

29 January 2014

Mr John Pierce  
Australian Energy Market Commission  
PO Box A2449  
SYDNEY SOUTH NSW 1235



positive energy

Dear Mr Pierce

**Draft Report: Framework for Open Access and Common Communication Standards Review (EMO0028)**

Energex Limited (Energex) appreciates the opportunity to provide a submission on the Australian Energy Market Commission's (AEMC's) Draft Report on the Framework for Open Access and Common Communication Standards Review (Draft Report).

Energex understands that the AEMC has been requested by the Standing Council on Energy and Resources (SCER) to consider smart meter communication requirements and consequently, in its Draft Report, the AEMC has recommended the development of a common market protocol for smart meter communications.

Responses to the questions raised in the AEMC's Draft Report are provided in **Attachment 1**. Energex has also contributed to the Energy Networks Association's (ENA's) submission on the Draft Report and is supportive of the views contained therein. In summary, Energex considers that:

- A common market protocol for smart meter communications in the NEM should be adopted.
- From a network perspective, the full open access and interoperability model proposed in the Draft Report would appear to be complex, expensive and time-consuming to implement.
- A services based protocol, utilising and extending upon the existing B2B gateway protocol for metering and other business communications, should be adopted as the most operationally practical and cost-effective solution for smart meter communications.
- Responsibility for development and ongoing maintenance of the common market protocol for smart meters should be assigned to an independent entity such as the Australian Energy Market Operator (AEMO) with operational industry representatives as an advisory group.
- There should be sufficient flexibility for accredited parties to extend or enhance smart meter functionality without the need for it to be specified in the protocol prior to implementation. This can be delivered through the use of extensible objects such as those used in DLMS/COSEM.
- A market point of entry is preferable to direct meter access as it is less complex and enables better management of issues such as security of access and congestion.

**Enquiries**

Rachel Leaver

**Telephone**

(07) 3664 4115

**Facsimile**

(07) 3664 9818

**Email**

rachelleaver

@energex.com.au

**Corporate Office**

26 Reddacliff Street

Newstead Qld 4006

GPO Box 1461

Brisbane Qld 4001

Telephone (07) 3664 4000

Facsimile (07) 3025 8301

www.energex.com.au

**Energex Limited**

ABN 40 078 849 055

- The introduction of a new market participant of “Smart Metering Provider” (SMP) is unnecessary, costly and will create additional complexity and confusion in the market. Rather, additional responsibilities should be assigned to existing roles for managing access to smart meters.
- Smart meter services will become essential to the management of distribution networks in the future (i.e. in establishing Smart Grids) and provision of these services to distribution networks should therefore be subject to regulation.
- The current network accreditation process for meter service providers in the Types 1-4 market should be adopted for third party service providers.

Finally, Energex supports the views outlined in the ENA’s letter to the AEMC dated 5 December 2013 concerning the AEMC’s reviews of the metering framework. In this regard, Energex considers it important that the review of open access and common communication standards is progressed in conjunction with the rule change process relating to metering contestability. In addition to ensuring that the key issues raised by the ENA are taken into consideration, it is also important that a cost benefit analysis is completed and published to ensure that the anticipated benefits of any proposed rule changes outweigh the costs imposed on the overall market, including network businesses and electricity consumers.

Should you have any enquiries regarding this report please contact Rachel Leaver, Network Regulation Manager, on (07) 3664 4115.

Yours sincerely

A handwritten signature in black ink, appearing to read "Neil G. Andersen". The signature is fluid and cursive, with a long horizontal stroke at the end.

