

SUBMISSION

Joint Jurisdictional Review of the Metrology Procedures

Draft Report



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The following submissions are made in regard to the Draft Report (“the Report”) published in December 2003 and supplement and expand upon earlier submissions made in response to the Issues Paper dated August 2003 (copy attached as Annexure 1).

The practical outcomes of the Review and draft Report are: -

- No specific definitions of existing barriers associated with the current arrangements and / or to the adoption of alternative metrology solution have been or will be developed;
- No attempt to quantify the impact of known existing and emerging barriers delivered by the current arrangements has been or will be attempted;
- No assessment or quantification of if and how the current arrangements represent critical market failure and whether this justifies regulatory intervention has been made;
- No assessment of the available alternative solutions and how these might reduce and avoid existing and emerging barriers and market failure has been or will be undertaken;
- No analysis or quantification of the *current costs* of available integrated metrology, data management and data communication solutions has been or will be undertaken (i.e. of known alternatives such as those successfully operating in international markets such as Italy) notwithstanding it has been submitted these represent a practical, economically efficient and equitable alternative to the current arrangements;
- No formal assessment or comparison of the likely economic efficiencies of the alternative metrology options and associated infrastructure (such as those successfully operating in international markets such as Italy) has been or will be undertaken; and
- No quantification or assessment of the “net public benefit” resulting from retention of the current arrangements when compared to the known and identified alternative metrology options has been or will be undertaken.

Accordingly, the draft Report is a further restatement of the known and long-standing issues, clear paradigms and positions of the key market participants in relation to the current arrangements and limited assessment of outdated (in terms of technology and cost) alternative metrology solutions. These issues and positions are dominated by the vested, strategic and / or conflicted interests of the current dominant market participants in maintaining the current arrangements, given their anticompetitive effect, for as long as possible.

The current arrangements have delivered no genuine competition from new entrants and extremely limited competition between incumbent retailers (and wholesale market participants). The competitive activity has been constrained to that necessary to deliver the minimum level of customer transfers to satisfy any regulatory test that implementation of FRC has been achieved. Many customer transfers reported as evidence of competition are in fact new customers and or customers transferring to

“market contracts” with their existing retailer with marginal price benefits that are not related to any demand side participation or other market benefits.

The competitive activity within the NEM is of a defensive and oligopolistic nature. The incumbents who enjoyed the geographically based monopoly franchises have established a presence in other geographic franchise areas as a strategic move to react to any move to target customers by a retailer moving from its original franchise area. This establishes a culture and approach of: -

- “you steal one from me and I will steal one from you” and / or
- “if you compete on price in my area and reduce my margin then I will reciprocate” and / or
- “Let’s retain the current metrology arrangements and make them even harder to transition away from as this retains the barriers to new entrants and prevents correction of the inherent market failure which is a protection for the original monopoly franchises”.

Current market structures and forums (including this review) provide a platform for cartel behaviour. These consultation forums are dominated by the large incumbent market participants and are conducted in a manner that facilitates self serving reinforcement of cartel-type strategic goals. The regulators information base and decision support processes are reliant on relevant data and cause and effect information supplied by the incumbents who clearly have complex vested interests in the outcome. This requires the process to give a higher weighting to external views and data such as can be obtained from third parties and overseas experiences. This review is totally reactive to outdated data and biased submissions rather than proactive to transitioning toward the generally accepted and undeniable position that an alternative to the current arrangements is desirable.

The longer this transition takes the less likely real competition and desired market efficiencies will be delivered. The proposed approach represented by the draft recommendations prevents an integrated networked metrology, communication and data management model (such as represented by the Italian model – which would deliver a single metrology procedure via a common infrastructure) which is submitted as being an appropriate and economically efficient solution.

The direction of the Report will allow the incumbents to continue to avoid any potential to strand existing assets or to expose new capital invested in metrology infrastructure in the Distribution Network asset base to regulatory risk (i.e. it may not be recovered under the regulatory price review mechanisms). As such, there is no incentive for the Network operators to promote an alternative to the current arrangements notwithstanding they may be economically efficient and provide specific operational benefits.

