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30 January 2014

Anita Lai
Senior Advisor
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Ms Lai

DRAFT REPORT: FRAMEWORK FOR OPEN ACCESS AND COMMON COMMUNICATION STANDARDS REVIEW

ERM Power Limited (ERM Power) welcomes the opportunity to respond to the Australian Energy Market Commission's (the Commission) Draft Report *Framework for Open Access and Common Communication Standards Review* (Draft Report, AEMC Project number: EMO0028).

We are also grateful for the opportunity to represent energy retailers on the Commission's Advisory Stakeholder Working Group, and look forward to continuing to contribute through this forum.

ERM Power is enthusiastic about the opportunities that competition in metering and related services will offer customers and industry. With a rapidly growing retail business and the establishment of a new metering services business in 2014, we look forward to the timely implementation of the competitive framework, including a framework for access and communications. We are hopeful that alignment of the Commission's processes will enable the implementation of this framework to coincide with the commencement of the Competition in Metering and Related Services Rule Change.

Until the appropriate frameworks are in place, industry faces the risk that investments made in the short term will not align with future regulatory decisions. With this in mind, we emphasise the consideration of existing practises (where these support long term objectives) in the design of the new framework, in recognition of those investment decisions that are pre-emptively being made today in anticipation of the new opportunities that contestability offers.

In addition, ERM Power believes that a strong preference should be given to achieving a market led roll out of metering and related services with light regulation; commercial outcomes will drive a strongly competitive marketplace provided market participants have the ability to innovate by offering new services and compete by offering those services that see a demand (from customers or other market participants) at a competitive price.

Having examined but then rejected a regulated roll-out of smart meters (similar to that that is still occurring in Victoria), it is important not to burden a market led roll out with the high level of standardisation and regulation that is required for a regulated roll out funded by regulated tariffs.

About ERM Power

ERM Power is an energy company listed on the ASX that operates electricity sales, generation, and gas exploration and production businesses across Australia.

We have led the development of six power stations, representing approximately 5 per cent of Australia's total power generation capacity. All six power stations have been gas-fired. We have divested our interest in four of these power stations.

Our energy sales business, ERM Power Retail, is licensed to sell electricity in all Australian states, the Australian Capital Territory and the Northern Territory, and has grown organically to become the fourth largest seller of electricity in the National Electricity Market by load.

ERM Power Retail (branded as ERM Business Energy) specialises in providing electricity to business and government customers. We have accrued over 13 per cent of the large Commercial and Industrial (C&I) customer market, and in 2013 we started to offer electricity to the Small to Medium Enterprise (SME) segment of the market.

A ring-fenced metering services business, wholly owned by ERM Power Limited, is expected to launch operations this year. Views expressed in this submission are also provided with consideration to the impacts for this business.

Overview of ERM Power's preferred framework

ERM Power welcomes the Commission's consideration of the National Electricity Objective in developing the Draft Report, and in particular the intent to achieve this through supporting commercial outcomes where possible. As the development of this framework is largely pre-emptive in nature, we agree that it is important to provide the market with room to evolve and innovate without the restraint of regulation which has not yet been demonstrated to be necessary.

In this submission, we propose a communications architecture which consists of a common market protocol and proprietary meter protocols. We do not oppose the concept of a common meter protocol; however, we do not believe it would be appropriate for this to be mandated. Rather, we believe that if a common meter protocol is the most efficient outcome, than it will naturally be delivered by the market at an appropriate time.

We detail our views on specific issues raised in the Draft report below.

The role of the SMP

The Commission introduces the concept of the Smart Meter Provider (SMP) to represent the additional responsibility of managing the point of access to a smart meter that the Commission expects will result from multi-party access to meters. These responsibilities relate to management of:

- the level of access;

- data security arrangements;
- congestion on the smart meter communications network; and
- the validation of messages sent between the accredited parties and the smart meters.

We note that Meter Providers and Meter Data Providers perform these duties today to some extent, with the exception of congestion management. While the importance of these duties may increase with multi-party meter access, we consider this a normal step in the development of the meter service provider market.

Congestion management may be required where there are frequently multiple parties attempting to communicate via a point of access simultaneously. ERM Power believes that it is unlikely that frequent simultaneous access attempts will be common place in the foreseeable future. Infrequent simultaneous attempts can be addressed by using simple automated messaging prioritisation rules.

