
234 Clause 7.15.7(f) of the Final Electricity Rule.
235 Clause 7.15.7(g) of the Final Electricity Rule
236 Clause 7.15.7(h) of the Final Electricity Rule.
237 Clause 7.15.7(h) of the Draft Electricity Rule.
238 Submissions to the draft determination, Intellihub, p. 11; PLUS ES, p. 20.

would not need to transfer control of the existing metering installation to the new MC because the new MCs would install a new meter.

To account for different scenarios when an MC at a connection point changes, we changed our position from the draft rule to a more outcomes-based final rule. Therefore, the final rule places the obligation on the retailer to ensure that access continues for the customer or their appointed representative when the MC at a connection point changes. Since a retailer can only charge once per premises to facilitate access to real-time data,[239] it would be in the retailer's interest to ensure the incoming MC has a real-time data enabled meter.[240]

4.3.3 MCs will facilitate access according to the requirements specified in the Rules and real-time data procedures

Our final rule requires MCs to facilitate access to real-time data in accordance with the requirements in the final rule and in AEMO's real-time data procedures.[241]

We consider that the definition of real-time data and the additional requirements that would be included in AEMO's real-time data procedures, discussed in Chapter 3, clarify how MCs must facilitate access to real-time data to support interoperability and data security.

Our final rule also requires MCs to facilitate access to real-time data according to the following requirements set out in the final rule:[242]

- **real-time data must be facilitated by, at a minimum, a one-way or unidirectional signal** - we do not consider that it is appropriate to require MCs to enable other devices to send information back to the meter, as this may create cybersecurity risks and compromise the integrity of the metering installation. However, the final rule would not prevent the MC from facilitating bi-directional flows, if they choose to. For example, a solution where a CER service provider could send signals to instruct the meter to trigger an action on another device. Therefore, the final rule includes this requirement that any access solution the MC develops only needs to facilitate data flowing one-way, which would necessarily be flowing out of the meter.
- **at least four parties must be able to access real-time data at the same time** - we consider multi-party, simultaneous access to real-time data is likely to be a key benefit of real-time data from smart meters. However, the more parties that can access real-time data simultaneously, the weaker the data signal could get. Therefore, on balance, we consider that it is important that MCs develop access solutions that facilitate multi-party access. We consider that, in most cases, no more than four parties would need to access real-time data from the same customer's meter simultaneously. Therefore, the final rule includes this requirement that all real-time data solutions must be designed so at least four parties can simultaneously access real-time data.

These minimum requirements are not included in AEMO procedures because we consider that these requirements are fundamental to the real-time data framework and are unlikely to need to change as readily as the other requirements set out in the procedures (see section 3.2).

Once real-time data is made available from the smart meter, such that another device can connect to an ongoing stream of real-time data, MCs would be considered to have facilitated access to real-time data under the final rule.

239 See rule 59F(2) of the Final Retail Rule.
240 This would be most relevant before 30 November 2028 since all new meters after that time must meet the new minimum specifications.
241 Clause 7.15.7(d) of the Final Electricity Rule.
242 Clause 7.15.7(d)(1) and (2) of the Final Electricity Rule.

How real-time data is delivered from the smart meter to a customer, or its appointed representative, is not the responsibility of the MC. MCs are not responsible for supplying devices to extract, receive, or translate data. However, our final rule would not prevent MCs from offering these devices to retailers as part of their obligation to facilitate access to real-time data as a potential solution for customers who do not have meters with the new minimum service specifications.[243]

4.3.4 MCs will provide information in response to a retailer's request to facilitate real-time data access

As discussed in section 4.1.1, our final rule makes retailers responsible for ensuring that real-time data is facilitated within 15 business days. This is after resolving any exceptional circumstances.

In practice, retailers will not have direct control over how long it takes real-time data to be made available from the smart meter because it is the role of the MC (and their appointed metering provider) to manage the metering installation. However, retailers have the commercial relationship with their appointed MC and must therefore ensure that their contractual arrangements reflect the relevant requirements so that the time it takes for the MC to facilitate access, and the time it takes for the retailer to engage with relevant parties, does not exceed 15 business days.

As discussed in section 4.1, to facilitate a good customer experience, customers would only need to interact with their retailer, and retailers would update customers on the progress of their request. It follows then that MCs need to inform retailers on the MC's progress for facilitating access so that the retailer can, in turn, keep their customer informed.

Our final rule requires MCs to notify retailers:[244]

- when the retailer's request to facilitate access has been completed
- if there are any exceptional circumstances that would require an extension to the 15 business day timeframe - these are the circumstances described in section 4.1.1
- if the MC cannot facilitate access - similarly, circumstances where access cannot be facilitated are described in section 4.1.1.

This ensures that MCs keep retailers informed throughout the process, which helps retailers facilitate a good customer experience for their customers.

4.3.5 MCs will facilitate secure access to real-time data

Technology is facilitating a more interconnected and interoperable power system. This increases the materiality of cybersecurity threats to the system. As discussed in section 2.2.1, the final rule would make smart meters wirelessly accessible to more devices.

The Commission considers that it is important that the smart meter remains secure to mitigate risks of unauthorised access and control of the smart meter. Breaches of smart meter technology could pose a significant threat to customers and the energy system.

The final rule requires MCs to ensure that:[245]

- access to real-time data is only given to a person for a purpose that is permitted under the Rules - this is so that data is not provided to an unauthorised person.

243 See rule 59E(2)(b)(v) of the Final Retail Rule.

244 Clause 7.15.7(e) of the Final Electricity Rule. These obligations help the retailer meet their corresponding obligations under rules 59E(3), (6), (9) and (10) of the Final Retail Rule.

245 Clauses 7.15.7(j) and (k) of the Final Electricity Rule.

- real-time data is protected from unauthorised access by suitable security controls - this could be controls that would protect data in cases of security breaches to a customer's Wi-Fi network.

These requirements are necessary because our final determination is not to apply the existing process relating to security controls for a small customer metering installation under clause 7.15.4 of the NER.[246] This is because, as described in more detail below, clause 7.15.4 is not well-suited for real-time data services facilitated by the final rule.

However, we expect MCs to largely leverage existing security measures used to comply with other security requirements in the Rules.[247]

The security measures that MCs implement to protect real-time data and the smart meter from unauthorised access would be in addition to other elements of the final rule, including:

- any security standards and security protocols that would be specified in AEMO's real-time data procedures, discussed in section 3.2
- the explicit requirement on MCs not to facilitate or provide access to a small customer's real-time data for any person other than the small customer or a real-time data authorised recipient, as discussed in section 4.2.