The approach taken by jurisdictions to this review results in a limited progression of the issues associated with metering and its contribution to the development of a truly competitive NEM.

Commercial & Strategic Solutions (C&SS) made a number of submissions in respect to the Issues Paper (see copy attached as Annexure 1) which from my reading of your report have been ignored or inadequately addressed within the review process. These submissions were made as a result of work undertaken for major high profile international entities looking to participate in the Australian NEM as well as for high profile current market participants. This work provided an “inside view” of the approach to metrology and competition by these entities. These submissions reflect the real and present barriers identified and rated as critical to these entities that the timely delivery of relevant metrology data was critical for such outcomes as: -

- Management of price risks inherent in the wholesale market;
- Avoidance of material financial impacts from the settlement process on a new entrant retailer under the current arrangements in settlement of the wholesale market (this is calculated in the \$ millions);
- Development of relevant derivative products and markets;
- Differentiation of tariffs in the retail market based on the above;
- Development of service and tariff offers with customers based on agreed load levels (specifically discretionary load) allowing informed customer choice;
- Improved management of Network assets (interestingly, the payback period of 4 years for the cost of the Italian metering infrastructure is understood to be based on this outcome alone!); and
- Development of Network tariffs that recognise discretionary load behaviour.

It was also apparent that the financial impacts for a new entrant (or an individual current market player) to install an alternative solution to the current arrangements to accommodate the metrology needs of a new entrant were so high that this is not feasible. That is, it is inefficient to approach the metrology solution in an ad hoc or piecemeal manner thereby forgoing the required scale and other available benefits (see Annexure 1).

The above matters impact upon the decision by these parties to enter the market or change current practices due to what are considered barriers and market failure. It is submitted that the targeted benefits of FRC and genuine competition in the NEM requires a clear pathway for the introduction of a “cost defined” metrology procedure that addresses the current barriers and areas of market failure. This requires a clear regulatory policy direction on how relevant data can be appropriately captured and delivered to market participants in a timely manner that facilitates: -

- competition at both the wholesale and retail levels;
- improved management of Network assets;
- informed demand side participation through customer management of discretionary load or fair and equitable tariff arrangements that reflect discretionary load price (cost) drivers;

as such a result will see a flow through of the desired benefits to customers.

These matters are expanded upon in the C&SS submissions referred to above and should be reviewed by the Review committee. It should be noted that the metrology solution identified and referred to as the “Italian solution” was provided by way of example of an alternative solution available at a cost materially below that assumed and now embedded within the industry as a paradigm.

The failure of the Report to acknowledge and to enquire into the Italian solution or undertake any economic analysis of such alternatives or the impacts of the current arrangements indicates that the jurisdictions lack a genuine desire to find a viable alternative to the current arrangements. The metrology debate has become a captive of the vested, strategic and conflicted interests (including competitive neutrality – or lack thereof) of the key current market participants who look to avoid or delay the transition from the current arrangements.

The industry “folk lore” is that alternatives are cost prohibitive without any guide as to at what cost a solution may be appropriate, which has lead to a debilitating “cost to benefit” paradigm. It remains the understanding of C&SS that a solution equivalent to the Italian solution for the Australian NEM would have an annualised installed cost of between AUD \$15 – \$20 per customer (15 years at 7 % discount factor). It is submitted that any reasonable analysis will confirm the aggregate benefits available to flow through to customers from such an alternative would swamp this cost by a factor of in excess of 4 times.

The Report supports the industry folk lore without any independent and informed analysis and represents a material barrier and regulatory risk for new entrants and a truly competitive NEM. The jurisdictional approach to this review is further evidence of market failure.

It should be noted that C&SS has no financial interest or benefit from the adoption of any available solution. The submissions made and interest in the metrology debate is as a result of completion of relevant specific consultancies for the key stakeholders in this debate and a resulting ability to provide informed comment and to contribute without a conflict of interest.

I would be happy to discuss the matters raised with the Joint Jurisdictional Review committee.

