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INTELLIHUB GROUP

SUBMISSION TO THE AEMC DRAFT DETERMINATION ON THE REAL-TIME DATA FOR CONSUMERS RULE CHANGE REQUEST

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The Intellihub Group (Intellihub) welcomes the opportunity to provide feedback on the AEMC's Draft Determination on the Real-time data for consumers rule change request.

Intellihub is an Australian and New Zealand based digital energy management specialist that is simplifying the transition to sustainable energy through our holistic ecosystem of smart devices and services. We deliver innovative metering, data and behind the meter solutions that maximise digital and new energy services. We are an experienced and leading provider of multi-utility services across electricity and water networks for residential, commercial & industrial, embedded network and solar metering customers. We specialise in asset management, installation, financing, and the day-to-day operations of smart meters, managing more than 3 million advanced smart meters.

The AEMC should adopt an outcomes-based approach to real-time data as it recommended in the metering review and the rule change directions paper

Intellihub has been an active participant in the AEMC's consultation on enabling access to real-time data since it was first proposed in the metering review in 2022-2023. Throughout those processes, Intellihub has sought to provide information on how it could provide a real-time data service that best meets the needs of customers at the lowest cost if the AEMC considers that regulating the provision of such a service is justified.

We have consistently proposed that the most efficient, safest and most secure method to provide a real-time data service is to use wireless technology. In contrast, we have significant concerns about the feasibility, security and cost of providing real-time data through a wired connection to the meter. This approach is consistent with the submissions of other metering businesses throughout the metering review and rule change process.

We consider that the future of advanced metering will involve wireless connectivity to provide a range of CER integration, data and other services. Provision of real-time data access will involve additional costs and require new hardware, systems and processes, but those costs can be minimised by using wireless technology. Wireless solutions also mitigate the safety and cyber-security issues from enabling access to meters through a wired port that we have consistently noted in our submissions during the review and rule change process.

In its previous papers on real-time access, the AEMC has consistently recommended a flexible outcomes-based approach and stated that it would not regulate the form of access or technology required to provide real-time data, including not prescribing whether wired or wireless solutions must be used. Intellihub supported this outcomes-based approach to access in its submissions, as did the majority of other stakeholders. For example:

- In the metering review final report, the AEMC stated that it recommended setting 'common objectives and guidelines instead of specifying service pathways (i.e. not prescribing remote or local access). This should enable participants to deliver positive outcomes while avoiding potential implementation risks associated with a service-specific approach'.[1] It also stated 'We recommend that the enabling framework for access to real-time data be outcome-focussed… Practically, this means that the regulatory framework should prioritise delivering outcomes and functions necessary to provide customers with access to real-time data. We do not recommend a specific service pathway, such as remote access or local access'.[2]
- The AEMC noted in the metering review final report that the draft report had proposed a service-specific approach to real-time data access consisting of both remote and local access but that 'stakeholders expressed significant concerns regarding the potential implementation risks and complications associated with this approach', including implications for existing infrastructure, lack of established use cases and standards, technical challenges and security risks.[3] Accordingly, the

1 AEMC, Metering review final report, pp127-128

2 AEMC, Metering review final report, p143

3 AEMC, Metering review final report, p145

AEMC expressly recommended against regulating that wired or wireless solutions (or both) should be adopted.

- In the rule change directions paper, the AEMC reiterated this outcomes-based approach. It stated 'Our proposed framework to facilitate direct access is high-level and outcomes-based, thereby accommodating technological innovation and changing approaches to providing real-time data across time. It outlines clear and flexible responsibilities and requirements that leverage existing relationships and solutions. Relative to alternative approaches considered, it could deliver the benefits of real-time data access at lower costs to customers'.[4] The AEMC recognised the importance of interoperability, but considered that this could be managed through specifying standard data formats and communications protocols.

The draft determination and draft rules depart from these previous recommendations by the AEMC and adopt a completely different approach. The draft determination does not adopt an outcomes-based approach. Instead, it proposes to mandate the technology that must be used to provide real-time data access. In particular, it would require all new meters to be capable of providing real-time data access using both wired and wireless technology, with AEMO to specify the required technical details in new procedures.

