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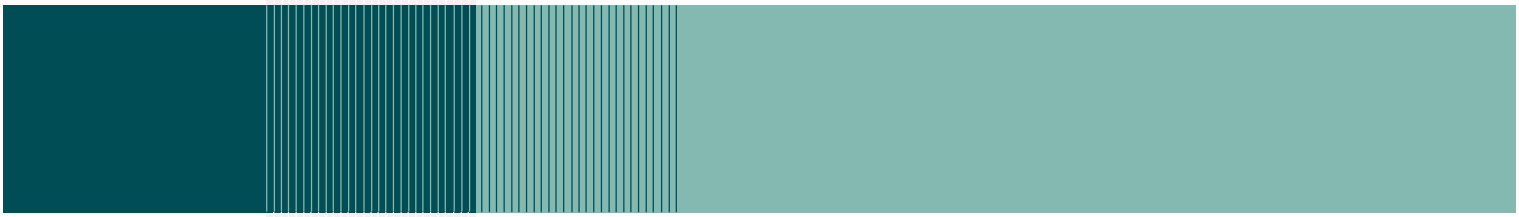
Assessment of the proposed Victorian Jurisdictional Derogation

A report for CitiPower/Powercor



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1. Introduction

NERA Economic Consulting (NERA) has been asked by CitiPower/Powercor to provide an assessment of the proposed jurisdictional derogation ('the derogation') recently submitted[1] to the Australian Energy Market Commission ('the Commission') by the Victorian government ('the government'). The derogation has been proposed to provide for a rollout of advanced metering infrastructure (AMI) in Victoria by electricity distributors.

In early 2006 the Victorian government committed to a mandated, accelerated rollout of AMI to all small electricity consumers, replacing an earlier commitment to a rollout of manually read interval meters. This decision was subsequently reflected in a Victorian legislative amendment that enabled Orders in Council to be used to establish obligations on electricity distributors to deploy AMI by 2013. The proposed jurisdictional derogation addresses a potential impediment to the distributor-led rollout by making Victorian distributors the relevant Responsible Person for advanced meter installations for small electricity using customers, in accordance with the obligations in Chapter 7 of the National Electricity Rules ('the Rules'). The derogation is proposed to apply only until the end of the rollout in 2013, after which it would lapse.

The National Electricity Law (NEL) requires the Commission to assess a proposed jurisdictional derogation against the National Electricity Objective (NEO) at section 7 of the Rules. The Commission must also be satisfied that the derogation concerns one of the matters outlined in section 89 of the NEL. This paper provides an assessment of the matters the Commission should take into consideration in evaluating whether or not the proposed derogation is likely to contribute to the promotion of the NEO. Its particular focus is the specification of the relevant states of the world (the factual, and the counterfactual) that are to be compared when evaluating the proposed derogation.

The remainder of this paper is structured as follows:

- Section 2 provides an overview of the Victorian AMI rollout, including its interrelationship with probable decisions on a national, mandatory smart metering rollout. It also summarises the proposed derogation and the criteria to be applied by the Commission in considering proposed jurisdictional derogations;
- Section 3 defines the relevant factual and counterfactual applying to the circumstances of the proposed derogation, which provides the basis for its assessment against the rule making test;
- Section 4 provides a brief assessment of the proposed derogation against the NEO, focusing on the differences in the net benefits associated with the factual and counterfactual, and the implications for retail competition; and
- Section 5 concludes.

[1] Victorian Government, AMI Rule Change Proposal (Jurisdictional Derogation – Victoria), August 2007

2. Background and Context

This section provides a brief overview of the Victorian AMI rollout, summarises the proposed derogation and the Commission's decision making test.

2.1. Overview of the Victorian AMI rollout

In early 2006 the Victorian government mandated an accelerated rollout of AMI to all small electricity customers (customers consuming less than 160 MWh per year), to be completed by 2013. The proposed functional specification for the AMI involves an interval meter with two-way communications, which can be read, connected and disconnected remotely. The meters will also have a number of advanced functionalities such as quality of supply monitoring, outage and tamper detection, and controlled load management.

Prior to this decision the Essential Services Commission of Victoria (ESC) had earlier committed to a rollout of manually read interval meters throughout Victoria on a new and replacement basis. Developments in metering technology led the government to revisit the ESC's decision, and in 2005 it commissioned a joint study with Victoria's electricity distribution and retail businesses to examine the net social benefit of adding more advanced functionalities to the original meter specification.

This study found that AMI would deliver positive net benefits in Victoria, and that a mandated and accelerated rollout model would maximise those benefits. A mandatory accelerated rollout was recommended to ensure the AMI investment was undertaken in a timely and efficient manner. In 2006, the government passed the legislative amendments necessary to establish an obligation on licensed distributors to deploy AMI together with relevant supporting details of the rollout.

In parallel with these developments in Victoria, a process for establishing a national rollout of AMI or 'smart meters' has been instigated, and is continuing. In April 2007, the Council of Australian Governments (COAG) committed[2] to a national mandated rollout of electricity smart meters where benefits outweigh costs, as indicated by the results of a cost-benefit analysis.