Neil Andersen  
Group Manager Regulation and Pricing

#	Issue	AEMC Recommendation/Questions	Energex's Response
1	<p><b>Common Market Protocol</b></p> <p><b>Section 5.1</b></p>	<p>That a common market protocol be used for smart meter communications.</p> <p>The common market protocol could either:</p> <ul style="list-style-type: none"> <li>• Be based on the internationally accepted meter protocol DLMS/COSEM; or</li> <li>• Be a services based protocol specifically developed for smart meter communications in the NEM</li> </ul>	<p>Energex recommends that a services based NEM protocol be developed for smart meter communications in the NEM.</p>
2	<p><b>Section 5.3.4</b></p>	<p>We are seeking stakeholder views on the appropriate selections of a common market protocol. In particular:</p> <ul style="list-style-type: none"> <li>• Should an internationally accepted meter protocol form the foundation of the NEM common market protocol?</li> <li>• Is DLMS/COSEM sufficiently well developed to be used as the foundation for a market protocol, given the potentially [sic] synergies that exist with smart grid interoperability and other meter standards?</li> <li>• Would the costs of developing an Australian specific services based common market protocol be likely to deliver sufficient benefit compared to using an internationally accepted metering protocol?</li> <li>• Would extensions of the B2B gateway present a viable option for the development of a services based common market protocol?</li> </ul>	<p>Energex considers that a services based NEM protocol should be developed and used as the common market protocol. A services based solution would be more cost-effective for participants to implement than a meter based protocol.</p> <p>While DLMS is an effective meter protocol for meter communications, it has limited suitability as a market protocol. A DLMS based protocol would require participants to implement multiple meter management systems to communicate with the meter (e.g. one to read SSN, one for GridNet and one for DLMS meters).</p> <p>The services based protocol needs to support:</p> <ul style="list-style-type: none"> <li>• Billing Data;</li> <li>• Tariff Changes;</li> <li>• Engineering Data;</li> <li>• Meter Alarms;</li> <li>• Control (Connect, Disconnect, Load Control, etc) – real time; and</li> <li>• IHD Messages – real time.</li> </ul> <p>While the non-real time interfaces could easily be implemented by extensions to the existing B2B gateway, real time access should be</p>

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			<p>directly to the SMP to minimise delays when implementing a SmartGrid. The existing B2B gateway should continue to be utilised for the non-real time billing functionality but all new real time interfacing for SmartGrid should be developed as a market services based interface directly to the SMP.</p>
3	<p><b>Maintenance of the common market protocol</b></p> <p><b>Section 5.4</b></p>	<p>We recommend that the development and on-going maintenance of the common market protocol be undertaken by an independent entity such as AEMO.</p> <p>We welcome comments on whether these are the appropriate parties.</p>	<p>Energen considers that the development and on-going maintenance of the common market protocol should be undertaken by an independent entity.</p> <p>Energen believes that AEMO would be an appropriate independent entity to undertake this work.</p>
4	<p><b>Section 5.4.1</b></p>	<p>We are seeking stakeholder views on the appropriate entity to maintain the documentation for a common market protocol. In particular:</p> <ul style="list-style-type: none"> <li>• Would AEMO be the most appropriate entity to develop and maintain the common market protocol?</li> <li>• Is there the potential for the responsible entity to adversely impact on the competitive provision of DSP and related services?</li> <li>• Would AEMO be regarded as sufficiently neutral, should the common market protocol be based on the existing B2B arrangements, as the B2B procedures are maintained by the Information Exchange Committee, established by AEMO?</li> </ul>	<p>Energen endorses AEMO as an appropriate entity to be responsible for developing and maintaining the common market protocol.</p> <p>In our opinion, AEMO is considered to be sufficiently neutral by industry and market participants.</p>
5	<p><b>Adding new functions to the common market protocol</b></p> <p><b>Section 5.4.2</b></p>	<p>We are seeking stakeholder's views on whether the accredited parties and MPs should be required to define new functions in the smart meter functionality specification before they can be implemented. In particular:</p> <ul style="list-style-type: none"> <li>• Would requiring new functions to be fully documented before they are used stifle innovation and reduce competition in the provision of DSP and related services?</li> </ul>	<p>Accredited parties should be able to extend the smart meter functionality as they see fit and not require an extension to the standard before implementation.</p> <p>The Australian and international method used for standards development is that standards are produced based on existing developed functionality which has proved to be useful. Trials of functionality that prove to be of no use are abandoned and not</p>