This is a very significant change that came as a surprise to us. Mandating both wired and wireless access is inconsistent with the AEMC's previous recommendations. We are surprised that this approach is being proposed after it was considered and rejected in the metering review final report and the rule change directions paper. It will lock specific technologies into the rules in a way that is not adaptable to change and will materially increase the costs to consumers. As discussed below, mandating wired access will also materially increase costs and safety and cyber-security risks.

Mandating specific technologies in this way rather than adopting an outcomes-based approach is also inconsistent with the AEMC's stated vision for a consumer-focussed net-zero energy system. In its vision document, the AEMC states that 'To achieve our vision the energy system must: deliver for customers, foster innovation, and be flexible, adaptable and resilient.'[5] Mandating specific forms of technology, including an out-dated wired solution, does not foster innovation and is not flexible, adaptable or resilient.

Mandating an unsealed wired port will require a fundamental redesign of meters, add unnecessary costs and create significant safety and cyber-security issues

Intellihub's meters do not currently have a wired port that is capable of providing real-time data. This is for good reasons, as including such a port adds material costs and creates significant cyber-security risks and does not provide any corresponding benefit. We do not currently intend that our new meters will contain such wired ports, unless there is a specific regulatory requirement to do so as proposed in the draft determination.

We consider that wireless communications can provide the services that customers and CER providers are likely to want more effectively and at lower cost than a wired port. If the final rule mandates the inclusion of wired ports on all new meters, this will require a fundamental change to our future metering strategy and a change to the meter types that we intend to install in future. It will take considerable time to implement and add material cost to customers for a questionable benefit over wireless access.

In the draft determination, the AEMC states that all new or replacement meters installed after the commencement date of the new rules will need to contain an 'accessible port' that can provide wired real-time data access and meets the technical specifications set by AEMO in its procedures. In the public forum and meetings, the AEMC described this as requiring an 'unsealed port'.

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4 AEMC, Real-time data for consumers rule change directions paper, p19

5 AEMC, 'A consumer-focussed Net-zero energy system: The Australian Energy Market Commission's vision for our shared energy future', September 2024, p9

The AEMC notes in the draft determination that access to meter ports is currently restricted for security reasons. It notes that 'MCs secure the ports in a locked box on the meter. This ensures that bad agents cannot compromise the security of the meter'.[6] It states that 'To satisfy security obligations under the draft rule, new ports would have to be designed and added to the meter such that they can be easily accessed without compromising the security and integrity of the meter'.[7] It also states that '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.'[8]

We can confirm that all meter ports are currently required to be sealed and only accessed by appropriate accredited parties. This is standard practice to prevent tampering and unauthorised access. It is also a requirement of jurisdictional metering or service and installation rules.[9]

We have engaged with our meter manufacturers on the AEMC's draft determination and they strongly oppose inclusion of an unsealed wired port for real-time data access. Based on our initial discussions, they have indicated that it will be difficult to provide a wired port that is suitable for real-time data access and is likely to require a significant redesign of meters. They have also raised concerns regarding the risks of making the port unsealed, including that it will be very difficult to protect against ingress (eg moisture, dust, ants) that could create safety and reliability risks.

Requiring meters to contain an unsealed port is a fundamental change to Australian metering standards and the challenges and risks involved should not be underestimated. An unsealed port will create significant safety, privacy and cyber-security risks, which is why all ports are currently required to be sealed.

The AEMC does not explain in the draft determination or draft rules how these risks will be managed. The draft rules impose new obligations on MCs to ensure that access to real-time data is only given to a person and for a purpose that is permitted under the rules and that real-time data is protected from unauthorised local and remote access by suitable security controls.[10] We consider that these requirements will be difficult to meet if an unsealed wired port is required, and considerable work will be needed to develop and test new security protections. Even with the best possible protections, a risk of unauthorised access is likely to remain. These risks are much easier to manage with wireless access.

As we have noted in previous submissions to the metering review and this rule change, there is also no current Australian Standard for local access metering ports that could be used for real-time data access, unlike other metering ports that are governed by Australian standards.[11] Meters also require pattern approval from the National Measurement Institute, and new approval may be required for new meter types that are designed to enable wired access to real-time data through an unsealed port.

We strongly recommend that the AEMC removes the requirement to provide wired access to real-time data, and instead relies on wireless access.

If wired access is required, the AEMC should undertake additional analysis and consultation prior to the final determination on how to manage the cost, safety, privacy and cyber-security issues that will arise from this requirement. It should also engage jurisdictional safety regulators, Standards Australia and the National Measurement Institute to understand whether an unsealed port would be permitted, what regulatory changes outside of the NER and NERR would be required and how long any such changes would take to implement.