To determine where the benefits outweigh the costs, the Ministerial Council on Energy (MCE) engaged a consortium of electricity industry and economic consultants to undertake a national cost benefit analysis of smart metering. NERA was part of the group engaged to undertake this work, and was responsible for coordinating the six separate work streams as well as the development of an 'overview' report. The study was undertaken in two phases, with the first assessing potential functions for inclusion in a national minimum functionality for smart meters. The phase 1 report and associated stakeholder comments gave rise to an MCE decision in December 2007 to specify a national minimum functionality and an initial set of functions. The second phase of the cost benefit analysis assessed the case for a rollout of smart meters in each jurisdiction and considered potential alternative rollout scenarios. A

[2] COAG Meeting Communiqué; 13 April 2007; http://www.coag.gov.au/meetings/130407/index.htm

draft report[3] discussing the findings of this second phase assessment was recently released for consultation.

The MCE is expected to respond to the findings of the cost benefit analysis in the coming months. The MCE has indicated that it intends to decide on the scope, timeframe and implementation framework for the national rollout, taking account of the different market circumstances, and the costs and benefits identified in each state and territory. The cost benefit analysis report did not discuss and the MCE has not indicated how any decision it makes might be given effect. Assuming that the MCE decides that a rollout of some form should proceed, the options for implementing its decision would appear to range from:

- proposing changes to the Rules that the MCE might presume would be accepted by the Commission, because the MCE's decision is consistent with findings from the national cost benefit analysis that the relevant market circumstances involve benefits that outweigh the costs; through to
- making amendments to the NEL that provide for the MCE's preferred rollout decision, irrespective of any decision by the Commission.

2.2. Outline of the proposed derogation

The motivation for the Victorian government's proposed derogation stems from the implications seeking to achieve a distributor-led AMI rollout in the context of those aspects of the current Rules that govern responsibility for the installation of different 'types' of electricity meters.

The vast majority of small customers in Victoria currently have a type 6 electricity meter, which is commonly referred to as a manually read accumulation meter, or a type 5, manually read interval meter. AMI or 'smart meters' are best classified under the current Rules as type 4 meters. The Rules governing responsibility for meter installation differ between each type of electricity meter. In particular, section 7.2.2 (a) of the Rules states that *"A Market Participant may elect to be the responsible person for a metering installation that is a type 1, 2, 3 or 4 metering installation"*.

By contrast, the proposed derogation would establish the local network service provider (LNSP) as the *exclusive* responsible party for each metering installation (other than type 1 or 2 metering installations) at customer connection points in Victoria where:

- the relevant customer consumes less than 160MWh per annum of energy; and
- a Market Participant is not already the responsible person for the metering installation.

It is proposed that the applicability of the derogation will coincide with the AMI rollout period, in that it will take effect from the start date for the rollout[4] and cease to apply from 31 December 2013.

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[3] NERA (2008), Cost Benefit Analysis of Smart Metering and Direct Load Control: Overview Report for Consultation, Report for the Ministerial Council on Energy Smart Meter Working Group, February

[4] In its derogation proposal, the Victorian government notes that "the start date for these purposes will be specified in an Order in Council to be made under the EIA in connection with the AMI rollout."

The derogation would prevent a Market Participant from electing to be the Responsible Person for type 3 or 4 metering installations (ie, AMI meters), where the above circumstances hold. In practice this means that the relevant LNSP would become the exclusive Responsible Person for the purposes of the Victorian AMI rollout. All obligations associated with being the Responsible Person, including the provision, installation, maintenance, routine testing and inspection of AMI meters for small customers, would fall to the LNSP in accordance with Rule 7.2.5. Under the terms of the derogation the LNSPs would be entitled to recover the costs associated with fulfilling these obligations.

If the derogation is not given effect and so the existing arrangements set out in Rule 7.2.2(a) were to prevail, a Market Participant can elect to be the responsible person for type 3 and 4 metering installations. Given the obligations imposed on LNSPs under the Victorian government's AMI rollout, if a Market Participant did elect to be the responsible person for a particular type 3 or 4 metering installation, the LNSP's obligation would be reduced commensurately for that connection point. The consequences for the AMI rollout of this counterfactual state of the world (ie, absent the proposed derogation) are discussed further in section 3.

2.3. Assessment against the National Electricity Objective

The Commission is charged with responsibility for assessing proposed changes to the Rules under section 91 of the NEL, including requests for jurisdictional derogations. In assessing the proposed derogation the Commission is obliged to determine whether or not the derogation contributes to the promotion of the NEO.

The NEO is set out at section 7 of the NEL and is expressed as follows[5]:

> to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –
>
> (a) price, quality, safety, reliability and security of supply of electricity;
>
> (b) the reliability, safety and security of the national electricity system.

Before the Commission can amend the Rules it must apply the rule making test set out at Section 88 of the NEL. The test requires that the Commission be satisfied that the proposed rule will, or is likely to, contribute to the achievement of the NEO. Where the Commission is assessing a proposed rule, it must also be satisfied that making the proposed amendment to the Rules will facilitate achievement of the NEO to a greater extent than not granting the amendment.