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		<ul style="list-style-type: none"> <li>• Would not requiring new function to be documented be likely to lead to reduced levels of interoperability, and hence reduce competition in the provision of DSP and related services in the longer term?</li> </ul>	<p>incorporated into the standard. This model should be adopted for the smart meter specification, i.e. parties are free to extend or enhance the smart meter specification functionality and those functions that prove to be useful can be incorporated into the standard as required.</p>
6	<b>Common Meter Protocol</b> <b>Section 5.1.1</b>	<p>We are seeking comment on the following options:</p> <ul style="list-style-type: none"> <li>• Adopting a common meter protocol based on the internationally accepted DLMS/COSEM protocol;</li> <li>• Adopting a common protocol based on the DLMS/COSM protocol, except in Victoria where protocol translation could accommodate existing metering investment; and</li> <li>• No common meter protocol is adopted and protocol translation is allowed throughout the NEM</li> </ul>	<p>Energen supports a common internationally accepted meter protocol.</p> <p>While Energen recognises there may be benefits in adopting DLMS/COSEM as a standard, further work is needed before mandating its adoption.</p>
7	<b>Section 5.5</b>	<p>We are seeking stakeholder's views on whether a common meter protocol should be adopted, or whether SMPs should be able to use protocol translators. In particular:</p> <ul style="list-style-type: none"> <li>• Should there be a common meter protocol?</li> <li>• If a common meter protocol is required, should it use the internationally accepted DLMS/COSEM protocol as its foundation?</li> <li>• If a common meter protocol is required, should existing Victorian smart meter operators be required to offer a protocol translation to the new common meter protocol?</li> <li>• Without a common meter protocol do proprietary meter protocols (and protocol translations) be more likely to support competition in DSP and related services?</li> </ul>	<p>Energen supports a common meter protocol.</p> <p>It would be expected that DSP parties should be able to operate their businesses utilising real time access to engineering data and load control functionality, as also used by distribution networks. Hence, DSPs should be given similar access to distribution networks, not additional access.</p>

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8	<p><b>Meter point of entry and market point of entry</b></p> <p><b>Section 5.6</b></p>	<p>Allowing direct access to the meter using a common market protocol, which would also be a common meter protocol, would give the smart meter infrastructure a high degree of interoperability...</p> <p>Having a market point of entry improves the ability of the SMP to manage security of access to the smart meter's functionality. This architecture also allows the SMP to implement congestion management by prioritising of communications with the smart meter and to validate messages sent to the smart meter.</p> <p>In addition, having a market point of entry allows for the possibility of the meter protocol being different to the market protocol.</p>	<p>Energex does not support allowing direct access to the meter.</p> <p>Allowing direct meter access requires:</p> <ul style="list-style-type: none"> <li>• complex multi-user security implemented at the meter;</li> <li>• meters supporting simultaneous multiple user access;</li> <li>• each market participant to implement one or more MMSs to read the meter directly (an MMS to read SSN, GridNet and DLMS meters); and</li> <li>• systems for the SMP to manage meter network congestion. It is likely that each participant will read the same data from each meter, e.g. billing data, requiring the meter communications network (often a capacity constrained network) to transport the same data to multiple participants, thereby increasing meter communications network loading unnecessarily.</li> </ul> <p>A market gateway allows:</p> <ul style="list-style-type: none"> <li>• simpler smart meters not supporting multiple simultaneous access and complex multi-user security;</li> <li>• centralised security implemented at the gateway;</li> <li>• caching of collected meter data in the gateway, meaning meter data is only collected once and distributed to multiple parties, minimising meter network load on often capacity constrained meter networks; and</li> <li>• simple service based interfacing as is currently utilised by systems such as MDMs.</li> </ul> <p>A common market protocol avoids all of the disadvantages of direct meter access while providing similar functionality and utilising a less complex interface.</p>

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9	<b>Market point of entry and common meter protocol</b>	<p>While a market point of entry offers the possibility of using protocol translators, the interoperability of the infrastructure would be increased if a common meter protocol is used. This architecture allows the SMP to effectively manage access to the smart meter infrastructure through the market point of entry...</p> <p>We are seeking stakeholder's views on whether the protocols at the meter point of entry and the market point of entry support access to new functionality without the need to make any modifications to the SMP software.</p>	<p>As already noted, Energen is recommending a common services based market protocol, not one based on a meter protocol.</p> <p>DLMS was developed as a meter protocol, not a market protocol. The use of DLMS as the market protocol would require each market participant to implement an MMS. A simpler method is to use a services based interface to interface directly with market participant systems, such as an MDM, which has existing services based interfaces for this function.</p>
10	<b>Proposed smart meter communications architecture</b> <b>Section 5.6.4</b>	<p>We are seeking stakeholder's views on the proposed architectures above. In particular, should the proposed architecture of:</p> <ul style="list-style-type: none"> <li>• a protocol translation at the point of entry (Figure 5.1) be supported in the NEM?</li> <li>• a common meter and market protocol (Figure 5.2) be supported in the NEM?</li> <li>• the proposed protocol that allows communication via either the meter protocol or the market protocol (Figure 5.3) be supported in the NEM?</li> </ul> <p>In addition, we are seeking stakeholder's views on whether changes to the NEM would be required to allow the SMP to manage access, security, congestion and message validation required for smart meter deployments?</p>	<p>Energen supports the protocol translation at point of entry as shown in figure 5.1.</p> <p>As stated previously, direct access to the meter will incur significant additional expense for the meter and potentially the meter communications network which cannot be justified over the protocol translation solution.</p> <p>Energen considers that the SMP should provide the standard market interface. This allows the SMP to manage the meter functionality, meter access and meter network loading through the market interface.</p>