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6 AEMC, draft determination, p56.

7 AEMC, draft determination, p9.

8 AEMC, draft determination, 56.

9 See for example section 1.8.1 and 2.11 of the Metering Annexure to the NSW Service and Installation Rules, available at https://www.energy.nsw.gov.au/nsw-plans-and-progress/regulation-and-policy/service-and-installation-rules

10 AEMC, draft NER rule, clauses 7.15.7(i) and (j)

11 See for example AS 1284.10.2.

More work is required to understand the implementation requirements and advise on a suitable commencement date, especially for wireless access, but 1 January 2028 is not feasible

The draft determination proposes that the new rules would commence on 1 January 2028. All new or replacement meters would be required to meet the amended minimum services specification and be capable of providing wired and wireless access to real-time data from that date.

The draft determination and draft rules leave much of the details of the real-time data service to be determined by AEMO in its new real-time data procedures. These procedures will cover matters such as:

- minimum requirements for measuring real-time data and sampling frequency
- required communications protocols
- latency requirements
- security controls
- a standard format for provision of data.

These matters are central to the design of new meters, systems and processes that will be required to comply with the rules. Metering service providers and manufacturers will not be able to commence designing, ordering and testing new meters, systems and processes until these procedures are published.

These AEMO procedures are not required to be published until 1 July 2026. That means that metering service providers will only have 18 months to implement the new rules. That is not sufficient time given the scale of the changes required, including developing, certifying, testing and implementing new technologies and processes. Robust testing and certification processes are particularly critical for material metering changes of this nature as we need to ensure that new meter types or changes to meters and software do not have an adverse impact on the accurate collection and delivery of settlement data.

We also consider that 6 months is not sufficient time for AEMO to develop and consult on these procedures, assuming that the final rule is made in December 2025.

The draft determination also notes that changes to the B2B procedures are likely to be needed to be made by the IEC, but does not provide a deadline or indicative date for when these amended procedures will be made

AEMO is currently considering implementation requirements and timeframes and released its draft High Level Implementation Assessment (HILA) on 17 October 2025. The draft HILA concluded that the AEMC's proposed timeframes for development of AEMO's procedures 'do not appear to provide sufficient allowance for appropriate pre-consultation, formal consultation, and the design of complex technical and procedural frameworks'. AEMO considered that based on recent comparable processes such as the Power Quality Data Procedures, compressed timelines may result in risks due to inadequate design, limited engagement and insufficient time for implementation and testing. Intellihub supports these comments.

In the draft HILA, AEMO proposed the following amended implementation dates for the development of procedures:

- New Real-Time Data Procedures to be consulted on and made by AEMO by 30 November 2026 (rather than the AEMC's proposed 1 July 2026)
- Real-Time Data Access Recipient Accreditation Guideline to be consulted on and made by AEMO by 1 May 2027 (the AEMC proposed 1 November 2026)
- Amended B2B Procedures to be consulted on and made by the IEC by August 2027.

We support these amended dates proposed by AEMO for the new and amended procedures and guidelines, provided that they are extended if publication of the final rule is delayed beyond December 2025.

AEMO also noted in the HILA that the AEMC's proposed 1 January 2028 commencement date presents operational risks as there is a standard freeze on system changes over the summer period to allow a focus on system reliability. We also consider that implementing a major change on a public holiday in the Christmas to New Year period creates significant risks and should be avoided.

AEMO proposed that the commencement date should align with AEMO's 6 monthly system release schedule, which has major system changes occurring in May or November each year. We support this approach.

It is difficult for us to currently estimate how long it will take to implement the rules given the requirement for a new wireless solution, the novelty of the requirement for an unsealed wired port and the amount of detail that is left to the AEMO procedures. Implementing the proposed new rules will be complex and will require hardware changes to meters and communications modules (including a wireless solution and a new wired port) and metering software (including firmware and applications). These changes will need to be coordinated across Intellihub's multiple vendors of meters, communications modules and software. We have commenced discussions with our meter suppliers but they have not yet been able to provide us with timeframes.

We also consider that implementation timeframes will need to be materially longer if the final rule continues to require both wired and wireless access as opposed to only requiring wireless access or adopting an outcomes-based approach as discussed above.