Yours faithfully,

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Annexure 1

SUBMISSION

Joint Jurisdictional Review of the Metrology Procedures

Issues paper



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Submissions, comments and observations made in respect of the *Joint Jurisdictional Review of the Metrology Procedures - Issues Paper* (“the Issues Paper”).

2 Developing the assessment framework

2.2.1 Defining “barriers”

It is submitted that the assessment framework places too much emphasis on the “consumer” choosing a metering solution rather than being the ultimate beneficiary from market participants (and other relevant parties) having access to relevant and timely interval data.

Given the emphasis and focus of the assessment criteria, in particular, the assumption that it will/should be the consumer who chooses what metering solution is most appropriate, it is assumed that the consumer has an understanding of the potential impact of the availability of interval data on (for example) the: -

- improvement in the distribution and transmission networks over time through improved asset deployment, maintenance and management; and
- reduction\avoidance by a new entrant retailer of the current cross subsidies that exist between customers and how a customer's contribution to “load” and in particular peak load, will enable innovative and appropriately priced tariff options; and
- reduction in the Retailers weighted average cost of energy in the wholesale market through: -
 - a more accurate settlement process,
 - a reduction in forecast error; and
 - a reduction in the impact from the inevitable hedge mismatch through the development and use of innovative derivative products.

Clearly, consumers rely upon market participants and regulators to understand such matters and provide the necessary infrastructure to ensure their interests and rights are adequately accommodated through the regulatory process and resulting competitive product and service offerings.

If customers are to choose the most “*economically efficient*” metering solution or other economically efficient technology they must be provided with information such as the potential impact of interval data on matters such as those raised above. Clearly, this is not practical and represents a material market failure if such information is required and is not known. This inability of a consumer to understand such complex matters is a clear “barrier” to informed decision making and represents (or equates to) market failure. The Issues Paper has defined “barriers” as: -

“...it is assumed that the barriers identified in the Code refer to those that might be associated with any rules that inhibit the consumers’ incentive to adopt economically efficient metering solutions or other economically efficient technology”

It is submitted that this definition is inadequate given the reference to “rules”. It is unclear what rules are involved in the matters such as raised above, however, it is clear consumers are not in a position to make informed judgments on these matters.

2.2.2 Defining “economically efficient”

The Issues Paper highlights that the Code (and therefore the jurisdictional review) has: -

“...a strong presumption that the “economically efficient” outcome will be achieved by allowing customers to make choices in regard to:

- *the electricity retailer;*
- *the way in which they are metered; and*
- *their electricity consumption.*

It is submitted that this presumption is inappropriate. As identified under heading 2.2.1 above, for customers to make informed judgments leading to the choices anticipated they must be fully informed and believe that a “perfect market” has led to the “competitive” product and service offerings upon which the choice contemplated is to be made. This is clearly not the case.

The choice of retailer, meter and consumption behaviour will be materially affected by the level of innovation and price differentiation a retailer can offer. This innovation and differentiation is directly impacted by a retailer’s ability to (for example): -

- “Cherry pick” desired customers (minimising\avoiding peak load events).
- Implement sophisticated risk mitigation strategies via development of hedge contracts and derivative products in the wholesale market.
- Segment customers based on load characteristics and agreements for service levels link to demand management initiatives.
- Measure, monitor and manage these relationships and agreements on a timely basis.

This is only possible with timely access to interval data.

Accordingly, it is submitted that consumers are not in a position to make informed decisions due to the “barriers” which are distorting the choices available as new entrant retailers are not in a position to innovate and differentiate as outlined above. This represents market failure as a result of barriers that prevent access to the fundamental load data required to facilitate “true competition” based upon sensible customer acquisition and wholesale market risk mitigation strategies by (new entrant) retailers.

Further, an appropriate alternative interval metering infrastructure should provide integrated functionality that will facilitate material “*economic efficiencies*” not canvassed in the Issues Paper.

A Context for Assessing “Economic Efficiency”

It is submitted that an understanding (definition) of what is meant by “interval metering” is helpful in considering the potential “*economic efficiency*” that should be delivered from the adoption of an appropriate solution.

