

6th May 2008

The Manager
MCE Secretariat
c/o Department of Resources, Energy & Tourism
GPO Box 9839
CANBERRA ACT 2601

via email: MCEmarketreform@ret.gov.au

Represented in Australia by
Eckermann & Associates
4 Rosenthal Street, CAMPBELL ACT 2612
Email: current@eckermann.com.au
Phone: +61-2-61-61-61-61

Dear Sir/Madam

Comments on Phase 2 Regulatory Impact Statement

Thank you for the opportunity to further contribute to discussion on a national Smart Meter rollout in Australia. Our main comments relate to the overall emphasis of the initiative more than the detail of the Regulatory Impact Statement. However, several more detailed comments are provided at the end of this letter.

Australia's consideration of a national Smart Meter rollout comes at a time of massive global change:

- (a) On the environmental front, the gravity and imminence of the threat posed by climate change is rapidly gaining recognition, and this is driving a new sense of urgency in action to reduce greenhouse gas (GHG) emissions. A positive *economic* case for particular courses of action is no longer sufficient – decisions must also take into consideration the impact on a fragile *environment*. This is especially true in an industry that is the largest contributor to GHG emissions – approximately 35% in Australia in 2005.
- (b) When Victoria embarked upon its Advanced Metering Infrastructure (AMI) initiative, Smart Grid technology was virtually unheard of. However, there has been rapid progress since that time and Smart Grid modernisation of electricity distribution networks is coming onto the agenda as one of the most promising means of both improving the business efficiency and reducing the carbon impact of the electricity industry. The world's first Smart Grids are now in operation – they encompass AMI, but demonstrate benefits that go far beyond what is possible with AMI alone. Most importantly, they rely upon a higher-capacity communications fabric than is needed for AMI – and an AMI-centric decision will either close the door on the broader Smart Grid opportunity, or necessitate an early replacement of the meters that will be installed under current AMI planning. Australia can ill-afford either outcome.
- (c) The technical limitations of the two low-cost communications technologies that are most widely entertained for AMI deployments (PLC and mesh radio) are well understood around the world. This has resulted in a European initiative (led by the Spanish utility, Iberdrola) to develop a solution that overcomes the limitations without cost penalty and which is designed to permit graceful evolution into Smart Grid technology. Having collated buying power for some 50 million meters, the Iberdrola initiative promises to lay the foundation for a major international AMI communications standard. By acting prematurely, Australia will encourage the adoption of inferior approaches that isolate the country in terms of emerging standards.

CURRENT has had various interactions with the Victorian utilities, and they openly concede that the pressure to commence AMI deployments in 2009 simply precludes any proper consideration of the broader case for Smart Grid modernisation. It may now be too late to save Victoria from the consequences of its haste in this matter – but it is not too late to save the rest of Australia from the same fate.

There is natural appeal in a national outcome where there is a level of harmony between the approaches taken in Victoria and those taken in other States and Territories. However, if the national process is rushed for the sake of keeping pace with a State that has chosen to act early, the entire outcome risks being seriously compromised.

CURRENT urges the Ministerial Council on Energy to invest the time to seek answers on a series of key questions that are simply not addressed in the present RIS. These include:

1. What additional benefits might be provided by smart grid technology that will not *and cannot* be provided as part of an AMI-only deployment?
2. How does the cost-benefit analysis for a typical smart grid deployment compare with the cost-benefit analysis that has been undertaken thus far for the proposed smart meter rollout?¹
3. In terms of impact on GHG emissions, how does an AMI deployment compare with a Smart Grid deployment?
4. What impact might there be on deployment timetables if Australia wished to take advantage of emerging new international standards relevant to AMI and Smart Grid deployments?
5. What will be the cost to Australia if meters installed under mandatory AMI rollouts (hard-wired in with limited communications capabilities tightly integrated) have to be replaced early in their life in order to support Smart Grid initiatives?