Based on the limited information we currently have and the revised dates for procedures proposed by AEMO, we recommend a commencement date for the rules of November 2028.

We consider that this date remains ambitious and will only be able to be met if the requirement for a wired port is removed and type 4A meters are excluded. If the final rule continues to require an unsealed wired port, we will need additional time to engage with our meter manufacturers to determine a feasible implementation date and expect that a commencement date of November 2029 at the earliest will be required.

We also note that AEMO raised the issue of whether the final rule should provide AEMO with exceptions or grandfathering powers that allow it to grant exceptions or extensions where required, which we support.

AEMO raised the possibility of a staged commencement where new meters must meet the minimum services specification from May 2028 but real-time data is not required to be provided until October 2028. We do not support this approach as the full implementation period of 2 years from publication of AEMO's new procedures is needed for MCs to meet the amended minimum services specification, including designing, manufacturing, procuring, delivering, testing and certifying new meters. Coordinating the procurement and supply process and the change-over from existing to new meters will be a challenging process and it is likely that we will begin deploying real-time data capable meters that meet the new rules ahead of the commencement date as we use up our stocks of existing meters.

We also recommend that the same commencement date applies to the new provisions regarding providing assistance and information requested by an energy ombudsman under draft NER clause 7.3.2(o) to (q).

The draft determination proposes that these clauses would commence on 1 July 2026, which is significantly earlier than the commencement date for real-time data. The draft determination states that the primary reason for this new obligation is to support potential complaints and enquires related to real-time data. Accordingly, we see no reason why these obligations should start earlier than the real-time data obligations in draft NER clause 7.15.7. AEMO's draft HILA identified that new B2B processes and amendments by the IEC to the B2B Procedures may be required to facilitate the communication of data to support these obligations. AEMO proposes that changes to the B2B Procedures will not be made until

November 2028. Accordingly, we consider that these new obligations should not commence until that date at the earliest.

Real-time data cannot be provided for type 4A meters without material additional costs and security risks

The AEMC should clarify the treatment of type 4A meters in the final determination and final rule. We recommend that access to real-time data is only required to be provided for type 4 meters, and type 4A meters are clearly excluded from all of the obligations.

In the public forum and meetings the AEMC acknowledged that it may be difficult and costly to provide real-time data access for type 4A meters. We agree with these comments.

For type 4 meters that are installed after the new rules commence, MCs will enable real-time data access using mobile communications to the metering installation. This will not be possible for type 4A meters, which are not capable of remote communications either because they are in a location with no mobile coverage or because the customer objected to remote communications. For a type 4A meter, a site visit by the metering provider would be required to enable or disable real-time data. This will increase initial costs of enabling real-time data access, as well as ongoing costs whenever an authorised access recipient is added or removed, the customer moves premises or the customer requests that access is revoked. These site visit costs will materially increase MCs' costs of providing the service and are likely to far outweigh the benefits. The current provisions of the draft rules could also prevent MCs and retailers from recovering these costs from the customer, resulting in increased costs for all customers.

It will also be materially more difficult for MCs to maintain the security of real-time data and prevent unauthorised access for type 4A meters. For type 4 meters, MCs can use tamper alarms, access controls and other remote systems to restrict access to authorised parties (although as discussed above this will be more difficult for wired access than wireless access). These methods are not available for type 4A meters. There would be a significant risk of unauthorised access for an unsealed wired port on a type 4A meter. If type 4A meters are included in the rules, considerable additional work and exceptions to MCs' obligations will be needed.

We note that the draft determination and draft NER rule are currently unclear and inconsistent on what obligations apply to type 4A meters.

The draft determination states that real-time data must be provided for all type 4 and 4A meters. It does not discuss any exceptions or different treatment for type 4A meters.

However, the requirements for type 4A meters are unclear in the draft rules, with many of the provisions appearing to exclude type 4A meters or create inconsistency in how they are treated.