In addition to satisfying the rule making test, section 89 of the NEL requires that in making a jurisdictional derogation the Commission must have regard to whether the derogation satisfies one of three pre-requisites, namely:

> **89 AEMC must have regard to certain matters in relation to the making of jurisdictional derogations**

[5] http://www.aemc.gov.au/electricity.php

> In making a jurisdictional derogation, the AEMC must have regard to whether—
>
> (a) the derogation provides for the orderly transfer of the regulation of the electricity industry in a participating jurisdiction under jurisdictional electricity legislation to the regulation of that industry under the national electricity legislation; or
>
> (b) the derogation continues existing regulatory arrangements applying to the electricity industry in a participating jurisdiction and the Minister of the participating jurisdiction requesting the derogation has notified, in writing, the AEMC that he or she considers it necessary and appropriate that the existing regulatory arrangements continue; or
>
> (c) the derogation is necessary to exempt, on an ongoing basis, generating, transmission or distribution systems or other facilities owned, controlled or operated in the participating jurisdiction to which the derogation relates from complying with technical standards relating to connection to the national electricity system set out in the NER because those systems or facilities, by reason of their design or construction, are unable to comply with those standards.

The Victorian government has indicated that its proposal is submitted in satisfaction of sections 89 (a) and (b). In the case of paragraph (a), the government's proposal notes[6] that:

> the anticipated transition over time of these (regulatory metering) arrangements to a national framework will be facilitated by ensuring that the interfaces between the Victorian instruments and existing national regulatory instrument are clearly specified.

The proposal further states[7] that:

> the proposed derogation facilitates an orderly transfer by clearly articulating interfaces between Victorian and national instruments and establishing necessary derogations on a transitional basis.

In terms of paragraph (b) the Victorian government considers 'existing regulatory arrangements applying to the electricity industry' to be taken to refer to arrangements that are properly in existence within a relevant jurisdiction at the time the proposed derogation is being considered. For Victoria, this must refer to its mandated distributor-led AMI rollout. In addressing the requirements of paragraph (b) the derogation proposal indicates[8] that distributor exclusivity:

> is an integral part of those existing regulatory arrangements and the Victorian Government accordingly considers it is necessary and appropriate that those arrangements continue.

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6 Victorian Government, AMI Rule Change Proposal (Jurisdictional Derogation – Victoria), August 2007, p18

7 *Ibid*

8 *Ibid*

3. Defining the Relevant Factual and Counterfactual

The rule making test requires the Commission to assess whether the proposed derogation will, or is likely to, contribute to the achievement of the NEO. To make this assessment, the Commission must define the state of the world that will apply both with and without the derogation, ie, both the factual and counterfactual, respectively.

This section sets out why defining the counterfactual will be particularly important for the Commission's assessment of this particular proposed derogation. We then summarise the factual set of circumstances to which the proposed derogation will give rise, and provide an analysis of the relevant counterfactual against which it should be assessed.

3.1. Why is the counterfactual important in this instance?

Typically, the assessment of a rule change proposal involves an implicit and uncontested counterfactual because most proposed rules do not prevent other parties from engaging in actions that may also promote the achievement of the NEO. It follows that for most rule change proposals the rule making test will be satisfied if the rule creates an environment that enhances the promotion of the NEO, as compared to a 'do nothing' scenario. In those circumstances, the Commission usually refers to the outcome that would prevail "without the rule-change", or "under the current regulatory provisions".

However, the relevant counterfactual for the proposed derogation is unusually complex because it involves one approach to rolling out AMI that will have the effect of excluding others. Assuming such alternative approaches may themselves contribute to the achievement of the NEO, the counterfactual against which the derogation should be assessed must have regard to the approach to rolling out AMI that is most likely to develop in the absence of the derogation. However, as we discuss in section 3.3 below, reaching a decision on what might occur in the absence of the proposed derogation is fraught with uncertainty, due in part to the ongoing national policy process for determining the best approach to rolling out AMI.

On an informal survey of past Rule change decisions, we are aware of only one circumstance where the Commission explicitly considered the relevant counterfactual, or 'base case', against which to make its assessment. It arose in the Commission's assessment of the Abolition, Split Snowy Region and Southern Generators' Congestion Pricing Rule change proposals ('the three Snowy proposals').[9] In making its determination the Commission noted:

> The Commission has assessed the Abolition, Split Snowy Region and Southern Generators' Congestion Pricing Rule change proposals against the National Electricity Market Objective (NEM Objective) using the same set of criteria, and with reference to a common base case (the current regional boundary structure, without the current Trial). All three Rule change proposals represent significant improvements on the base case. There is, therefore, a strong case for change. This finding accords with the generally held view that congestion in the Snowy region is a material legacy issue that warrants an enduring change to the Rules.

[9] http://www.the Commission.gov.au/pdfs/reviews/Abolition%20of%20Snowy%20Region/the Commissiondocs/032Final%20Rule%20Determination.pdf

> The Commission has decided that the Abolition proposal best promotes the NEM Objective, when compared to the alternative Rule change proposals and the base case.

An important feature of this assessment was that the Commission was asked to consider three alternative rule change proposals, and was able to decide which proposal best promoted the then national electricity market objective (the 'NEM Objective'). In its assessment the Commission did not consider whether there were any further alternative region boundaries that could promote the NEM Objective to a even greater extent, presumably since this would be likely to have gone beyond its rule making power.[10]

In making its determination on the three Snowy proposals, the Commission discussed the 'base case' as follows:

> The purpose of the base case scenario is to provide a reference point to assess the potential effect that implementation of the Abolition proposal may have on the NEM. In particular, the comparison between the base case and the Abolition proposal should reveal if generator incentives change as a result of a region boundary change, and if so, the effect that may have on the market. The base case is common across the Commission's assessment of the Abolition proposal and the two alternatives. This provides a common reference point to not only assess each proposal against the NEM Objective, but also a common reference point for comparison of the proposals against each other.
>
> The base case chosen reflects the market under a "do nothing" approach. It retains the existing Snowy region boundaries and the Snowy regional reference node (RRN) at Murray. It allows the expiry of the interim arrangements currently managing congestion in the Snowy region, i.e. the Tumut CSP/CSC Trial and the Southern Generators Rule. It reinstates NEMMCO's intervention power to manage negative settlement residues on the Victoria-to-Snowy and Snowy-to-NSW interconnectors through "clamping" flows or "re-orientation".