Explicit security requirements are necessary because not all existing requirements would work in practice

Under existing arrangements, MCs must ensure that:

- the metering installation is secure, and that associated links, circuits and information storage and processing systems are protected by security mechanisms acceptable to AEMO.[248]
- energy data held in the metering installation is protected from local and remote access by suitable password and security controls.[249]
- access to energy data held in a small customer metering installation is only given to a person and for a purpose that is permitted under the Rules.[250]

PLUS ES considered that the security requirements imposed by our draft rule was duplicative of existing arrangements.[251]

However, Rheem noted that the existing arrangements may prevent customers and their appointed representatives from receiving any relevant passwords to access real-time data.[252] This is because clause 7.15.4(e) of the NER prevents MPs from sharing passwords to customers and customer appointed representatives to access the meter. Whilst it is not necessarily these passwords that will be used to access to real-time data, we consider that this clause is unworkable in respect of real-time data.

Our final determination is to exclude real-time data from the application of clause 7.15.4.[253] Although the smart meters that will provide real-time data will be 'small customer metering installations',[254] the requirements in clause 7.15.4 for existing data sets - energy data and metering

246 Clause 7.15.4(a) of the Final Electricity Rule.
247 Clause 7.15.3, 7.15.4 and 7.15.5 of the NER.
248 Clause 7.15.2(a) of the NER.
249 Clause 7.15.3(a) of the NER.
250 Clause 7.15.4(b)(2) of the NER.
251 PLUS ES submission to the draft determination, pp. 20-21.
252 Rheem submission to the draft determination, p. 12.
253 Clause 7.15.4(a) of the Final Electricity Rule.
254 See section 3.1 for further discussion.

data - were not appropriate for real-time data. Therefore, the final rule includes the requirements for security in clause 7.15.7 of the final rule, along with the other requirements for real-time data.[255] This ensures that the existing security requirements in the Rules do not prevent customers or customer authorised representatives from accessing real-time data where permitted and required.

This also means that the security requirements under the final rule are not duplicative of existing arrangements. The requirements under the final rule are broad and allow MCs greater flexibility to implement security measures that are fit for purpose with respect to real-time data services.

4.3.6 MCs will cooperate with any dispute resolution process facilitated by an energy ombudsman

Currently, customers can make complaints or raise disputes with their retailer, DNSP, or energy ombudsman. Although metering services are not directly provided by retailers, customers experiencing issues related to the meter will tend to raise these with their retailer with whom they have a direct relationship. Retailers may not always have enough information to enable the energy ombudsman to resolve disputes.

Our final rule requires metering service providers (MCs, MDPs and MPs) to promptly:[256]

- provide any relevant information in their custody or control
- respond to any reasonable request for assistance

The AEMC proposes to recommend that the obligation on metering data providers and metering providers be classified as a tier 2 civil penalty provision. The reasons for this are discussed further in appendix C.5.

In practice, if a retailer requires information from an MC to resolve a dispute facilitated by the energy ombudsman, the retailer can request this information from the MC provided that it is a reasonable request. An MC must promptly provide any information in its custody or control. If the MC does not have this information, the MC will request the MP or MDP to provide the information if it is within their custody or control.

Information that retailers may request is not limited to information related to real-time data services. The Commission does not consider there is any reason to limit the scope of information that retailers may request other than to what is reasonable and within metering service providers' custody or control.

These obligations will commence on 30 November 2026. This is later than the 1 July 2026 commencement date of this requirement in the draft rule.

All consumers should have clear effective pathways to resolve disputes

In our draft determination, we considered that customers should have clear pathways to make complaints and resolve disputes concerning services related to real-time data and any other energy services. We also considered that information needed to respond to the complaint or resolve the dispute should be accessible by the parties seeking to resolve the complaint or dispute.[257]

We did not consider that a specific dispute resolution framework for real-time data was necessary or appropriate because it would be costly to implement, and there are other existing pathways for

255 For clarity, the final rule includes as much of the framework for real-time data in new clause 7.15.7 as possible.
256 Clauses 7.3.2(o), (p) and (q) of the Final Electricity Rule.
257 AEMC, Real-time data for consumers, draft determination, pp. 45-46.

disputes and complaints that should be used. Therefore, disputes related to real-time data should be raised through existing dispute resolution processes where possible.[258]

However, we acknowledged the issues regarding the limitations of the existing processes. The process and requirements for small customer complaints and dispute resolution, including for complaints referred to an energy ombudsman, are set out in the NERL.[259] These requirements include obligations on retailers and DNSPs to be members of an energy ombudsman scheme and therefore, to cooperate with an energy ombudsman in relation to small customer complaints and disputes.[260] However, metering service providers are not required to be members of an energy ombudsman scheme. As these requirements are set out in the NERL, the AEMC is unable to require MCs to be a part of an energy ombudsman scheme.[261]

However, to resolve some complaints or disputes, including for real-time data, the energy ombudsmen may require information that retailers may find difficult to access. For example, we understand that some of the information energy ombudsmen often require to resolve disputes is metering information held by metering service providers, but metering service providers may not respond to retailers' requests for information or assistance. We would not want this issue to be exacerbated by the introduction of a real-time data framework.

We considered that it is appropriate for the Rules to require metering service providers to comply with information requests from retailers where the retailer has received a request for information or assistance from an energy ombudsman to resolve a complaint or dispute. This would address concerns raised by stakeholders around the lack of access to information that is necessary for energy ombudsmen to resolve customer complaints and disputes.

Stakeholders suggested amendments to the dispute resolution requirements that we consider are not beneficial to consumers

PLUS ES considered that this requirement is unnecessary because it could be potentially duplicative of existing commercial arrangements.[262] They considered that this requirement and the attached civil penalty should be removed to avoid existing accountability mechanisms.[263]

We consider that this requirement is beneficial to consumers. The energy and water ombudsmen of South Australia, Queensland and New South Wales considered that this requirement would support them to achieve timely, fair and reasonable outcomes for customers.[264]

Given the feedback the Commission has received from energy ombudsmen, we do not agree that existing commercial arrangements are providing sufficient pathways for resolving customer complaints and disputes that relate to metering services. In any case, if metering service providers have existing arrangements in place, these could be leveraged to meet this new requirement.

SA Power Networks suggested that MCs should be required to respond to information requested by DNSPs because under existing arrangements DNSPs must also respond to requests from an ombudsman.[265] SAPN considered that this would ensure that DNSPs are able to best manage ombudsman enquiries on behalf of consumers. Our final determination is not to require metering

258 Ibid.

259 Part 4 of the NERL.

260 Section 86 of the NERL.

261 The AEMC can make amendments to the energy rules (NER, NERR and NGR) through the rule change process, but cannot make amendments to the energy laws (NEL, NERL and NGL), which are amended through Parliament.