Commercial & Strategic Solutions has had the opportunity of observing the interval metering solution installed and operating in Italy. This opportunity has provided a context in which to assess the issues highlighted in the Issues Paper.

Interval Metering measures, monitors and reports on consumption, load and supply voltage at the customer level at (initially) half-hour periods. The data is ultimately used to settle the wholesale market (using actual consumption), and for customer billing (facilitating the potential for “load related” or “time of use” tariffs) and is provided in an appropriate form for risk mitigation in the wholesale markets.

There are two main Interval Metering models:

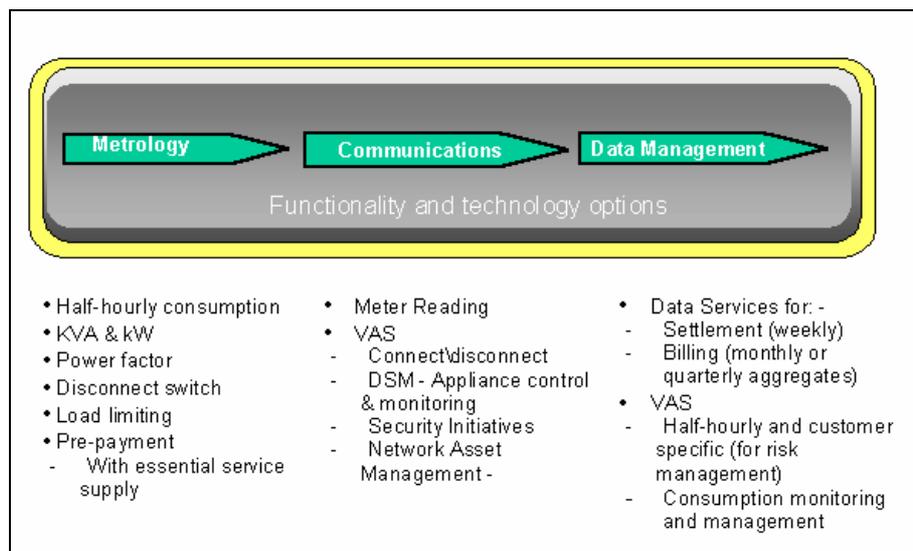
1. An integrated Interval Metering Infrastructure solution (“IMI” – Italian model)
2. Disintermediated functionality via competing services (contemplated by the Issues Paper)

Both Interval Metering solutions collect data on consumption, maximum load, power factor and time of consumption, on a half-hourly basis. The differences between these models are the timeliness of the data, access, the ability to apply the data for non-traditional metering functions and efficiency in data management.

The main differences in functionality are:

IMI Solution - Integrated Functionality

The IMI solution provides a fully integrated end-to-end solution with enhanced functionality as summarised in the diagram below.



The integrated IMI model provides two-way communications which facilitate superior “*economically efficient*” services. The data is communicated (ideally) via power line carrier technology to a Data Concentrator where it is recorded and processed in line with the customer specific tariff arrangement. It is then relayed to Back Office systems for additional processing for wholesale market settlement, risk mitigation and customer billing.

The functions that can be delivered by this system are: -

1. *Distributed processing*: The communications functionality in association with distributed processing (the built-in “intelligence”) which is delivered via the “networking” of the individual meters and concentrators facilitates a number of advanced features that deliver material “*economic efficiencies*” to alternative metering processes and enable new and innovative services.
2. *Real time access to data*: Utilities back office systems would be able to access load, power quality, consumption, pricing and accumulative billing information (facilitates customer access to such data). Also, for remote meter reading.
3. *Remote connect and disconnect*: Customers can be remotely connected/disconnected (currently performed manually on site).
4. *Load limiting*: The meters have the capacity to limit load – a switch may be triggered once an agreed maximum load is exceeded – customers can reconnect once non-required devices are switch off.
5. *Load related tariffs*: The meters have the capacity to apply a different tariff to different load levels. This facilitates a more equitable tariff arrangement than a time of use tariff as agreed load levels (e.g. peak load) rather than time drives the relevant tariff.
6. *Separate Distribution and Retail tariffs*: As tariffs can be established at the customer level it is possible to accommodate more cost reflective distribution tariffs if desired.
7. *Prepayments*: The intelligence built into the two-way communications enables a credit balance to be held at the meter – like electronic dollars in a slot – that is managed remotely.
8. *DSM - Remote device control*: Enables specific devices to be remotely controlled – (for example air conditioning) to be cycled according to contracted arrangements.
9. *Service contracts*: The meters can incorporate tariffs and customer contracted services levels.