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11	<b>Smart meter provider</b> <b>Section 5.7</b>	<p>We have created the role of SMP for the purposes of analysis and understanding the additional responsibilities required under the deployment of smart meter infrastructure. Possible options for the SMP include:</p> <ul style="list-style-type: none"> <li>• a separate SMP role to increase the flexibility of the commercial arrangements available to the MC;</li> <li>• assigning the SMP's responsibilities to either the MP or MDP; or</li> <li>• sharing the SMP's responsibilities between the MP and MDP.</li> </ul> <p>Consideration of whether it could be part of the MC role would be required if that rule is implemented following the Commission's considerations of the competitive metering rule change request.</p> <p>We note that separate SMP role would not preclude any one entity engaging in one or more of the MC, MP, MDP and SMP roles. In addition, it would be expected that access to the smart meter infrastructure's point of entry would be negotiated with MC.</p> <p>We are seeking comment on whether the SMP's responsibilities should be retained in a separate role, or whether these responsibilities should be assigned to an existing entity.</p>	<p>Energex recommends that the SMP role be performed by the MP.</p> <p>The MP is the provider of the meter and the meter communications network. This means the MP is best placed to understand the meter and manage the strengths and limitations of the meter communications network. The MDP may not be associated with the MP and hence have little knowledge of the meters and metering communications network. Consequently, the MDP would not have the knowledge to manage the meter communications network.</p> <p>The creation of additional roles would add additional complexity and confusion to the market. The assigning of additional responsibilities to existing roles/entities would be less complex and confusing.</p>
12	<b>Regulation of access</b> <b>Section 6</b>	<p>We will further consider whether regulation should be required for access to smart metering infrastructure, including whether any access charges should be regulated, in the remainder of the review.</p>	<p>Noted.</p>
13	<b>Section 6.1</b>	<p>We note that the NER sets out rights and obligations for metering data. These provisions are to be maintained. The considerations of this review relate to impacts of the introduction of smart metering infrastructure.</p>	<p>Each participant needs access to metering data to perform their role. Different participants will have different requirements, e.g. MDPs require daily access to billing data, but networks require real time access to engineering data and meter alarms for SmartGrid.</p>

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		<p>We welcome comments on:</p> <ul style="list-style-type: none"> <li>• whether the right of access to smart meters should be enforced under the NER and, if so, to what degree (e.g. should right of access apply to all smart meter functions or in relation to providing certain services);</li> <li>• what are the contractual arrangements that are expected to be in place and to what extent these contractual relationships are to be supported by rights under the NER;</li> <li>• how the market (the NEM as a whole or the retail energy market) would be impacted if participants are denied access to smart meters; how would different participants be impacted; and</li> <li>• how the existing rights and obligations relating to the use of metering infrastructure and metering data would be impacted by smart meters.</li> </ul>	<p>The NER needs to ensure free access to metering data for networks to allow them to create SmartGrids. If this is not provided one of the major efficiency benefits of smart meters will not be realised.</p>
14	<p><b>Services provided</b> <b>Section 6.2</b></p>	<p>Simply, the service provided by smart meters could be separated into 'metrology services' and 'other services'. The metrology services would be the energy measurement services, which are also currently provided by 'basic meters'. The measurement services could be considered essential to the NEM as they are required to allow settlement and billing to occur. Whereas further consideration is required of how to define other potential services that may be enabled by smart metering technology.</p> <p>The types of services that are being provided, and whether there would be alternative means of providing these services, would impact the extent (and type) of access regulation that may be required.</p>	<p>One of the new functions supported by smart meters is the SmartGrid. SmartGrids have the potential to save networks significant costs which would otherwise be passed onto electricity customers. To create an effective SmartGrid requires a very high density deployment of smart devices, including smart meters. If a MC with 20% of meters in an area refuses to provide SmartGrid functions from their smart meters, the network will be unable to create a SmartGrid and realise the benefits.</p> <p>Some of the SmartGrid functions can be provided with a limited number of smart devices sprinkled throughout the network. This might be achievable independently of the smart meter without significant costs. Some functions, such as network health checking,</p>