- As noted by AEMO in its draft HILA, type 4A meters are not a 'small customer metering installation' as defined in chapter 10 of the NER. They are not required to meet the minimum services specification (see clauses 7.8.3 and 7.8.4 of the NER). Instead, they are subject to the requirements of clause 7.8.4 of the NER.
- In the draft rule, the obligations on MCs to provide access to real-time data, the restrictions on charges for real-time data and the security controls for real time data are contained in new draft clause 7.15.7. Draft clause 7.15.7(a) states that this clause only applies in respect of a small customer metering installation. This appears to mean that this clause and the obligations in it only apply to type 4 meters and do not apply to type 4A meters. However, that is inconsistent with the AEMC's statements in the draft determination and it is unclear if this limitation is intentional.
- Despite this limitation in clause 7.15.7(a), two other provisions of the draft NER rule expressly refer to type 4A meters (new clause S7.5.1(e) and the definition of real-time data). AEMO's draft HILA suggests that this indicates an intention that all new and replacement meters must be *capable* of providing real-time data (see clause S7.5.1(e)) but are not actually required to provide it (see clause 7.15.7(a)). We do not support such a distinction and think it is confusing and adds no value. There is also nothing in the draft determination that suggests this is the AEMC's intention. Referring

to type 4A meters in the requirements of the minimum services specification in clause S7.5.1(e) is also inappropriate given that the minimum services specification and this clause do not apply to type 4A meters.

We recommend clarifying these issues in the final determination and final rule and clearly excluding type 4A meters from the new rules.

We support the current wording of clause 7.15.7(a), which excludes type 4A meters. This is appropriate given our comments above that it will be difficult and expensive to provide real-time data for type 4A meters and that the restrictions on charges and the security obligations in that clause are not workable for type 4A meters.

We see no benefit in applying any of the draft rules to type 4A meters and recommend that the references to them in the draft NER rule are removed in the final rules. We note that NER clause 7.8.4(c) currently provides that if access to the telecommunications network becomes available then the exception that permits use of a type 4A meter ceases to apply and the MC must ensure from that time onwards that the metering installation is a type 4 metering installation that meets the minimum services specification. This provision is sufficient to ensure that customers at these connection points can access real-time data in future (eg if the previous customer who refused to allow communications moves or if the telecommunications network is expanded) and other changes to the rules such as draft clause S7.5.1(e) are not necessary.

Restrictions in the draft rules that prevent MCs recovering their reasonable costs of providing real-time data services should be removed

Draft NER clause 7.15.7(f) only allows MCs to charge retailers for facilitating access to real-time data once per connection point and only where a meter that was installed prior to 1 January 2028 does not meet the minimum specification. The AEMC proposes that this provision should become a civil penalty.

We understand the AEMC's desire to limit the charges that are imposed by retailers on customers that request real-time data. We understand that the AEMC's intention is to distinguish between what charges are recovered directly from the relevant customer (which the AEMC considers should be limited to the costs of replacing pre-2028 meters) vs the costs that are socialised across all customers. This outcome is achieved by the restrictions on retailers' charges to customers in draft clause 59F of the NERR. There is no reason to also restrict MCs' charges to retailers, and doing so will have numerous unintended adverse consequences as outlined below.

We do not consider that clause 7.15.7(f) is appropriate or necessary. It is inconsistent with the approach to MCs' charges adopted everywhere else in the rules, including clause 7.6.1(a) which expressly states that MCs' charges to retailers are commercially negotiated between the MC and retailer.

We do not consider that the rules should 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 a range of metering services. There is also no reason to make this provision a civil penalty, as how MCs and retailers structure their charges does not impact customers given the NERR protections on retailers' charges to customers.

We are comfortable with a general provision that MCs' charges to retailers for real-time data services must be reasonable (e.g. a modified version of draft NER clause 7.15.7(g)) and consider that this is all that is needed.

The current drafting of clause 7.15.7(f) creates significant uncertainty and risks that MCs will not be able to recover their reasonable costs of providing real-time data services. In particular:

- The wording that refers to charges 'for facilitating access to real-time data' is unclear. It is not clear whether it only applies to initial charges for enabling real-time access or also prevents ongoing

charges for costs of managing access to real-time data. As discussed below, MCs will incur a range of costs that they need to be able to recover.