In ERM Power's view, the additional responsibilities associated with the SMP are not sufficiently different to the existing meter service provider roles to justify the creation of an additional market role. It is difficult to imagine that a business would choose to operate as an SMP and not also as a Meter Provider and/or Meter Data Provider. Equally, it appears unlikely that an existing meter service provider business would continue to operate in this future environment without also taking on the increased responsibilities attributed to an SMP.

We propose that the SMP requirements represent a mandatory update to the existing meter service provider accreditation, so that existing meter service providers would have to complete this update by a specified date. For new meter service providers, a new accreditation process should cover both existing role requirements, and the requirements of the SMP update.

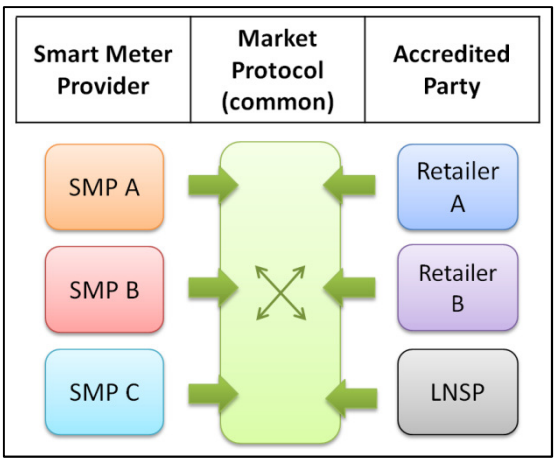
The Draft Report considers whether duties associated with the SMP could be part of the role of the Meter Coordinator (MC), proposed under the Rule Change Request *Competition in Metering and Related Services*. We consider SMP responsibilities are more closely aligned with the Meter Provider and Meter Data Provider market participant roles than the role of the MC, which could be undertaken by any party registered with and accredited by AEMO. We therefore believe that the MC role should remain independent of SMP responsibilities.

For consistency with the Commission's use of the term SMP, we have used the term SMP in this submission to refer to the Meter Provider, the Meter Data Provider and/or the additional duties attributed by the Commission to the SMP.

Common Market Protocol

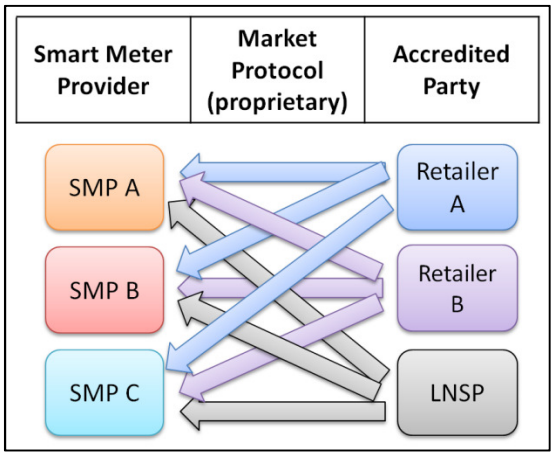
The Draft Report proposes a common market protocol for smart meter communications. ERM Power supports this proposal, which would enable all Accredited Parties to communicate with all SMPs using the same "language" when requesting and responding to transactions (as depicted in Figure 1).

Figure 1: Common Market Protocol



The alternative (to rely on proprietary market protocols) would mean that each Accredited Party would need to develop multiple market protocols to communicate with the multiple SMPs that it chose to work with, as depicted in Figure 2. This is an inefficient outcome, given the many-to-many relationship between parties, and should be avoided where possible.

Figure 2: Proprietary Market Protocols



The common market protocol to be implemented needs to fulfil certain efficiency criteria, such as:

- it must be timely/easy to implement;
- it must be low cost; and
- it must be flexible enough to allow for innovation and rapid deployment of new features.

In our view, the best way to meet the efficiency criteria is use existing precedent; that is, use what is already in place where possible; and keep prescription at a high level in order to allow for market innovation underneath.

Market protocols should be service-based not function-based

A market protocol enables transaction exchange between Accredited Parties and SMPs. As the customer-facing entity, the Accredited Party is likely to consider transactions in terms of the service that it wants to deliver to the customer (for example, to remotely energise the site). However, the SMP is more likely to consider transactions in terms of the functions that the meter needs to perform (for example, to close the supply contactor). The function level is thus much more specific and detailed, and is not necessarily relevant to what Accredited Parties value, which is just that the service is delivered in some way.