262 PLUS ES, submission to the draft determination, p.17.

263 Ibid.

264 EWON, EWOQ and EWOSA joint submission to the draft determination, p. 5.

265 SAPN submission to the draft determination, p.2.

service providers to respond to information requests from DNSPs as well because under the final rule, the ombudsmen should be able to access this information through retailers. We do not consider there is any additional value in enabling DNSPs to also access information from MCs.

PLUS ES expressed concern about the volume of unnecessary or irrelevant queries directed to the MC that fall outside their scope of responsibility. PLUS ES suggested that final rule limit information requests to the metering installation as this would reduce the risk that requests are beyond the scope of MCs to provide.[266] We consider that the final rule addresses this concern because the final rule limits information requests to requests for information and assistance that are reasonably required and for information that is in the custody or control of the relevant metering service provider. Therefore, if as Plus ES suggests, for example, an MC receives a request relating to information within the jurisdiction of the DNSP, then that information would be unlikely to be within the custody or control of the MC, and the MC could respond accordingly.

Intellihub considered that the commencement date of this rule should be later, once any new B2B procedures, discussed below, have commenced.[267] These obligations will commence on 30 November 2026, which is later than the 1 July 2026 commencement date of this requirement in the draft rule. However, given these requests will not necessarily be B2B communications, and metering service providers already have established processes to communicate this information, we do not consider a later commencement date is required.

4.4 The B2B procedures may clarify how businesses communicate with each other

The B2B procedures set out the standards and processes for exchanging information between B2B parties.[268] B2B parties include DNSPs, MCs and retailers.

The B2B procedures provide for B2B communications to support each of the services set out in the minimum service specifications.[269] Our final rule amends the minimum service specifications to include a real-time data service (as discussed in section 2.2), and will require communication between MCs and retailers to provide real-time data services.

The information exchange committee (IEC) established by AEMO manages the ongoing development and changes to B2B procedures.[270] The IEC considered that the final rule will require changes to B2B transactions and participant systems and processes.[271] As discussed in chapter 2, we consider that the IEC has sufficient time to amend and commence any new procedures by the commencement date of the final rule.

4.5 Application of the final rule

The final rule only applies to small customers.[272] Consistent with the *Accelerating smart meter deployment rule*, our final rule does not apply to customers in embedded networks,[273] and would largely not apply in Victoria. Table 4.3 discusses the application of the final rule further. The application of the rule to the Northern Territory is discussed in appendix C.4.

266 PLUS ES, submission to the draft determination, p.17.
267 Intellihub, submission to the draft determination, p. 6.
268 Clause 7.17.3 of the NER.
269 Clause 7.17.3(a)(1) of the NER.
270 Clause 7.17.7 of the NER.
271 IEC, submission to the draft determination, p. 1.
272 Division 9B, rule 59E(1) of the Final Retail Rule and clause 7.15.7(a) of the Final Electricity Rule.
273 See the wording in Division 9B, rule 59E(1) of the Final Retail Rule.

Table 4.3: Application of the rule

Category	Application	Reason
Small customers (customers that consume less than 100 megawatt hours per annum)	The final rule will only apply to small customers, not large customers	We consider that large customers already have access to, or can readily negotiate access to, real-time data and benefit from real-time data through participation in VPPs.
Embedded networks	The final rule would not apply to embedded networks	Stakeholders sought greater clarity on whether our final rule would apply to embedded networks particularly child connection points.[1] The policy intention of the draft rule was that it did not apply to embedded networks, but we have made a drafting change from our draft rule to further clarify that the final rule will not apply to customers in embedded networks. The final rule excludes these customers from the explicit right to be able to request access to real-time data in rule 59E(1) of the final retail rule. Embedded networks have different metering and retail arrangements and relationships. The final rule is not designed to apply to the specific arrangements in embedded networks and therefore could not apply to embedded networks.
NEM Jurisdictions	The draft rule would generally not apply to Victoria	The NER and NERR (including any changes to those rules) apply differently in Victoria. Under Victoria's legislative framework: • the NERR, other than Part 12, does not apply; • amendments to the NER will generally apply. However, the Victorian Minister may declare that certain NER provisions (including provisions in Chapter 7 of the NER) do not apply in Victoria. This has implications for this rule since it involves significant amendments to the NERR, which mostly do not apply in Victoria. It is the amendments to the NERR that give the right to small customers to request access to real-time data and create the obligation for retailers to facilitate access to real-time data. Therefore, the non-application of the NERR amendments in Victoria will mean that, in practice, there is not the same ability for small customers in Victoria to ask retailers to enable real-time data. As is standard practice with all rule changes, the Victorian Government will need to consider changes that may be required to the Energy Retail Code of

Category	Application	Reason
		Practice, National Energy Retail Law (Victoria) Regulations 2024, or other legislative arrangements to implement the rule change. As discussed in the Directions Paper, Victorian smart meters are ZigBee enabled, meaning they can communicate near real-time data to customers. This access is universal and free to Victorians. Therefore, the Victorian Government may conclude that the rule change is not required for Victorian consumers. However, ZigBee is not widely interoperable.
Customers who have consented to aggregate their consumption under Part 1, Division 2, Rule 5 of the NER. These are typically business customers who have elected to be treated as large customers.	Whether the final rule applies would depend on how the retailer and the customer agree to apply or disapply Division 9B in Part 2 of the NERR when coming to an agreement under rule 5(2)(b) of the NERR.	Powershop sought greater clarity on whether our rule would apply to small customers who agree to be treated as large customers under rule 5 of the NERR.[2] A decision under rule 5 of the NERR for aggregation and any disapplication of small customer protections requires agreement between the customer and retailer. If the customer does not agree to aggregate and 'switch off' the small customer protections, then they remain a small customer and can access real-time data under the final rule. If a customer agrees to aggregate, but to only disapply certain elements of Part 2 of the NERR (not the new Division 9B for real-time data, for example), then the customer could access real-time data under the final rule. Customers who agree to be treated as large customers could also negotiate with retailers to enable the final rule to apply, or commercially negotiate access to real-time data through their contractual arrangements with the retailer outside of the framework in the final rule.

Source: [1]Powershop, submission to the draft determination, p. 4.[2]Powershop, submission to the draft determination, p. 4.

5 The final rule would contribute to the energy objectives

5.1 The Commission must act in the long-term interests of energy consumers

The Commission can only make a rule if it is satisfied that the rule will or is likely to contribute to the achievement of the relevant energy objectives.[274]

For this rule change, the relevant energy objectives are the NEO and NERO.