- It is also unclear whether this provision only restricts the circumstances in which MCs can implement a separate itemised charge for real-time data, or whether it also restricts MCs from recovering real-time data related costs through other charges to retailers. The wording appears to be the later and prevent MCs recovering any costs related to real-time data access other than those permitted by this clause. MCs generally recover their costs through a bundled monthly metering charge that is negotiated with retailers and covers all metering-related costs, including hardware, installation, financing, data delivery, operation and maintenance. This clause appears to prevent MCs from recovering their ongoing costs of managing access to real-time data as part of this general metering charge or any other charge to retailers. That does not appear to be the AEMC's intention, having stated in discussions that this clause and the equivalent restriction on retailers' charges to customers is only intended to delineate what costs are recovered from the relevant customer and what costs are socialised across all customers. It would be highly inappropriate and inconsistent with the NER to prevent MCs from recovering their reasonable costs of complying with the rules.
- In addition to the meter replacement costs that this clause allows MCs to recover in certain circumstances, MCs will incur a range of other costs of complying with the draft rules related to real-time data access. For example, MCs will incur ongoing costs of enabling and disabling real-time data access, adding or removing authorised data recipients, maintaining security of data such as investigating tamper alarms, and investigating and resolving faults. The MC should be able to recover these costs, and negotiate with the retailer as to the most appropriate structure for these charges. This clause appears to prevent MCs from doing so, which does not appear to be the AEMC's intention. Restrictions on MCs' ability to recover these costs or limitations on how they can structure their charges to retailers could also lead to increased costs and inefficiencies. For example, if MCs cannot charge retailers for investigating faults that are found not to be the MCs' responsibility (e.g. faults in the customer's or CER provider's equipment or systems), there is a risk that MCs end up providing a highly inefficient and costly free fault-finding service.
- As noted above, if type 4A meters continue to be covered by the real-time data rules, MCs will incur significant additional ongoing costs of providing real-time data on type 4A customers and managing access to real-time data. These costs should be able to be recovered by the MC from the relevant retailer, and should ideally be recovered by the retailer from the customer rather than socialised across all customers. However, that may be prohibited by draft NER clause 7.15.7(f) and draft NER clause 59F.
- The draft rules leave many important technical matters to AEMO's real-time data procedures. AEMO can amend those procedures at any time, subject to consultation requirements. Given the nature of those requirements, there is a significant risk that 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 significant costs for MCs. The restriction on charges in draft clause 7.15.7(f) would appear to prohibit MCs from seeking to recover those costs from retailers, with a civil penalty applying if they did so, which is clearly not appropriate.
- The clause currently only allows MCs to charge 'once per connection point'. This creates a significant risk for MCs in relation to customers with multiple meters at the same connection point. If the customer requested that real-time data was enabled on one of its meters and that meter was replaced to enable real-time data, this clause would appear to prevent the MC recovering its costs if that customer or a subsequent customer at that connection point requested that real time data be enabled at another meter in future.

We recommend that the AEMC removes clause 7.15.7(f).

The AEMC should clarify the draft rules regarding replacing or retrofitting meters that are unable to provide real-time data

The AEMC's draft determination acknowledges that most existing meters cannot provide real-time data in compliance with the requirements of the draft rules. We appreciate this acknowledgement and confirm that none of our currently installed meters can meet these requirements.

In the draft determination, the AEMC states that customers with existing meters who want access to real-time data will pay to bring forward the replacement of their meter, arrange for the installation of a separate measurement device as they can now, or wait until their meter is replaced.[12]

Some parts of the draft determination also refer to the potential to retrofit existing meters to enable them to provide real-time data. Retrofitting may be an option in some circumstances, but that will depend on the final requirements of the rules and AEMO procedures. If the final rules continue to require wired access, none of our current meters will be able to be retrofitted and all of them will require replacement. If the final rules are amended as we recommend above to adopt an outcomes-based approach or remove the requirement for a wired port, some of our existing meters may be able to be retrofitted to provide wireless access to real-time data but others will still require replacement depending on the meter type.

The decision whether to replace or retrofit an existing meter will need to be made by the MC based on what is possible for the relevant meter type and, where relevant, which option is the lowest cost.

The wording of draft NERR clause 59E(2)(b) appears to say that the customer has a choice between a replacement or retrofit of its meter. It states that 'the retailer must... offer the small customer the choice between either retrofitting or replacing the meter in order to enable access to real-time data'. It will not be possible to offer all customers such a choice. This language is not appropriate and needs to be amended so that the retailer decides between a replacement or retrofit (based on its agreement with the MC and what is possible and most efficient for the relevant meter type).