Further, the underlying technology systems and associated protocols are “standards” based (international standards exist for such technologies) and “open”. This approach ultimately facilitates contestability in the supply of the underlying hardware, software and related services once this infrastructure is effectively established.

Disintermediated Interval Metering Solution

Data is collected manually, using a data collection device, and is downloaded to the Back Office Systems for basic processing for wholesale market settlement and customer billing.

The establishment and supply of the underlying technology and associated services is likely to be contestable and rolled out on an ad hoc basis over a period of time.

The data collection, the technology solution used within the data collection device, and the initial data processing can be provided by third party service providers.

As this interval metering solution is likely to be delivered by multiple service providers on an ad hoc basis there will be no standard functionality and service level available to customers. The range of products and service offerings available will depend upon the type of meter installed at the physical premise. Accordingly, new customers at the premise will be restricted as to product and service restraints agreed by the previous tenant or will be faced with an additional cost through meter churn.

The additional advanced features of the integrated IMI solution that can deliver new and innovative services would not be available with this solution as the critical two-way communications functionality is not available. The integrated IMI solution provides a practical platform to deliver the achievement of productive, allocated and dynamic efficiency i.e. “*economic efficiency*” as contemplated by the Issues Paper.

Submission summary

Meters are required to deliver “*timely interval data*” to a number of parties for efficient and effective NEM and should not be assessed on the basis of direct benefits at the consumer level. Accordingly, the assessment of the most appropriate metering solution should not focus upon a consumer and “cost” the meter as a consumer asset but rather as part of the “Industry Infrastructure” required for an “*economically efficient*” NEM incorporating a “truly competitive” wholesale and retail sector.

3 Metering and other technology and the assessment framework

3.3 Retail electricity tariffs

As identified in section 2 above it is inappropriate for the assessment to focus on metering as a “customer” asset. As recognised in section 3.3 of the Issues Paper:

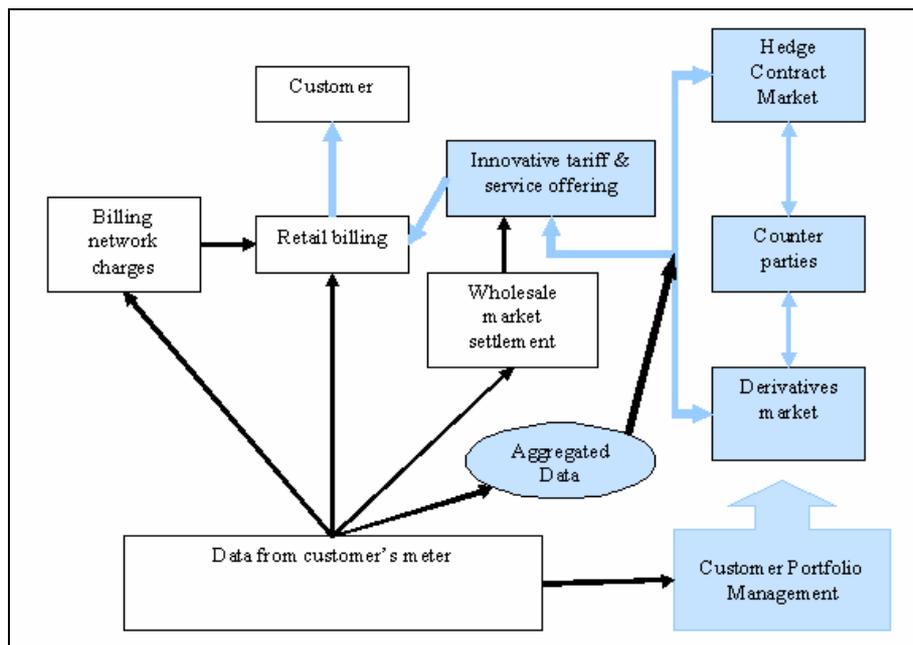
“Customer metering has assumed an enhanced role in the competitive market... metering data obtained from a meter is now used for a number of purposes, including:

- *To settle the wholesale energy market...*
- *To enable the distributor to invoice the retailer for network charges; and*
- *To enable the retailer to build the customer base on the retail electricity tariff.*

The metering data must accommodate the needs of each of these different purposes...”

This focus results in an inadequate assessment of the need for, and application of, appropriate metering data at the wholesale level. This is highlighted in the simplistic diagram “Figure 1” in the Issues Paper. Figure 1 fails to recognise the importance of timely delivery of relevant data for an “economically efficient” and effective wholesale market incorporating a mature contracts and liquid derivatives market.

The diagram below provides an example of a more appropriately focused view of the enhanced role of metering data in a “truly” competitive energy market. The transactions, functions and data flows highlighted in blue are examples of the “enhanced” requirements for metering data to deliver some of the “economic efficiencies” to be assessed by this jurisdictional review.



3.3.1 Energy charges

As the wholesale market transactions are commercial in nature they require an appropriate measurement instrument upon which the financial obligations of the parties can be based. Further, the metering solution must provide an appropriate level of accuracy in the measurement and calculation of the obligations of the counter parties. Accordingly, it is necessary to ensure the principles of the National Measurement Act are accommodated in this regard.

A “differencing” settlement process is used to settle obligations between retailers and generators. The local retailer’s wholesale energy purchases are measured at the boundary of its defined area of responsibility, with the aggregate consumption of the second tier retailers customers subtracted from the total.

Therefore, the local retailer’s purchases are primarily determined from wholesale meters, whereas second tier retailers’ purchases are determined from customer meters. The current customer meters were not designed for wholesale market settlement and have a level of accuracy when used for this purpose which is inappropriate. Quite

simply, they are “not fit for the purpose” and this inaccuracy is compounded through profiling.

This issue of accuracy is not adequately accommodated in the assessment criteria of the Issues Paper.

An example of this is the following unsubstantiated proposition which is stated as a matter of fact in the Issues Paper when explaining the current settlement process:

“...it is the local retailer that bears the residual risks associated with settlement by differencing.”

This proposition is ill-founded. Jurisdictions have assumed that second tier retailers would establish a portfolio of customers representing the “average” consumer profile. It is submitted that a new entrant retailer will target “cherry pick” customers who represent a minimal exposure to peak load and thereby develop a portfolio which is not representative of the average. As the settlement profile will “deem” such a portfolio to be the average the resultant inaccuracy within the settlement process will see the residual risk borne by the new entrant retailer.

To date, despite the substantial body of work undertaken by the jurisdictions and the industry, no attempt has been made to quantify the impact of this material flaw in the current settlement process. It is believed this settlement error would be quantified in the millions of dollars. This represents a further material barrier to new entrant retailers and further example of market failure.

3.3.2 Network charges

As identified under section 2.2 above the integrated metering model IMI can accommodate the separate calculation of network and energy charges at the meter if appropriate. An integrated solution avoids/reduces the need for duplication of hardware and software in the back office systems of the various market participants for billing.

The assessment framework (Issue No.1) should consider the impact of an integrated solution on the investment required in back office systems [See section 3.6 below].

3.3.4 Retail tariff

Interval meters facilitate tariffs based on agreed load levels. Customer arrangements based on load ranges facilitates a greater degree of certainty for retailers in energy contracting and development hedging strategies and derivative products. Development of such hedging strategies and derivative products requires access to relevant data in a timely manner.