The NEO is:[275]

> 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 NERO is: [276]

> to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to—
>
> (a) price, safety, reliability and security of supply of energy; and
>
> (b) 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 targets statement, available on the AEMC website, lists the emissions reduction targets to be considered, as a minimum, in having regard to the NEO and NERO.[277]

5.2 We must also take these factors into account

5.2.1 We have considered whether to make a more preferable rule

The Commission may make a rule that is different, including materially different, to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule is likely to better contribute to the achievement of the NEO and NERO.[278]

274 Section 88(1) of the NEL and 236(1) of the NERL.
275 Section 7 of the NEL.
276 Section 13 of the NERL.
277 Section 32A(5) of the NEL and 224A(5) of the NERL.
278 Section 91A of the NEL and section 244 of the NERL.

For this rule change, the Commission has made a more preferable final electricity rule and more preferable final retail rule. The reasons are set out in section 5.3 below.

5.2.2 We have considered how the rule would apply in the Northern Territory

In developing the final rule, the Commission has considered how it should apply to the Northern Territory according to the following questions:

- Should the NEO test include the Northern Territory electricity systems? Yes. The Commission considers that the NEO test should include the Northern Territory electricity systems given that this rule will apply in the Northern Territory (even though it will have no practical effect).
- Should the rule be different in the Northern Territory? Yes. The Commission's final determination is for a differential rule that does not apply in the Northern Territory. The Commission considers that a uniform rule would not achieve the NEO as it would increase costs, complexity and ambiguity in the Northern Territory because amendments to the NT NER would be needed to implement those parts of the rule that apply in the NT NER, but would have no practical effect without the other parts of the rule that do not apply. Therefore, the Commission considers that a differential rule that disapplies the entirety of the final rule from adoption into the NT NER would be a suitable solution. The Commission's final determination is therefore to make a differential rule so that the final rule does not have effect in the Northern Territory and no amendments to the NT NER will need to be made as a result of this final rule. The Commission considers that, in light of the issues identified above, a differential rule not to apply the final rule in the NT NER will, or is likely to, better contribute to the achievement of the NEO than a uniform rule or differential rule that applies parts of the final rule.

See appendix C for more detail on the legal requirements for our decision.

5.2.3 We have considered the consumer protections test for this rule change

In addition to applying the NERO, the Commission must, where relevant, satisfy itself that the rule is "compatible with the development and application of consumer protections for small customers, including (but not limited to) protections relating to hardship customers" (the consumer protections test).[279] Where the consumer protections test is relevant in making a rule, the Commission must be satisfied that both the NERO test and the consumer protections test have been met.[280] If the Commission is satisfied that one test, but not the other, has been met, the rule cannot be made (noting that there may be some overlap in the application of the two tests).

The Commission is satisfied that the final rule meets the consumer protections test for the reasons set out in section 5.3 below.

5.3 How we have applied the legal framework to our decision

The Commission must consider how to address challenges of accessing real-time data from smart meters against the legal framework.

The Commission has considered the NEO, the NERO, the consumer protections test and the issues raised in the rule change request, and has assessed the more preferable final rule against the assessment criteria outlined in the consultation paper.

279 Section 236(2)(b) of the NERL.

280 That is, the legal tests set out on sections 236(1) and (2)(b) of the NERL.

We identified the following assessment criteria to assess whether the proposed rule change, no change to the rules (business-as-usual), or other viable, rule-based options are likely to better contribute to achieving the NEO and NERO:

- Delivering good consumer outcomes
- Improving market efficiency
- Encouraging innovation and maintaining flexibility
- Facilitating smooth implementation

These assessment criteria reflect the key potential impacts – costs and benefits – of the rule change request, for impacts within the scope of the NEO and NERO. These assessment criteria were proposed in our consultation paper. We have not changed these criteria based on stakeholder support for these criteria.

The rest of this section explains why the final rule is likely to better contribute to achieving the NEO and the NERO than the proposed rule, and how it will meet the consumer protections test, based on each of the assessment criteria.

5.3.1 Delivering good outcomes for consumers

Our final rule will deliver good consumer outcomes by:

- **Enabling consumer choice -** our final rule increases consumers choice. Our final rule will give consumers three choices; access real-time data from smart meters, access real-time data from other devices including in-built CER metering, and not access real-time data at all. Consumers with meters installed before 30 November 2028 may choose to pay to bring forward the replacement or retrofit their meter to access real-time data, if these consumers want to avoid the installation of alternative devices.
- **Facilitating a good consumer experience -** our final rule leverages the existing relationship between retailers and their customers. To access real-time data, consumers may simply request access to real-time data from their retailer, or instead may appoint representatives to access this data on their behalf.
- **Enabling universal access to real-time data at low cost -** whilst consumers will pay implementation costs and the costs to change the minimum service specifications, these costs are low. In return, all consumers would be able to access real-time data from smart meters, free of charge, with some customers having access free of charge as soon as 30 November 2028. As explained in section 2.4, our final rule is lower cost that the draft rule and rule change proposal.
- **Ensuring good consumer protections -** Our final rule
  - protects consumers from unreasonable data access charges, in that it will not enable retailers to charge consumers more than the reasonable costs incurred to facilitate access to real-time data
  - protects consumers from unauthorised parties accessing data about them - it requires any party that wants access to real-time data to first obtain consumer consent and contains an express prohibition on any person providing access to a real-time data without the customer's consent.
  - requires real-time data to be treated as affected customer information, so that customers experiencing family violence consent are appropriately protected from misuse of their data.

- Compared to the draft rule, our final rule:
  - better supports the AER in its enforcement functions with proposed civil penalty recommendations (see appendix C.5)
  - provides more consumer protections by requiring customer authorised representatives to only use real-time data for the service that was consented to by the customer (see section 4.2.4).

5.3.2 Improving market efficiency

In considering whether to make a final rule, the commission considered whether the final rule would lower costs for consumers. We consider the final rule will improve:

- productive efficiency - all consumers will have access to real-time data at the lowest costs, which in turn reduces site monitoring costs. This means that customers would continue to integrate CER but more efficiently at lower costs to consumers.
- dynamic efficiency - real-time data from smart meters facilitates interoperability which means more technologies can access real-time data. This supports more future innovators using real-time data to deliver services to consumers, including supporting home energy management systems (HEMS).

Furthermore, as discussed in section 2.4 we consider that the final rule is lower cost compared to the proposal outlined in rule change request and to the draft rule.

As explained in chapter 2, our final rule will lead to greater productive efficiency in real-time data access than the proposal outlined in the rule change request because it adopts a lower cost solution to enable universal access to real-time data. The proposal in the rule change request would socialise the costs of meter replacements, which, as shown by the CBA, would impose high costs on consumers. The draft rule would have higher costs due to the additional cost of a physical communications port. Therefore, we consider the final rule is likely to better contribute to the achievement of the NEO and NERO than the proposed rule and draft rule.