The AEMC should clarify aspects of the real-time data definition and obligations on MCs

Intellihub appreciates the clarifications the AEMC provided in section 3.1 of the draft determination regarding the extent of the MC's obligations to provide real-time data. This section is much clearer than the directions paper and address many of the issues we raised in our directions paper submission. However, there are four issues we consider should be clarified in the rules as outlined below

Draft NER clause 7.16.6E(a)(6) latency requirement

The draft determination helpfully clarifies that the MC's obligation is only to make real-time data available at the metering installation and that MCs are not required to 'deliver' real-time data to another party.[13] Data would be pulled from the meter by the requesting party and delivery of the data to the customer or CER device would be the responsibility of this party not the MC. We support this approach.

However, the draft determination and draft rule introduce confusion on this issue by providing that real-time data must be able to be received by an external device with a latency of no more than 5 seconds (e.g. see draft NER clause 7.16.6E(a)(6)). The draft determination states:[14]

> *AEMO's real-time data procedures would also specify that MCs are not responsible for increases in latency to receive data that may be caused by devices other than the smart meter. Whilst any access solution that the MC develops must be capable of enabling real-time data to be received within 5 seconds, the real-time data procedures may specify circumstances where the latency maybe longer, for example, due to factors outside the MCs control, such as Wi-Fi connectivity issues.*

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12 AEMC, draft determination, p2.

13 AEMC, draft determination, p24.

14 AEMC, draft determination, p42.

We consider that this concept of a 5 second latency is inappropriate and inconsistent with the boundaries of the MC's role. As stated by the AEMC in the draft determination, the MC is only responsible for making real-time data available at the metering installation. The draft NER defines real-time data as being made available at the metering installation at a resolution of no less than once per second. That is sufficient to define the service. What happens to the data once it leaves the metering installation, and the latency between the metering installation and the customer or CER provider's device, are entirely outside of the control of the MC and not its responsibility. This latency will be entirely determined by the equipment and services provided by the CER provider or customer and cannot be controlled by the MC. Accordingly, draft NER clause 7.16.6E(a)(6) should be deleted.

Draft NER clause 7.15.7(h) change in MC requirements

Draft NER clause 7.15.7(h) addresses the situation where real-time data is being provided at a connection point and the MC for that connection point changes. This clause provides that the outgoing MC 'must transfer control of any existing real-time data stream, including any security controls' to the new MC.

The AEMC states that this clause is intended to facilitate competition through interoperability and that 'Real-time data access solutions would be designed such that control is transferable between different MCs.'[15] We support interoperability and consider that it will be achieved by AEMO procedures specifying open standards-based communications protocols, minimum security controls and standard formats for real-time data (see draft NER clause 7.16.6E).

However, we consider that draft NER clause 7.15.7(h) is unworkable in practice and should be deleted.

This clause appears to be seeking to address a situation where the MC at a connection point changes, but the existing meter remains and the new MC needs access to the existing meter to continue to provide real-time data from that meter to the customer or authorised recipients. That situation will never arise in practice. MCs, MPs and MDPs do not operate other metering businesses' meters. Such a scenario is theoretically possible under the rules, but does not occur in practice as it would require the original MC to sell the existing meter to the new MC and all of the new MC's systems to be compatible with the old MC's systems and meter types which would be extremely costly and difficult. If the MC at a connection point changes, the meter at that connection point will be replaced by the incoming MC and MP.[16] The new MC will therefore provide real-time data using the new meter, rather than using the old MC's meter and systems.

Exclusion of embedded networks

The AEMC's draft determination states that the 'draft rule would not apply to embedded networks' because the rule 'is not designed to apply to the specific arrangements in embedded networks and therefore could not apply to embedded networks.'[17] We support the exclusion of embedded networks.

However, it is not clear how embedded networks are excluded in the draft NER rules and they appear to be covered by the real-time data obligations in draft NER clauses 7.3.2(r) and 7.15.7(b). These obligations apply to connection points of small customers. We note that the NER chapter 10 definition of a 'connection point' includes a child connection point in an embedded network. We recommend that these clauses are amended to clarify that they do not apply to any metering installations within an embedded network.

Draft NERR clause 59E(8) timeframes

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15 AEMC, draft determination, p45

16 We note that the change in MP and meter will usually occur on the same day, but there may be short delay between replacement of the meter and the change in the MC in AEMO's systems.