Tariff arrangements based on load ranges are an alternative and more appropriate form of price signal than time of use as it is more closely correlated to price drivers in the wholesale market.

3.5 Current metering arrangements and the assessment framework

The “dichotomy” identified in this section confirms and highlights the matters raised in 3.3.1 above. Given the material cross subsidies that exist between different customer segments - specifically those with a comparatively flat load profile as opposed to those with a comparatively “peaky” profile - these consumer groups are unlikely to adopt the most economically efficient metering solution.

The flat load consumer, while likely to gain an economic advantage, is most likely not to be in a position to afford the cost of a meter. The “peaky” consumer has an incentive not to acquire a meter as this will unbundle the cross subsidy currently enjoyed.

This dichotomy also highlights why incumbent retailers have a material conflict and vested interest in the outcome of this jurisdictional review as the meter represents the tool by which “true” competition will be introduced. As highlighted in 3.3.1 above there is a high probability that a new entrant retailer with access to an appropriate metering infrastructure will aggressively target the low volume high margin customer placing real competitive pressures on the incumbent retailers’ margins.

This circumstance will see market driven initiatives which will deliver many of the intended and desired outcomes of FRC. These outcomes will only be realised if the necessary tool – an appropriate interval metering solution - is available.

Accordingly, it is submitted that the current jurisdictional metering arrangements are a barrier to all consumers adopting economically efficient metering solutions or other technology options. These arrangements represent a substantial barrier to “true” competition in both the wholesale and retail markets and prevent “*economically efficient*” Network asset management.

3.6 Achieving efficiency with metering solutions and other technologies

As identified in 2.2.1 above and using the Italian model as the example an additional option should be considered in the jurisdictional review, namely, the “Networked Solution” (“the Italian model”). This option is an enhancement to the “*Interval meters that have two-way communications capability*”.

The Italian model is based on the networking of the individual meters and concentrators. Both the meter and concentrator have built in intelligence and processing capacity. Accordingly, this solution delivers material “*economic efficiencies*” through the ability to remotely process data (“distributed processing”) thereby avoiding much of the data processing and management requirement currently assumed to be an additional and material cost for each market participant in the Issues Paper.

The built-in intelligence and distributed processing capability also makes this meter solution “Prepayment” enabled and ready.

3.6.3 Interval meters

The Italian model referred to above has an installed cost substantially less than assumed in the Issues Paper. The Italian utility Enal Spa and its partner in the development of this metering solution, Echelon Corporation, have indicated the installed cost of this solution is USD\$60.

It is further understood from Echelon Corporation that an equivalent system is now commercially available at an indicative installed cost of approximately AUD \$155.

It is understood that other European countries are currently trialling on a commercial basis, or rolling out similar metering solutions to the Italian model.

As identified in 3.6 above the Italian model can avoid or materially reduce the costs associated with the increased data of interval metering.

Accordingly, it is submitted that the Italian model be assessed as an example of a low cost highly “*economic efficient*” option for the Australian market. Further, the extent to which this option will remove the “barriers” that currently prevent a move to an effective and efficient NEM solution should be assessed as part of this review.

3.6.4 Load control

As highlighted under 2.2.1 above the Italian model facilitates both customer and utility generated load control.

3.6.5 Demand management options

As highlighted under 2.2.1 above the Italian model facilitates the demand management options contemplated by the Issues Paper and the jurisdictions under previous consultations.

3.6.6 Comparison of metering and other technology options

As identified above the Italian model represents an option that mitigates the issues and lessens the cost of processing and storing the data from interval meters through the networking functionality and distributed processing capacity.

The assessment framework for this review should also take into account the specific costs for the establishment, further development and maintenance of: -

- Metrology procedures
- Profiling algorithms
- Customer allocation to a profile should dynamic profiling be adopted

The Issues Paper currently assumes that the cost of interval meters is substantially greater than retention of the current (and any enhancement of) metrology procedures including development and maintenance of profiles and associated algorithms. To accommodate an informed comparison of the alternative metering options an end to end cost analysis of each option is required.