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		<p>We welcome comments on:</p> <ul style="list-style-type: none"> <li>• how the services that could be enabled by smart meters be defined and should these services be subject to regulation;</li> <li>• whether there would there be alternative means of providing these services other than through a smart meter.</li> </ul>	<p>require smart devices at every point, which could not be achieved without smart meters. To achieve a full SmartGrid, there is no cost effective alternative other than to use the smart meter as part of the SmartGrid.</p> <p>As these services will become essential to the management of distribution networks in the future, it is considered that regulation will be required.</p>
15	<p><b>Charging for services</b> <b>Section 6.3</b></p>	<p>We consider whether access charges should be regulated warrants further consideration. We will assess the extent to which potential inefficiencies exist.</p> <p>If a problem is identified, we would then need to assess how the problem could be addressed. This will require considering the options for price regulation within the current regulatory framework and having regard to potential developments such as SCER's work on the regulation of third party energy service providers and the metering contestability rule change request. We would need to be cognisant that any regulation needs to be proportional to the problem we are attempting to address.</p> <p>We welcome comments on:</p> <ul style="list-style-type: none"> <li>• under a contestable market for the provision of services enabled by smart meters, could we be confident that efficient pricing outcomes for access charges would be likely to emerge; and</li> <li>• whether there would be risks to efficient pricing outcomes and, if so, how the risks may they be addressed.</li> </ul>	<p>Introduction of contestable services access charges for data provided to distribution networks to enable them to efficiently manage their networks is seen as a new and unwanted cost and administrative burden.</p> <p>An alternative approach is to provide a framework where networks define basic data services to be delivered as part of the MC licence and accreditation to operate within their network boundary. Additional or advanced services would be negotiated or regulated depending on the level of competition/monopoly in the market in which the service provider is operating.</p>
16	<p><b>Consumer protection</b> <b>Section 6.4</b></p>	<p>Our focus for the remainder of this review is considering whether any of our recommendations under this review will pose new risks to consumers and what these risks may be. If new risks could be introduced, we will assess whether the existing consumer protection mechanisms would provide sufficient protection or whether new measures may be required. We welcome comments on these issues.</p>	<p>No comment.</p>

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17	<b>Accreditation of parties</b> <b>Section 6.5.1</b>	<p>Third party service providers and the SMPs, if such a role is introduced, are not a part of the existing regulatory framework for licensing or accreditation. The role of the SMP appears to be linked to that of the MP and therefore accreditation by AEMO may appear appropriate. Third party service providers on the other hand, would undertake roles in the market that could be relatively different from existing market participants.</p> <p>If third party service providers are to have obligations under the NER, consideration is required as to whether they need to be defined as market participants and register with AEMO. Whether they need to be accredited by AEMO for access to smart meter functionality also requires further consideration. We welcome comments on these issues.</p> <p>However, we acknowledge that SCER is considering the requirements for regulating third party service providers under the broader regulatory framework. Whether third party service providers should be registered market participants and be accredited will depend on the outcomes of SCER's decisions for the broader regulatory framework.</p>	<p>A jurisdictional accreditation process would be the most appropriate for each area. While it may be possible to develop some commonality, the practicalities of network differences and legislative requirements will create barriers to a common accreditation process. The current network accreditation process for service providers in the type 1-4 market should therefore be adopted.</p>
18	<b>Smart metering standing data</b> <b>Section 6.5.2</b>	<p>Supporting discovery of smart metering standing data requires further assessment. There are mechanisms under the NER that provide for 'NMI discovery'. These provisions could be expanded to provide for the discovery of smart metering standing data. However, clarifications would be required on who would be accessing smart metering standing data and under what circumstances.</p>	<p>No comment.</p>