This example illustrates the importance in some instances of careful specification of the relevant counterfactual against which some particular rule change or derogation proposals need to be assessed. In our view, the Victorian government's proposed derogation is one such example because, as with the Snowy proposals, granting the derogation forecloses potential alternative proposals. Importantly in the case of the proposed derogation, however, the Commission does not have before it any alternative approaches for giving effect to a Victorian AMI rollout, and this needs to be taken into account in identifying the range of options that might otherwise be considered in the context of the proposed derogation.

3.2. The factual

The proposed derogation involves a set of circumstances under which the Victorian government's policy for a mandatory distributor-led AMI rollout to all small customers in Victoria would proceed. This therefore involves:

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[10] The recent inclusion of section 91A in the NEL may now allow the AEMC to make a rule that is different, including materially different, from that submitted in a market initiated rule change proposal, having regard to the issues identified in the proposal and where the preferred Rule is likely to better contribute to the achievement of the NEO. However, it appears that section 91A is limited to a *market initiated proposed Rule* that is defined as a rule submitted under section 91(1) of the NEL. A jurisdictional derogation is submitted in accordance with section 91(3), suggesting that the flexibility accorded to the Commission through section 91A may not apply for a proposed jurisdictional derogation.

- distributors having an obligation to rollout AMI throughout their distribution network, with costs being recovered through a regulated price setting process;[11]
- distributors being the exclusive Responsible Person for all AMI meters that replace existing type 5 or 6 meters;
- the rollout of AMI being completed by 2013; and
- beyond 31 December 2013, retailers being entitled to elect to become the Responsible Person for existing metering installations.

3.3. The counterfactual

Under the counterfactual the derogation would not be made, and so retailers would continue to be able to elect to be the Responsible Person where an existing Type 5 or 6 meter is replaced with an advanced meter. Where retailers do elect to become the Responsible Person, a distributor would be unable to satisfy its obligation to roll out AMI, and so the policy of a mandatory, distributor-led rollout of AMI would no longer be achievable. In defining and assessing the counterfactual, it is therefore necessary to consider the circumstances that are likely to arise in the absence of the derogation.

It is well documented that there are a number of alternative possible institutional frameworks to support the rolling out of AMI. The assessment of the national costs and benefits of a mandatory rollout of smart metering undertaken for the MCE considered three approaches in detail, which were specified and defined by the MCE's Smart Meter Working Group.[12] Those approaches were characterised as 'distributor-led', 'retailer-led', and 'retailer-led with centralised communications'.

An important feature of each rollout approach is that their efficient execution requires a supporting set of regulatory arrangements, both as a means of facilitating their effectiveness and to address any potential negative consequences that may arise from their implementation. The consortium undertaking the cost benefit analysis for the MCE study was asked to assume that any necessary changes to the rules or legislation would be made to facilitate each of the scenarios being considered. Just as there are differences in the likely costs and benefits arising under each approach to rolling out smart meters, there are also likely to be differences in the regulatory arrangements needed to ensure that no impediments are created, such as in terms of access to the relevant infrastructure and, relatedly, for the effectiveness of retail competition.

Implicit in the Victorian government's policy commitment in relation to AMI and so its proposed derogation is a conclusion that a distributor-led rollout of AMI is the preferred approach. In the absence of distributors being able to implement this policy commitment, it

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[11] An amendment to the Electricity Industry Act 2000 was passed by the Victorian Parliament in August 2006, providing the Government with legislative heads of power to make Orders-in-Council (http://www.gazette.vic.gov.au/Gazettes2007/GG2007S200.pdf) establishing a range of requirements for the deployment of AMI, including functionalities and a framework for the regulated recovery of costs associated with installation and ongoing operation.

[12] NERA (2008), Cost Benefit Analysis of Smart Metering and Direct Load Control: Overview Report for Consultation, Report for the Ministerial Council on Energy Smart Meter Working Group, February, Section 3.3, pp18-21.

is not clear what the Victorian government might consider to be the next best approach to rolling out smart meters. In our view to develop or specify a counterfactual that involves a rollout scenario other than that likely to develop under the 'status quo' would involve a high degree of speculation.

Such speculation would need to consider the intention to develop a national policy for smart metering. Our understanding is that the MCE intends to respond to the information provided in the national cost benefit study in the coming months. It has previously committed to a rollout of smart meters in locations where the benefits outweigh the costs. It would seem reasonable to expect the MCE to decide upon its preferred approach to a national rollout of smart meters, including whether the rollout should be one or a combination of the scenarios that were considered in the national cost benefit analysis. Unless the MCE's intention is 'to do nothing' the necessary legislative and/or rule change proposals will need to be developed so as to facilitate that policy decision.