5.3.3 Encouraging innovation and maintaining flexibility

Our final rule will help create a future where consumer data is more responsive to consumer needs.

Our final rule will encourage energy service providers to use real-time data from smart meters to deliver value for consumers in innovative ways. This is because our final rule makes it easier and less costly to access real-time data for consumers and for a range of parties that could use the data to deliver consumer services.

As discussed in section 3.2, AEMO's real-time data procedures will facilitate interoperability, which means more technologies will be able to access real-time data to provide innovative services to consumers. Changing the min specs would further support interoperability.

We consider that interoperability is a critical factor in the context of real-time data. Failure to achieve interoperable data services risks a proliferation of access methods and technologies, which could lead to material burdens and costs on consumers. For example, absent an interoperable service, consumers may be locked-in to particular providers or technologies. These providers could potentially charge high costs for services, in the knowledge that their customers are unable to move provider without having to replace technologies or software, which could be costly. We consider that this is a negative outcome that should be avoided.

As discussed in section 2.2.3, we also consider that embedding wireless functionality in all meters future-proofs the technology of smart meters. This enables the smart meter to deliver more value for consumers in the future through other innovative services.

We consider that our final rule will also be sufficiently flexible to enable MCs to develop a range of real-time data access solutions. Whilst the final rule imposes clear obligations on MCs and retailers and clarifies expectations around how real-time data should be made accessible, we consider there are multiple ways access to real-time data from smart meters could be enabled under the requirements of the final rule. For example, wireless access could be provided using cloud technology or onsite devices. We consider that the final rule appropriately provides clarity to give certainty to industry and protect consumers whilst not being overly prescriptive. Therefore, we consider the final rule is likely to better contribute to the achievement of the NEO and NERO than the proposed rule.

5.3.4 Facilitating smooth implementation

Our final rule leverages existing relationships and responsibilities to implement the proposed framework to facilitate a smooth implementation. For example, retailers would continue to be responsible for consumer engagement, AEMO would be responsible for setting standards and protocols, and MCs would be responsible for ensuring new smart meter technology is accessible to all consumers.

The final rule will require multiple pieces of work to be progressed by separate parties. The final rule will allow for a nearly three-year transition period. This is intended allow sufficient time for:

- AEMO to develop real-time data procedures and accreditation requirements and procedures
- IEC to update the B2B procedures
- MCs and retailers to consider updates to their processes and systems and to consult with industry when developing the real-time data service.

Our final rule will be easier to implement than the approach proposed in the rule change request, and therefore, we consider it is likely to better contribute to the achievement of the NEO and NERO than the proposed rule. This is because our final rule aligns the installation of new meters compliant with the updated min specs with the natural replacement cycle of meters. This allows the final rule to be implemented under existing meter replacement plans and would not require significant changes to these plans, nor would it result in the early replacement of meters that are perfectly functional and not due for replacement. The proposal in the rule change request would require metering providers to revisit customer premises to retrofit or replace meters, most of which would have been installed relatively recently and would not be due to be replaced.

Our final rule is easier to implement than our draft rule because in gives industry an additional year to implement the rule. This should reduce transition costs and allow the use of meters already purchased under existing specifications for longer. Therefore, we consider it is likely to better contribute to the achievement of the NEO and NERO than the draft rule.

A Real-time data provides incremental value to consumers

All consumers are different and derive different value from data.

A.1 Currently, consumers and third parties can access a range of data

As summarised in Table A.1 the Rules and other frameworks facilitate consumers and their appointed representatives to access a range of data to meet various consumers needs.

Table A.1: Types of data accessible under existing frameworks

Type of data	Description	Access pathway
Energy consumption data	Any type of data from a meter that is more than 24 hours old.	Consumer data right (CDR) or Under the Rules as per NER clause 7.10.3 and 7.15.5. NER rule 7.14 metering data provision procedures enable consumers to request data up to four times a year without charge. or Retailer applications and web portals.
Basic PQD	Voltage, current and phase angle received at least once per day.	Distribution network service providers (DNSPs) receive this data for free under Clauses 7.15.5 and 7.16.6C of the NER (commences 1 July 2026).
Advanced PQD	Voltage, current and phase angle received more than once per day.	Parties must commercially negotiate with Metering Coordinators (MC) to access this data.
Near-real-time data	Energy consumption data at a lag greater than 5 seconds.	Consumers can arrange installation of digital meter readers that attach to the meter and reflect a consumer's energy consumption data in a mobile application. Victoria successfully implemented a mechanism that provided Victorian consumers with access to near real-time data through digital

Type of data	Description	Access pathway
		meter readers. There was a material take-up of these devices.

These types of data are valuable to consumers because they inform network planning and operation, and a range of consumer energy choices.

A.2 Real-time data can deliver incremental value for consumers

A.2.1 CER can lower consumer bills

CER operators, for the purposes of this determination, are parties that manage the import and export of consumers' solar photovoltaic, battery energy storage system and electrical vehicle charging assets, and to an extent, smart appliances.

CER is primarily operated by intelligent machines or systems like:

- Home energy management systems (HEMS) which uses an onsite device to manage CER.
- Virtual power plants (VPP) which is a cloud-based management system.

The benefits of CER for consumers with CER technologies include:

- flexibility in how and when they use energy - CER operators can manage CER in a way that best responds to market price signals, like time-of-use tariffs, to lower consumers' energy bills. For example, CER will consume energy from the grid when prices are low and export energy when prices are high.
- financial returns from allowing CER technologies to be used in the wider power system
- contributing to the achievement of a net zero energy system.

More integrated CER also has indirect benefits for consumers without CER including:

- lower system and wholesale cost
- a net zero energy system.

A.2.2 Sometimes limits are placed on how much energy CER can export to the grid

AEMO, networks, and retailers set export limits to manage fluctuations in frequency and congestion on the network. Export limits are placed in the event of an emergency backstop or when participating in a dynamic operating envelope (DOE).

This means that CER operators would need to change the way they manage CER to meet the conditions of the export limit.

A.2.3 CER operators use real-time data to manage CER under export limits

Site monitoring is the constant monitoring of energy flows at a customer's connection point with the grid. It is useful for a CER operator to be able to conduct site monitoring to know how much energy the premises is consuming from the grid i.e. the net imports or exports. This information, accessed continuously, is real-time data.

With this information the customer would be able to calculate how much energy is being used by the household and how much energy is being used or generated by the CER system.