Obtaining answers to these questions will inject a measure of delay into the current target timetable. However, if as a result Australia avoids locking itself into an inferior outcome for the next 15 years (the notional life of newly replaced smart meters), it will have been a worthwhile delay!

Several more detailed comments relating to the body of the report are attached.

Yours sincerely
CURRENT Group



Robin Eckermann
Principal, Eckermann & Associates (assisting the Current Group in Australia)

cc: Senator the Hon Penny Wong
The Hon Peter Garrett AM MP

¹ Work carried out in the US using a model originally developed by Booz Allen Hamilton suggests that a full Smart Grid deployment costs around 25% more than an AMI deployment, but delivers 190% greater benefits. Whilst there will be differences in the Australian context, the strength of this result deserves closer investigation!

Detailed Comments

1. *[Section 1.12 commencing on p.18]* The discussion here omits any mention of the significant developments that are being led by Iberdrola in Europe. This work involves use of the CENELEC-A band (reserved for utility use) to support a robust low-cost communications solution with superior performance and reach with a target deployment timeframe commencing in 2010.
2. *[Discussion on Texas on p.21]* This description of the CURRENT deployment at Oncor (formerly TXU) suffers from some outdated information and vital omissions. For example:
 - The number of meters with BPL communications installed is currently 125,000. This makes it the world's largest operational BPL network.
 - The key innovation that CURRENT's approach brings is the real-time monitoring of every active element in the electricity network – not just meters. It would not possible to achieve the stated benefits of “increased network reliability and power quality and to prevent, detect and restore customer outages more effectively” if only meters were monitored.

The Oncor press release of 1st May 2008 (see following) provides an update on the status of this deployment:

ONCOR PURCHASES CURRENT'S SMART GRID NETWORK

System Being Used to Improve Grid Reliability and Efficiency

DALLAS, TEXAS; GERMANTOWN, MARYLAND [1st May 2008] — Oncor Electric Delivery Company LLC and CURRENT Group, LLC announced today that Oncor has agreed to purchase CURRENT's existing Smart Grid network in Dallas Texas as well additional equipment and services. The existing network, which is the largest Smart Grid in the world, presently covers approximately 125,000 homes and businesses on Oncor's electric distribution network and the additional equipment being purchased is sufficient for Oncor to serve up to another 100,000 homes and businesses.

CURRENT will also license its Smart Grid software systems and provide other Smart Grid services to Oncor and the two companies have entered into an agreement for the sale of Smart Grid products and services that will allow Oncor the opportunity to continue to deploy a Smart Grid network across up to half of its service territory.

“Through our use of the Smart Grid network, we were able to detect distribution network issues before they impacted our customers,” said Jim Greer, Senior Vice President Asset Management and Engineering of Oncor. “The Smart Grid has become an integral part of our operations by providing us new and valuable real-time information on our distribution network. As such, we determined we wanted to own the Smart Grid network.”

The *CURRENT Smart Grid™* solution uses two-way, high-speed communications including broadband over power line (BPL) and fiber optics, embedded sensing and software analytics to monitor Oncor's electric distribution system 24x7. The Smart Grid provides Oncor with real time information on the status of its distribution network and performs automated meter reading. With the system Oncor is better able to manage the network, deliver more reliable power to end users, and predict potential network problems before they impact customers.

“Utility executives and regulators around the world recognize the benefits of monitoring and managing the distribution of electricity through an enterprise-wide Smart Grid,” said Tom Casey, CURRENT's President & Chief Executive Officer. “Through its Smart Grid leadership, Oncor is realizing these benefits in its daily operations.”

The Electric Power Research Institute projects that Smart Grid-enabled distribution could reduce electrical energy consumption and carbon dioxide emissions as well as improve reliability. The Texas Legislature and the Public Utility Commission of Texas has supported this technology over the last several years, enabling Oncor and Texas to emerge as a leader in deploying Smart Grids. The new federal Energy Independence and Security Act of 2007 sets out as the policy of the United States the implementation of Smart Grid systems to modernize the electric grid.