3.6.7 Deployment options

To overcome the obstacles identified throughout this submission, a new entrant retailer may consider installing interval meters for some if not all its customers. However, they would:

- only provide them for their customers - a costly solution as economies of scale and full functionality will be lost
- need to enter into unattractive contracts with customers to recover the meter costs and to avoid meter churn which would result if other retailers target such clients to gain the advantages provided by the meter.

As only some meters would belong to the new entrant retailer the ability to “network” the metering installation would be lost. This would prevent the cost effective provision of the superior functionality and additional service levels identified in this submission. For example, remote connect/disconnect, load limiting and risk management.

Further, any other ad hoc installation of disparate meters would prevent the ability to “network” these meters and represent a diseconomy rather than the “*economically efficient*” outcome anticipated by the Issues Paper.

The unattractiveness of ad-hoc installation of interval meters represents retention of existing “*barriers*” and the potential introduction of additional “*barriers*” to an “*economically efficient*” outcome.

It is submitted that in light of the various matters raised in this submission that an accelerated roll out to all consumers is required to reduce the various “*barriers*” and to access the “*economic efficiencies*” available from an appropriate metering infrastructure.

An accelerated roll-out as contemplated in the Issues Paper is assumed to be on a customer segment basis and over a 5 year period. It is submitted that the roll-out should be to all customers and be undertaken in a shorter timeframe to access the benefits at the earliest opportunity.

The review should consider and assess the approach to the roll out undertaken in Italy where in excess of 700,000 meters are installed each month. The Italian implementation would tend to indicate that the current industry approach to such a roll out is conservative and flawed.

4 Responsibility for metering services & 5 Meter ownership

It is submitted that this review should focus more on the need for timely access to data rather than the physical meter as it is the data not the physical meter that is required for an effective and efficient NEM. The meter should be assessed as part of the necessary industry infrastructure. The Issues Paper does not adequately consider the potential and opportunity for competition in the relevant and separate areas of: -

1. Physical “infrastructure” i.e. competition in the supply of: -

- Metering solution hardware and software;
- Metering solution manufacturing services (assembly of relevant componentry); and
- Metering solution installation, maintenance and testing services.

2. Data management, manipulation and supply services

It is submitted that once the appropriate (metering) industry infrastructure is in place (using the Italian model as the example) all relevant base data will exist within the network and can be made available on appropriate terms to competing data manipulation and management service organisations. These competing organisations would have the opportunity to innovate and find “*economically efficient*” data management and supply services for market participants.

Under the current market structure it would seem logical that the physical metering infrastructure form part of the distribution network asset base with the raw data being “notionally” controlled by NEMMCO. Access to this raw data by the data management, manipulation and supply service organisations would be monitored by NEMMCO in terms of appropriate rules.

6 Other legal and regulatory issues

6.1 Distribution and retail tariffs

As highlighted under 2.2.1 above the Italian model facilitates maximum flexibility in tariff arrangements as these can be established at the meter level if desired. This type of metering solution will enable the separate management of distribution and retail tariffs if this is deemed appropriate.

6.3 Storage of metering data

It is submitted that advancements in information technology and specifically data storage technology over recent years is such that the impact and the costs associated with the volumes of interval metering data are overstated by industry participants and consequently by the Issues Paper.

The assessment framework for the review should incorporate a review of the likely options and associated costs of data storage.

6.5 Enforcement of unique Australian metering standards

It is submitted that the key hardware and software components for an economically efficient interval metering solution are not core competencies or the intellectual property of the traditional metering companies. Accordingly, the historic metering standards are aligned to outdated technologies and should be reviewed in respect of both relevance and purpose.

Unless there are compelling reasons why the Australian metering standards should differ from international standards, for the new generation metering technology (such

as the Italian model), they should be revoked as they currently represent a *barrier* to the adoption of “*economically efficient*” metering solutions.

Commercial & Strategic Solutions would welcome the opportunity to assist the jurisdictional review by providing further comment or clarification in regard to the matters raised in the Issues Paper or this submission, which due to time constraints is not considered exhaustive.