This approach corresponds with existing B2B protocols in use today. For example, a retailer will ask a network to de-energise a site, and the network may achieve this by opening a supply contactor in an AMI meter or pulling a supply fuse. The service is de-energisation, but the function (or functions) carried out depend on the facilities at each site. The retailer will not have a preference as long as de-energisation by some means occurs.

ERM Power considers that the simplest approach is to adopt a principle that the common market protocol should always utilise the terminology most commonly used across the industry. We believe that in most cases the most common terminology is the name of the service, rather than the function. Under a service-based protocol the only development work required to support requesting or accepting requests for meter services is the support for each new service and the message that supports it.

It has been raised through discussions of the Commission's Advisory Stakeholder Working Group that a service-based market protocol may lead to ambiguity and misinterpretation of the function intended to deliver a service. For example, if an Accredited Party would like to switch off a smart air conditioner at a customer's site, there could be adverse impacts if this was actioned using the remote de-energisation function rather than the load control function. We believe any potential ambiguity can be removed by ensuring that the market protocol allows communication of sufficient detail to ensure the message is specific enough to be actioned as intended. In this case, the request would use a transaction dedicated to that specific service and so would ensure that (site level) de-energisation was recognised as being a different service to interrupting load on a secondary interruptible circuit.

The use of DLMS/COSEM

The Commission discusses the options for basing the common market protocol on an existing internationally-recognised standard or developing a protocol specifically for the NEM.

As noted above, an efficient common market protocol will be one that is easy to implement, low cost and flexible. A common market protocol can only be cost-effective if it makes use of existing protocols and systems or new protocols or systems that are easy to implement. There are no known formal standards that meet these criteria.

DLMS/COSEM is a particularly unattractive standard. It not currently supported by meters that are already in use (e.g. VIC AMI, NEM COMMS1-4) or meters that are to be type approved and introduced in Australia in the short term. It is also not currently supported by existing participants – including retailers/FRMPs – and so it is not well understood by participants and its language is not "spoken" by participant systems.

As importantly, DLMS/COSEM operates at the wrong level for the NEM: it operates at a function level, not a service level. DLMS stands for *device language message specification* – device language indicates that this is a low level language suitable for communicating to devices, not a language for communicating between market participants/customers. We note that it is also covered by patent.

By utilising a service level market protocol, participants also avoid having to create brand new technical solutions, gateways, and management tools that would be required to support a low level protocol such as DLMS/COSEM, and can utilise existing processes by adding new messages for each new service that they wish to offer or request.

DLMS/COSEM is absolutely not fit for purpose, and if we try to adopt (and then have to adapt) this type of standard it will be a time consuming and expensive task.

What is needed beyond the current MSATS and B2B protocol

Today, communications between market participants are prescribed by the MSATS and B2B protocol. MSATS messages are sent to a central hub, and then distributed to participants from that hub, meaning there is a delay in transaction exchange between participants.

The exception to this is the NMI Discovery transaction, which can be performed through the MSATS web service. This web service enables the discovery of site information in real-time, allowing participants to quickly query this information (perhaps while on the phone to a customer) and respond to customer queries. Many participants have made the appropriate developments to their systems to support and use this web service.

Many advanced services will rely on real-time transactions; this will be intrinsic to their value. It is therefore vital that a common market protocol can support real-time transactions. While MSATS is capable of supporting real-time transactions (as demonstrated by the NMI Discovery web service), it does not currently support routing real time messages from one participant to another (acting as a "proxy"), and enabling such a feature would require a substantial upgrade.

ERM Power instead proposes that an alternative to upgrading the B2B hub to support real-time meter service requests is to develop a market protocol for point to point transactions. This means that instead of sending messages into a central hub (as occurs for non-time-critical B2B transactions today), a participant would send their request directly to the participant they wish to contact. As metering services will always be based on contractual arrangements, participants will always know the participant who they need to contact (and in any case, could discover this through MSATS). This approach will be more cost-effective than upgrading the B2B hub. This is described in further detail in Box 1 on the following page.

Box 1. ERM Power's Proposed Common Market Protocol

ERM Power proposes an approach to a common market protocol which we believe will support the efficient delivery of advanced services, without excessive costs to industry. It is designed to be simple to use and implement, and to avoid imposing additional development costs on the market as new functions and services are introduced.