It follows that the likely approach to the rollout approach of AMI in Victoria in the absence of the derogation is extremely uncertain. It is conceivable the Victorian government could decide to proceed with AMI under a retailer-led mandatory rollout. It is also possible that it may decide to allow AMI to rollout without any obligation being placed on any party. However, it is highly likely that any of these alternative approaches would either require or benefit from legislative changes to create a framework to give effect to them and/or to address potential concerns arising in relation to access to customer data, interconnectivity of communications infrastructure and associated implications for retail competition. At present, we are not aware that any of these frameworks are being contemplated.

It follows that to define a counterfactual that involved a alternative approach for bringing about a *mandatory* rollout of AMI in Victoria would involve a significant degree of speculation. There is no certainty that any alternative approach to a mandatory AMI rollout would be developed in the absence of the derogation being made to facilitate a distributor-led rollout.

To summarise, and taking the three rollout approaches specified by the MCE as a reference point, the range of responses the Victorian government could make in the event the derogation is not granted are:

- to retain its current regulatory obligation on distributors to roll out AMI by 2013;
- to remove the current regulatory obligation on distributors to roll out AMI and, alternatively, place a similar obligation on retailers; and
- to remove current regulatory obligation on distributors to rollout AMI.

We would expect the effect of each of these potential responses to be as follows:

- by 2013, AMI is rolled out to all small customers by means of a combination of distributors (in response to the obligation placed on them to do so) and retailers (where commercial benefits lead to a retailer electing to be the Responsible Person for some or all of its customers);

- by 2013, AMI is rolled out to all small customers by retailers in response to a regulatory obligation that is placed on them to do so; and
- by 2013, AMI is only rolled out to small customers where retailers expect the commercial benefits to exceed the costs.

Under each of the possible counterfactuals, unless the current regulatory obligation on Victorian distributors to roll out AMI is removed, AMI would be rolled out to all small customers within a specified time period. Were the derogation not to be granted, it is possible that the current 2013 date for completing the rollout would be need to be extended if the current regulatory arrangements were replaced by an obligation on retailers.

Aside from the principal party responsible for the rollout, the main difference between these counterfactuals is whether or not a single entity has responsibility for rolling out AMI to all customers within a geographic area, or whether, by placing an obligation on retailers, there are multiple parties with responsibility for separate AMI networks within a geographic area. It follows that an important attribute of most counterfactuals is the fact of multiple AMI providers, as compared with a single provider within a geographic area, and the associated implications for retail competition. We consider these issues in chapter 4 below.

In our view, the most appropriate counterfactual against which to assess the proposed derogation is where current regulatory obligation on distributors to rollout AMI by 2013 is retained, ie, the status quo. This is because it is simply too speculative to presuppose a decision by the Victorian government on the 'best' alternative approach to rolling out AMI. Such an assessment would require a re-examination of the detailed costs and benefits of alternative approaches, and the development of a regulatory framework to address concerns that may arise for retail competition. This would involve a degree of speculation that was well beyond the nature of any counterfactual contemplated by the AEMC in assessing previous rule change proposals.

It follows that we believe it is prudent to presume that the existing regulatory obligation would remain such that Victorian distributors would roll out AMI to all relevant customers, except where a retailer has elected to be the Responsible Person. In our opinion, the relevant counterfactual for the proposed derogation therefore involves:

- distributors having a regulatory obligation to rollout AMI throughout their distribution network, with costs being recovered through a regulated process; but
- retailers retaining the right to be able to elect to be the Responsible Person for providing AMI metering installations for some or all their customers during the rollout;
- where retailers have or elect to be the Responsible Person, AMI would only be installed where a retailer expects there to be financial gains to it from doing so; and
- by 2013, AMI is rolled out to all small customers by a combination of distributors (in response to the obligation placed on them to do so) and retailers (where commercial benefits lead to a retailer electing to be the Responsible Person for some or all of its customers).

In addition and as contemplated by the Victorian government's Order in Council, we assume that where a retailer elects to be the Responsible Person for a customer where AMI has

already been installed by the relevant distributor, a transfer or exit fee is paid by the retailer to the distributor.[13] The exit fee is derived so as to recover the unamortised cost of the meter and communications infrastructure for each customer so that a distributor is left indifferent as to whether or not it retains the metering net revenue stream for that customer.

An important feature of this status quo counterfactual is that, for the reasons outlined above, it does not presuppose any further policy decisions by governments in the circumstances that the derogation is not accepted. Notwithstanding, we note that while it may be that the Victorian government could subsequently decide to give effect to an AMI rollout through an alternative approach - say by placing an obligation on retailers - not to grant the proposed derogation would delay its implementation, since the necessary regulatory and legislative changes would need to be identified and made.

For the proposed derogation to satisfy the Commission's decision making test, the distributor-led AMI rollout with the derogation in place would need to promote the NEO to a greater extent than the counterfactual. For efficiency in the operation of the electricity system to be promoted, this would mean that the net benefits of the AMI rollout that occurs under the factual should be expected to be greater than under the relevant counterfactual. The relative, expected net benefits of these two scenarios are addressed in the following section of this report.

[13] Clause 7, Order in Council, 28 August 2007, http://www.gazette.vic.gov.au/Gazettes2007/GG2007S200.pdf.

4. Assessment against the National Electricity Objective

This section assesses the relative contribution to the promotion of the NEO of a distributor-led rollout, against the counterfactual specified in section 3, ie, where AMI is rolled out by a combination of distributors - in response to the AMI rollout obligation - and retailers in accordance with their commercial interests. The proposed derogation will satisfy the rule making test if the Commission can be satisfied that (i) the factual will, or is likely to, deliver positive net benefits, and that (ii) it will promote the NEO to a greater degree than the counterfactual.