Without using real-time data to conduct site monitoring, it would be impossible for a CER operator to know, with certainty, whether the CER system is complying with the export limit unless the entire CER system is shut down.

Box 5: Example: Using real-time data to operate CER under export limits

Consider a CER system that is generating 10kW. Real-time data tells the CER operator that the premise is consuming 2kW, so 8kW is being exported to the grid. When the system is not meeting the minimum required load to keep the system secure, an export limit would be set to raise the load.

A CER operator has two options:

1. Shut down the CER. This means the consumer would be consuming 2kW from the grid.
2. Curtail CER output to 2kW. This means that no energy would be exported or imported from the grid. The household can still use CER.

Whilst option 1 may be the simplest, option 2 may lower consumer bills if importing from the grid is positively priced. Without real-time data from the connection point, option two is not possible – the CER operator would not know how much to curtail the CER system.

Separately DNSPs could use real-time data to deliver other network services. For example, DNSPs can monitor the site for the purposes of fault detection and respond to faults quicker.

A.2.4 The value of real-time data is greater than the benefits managing CER under export limits

All consumers are different and derive different value from data.

In addition to managing CER, real-time data can support customers to make more informed energy choices.

Access to real-time data encourages innovation by creating the opportunity for industry to use real-time data in new ways to provide a range of services that deliver value for all consumers.

The Commission agrees that real-time data delivers value for consumers. The Commission considers that the regulatory framework should encourage the market to maximise the value of real-time data for all consumers. We consider that all consumers should be able to access real-time data at low cost and use real-time data in whatever way they consider would deliver value.

A.3 The value of real-time data will likely grow with time

Demand for real-time data is currently modest.

As more consumers continue to adopt CER, we anticipate that demand for real-time data will likely grow, in part, because of the progression of emergency backstop-type mechanisms and other DOEs across jurisdictions. Customers may choose to access real-time data to manage their CER during periods of export limits.

Victoria has implemented emergency backstop requirements.[281] New South Wales is looking to implement emergency backstop requirements in March 2026.[282] In Queensland, AEMO is recommending the implementation of emergency backstop for CER systems less than 10kW. AEMO is also recommending the consideration of an emergency backstop in Tasmania.

281 For more information of the Victorian emergency backstop mechanism see here.

282 NSW has recently published a consultation report on its solar emergency backstop mechanism, see here.

As explained earlier, our draft rule supports interoperability, which means more devices can access real-time data. This could potentially unlock new use cases for real-time data and encourage more energy service providers to use real-time data to deliver value for consumers.

A.4 It is difficult to access real-time data from smart meters

A.4.1 Currently, accessing real-time data is costly

Currently, CER system operators install CTs, power meters, or other devices near the meter to access real-time data. These are configured to communicate with CER systems. The choice between which device to install depends on the characteristics of the individual CER system and whether it is compatible with a CT or power meter. The cost of these devices is generally packaged up as part of the cost of the CER service.

If a consumer has multiple CER operators at a single premises, then each would likely have their own devices installed near the smart meter to access real-time data. If a consumer has a home energy management services (HEMS) or is part of a virtual power plant (VPP), only one device is required to access real-time data, because the device would send data directly to the HEMS or VPP cloud system.

Real-time data could be accessed directly from the smart meter

To avoid the need for other devices, real-time data could be accessed directly from the smart meter if a CER device connects to a physical meter communications data port (port). However, this is not being done currently because ports are not accessible. Currently, MCs secure the ports in a locked box on the meter. This ensures that bad agents cannot compromise the integrity and security of the meter.

Some smart meters in the existing fleet, and installed in the near term, do not have ports that could be used in this way.

No other solution to access real-time data from the smart meter has been developed and tested in the market. MCs have suggested two potential ways that smart meters could facilitate access to real-time data without compromising the meter's integrity and security. Both solutions proposed are wireless to mitigate any security risk. They are as follows:

1. General wireless access via the cloud: The smart meter could send real-time data to a secure cloud over Wi-Fi. An electricity service provider then could pull the data from this cloud.
2. Wireless access given to a specific CER device: The smart meter could send data wirelessly over Wi-Fi directly to the customer's CER device or some intermediary device installed at the premises.

These solutions require the meters to be able to communicate wirelessly over Wi-Fi. MCs noted that many, if not most, of the meters being installed do not have this functionality at present.

We consider that in addition to the wireless solutions, there is still the potential for CER devices to physically connect to a port. However, unlike the ports currently installed with the meter, this port would need to be accessible and only facilitate a one-way flow of information that prevents devices connected to this port from controlling the meter or compromising the meter's security and integrity.

Commercial negotiation to access real-time data from the smart meter is difficult

The Rules and AEMO procedures currently do not provide a clear and explicit framework that supports consumer and third-party access to real-time data from smart meters.

The current arrangements under the metering framework allow for third parties to commercially negotiate with MCs to access real-time data or similar services, such as through the metering installation inquiry service.[283]

From bilateral discussions with stakeholders, we understand that third-party commercial negotiations to access real-time data can be difficult. Retailers may create barriers to commercial negotiations between MSPs and third parties to access real-time data, and MSPs may not offer fair and reasonable prices or terms and conditions for third-party access.

Due to the barriers to accessing real-time data from smart meters, consumers and third parties often currently opt for alternative ways to access real-time data.

A.4.2 Enabling access to real-time data from smart meters avoids the cost of installing other devices

Stakeholders consider that while consumers can use these alternative methods to access real-time data and take advantage of the benefits that real-time data provides, opting for these alternatives is costly.[284] Under the present arrangement, consumers pay for any additional metering infrastructure that records real-time data.[285]

The Commission considers that enabling access to real-time data from the smart meter could save consumers the cost of installing alternative devices. This assumes that accessing real-time data from smart meters is a close to perfect substitute to accessing real-time data from other devices. This means that we would expect consumers and third parties to access real-time data from smart meters when it is available.

If consumers can access real-time data from the smart meter, then there is no need to install other devices. We assume the cost savings from avoiding these device installations would be passed through to CER consumers.

A.4.3 Enabling access to real-time data from smart meters is also costly

As many meters currently installed do not have the in-built functionality to communicate real-time data, there are two material costs consumers would incur to enable access to real-time data:

1. Metering infrastructure costs: There are costs of replacing or retrofitting meters without real-time data functionality before the end of its economic life and therefore out of the natural replacement cycle. This includes the cost of new devices and installation costs.
2. Implementation costs: These costs vary depending on how MCs enable access to real-time data. MCs have not commenced designing these solutions, so significant research, development and testing would be required. These solutions would have to be interoperable and secure.

For future meters, the costs of accessing real-time data may be reduced by embedding real-time data communications functionality as part of the meter's min specs.