We propose point to point web service-based messaging, meaning that each participant sends requests directly to the participant it wishes to communicate with (as opposed to the central messaging pool of MSATS) in real time. This approach would only require the definition of a message structure, and elements.

The structure will define the rules around how to compile a message, including the order of the elements, and the punctuation used in between. For example, the basic order of a meter service request may be defined as:

1. *Meter service request*
2. *Recipient participant identification*
3. *Message type*
4. *Service name*
5. *Parameters*

Elements can then be defined to use as building blocks. These will include requests relating to services, and parameters relating to that request. For example, elements may include:

- *NMI*
- *ServiceRequest*
- *ServiceCancel*
- *RequestedDate*
- *ShedControlledLoad*

The participant who sends this request then completes the structure with the specific elements relevant to the request they want to make. The following are examples of two transactions made to "New SMP Pty Ltd" relating to a controlled load service at the site with a NMI of "VAAA000001", with a number of time parameters (the first example requests a service, and the second cancels it). The elements are shown in blue font.

1. https://msr.newsmp.com.au/ServiceRequest/ShedControlledLoad?NMI=VAAA000001&RequestedDateTime=201312191400&Duration=120&Interval=minutes
2. https://msr.newsmp.com.au/ServiceCancel/ShedControlledLoad?NMI=VAAA000001&RequestedDateTime=201312191400

Requests may be sent between any two known participants (and in reality these participants will have contractual arrangements in place that may formalise any specific requirements).

As most participants already use the web services such as NMI Discovery, it is expected that this approach would be cost-effective to develop and integrate into participants' existing systems.

Services supported by the market protocol

For efficient implementation of the market protocol, we suggest a set of defined elements relating to the existing metrology services should built into systems prior to protocol commencement.

Under ERM Power's proposed approach, no service would be explicitly excluded from the common market protocol. Rather, participants would simply begin using new elements which refer to a new service. As a commercial agreement relating to the delivery of that new service would already have been entered into prior to the request, the recipient would understand the definition of new elements relating to that service. Additionally, use of the most common terminology for an element would ensure the meaning was apparent. While not essential, a formalisation process could be undertaken (by AEMO) as a new service becomes used more broadly across the market to align element definitions.

Participants would only need to develop their systems to support those elements associated with the services they chose to offer, meaning excessive costs would not be imposed on new entrants, or participants who chose not to specialise in these services.

How the market protocol would ensure smart grid interoperability

In the Draft report, the Commission briefly discusses the importance for smart grid components to be able to operate effectively together, and suggests this would be best achieved by adoption of an existing standard protocol.

ERM Power believes that it is premature to be concerned with advanced smart grid interoperability when smart meters, on which the grid will rely, are not yet commonplace. Additionally, the Commission's distinction between smart grid components and other metering infrastructure discussed in the paper is not clear. We suggest a more appropriate approach would be to implement a framework that will support advanced metering infrastructure, and then additional smart grid components will be developed based on that framework.

Proprietary Meter Protocol

In addition to the market protocol, which describes the language used between Accredited Parties and metering service providers, a protocol must also support transactions between the SMP and the meter.

The SMP is generally the owner of the meter at a site, and where there is a market point of entry, there is a one-to-one relationship between the SMP and the meter. In Australia today, SMPs operate their own proprietary smart meter management systems which include a protocol for communicating with the meter. By owning and managing their own meter protocol, they are able to quickly make changes to respond to market needs for new services. This ability to respond to customer demand is one of the key benefits of a contestable metering market.

ERM Power does not support a mandated common meter protocol. We believe there are strong commercial incentives for SMPs to deliver the most efficient solution, which in the short term is likely to be proprietary meter protocols given that is what currently exists in the market. However if a common meter protocol (or some partial alignment between proprietary meter protocols) is more efficient, and meets customer and industry needs, then it will naturally evolve.