We noted in section 3 that the making of the proposed derogation will facilitate the accelerated distributor-led rollout in accordance with the Victorian government's policy commitment. This decision was in turn based on a study that found there were positive net benefits from undertaking a distributor-led AMI rollout[14], notwithstanding that this conclusion depends critically on the assumptions adopted. It is beyond the scope of this paper to revisit the conclusions from this or any other previous study. Rather, our purpose here is limited to drawing out the implications of this and other relevant earlier work for the purposes of assessing the proposed derogation.

Where there has been found to be positive net benefits from the installation of smart meters, as compared with an absence of smart metering, in our view there are two critical and additional questions that need to be considered in assessing the proposed derogation, namely:

- are there likely to be differences between the factual and the counterfactual in terms of the net benefits associated with an AMI rollout? and
- are there likely to be differences between the factual and counterfactual in terms of the implications for retail competition?

We consider each of these questions below.

4.1. Differences in net benefits between the factual and counterfactual

The potential for differences in the net benefits associated with the factual as compared to the counterfactual are likely to emerge as a consequence of:

- the operational efficiencies that are expected to be achieved by a single entity having responsibility for the rollout of AMI to all customers within a geographic area, as distinct from this responsibility being shared between multiple providers of AMI; and
- the communications infrastructure likely to be used by distributors to fulfil the AMI rollout obligation.

[14] Advanced Interval Meter Communication Study, CRA, December 2005; http://www.dpi.vic.gov.au/dpi/dpinenergy.nsf/93a98744f6ec41bd4a256c8e00013aa9/ab09efd9d813f553ca2573b0000b136d/$FILE/AMI_Study.pdf

4.1.1. Operational efficiencies

The national cost benefit analysis found that[15] operational benefits are likely to be realised when distributors integrate AMI into their outage detection processes. Such innovation could lead to significant operational cost efficiencies for distributors, including through a reduction in calls to faults and emergency lines, the reduced cost for post-storm restoration and the avoided cost of customer complaints about loss of supply. These benefits all arise from the loss of supply detection functionality of smart meters being integrated into distributors' network operations. The extent to which these benefits are realised will be likely to vary between the factual and counterfactual.

Under the factual there are no impediments to distributors realising the potential benefits from integrating AMI into their outage detection processes, because they will be responsible for rolling out the AMI infrastructure and can be expected to integrate these systems appropriately. Under the counterfactual it may be possible for distributors still to achieve some of the operational benefits arising from integration into outage detection processes, so long as they are able to access sufficient information from those elements of retailer-installed AMI, on appropriate terms and conditions.

For distributors to be able to integrate their outage detection systems with the AMI, it may be necessary for them to be involved in the planning of the AMI networks contemplated by retailers operating within their area of operations. This would be necessary to ensure that the relevant AMI networks are structured so as to provide the information necessary to a distributor to manage network outages. There are likely to be transaction costs associated with integrating these systems, which can be expected to be higher under the counterfactual as compared with the factual. In addition, a distributor would be likely to need to establish interfaces between its system and a number of retailer AMI systems, including its own AMI system. The complexities and compatibility problems that may arise could be significant.

However, the counterfactual does not include the sort of changes that may be necessary to ensure that these operational benefits for distributors are achieved. It follows that these benefits may not arise under the counterfactual, particularly where a distributor would need to work across a number of retailer AMI systems (or their third party providers) and its own AMI system. We therefore conclude that the operational benefits associated with an exclusively distributor-led rollout of AMI may be higher than under the counterfactual. The magnitude of these benefits and therefore their relative importance in terms of the Commission's rule change decision making test will depend on the likelihood that distributors would receive benefits from integrating outage management systems with the AMI.

4.1.2. Communication infrastructure costs

It is likely that a rollout of AMI under the factual would result in the deployment of different communications infrastructure than under the counterfactual. This is because some communications technologies are better suited to circumstances where a single entity is

[15] Section 6.4.2, NERA (2008), Cost Benefit Analysis of Smart Metering and Direct Load Control – Overview Report Phase 2, February.

responsible for providing AMI to all customers within a geographic area (eg, power line carrier) as compared with more flexible point to point communications solutions, (eg, mesh radio and GPRS).

There is some uncertainty as to the likely difference in cost for each alternative communications infrastructure technology. This is because they are yet to be implemented in Australia at a sufficient scale to test the capabilities of the systems. In the national cost benefit analysis, Energy Market Consulting associates (EMCa) considered a number of alternative communications infrastructure options for both the retailer-led and the distributor-led scenario.[16] For the distributor-led scenario EMCa assumed that 97 per cent of urban areas would be serviced by mesh radio and the remaining 3 per cent by GPRS. For the retailer-led scenario EMCa considered a mesh radio approach involving 80 per cent of urban areas and 20 per cent for GPRS in fill. The other retailer-led technology options involve different combinations of mesh radio, GPRS, PSTN and power line carrier. EMCa assumed the reduced use of mesh radio under the retailer-led scenario, which reflected the effect of the reduced customer density of individual retailers on the extent to which mesh radio could be used.

EMCa therefore concluded that the communications costs for the retailer-led rollout would be higher than the distributor-led rollout. This conclusion reflected the assumptions about the proportion of customers serviced by each technology and the relatively high cost of GPRS as compared with mesh-radio communications infrastructure.