17 AEMC, draft determination, pp47-48

Draft NERR clause 59E(8) requires the retailer to notify the customer within 10 business days of receiving a request to provide real-time data if an extension of time is required or the retailer cannot facilitate real-time data due to a defect at the metering installation. This timeframe does not align with the timeframes in clauses 59E(5) and 59E(6) and needs to be extended.

Under clause 59E(5), the retailer must facilitate access to real-time data within 15 business days of receiving a request (and agreement to pay any applicable charges). Under clause 59E(6), this timeframe is extended in a range of circumstances including where there is a defect at the metering installation. If the defect can be rectified to provide real-time data, the timeframe is extended (see clause 59E(6)(b)) and if it cannot be rectified then real-time data is not required to be provided (see clause 59E(7)).

We do not consider that it will be possible to meet the 10 business day timeframe in clause 59E(8) where there is a defect in the metering installation. To provide such a notification will require the retailer to arrange for the metering provider to visit the site to confirm that there is a defect and assess whether remediation is possible. It will be challenging to do so within 10 business days and this timeframe is inconsistent with the 15 business day timeframe under clause 59E(5) and the 15 business day timeframe for metering installation malfunctions under NER clause 7.8.10.

We recommend that draft clause 59E(8) is amended to require notification within 10 business days from when the retailer identified that subclauses (6) or (7) apply, rather than 10 business days from when the request under subclause (1) was made.

Comments on the cost-benefit analysis

The Oakley Greenwood cost-benefit analysis (CBA) provided with the draft determination is very high level and does not provide sources for its information. The AEMC also notes in the draft determination that the approach it has adopted is different to the scenarios modelled by Oakley Greenwood in the CBA. This makes it difficult for us to provide detailed comments on the CBA.

However, we make the following comments to try to mitigate the risk that retailers and customers will rely on the CBA to form an unrealistic view of the costs that will be incurred in providing real-time data:

- The AEMC states in the draft determination that real-time access to data will only cost 66 cents per meter per year. This claim is clearly incorrect and inconsistent with the CBA. It is based on Oakley Greenwood's claimed additional cost of $10 per meter compared with current meters, divided over an estimated 15 year meter life. However, it ignores the additional $5 per meter implementation costs Oakley Greenwood and the AEMC say will be incurred, and ignores financing costs. Based on the total $15 per meter cost in the CBA and adding 15 years of reasonable financing costs, this cost is closer to $2 per meter per year.
- The CBA acknowledges that there would be ongoing costs of providing real-time data including maintaining and supporting systems, which are not included in the above estimates. For example, the CBA estimates an additional cost of $10 per customer for the CER provider to establish passwords and implement access, which appears very low but further increases the above estimate of the total costs of the service. As discussed earlier in our submission, there will also be a range of other ongoing costs for MCs, including granting and revoking access and maintaining security. The CBA also does not include any additional costs related to type 4A meters, which as noted above will be material. These costs are not included in the CBA or the AEMC's 66 cents per year figure.
- The CBA does not provide a breakdown or sources for its claimed $10 additional cost of meters. We question the reliability of that cost estimate given it relates to metering requirements that have never previously been used in Australia such as designing, testing and deploying meters with unsealed wired ports. We have been unable to obtain cost information from our meter suppliers in time for this submission, but consider that $10 is very low for the cost of both wired and wireless access and that the cost will be significantly higher, including the costs of developing, testing and obtaining compliance approvals.
- We consider that the CBA's expected uptake of real-time data services is unrealistically high. The CBA appears to assume that 100% of customers will take up the service because it is free. That is

not consistent with any other service we have seen. The CBA also includes a sensitivity that shows there will still be expected net benefits if only 20% of customers take up the service. No evidence is given to support these estimated take-up rates. They are highly inconsistent with evidence provided in submissions to the rule change consultation paper, where stakeholders noted that only 0.1% of Victorian customers use the free Zigbee real-time data access service, only an extremely small proportion of Victorian customers used the free Powerpal real-time data device or free in-home displays, and very few customers have used the free Customer Data Right. If uptake is low, our fixed costs of developing the systems and processes needed to implement the rules will be spread over a smaller number of customers or will need to be socialised across all customers despite most of them not benefiting from the service.

We would be happy to provide more detail on any of the issues raised in this submission. If you have any questions regarding this submission please contact Dino Ou, Industry Development Lead on dino.ou@intellihub.com.au or 02 8303 4033.

Regards,

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