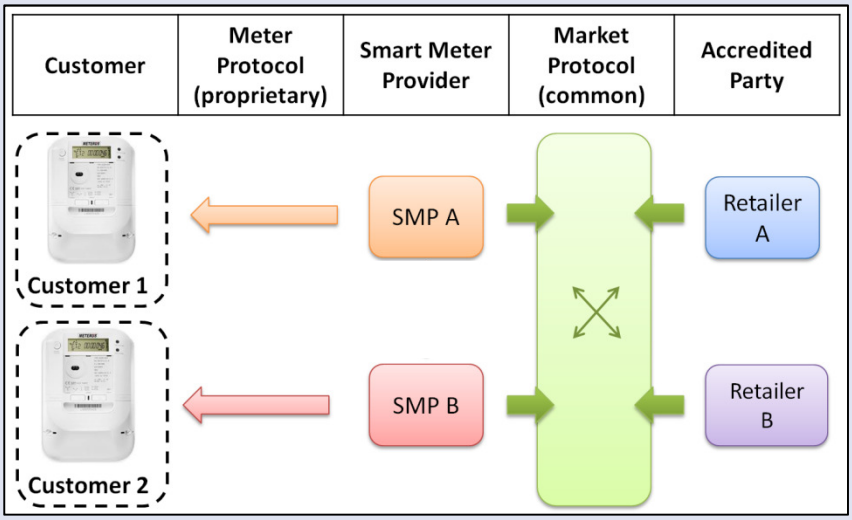
For clarity, we would support the continued use of proprietary meter protocols if this is how the market naturally developed.

Our considerations in arriving to this position are discussed below.

Box 2: ERM Power's proposed communications architecture - Combining a common market protocol with proprietary meter protocols

Figure 3 shows the flow of transactions between Accredited Parties and meters. Accredited Parties (such as Retailers) send transactions to the market using a common market protocol, so that they are using the same market protocol in their transactions with any SMP. The recipient SMP then translates this market protocol into its proprietary meter protocol, so it will be received and actioned by the meter.

Figure 3: Common Market Protocol, proprietary meter protocols, and exchange agreements



A proprietary meter protocol is more efficient

In the Draft Report, the Commission suggests that a common meter protocol is a more efficient market solution, because it enables all SMPs to use the same language to transact with all meters. ERM Power is not aware of evidence to support this claim. This claim also assumes that an SMP would be prepared to take on the regulatory obligations (e.g. accuracy, timely delivery of data, safety) of a meter installed by another party, and further assumes that an arrangement could be reached between the asset owner and the asset operator for ongoing maintenance of the asset. ERM Power regards this assumption as unlikely to be realised.

ERM Power's primary concern with introducing a common meter protocol is that it cannot match the agility of a proprietary meter protocol, and would necessarily involve an inefficient development process. That is, any modifications to a common meter protocol would need to undergo a formal change process (for example, through the DLMS User Association) which would impede the development and implementation of new services.

In addition to the time lag and administrative steps to affect change, the formal change process also means a new function or service would be available to all providers at the same time, and in the same way. This removes opportunities for differentiation between SMPs, stifling innovation and competition.

ERM Power believes that the competitive benefits of proprietary meter protocols far outweigh any perceived operational efficiency benefits associated with a common meter protocol.

The impact on existing metering infrastructure

While the focus of the Draft Report is on enabling future market development, it is important to also consider how implementation of a new framework will impact the existing meter market. Where a common meter protocol was mandated for all new type 1 – 4 meters installed, an SMP would need to implement this common meter protocol to communicate with new meters, while maintaining its proprietary protocol to communicate with existing meters. Ultimately, this inefficiency would lead to the premature replacement of existing meters with new meters that can communicate with the common meter protocol. Asset stranding of this scale would be unlikely to occur where a common protocol was adopted under market forces. Enforcement of a common meter protocol is therefore likely to result in a greater cost to the market than a market-led solution.

Why proprietary meter protocols would not lead to inefficient meter churn

An SMP's predominant concern is to ensure the retention of its assets at each site for as long as possible, so as to extract maximum value from that asset while minimising costs associated with manual installations and removals. This strong commercial incentive will lead to an SMP offering a competitive price to a new retailer to retain existing assets at the site. Therefore the commercial reality is likely to be that proprietary meter protocols are not a barrier to competition, nor an additional cost to the market.[1]

Point of Entry

For security reasons, it is logical that only SMPs for a site should have direct access to the meter in most instances (i.e. a meter point of entry), and that the SMP would manage a market point of entry. However, ERM Power considers that at this early stage of market development, the Rules should not prohibit any party from gaining direct access to a meter, provided a commercial agreement is in place with the SMP to support that access. We support the basic principle that the metering service provider for a site should act as the "gate keeper" for a market point of access, and should facilitate participant access according to commercial arrangements.