Applying these results to the factual and counterfactual identified above leads to the conclusion that the costs associated with the factual would be lower than under the counterfactual, which would involve multiple communications infrastructure arrangements. The extent of this likely difference in communications infrastructure costs under the counterfactual identified above is difficult to estimate without significant further analysis.

4.2. Implications for retail competition

The second principal issue to be considered is the extent to which competition in the market for electricity retailing may be affected under either the factual or the counterfactual.[17] The starting point for an assessment of the implications of AMI for retail competition is to consider whether retailers and/or third party meter data providers have the incentive and ability to raise barriers to entry into the market for electricity retailing, including through the introduction of impediments to customers switching between one retailer and another under the factual and counterfactual states of the world.

As a matter of principle, service providers competing in any market will have an incentive to put in place arrangements with customers such that it is more difficult for them to switch to taking supply from a competitor. The typical means to discourage switching include

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[16] Chapter 5, EMCa (2008), Cost Benefit Analysis of Smart Metering and Direct Load Control – Work Stream 6: Transitional Implementation Costs, Phase 2.

[17] AGL in its submission on the proposed Victorian derogation identify concerns relating to the effects on competition in electricity retailing of the distributor-led rollout. In our view, a retailer-led rollout is likely to have significant potential consequences for retail competition that would need to be considered further as part of the Commission's assessment of the proposed derogation.

providing better service, improving the quality of the product, distinguishing the features of the product from rivals and building brand loyalty.

Electricity retailers are likely to have a similarly strong incentive to reduce the risk of customers switching to rival suppliers, particularly in light of the typically high cost of acquiring new customers in combination with the relatively low margin on sales. Significantly higher profits that can be expected from customers that stay with the same retailer for long periods of time. AMI facilitates new forms of competition by allowing a retailer to differentiate itself from its rivals by facilitating advanced services such as, for example, in-home displays that provide customers with real time usage information.

The business case for the provision of AMI relies on minimising the need to replace meters, because of the high initial cost of installing the meter. This means that the entity responsible for the meter will have a strong incentive to ensure that meters remain at customers' premises until the end of the meter's effective life, which is typically 15 years for a smart meter.

Under the factual, retailers will be required to purchase meter data services from their customer's distributor until 2013, after which they can choose to switch to an alternative meter data provider, albeit with the payment of an appropriate exit fee to the distributor. During the period of the rollout therefore, when a retailer acquires a new customer the distributor would redirect the meter data to the new retailer. The distributor will presumably be obliged to make the new customer's data available within a reasonable time to facilitate the customer transfer, although there is no reason for a distributor that does not also provide retailing services to impede this process.

In these circumstances, all retailers would receive the same meter data service for any given customer. Prices and service standards will be determined through a regulatory-sanctioned data access regime, such that – notwithstanding the lack of any incentive - there will similarly be no opportunity for a retailer to impede a customer from switching to another retailer.[18] For this reason, the effectiveness of competition for small customers in the electricity retailing market is unlikely to be affected under the factual.

Under the counterfactual, AMI infrastructure would be installed and controlled either by retailers themselves or by independent third party meter data providers offering services to retailers. The implications for retail competition will differ to some extent according to which of these routes evolves.

Retailers installing their own AMI infrastructure would have a positive incentive to disrupt the provision of meter data services to their rivals. In this circumstance, when a retailer acquires a new customer, it incurs the cost of installing a new meter and associated communications infrastructure. This raises the cost of acquiring new customers and so reduces the incentive a retailer has to acquire new customers. By restricting access to data

[18] One circumstance where retail competition could be impeded under the factual would be where a vertically integrated distributor and retailer sought to foreclose on a retail competitor by the distributor providing lower quality data services, or intentionally impeding the transfer of customers. These types of actions are likely to fall foul of the *Trade Practices Act 1974*.

from its customers' meters[19] a retailer is likely to be able to impede retail competition. Such restrictions might involve the adoption of meter data system specifications that were not easily compatible with those of other retailers (or meter data providers), the imposition of unreasonable or onerous terms and conditions for the provision of data, or the simple refusal to make data (and/or the meters that generate it) available in a timely way, or at all.

Alternatively, if AMI infrastructure is installed and controlled by independent third party meter data providers, such as may emerge under a retailer-led scenario, a meter data provider has no incentive to restrict the access to its data to retailers that do not provide their own meter data provision service. This is because each meter data provider would have an incentive to make its service available to all such retailers in a fashion and at a price that is attractive to them. This is likely not to have any detrimental effect on competition amongst that subset of retailers that contract out meter data provision.

However, some retailers may chose to provide their own meter data function, both to themselves and potentially other retailers (who do not). Irrespective of whether or not some retailers make this choice, each geographic area is likely to enjoy more than one potential meter data service provider. In other words, the meter data provision function will itself be subject to competition between service providers. In that environment, a third party meter data provider will itself have an incentive to restrict customer switching so as to reduce the risk that its meter will be churned. Customer churn is a commercial threat to meter data providers through the risk that when a customer switches retailer, that incoming retailer may appoint a different meter data provider (including appointing itself).