283 Service (e) in Table S7.5.1.1 in Schedule 7.5 of the NER.

284 Submissions to the consultation paper: Rheem, pp. 6-7; SMA Australia, p. 1.

285 Submissions to the consultation paper: Rheem, pp. 6-7; SMA Australia, p. 1.

B Rule making process

This rule change request includes the following stages:

- a proponent submits a rule change request
- the Commission initiates the rule change process by publishing a consultation paper and seeking stakeholder feedback
- stakeholders lodge submissions on the consultation paper and engage through other channels to make their views known to the AEMC project team
- the Commission publishes a draft determination and draft rule
  - stakeholders lodge submissions on the draft determination and engage through other channels to make their views known to the AEMC project team
- the Commission publishes a final determination and final rule.

This rule change also included a directions paper stage before the publication of the draft determination, where clarifying questions and policy positions were tested with stakeholders. Following feedback on the directions paper and diverging stakeholder opinions, we commissioned an independent CBA. To accommodate these modifications, and given the complexity of the issues considered as part of the rule change, the publication date of the draft and final determinations were extended.

You can find more information on the rule change process on our website.[286]

B.1 The proponent proposed a rule to increase the value of smart meters to consumers

On 24 June 2024, ECA submitted a rule change request arguing that all consumers would benefit from access to real-time data from the smart meter, but that it is difficult to access this. The proposal requested the AEMC make a rule to enable consumers and their appointed representatives to access real-time data from smart meters.

ECA considered that this would increase the value of smart meters by ensuring that the data they produce is accessible and actionable for all consumers.

B.2 The proposal addressed barriers to access real-time data

This rule change request seeks to improve consumer accessibility to real-time data. As explained in appendix A.4, consumers need to pay for separate devices to access real-time data. This rule change request considers that the cost of accessing real-time data is high and the cost would be much lower if consumers could access real-time data directly from the smart meter. As explained in appendix A.4 it is difficult to access real-time data from smart meters. The Rules did not provide a framework that facilitates access to real-time data from smart meters.

B.3 It proposed to do so by introducing an enabling framework for access to real-time data from the smart meter

Ultimately, the proposal intends to create a framework to enable access to real-time data from the smart meter, at no charge. This would give consumers greater optionality over how consumers access data. This enables consumers to make more informed energy choices.

286 See our website for more information on the rule change process: https://www.aemc.gov.au/our-work/changing-energy-rules

B.4 The process to date

On 10 October 2024, the Commission published a notice advising of the initiation of the rule making process and consultation in respect of the rule change request.[287] A consultation paper identifying specific issues for consultation was also published. Submissions closed on 7 November 2024. The Commission received 39 submissions as part of the first round of consultation.

To publish a directions paper, we extended timeframes. The directions paper was published on 30 January 2024 and submissions closed on 20 February 2025. The Commission received 41 submissions as part of the second round of consultation. The Commission considered all issues raised by stakeholders in submissions.

Based on stakeholder feedback, the Commission engaged Oakley Greenwood to undertake a CBA. We extended the publication of the draft determination to consider the CBA.

The Commission published a draft determination, draft rule and draft CBA report on 11 September 2025. The draft determination represented a shift from the directions paper proposal based on stakeholder feedback and findings of the draft CBA.

On 2 October 2025, we held an online forum where stakeholders had the opportunity to ask questions about the draft determination before providing formal submissions to the draft determination.

Submissions to the draft determination closed on 23 October 2025. The Commission received 32 submissions as part of the third round of consultation and these have been considered in developing the final determination and final rules.

During the course of the rule change, we also held bi-lateral discussions with stakeholders to discuss technical and other issues related to the rule change.

287 This notice was published under sections 95 of the NEL and 251 of the NERL.

C Legal requirements to make a rule

This appendix sets out the relevant legal requirements under the NEL and NERL for the Commission to make a final rule determination.

C.1 Final rule determination and final rules

In accordance with section 99 of the NEL and section 256 of the NERL, the Commission has made this final rule determination in relation to the rule proposed by Energy Consumers Australia.

The Commission's reasons for making this final rule determination are set out in chapter 5.

A copy of the final electricity rule and final retail rule is attached to and published with this final determination. Their key features are described in chapters 2, 3 and 4.

C.2 Power to make the rule

The Commission is satisfied that the more preferable final rule falls within the subject matter about which the Commission may make rules.

The final electricity rule falls within section 34 of the NEL as it relates to:

- the activities of persons (including Registered participants) participating in the national electricity market or involved in the operation of the national electricity system (section 34(1)(a)(iii))
- facilitating and supporting the provision of services to retail customers (section 34(1)(a)(ii)).

The final retail rule falls within the matters set out in Schedule 1 section 29 to the NEL as it relates to facilitating and supporting the provision of services to retail customers.

The final rule falls within section 237 of the NERL as it relates to:

- the provision of energy services to customers, including customer retail services and customer connection services (section 237(1)(a)(i))
- the activities of persons involved in the sale and supply of energy to customer (section 237(a)(ii))
- the provision of information about matters associated with the use of smart meters and other related technologies, including the remote de-energisation of premises and control of appliances (section 237(2)(ia)(v)).

C.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NEL and NERL to make the more preferable final rule
- the rule change request
- submissions received during first round consultation
- submissions received to the directions paper
- submissions received to the draft determination
- the Commission's analysis as to the ways in which the draft rule will or is likely to contribute to the achievement of the NEO and NERO
- the application of the final rule to the Northern Territory

- the extent to which the rule is compatible with the development and application of consumer protections for small customers.

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[288]

C.4 Making electricity rules in the Northern Territory

The NER, as amended from time to time, apply in the Northern Territory, subject to modifications set out in regulations made under the Northern Territory legislation adopting the NEL.[289] Under those regulations, only certain parts of the NER have been adopted in the Northern Territory.

As the final electricity rule relates to Chapter 10 of the NER, which applies in the Northern Territory, the Commission is required to assess Northern Territory application issues, described below. In relation to metering, Chapter 7A applies in the Northern Territory instead of Chapter 7.

Test for scope of "national electricity system" in the NEO

Under the NT Act, the Commission must regard the reference in the NEO to the "national electricity system" as a reference to whichever of the following the Commission considers appropriate in the circumstances having regard to the nature, scope or operation of the proposed rule:[290]

1. the national electricity system
2. one or more, or all, of the local electricity systems[291]
3. all of the electricity systems referred to above.