The Commission's proposed smart meter communication architecture

The Draft Report proposes a smart meter communications architecture, designed to allow accredited parties to transact with the SMP through either the common market protocol, or a

[1] We also note that the introduction of the MC role under the competition rule change request is to address any perceived risk of inefficient meter churn.

common meter protocol. This proposal is based on the premise that only basic services could be supported by a common market protocol, and therefore aims to address the perceived need to develop an alternative protocol for advanced services.

ERM Power's proposal for a common market protocol (as described in Box 1) allows any services to be communicated through a common market protocol, including new services. If this is adopted, the Commission's proposed architecture is not necessary. Even putting our specific proposal aside, we have discussed in detail why ERM Power does not support a mandated common meter protocol, and these reasons apply equally to the Commission's proposed architecture which uses a common meter protocol. Additionally, the market-wide duplication associated with supporting both a market and meter protocol at the market level would lead to unnecessary cost.

Transitional arrangements for Victoria

ERM Power's proposed communications architecture can be readily adopted by all existing SMPs, including those participating in the Victorian Advanced Metering Infrastructure rollout.

Like other SMPs, Victorian SMPs would continue using their proprietary meter protocols, and perform protocol translation from the common market protocol. It is therefore unlikely to impose any additional costs on Victorian SMPs compared to those operating in other jurisdictions.

Customer protections

We support the introduction of appropriately targeted customer protection arrangements to apply to any party who has a direct relationship with the customer. It is important that such regulations ensure competitive neutrality between participants, including those parties who do not currently have direct dealings with customers. We note that customer protection arrangements are also being considered by the Commission in relation to other Rule Change Requests (including *Competition in Metering and Related Services*) and emphasise the importance of coordination of these closely related work streams to achieve one well-considered change.

Charging for access

ERM Power believes that where a participant requires access to an existing function in another party's meter, and that function is beyond the existing metrology functions, they should be required to pay a fee for that access. This approach ensures that the party who has invested in that asset is being recognised for enabling other participants' access, while maintaining the current arrangements for metrology functions which are sufficient for market operations today.

There is no evidence to suggest that there is a need for access charges to be regulated. Strong competition in metering services will ensure efficient pricing, and we have no reason to believe that the requirement to negotiate terms would impede market entry of new participants.

We do not consider regulatory bodies or Ombudsman schemes have need for access beyond what exists today. If a new meter function offers value to these organisations, it is reasonable that they contribute to the cost of that new function through a fee for access.

Smart Meter Standing Data

Before an Accredited Party can offer a new product or service to a customer, it must gain an understanding of the existing technology at the site and the services it can support. The current NMI Discovery transaction delivers NMI Standing Data, which is basic information about a site, including the meter type. We consider an extension to NMI Standing Data would better facilitate advanced service offerings and competition for those services. We specifically propose that existing and prospective retailers for a site should be able to discover whether the meter supports each of the optional functions as per the minimum requirements of a national new and replacement meter policy, as well as the devices connected to the meter (such as in-home displays, smart appliances and electric vehicles).

Other features of the meter do not need to be discoverable, as long as functionality query transactions (described below) are supported by the common market protocol.

For clarity, we do not consider there is value in defining new meter types for remotely-read interval meters with additional functionality. We would prefer to continue with the current meter types, but have the capacity to discover or query these additional functions. We believe this is a simpler and more enduring solution as metering technology continues to develop.

To support an extension to the NMI Standing Data, there is also a need for development of a functionality query transaction. This will be of particular importance for the facilitation of competition in advanced services. Such a transaction would allow an Accredited Party to query whether a specific function is supported at a site (given the existing metering technology, supporting infrastructure and contractual arrangements), and if not, what would need to change to enable this. The aim of this transaction is to ascertain the additional time and cost required to offer a particular service at a site, given the existing infrastructure, to assist business decisions. The ability to understand this information on an individual site basis, rather than through general customer-base arrangements, enables fast information to respond to specific customer requests.

Regulation to address who may access NMI standing data under different circumstances is being considered under the Rule Change Request for Customer Access to Data.

We look forward to continuing to contribute to this review. If you have any queries about this submission please feel free to call me on the number below.

Yours sincerely,

[signed]

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