The means by which a meter data provider could reduce competition for its service are likely to be identical to those available to retailers that provide the meter data function themselves. These are likely to include the adoption of meter data system specifications that were not easily compatible with those of other meter data providers (or retailers offering this function), the imposition of unreasonable or onerous terms and conditions for the provision of data, or the simple refusal to make data (and/or the meters that generate it) available in a timely way, or at all.

To address these potential detriments to the effectiveness of competition in retailing, it would be necessary for the regulatory framework to ensure that access to data – whether provided by specialist meter data providers or retailers undertaking this function - is provided on fair terms and conditions – including the compatibility of systems - and that customer data switching is timely.

In summary, under the counterfactual a retailer would have both the incentive and ability to put in place arrangements that make it difficult for competing retailers to acquire its customers, thereby raising barriers to entry for its rivals. Such arrangements would manifest themselves as an increase in the cost of acquiring retail customers with an associated reduction in the effectiveness of retail competition. Neither the incentive nor the ability to impede retail competition by raising the cost and reducing the efficiency of customer switching would be eliminated by the independent provision of meter data services.

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[19] 'Access' in this context might involve either the one-off transfer of the existing meter and associated communications infrastructure to the rival retailer, or the entering of an agreement for the ongoing provision of meter data.

To address this concern in the counterfactual it would be possible to develop a regulatory framework where a retailer acquiring a new customer could either choose to acquire metering services from the existing retailer (or its third party provider) on reasonable terms and conditions, or choose to replace the existing meter and associated metering infrastructure with its own. In the circumstance where a retailer chose to acquire metering services from the new customer's existing provider, the regulatory framework should oblige the metering provider to offer those services on reasonable terms and conditions.

If such regulatory access arrangements are not developed there is potential for significant barriers to customer switching and retail competition to arise under the counterfactual. In the absence of on specific proposal for such arrangements, we conclude that there is a significant risk of retail competition being damaged under the counterfactual. It follows that the proposed derogation is likely to promote the NEO to a greater degree than its counterfactual, because it carries no risk of impediments to retail competition.

4.3. Summary assessment

A summary of how the factual and counterfactual contribute to the promotion of the NEO is presented below. In our opinion the proposed derogation will promote the NEO to a greater extent than the counterfactual and, accordingly, satisfies the Commission's decision making test.

Table 1 – Summary of the relative contribution of the factual and counterfactual to the NEO.

	Factual – Distributor-led rollout with derogation approved	**Counterfactual** – Distributor-led rollout without derogation approved
Realisation of net benefits from AMI rollout	Contributes to the NEO to a greater extent.	Reduced net benefits through reduced operational efficiencies for distributors and greater communications costs.
Impact of rollout approach on retail competition	Contributes to the NEO to a greater extent.	Will impede retail competition through the erection of barriers to customer switching.

5. Conclusions

In evaluating the Victorian government's proposed derogation to support its policy commitment to a distributor-led rollout of AMI, the Commission is obliged to assess the proposal against the rule making test. This test requires that the Commission be satisfied that the proposed derogation will, or is likely to, contribute to the achievement of the NEO, as compared with the extent to which the NEO will be achieved in the absence of the derogation.

The relevant counterfactual for the proposed derogation is unusually complex because it involves adopting one approach to rolling out AMI that will have the effect of excluding others. Assuming some alternative AMI rollout approaches may themselves contribute to the achievement of the NEO, the counterfactual against which the derogation should be assessed must have regard to the approach that is most likely to develop in the absence of the derogation.

However, an important feature of the various alternative AMI rollout approaches that were canvassed in the recent MCE-commissioned cost benefit analysis is that their efficient execution requires a supporting set of regulatory arrangements. Such arrangements are necessary both to facilitate the effectiveness of the rollout approach and to address any potential negative consequences that may otherwise arise.

In our view, to develop or specify a counterfactual that involved a rollout approach other than that likely to develop under the 'status quo' would involve a high degree of speculation. There is no certainty that the set of regulatory arrangements necessary to support an alternative form of mandatory AMI rollout would be developed in the absence of the proposed derogation to facilitate a distributor-led rollout in Victoria being accepted.

It follows that the relevant counterfactual against which the proposed derogation should be assessed is AMI being rolled out by a combination of distributors – in response to the obligation that has been placed on them by the Victorian government - and retailers, in response to their own commercial interests.

In the absence of the derogation and without further policy decisions by the Victorian government the relevant, status quo counterfactual is that:

- distributors will continue to have an obligation to rollout AMI infrastructure throughout their distribution network with costs being recovered through a regulated process; but
- retailers would remain able to elect to be the Responsible Person for AMI infrastructure for their customers during the rollout; and
- individual retailers would only elect to be the Responsible Person for AMI where they retailer expect there to be financial gains from doing so; and
- by 2013, AMI will be rolled out to all small customers by a combination of distributors (in response to the obligation placed on them to do so) and retailers (where the expected commercial benefits cause them to elect to be the Responsible Person for all or some of their customers).

The conduct of retailers and/or third party meter data providers under this counterfactual, assuming the absence of any remedial regulatory measures, would be likely:

- to cause significant barriers to retail competition to be put in place; and
- to result in reduced benefits, since some distributor operational benefits may not be realised and some greater communications costs are likely to be incurred.

It is clear that when compared against a carefully-specified, status quo counterfactual, the proposed jurisdictional derogation would better contribute to the achievement of the NEO, through a universal distributor-led AMI rollout that would deliver operational benefits to the electricity system as well as avoiding negative consequences in the market for electricity retailing.

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