Test for differential rule

Under the NT Act, the Commission may make a differential rule if it is satisfied that, having regard to any relevant MCE statement of policy principles, a differential rule will, or is likely to, better contribute to the achievement of the NEO than a uniform rule.[292] A differential rule is a rule that:

- varies in its term as between:
  - the national electricity systems, and
  - one or more, or all, of the local electricity systems, or
- does not have effect with respect to one or more of those systems

but is not a jurisdictional derogation, participant derogation or rule that has effect with respect to an adoptive jurisdiction for the purpose of s. 91(8) of the NEL.

A uniform rule is a rule that does not vary in its terms between the national electricity system and one or more, or all, of the local electricity systems, and has effect with respect to all of those systems.[293]

The Commission's draft determination in relation to the meaning of the "national electricity system" and whether to make a uniform or differential rule are set out in chapter 5.

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288 Under s. 33 of the NEL and s. 73 of the NGL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for energy. On 1 July 2011, the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. In December 2013, it became known as the Council of Australian Government (COAG) Energy Council. In May 2020, the Energy National Cabinet Reform Committee and the Energy Ministers' Meeting were established to replace the former COAG Energy Council.

289 These regulations under the NT Act are the National Electricity (Northern Territory) (National Uniform Legislation) (Modifications) Regulations 2016

290 Clause 14A of Schedule 1 to the NT Act, inserting section 88(2a) into the NEL as it applies in the Northern Territory.

291 These are specified Northern Territory systems, listed in schedule 2 of the NT Act.

292 Clause 14B of Schedule 1 to the NT Act, inserting section 88AA into the NEL as it applies in the Northern Territory.

293 Clause 14 of Schedule 1 to the NT Act, inserting the definitions of "differential Rule" and "uniform Rule" into section 87 of the NEL as it applies in the Northern Territory.

C.5 Civil penalty provisions and conduct provisions

The Commission cannot create new civil penalty provisions or conduct provisions. However, it may recommend to the Energy Ministers' Meeting that new or existing provisions of the Rules be classified as civil penalty provisions or conduct provisions.

The NEL sets out a three-tier penalty structure for civil penalty provisions in the NEL, NERL, NER and the NERR.[294] A Decision Matrix and Concepts Table,[295] approved by Energy Ministers, provide a decision-making framework that the Commission applies, in consultation with the AER, when assessing whether to recommend that provisions of the NER should be classified as civil penalty provisions, and if so, under which tier.

Subject to consulting with the AER, the Commission proposes to make the following civil penalty recommendations to the Energy Ministers' Meeting in relation to the final electricity rule and final retail rule.

Table C.1: Civil penalty provision recommendations

Rule	Description of rule	Proposed classification	Reason
New Clause NER 7.3.2(q)	MPs and MDPs who receive a request from an MC for information or assistance, which has been requested of the MC by a retailer who received such a request from an energy ombudsman, must promptly provide the requested information or assistance.	Tier 2	Non-compliance with this provision could result in failure to comply with requirements regarding billing disputes, which is a consumer harm (type 2). Not providing access to this information could impede the ability to resolve disputes that are impacting customers, which could have a range of harmful impacts for the customer, including creating or exacerbating financial difficulties and psychological impacts such as stress. The information held by MPs and MDPs can be important for the resolution of disputes and customer complaints, but retailers and energy ombudsman have no pathway to access this information from MPs and MDPs under the Rules and current practices are preventing this information from being provided. It is therefore important that MDPs and MPs treat these requests seriously and comply with such requests promptly.

294 Further information is available at https://www.aemc.gov.au/regulation/energy-rules/civil-penalty-tools

295 The Decision Matrix and Concepts Table is available at: https://web.archive.org.au/awa/20210603104757mp_/https://energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/Final%20-%20Civil%20Penalties%20Decision%20Matrix%20and%20Concepts%20Table_Jan%202021.pdf

Rule	Description of rule	Proposed classification	Reason
New rule NERR 59D(1)	A person, including a retailer or metering coordinator, must not facilitate or provide access to a small customer's real-time data for any person other than the small customer or a real-time data authorised recipient.	Tier 1	Non-compliance with this provision would result in the disclosure of a consumer's data without the consumer's consent. This could result in financial harm or economic loss to the consumer, which is consumer harm (type 1). Real time data is highly sensitive information. As technology advances and use cases for the data evolve, the sensitivity of the information may further increase as well as the scope of potential harms for customers if access is provided without proper consent.
New rule NERR 59D(5)	Real-time data authorised recipients must only use real-time data in accordance with the terms of the small customer's consent, including only for the purposes of the service the customer consented to.	Tier 1	Non-compliance with this provision would result in the use of a consumer's data without the consumer's consent. This could result in financial harm or economic loss to the consumer, which is consumer harm (type 1). Real time data is highly sensitive information. As technology advances and use cases for the data evolve, the sensitivity of the information may further increase as well as the scope of potential harms for customers if the data is used for purposes beyond which the consent was provided for.
New rule NERR 59E(12)	A retailer must revoke access to real-time data within 3 business days of receiving a request from the small customer to do so or becoming aware that the data is being accessed without the small customer's consent.	Tier 1	Non-compliance with this provision would result in the disclosure of a consumer's data without the consumer's consent. This could result in financial harm or economic loss to the consumer, which is consumer harm (type 1). Real time data is highly sensitive information. As technology advances and use cases for the data evolve, the sensitivity of the information may further increase as well as the scope of potential harms for customers if access is provided without proper consent.

Where the final electricity rule amends provisions that are currently classified as civil penalty provisions, the Commission does not propose to recommend to the Energy Ministers' Meeting any changes to the classification of those provisions. Clause 7.15.4 is currently classified as a tier 2 civil penalty provision. The final electricity rule amends this provision, but does not alter the substance of the obligations, and therefore, it is appropriate for the clause to remain a civil penalty provision.

Abbreviations and defined terms

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
App	Application
BAU	Business-as-usual
CDR	Consumer Data Right
CER	Consumer energy resources
Commission	See AEMC
CT	Current transformer
DEIP	Distributed energy integration program
DER	Distributed energy resources
DNSP	Distribution network service provider
DOE	Dynamic operating envelope
ECA	Energy Consumers Australia
EU	European Union
EV	Electric vehicle
HEMS	Home energy management system
IEC	Information exchange committee
LMRP	Legacy meter replacement plan
MC	Metering coordinator
MDP	Metering data provider
Min spec	Minimum service specification
MP	Metering Provider
MSATS	Market Settlement and Transfer Solutions
MSP	Metering service provider
NEL	National Electricity Law
NEO	National Electricity Objective
NER	National Electricity Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
NERR	National Energy Retail Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NMI	National meter identifier
NT Act	*National Electricity (Northern Territory) (National Uniform Legislation) Act 2015*
Proponent	The individual / organisation who submitted the rule change request to the Commission
PQD	Power Quality Data
VPP	Virtual Power Plant