ESAA Residential School Lecture
University of New South Wales
'The National Regulatory Regime'
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The energy market and regulation

- I have always found engineering and economics to be a fascinating mix. The energy sector (especially electricity) in particular exudes physical and economic properties which present very interesting policy challenges for those concerned with the economically efficient operation of this key sector of the economy.

- Inelasticity of demand, limitations to fully cost reflective pricing, the non storability of electricity, the real time interaction between supply and demand, the essential service nature to energy supply and, last but by no means least, the physics of electricity flows all present constant dilemmas for energy market design and regulatory policy.

- Notwithstanding these inherent challenges, the past fifteen years has seen a very major transformation of the energy sector in Australia. Energy supply has moved from a vertically integrated monopoly model under State ownership and control to a disaggregated, market driven framework with both public and private sector players. Specifically this reform has introduced competition between generators and between retailers, and brought the natural monopoly transmission and distribution networks under access regulation. An important consideration here was that effective competition in contestable upstream (generation) and downstream (retail) markets requires open access and effective regulation of transmission and distribution. The nature of the industry also requires that the market operate pursuant to (ever evolving) rules with behaviour of participants being monitored and where necessary enforced.

- There has also been a gradual erosion of supply strictly within State boundaries through a transition to an east coast national market with energy trading across state borders. This journey

towards a full national market is very well advanced; but some important issues remain. One of these is the transition to national regulation of the energy sector and the best form of regulation for the future.

- In my talk today I want to concentrate on this transition to national regulation and some of the challenges ahead.

The Rationale for National Regulation

- Despite the fact that gas and electricity has been traded across borders for some time now giving rise, as I have said, to a developing national market for both sectors, there are still a dozen or so state and territory energy regulators. The Australian Energy Regulator (AER) was established on 1 July 2005 with the role to assume these regulatory functions on a national basis. The key principle here was that a national energy market needs a national energy regulator.

- Different approaches to regulating utilities across jurisdictions distort investment decisions and create unnecessary costs and barriers for utilities operating across jurisdictional boundaries. For example, Cheung Kong Infrastructure Holdings Limited (CKI) and Hong Kong Electric (HEI) own electricity distribution assets in South Australia (ETSA Utilities) and Victoria (Powercor). A nationally consistent model for regulation minimises the regulatory burden on CKI-HEI because it will have to adhere to a single regulatory methodology rather than the current situation where regulatory methodologies differ across jurisdictions.

- The AER will, on a staged basis over the next few years, replace the various jurisdictional regulators and become a “one stop shop” regulator for the energy sector on a national basis.

- A single and independent national regulator will reduce regulatory costs and uncertainty to business and allow both the gas and electricity markets to develop, as much as possible, within a consistent regulatory framework.

- The establishment of the AER is one element of a new regulatory / governance framework for the industry, implemented by Ministerial Council on Energy (MCE). This model has significantly enhanced the governance framework for the sector, with what I consider as a world best practice approach.

- The new regulatory framework also gives equally important roles to the Australian Energy Market Commission (AEMC) and the Australian Competition and Consumer Commission (ACCC). The AEMC is a new body with responsibility for market development, in particular electricity and gas market rule making. The ACCC will continue its role as competition regulator with responsibility for consumer protection and anti-competitive conduct as well as mergers and acquisitions under Part IV of the Trade Practices Act.

- In this context there have been two significant changes to the National Electricity Law:

    - The NEL defines a revised and single NEM objective to promote efficient investment in, and use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity, and the reliability, safety and security of the national electricity system. The AER needs to adhere to this objective in making decisions.

    - Secondly, the NEL has significantly enhanced powers for the AER to perform market monitoring and enforcement functions. The AER has substantial investigative powers, including the ability to obtain search warrants. The AER also has the powers to require a person to provide information if it has reason to believe that the person possesses information needed for the performance or exercise of AER functions. The AER can impose on-the-spot fines of up to $20,000 for a breach of a civil penalty provision and can apply to the court for breaches of the NEL for fines of up to $100,000, and up to $1,000,000 for breaches of the rebidding provisions.

Transition timelines

- The transition of regulatory functions to the AER is established in the Energy Market Agreement between the Commonwealth and State and Territory Governments. The AER will assume its regulatory functions on a staged basis over approximately a two year period.

- At present the AER's responsibilities are:

    - Economic regulation for electricity transmission in NEM jurisdictions;

    - Monitoring of the NEM wholesale electricity market;

    - Enforcing NEL, Rules and Regulations.

- The MCE has agreed to pass energy (gas and electricity) distribution regulation to the AER by January 2007. This includes nine gas distribution businesses and thirteen electricity distribution businesses.

- Gas transmission regulatory responsibilities for all jurisdictions except WA will also pass from the ACCC to the AER by January 2007, following passage of necessary legislation in the various States and Territories. This comprises four covered gas transmission pipelines.

- The AER will also assume some responsibility for non price retail regulation. A national framework for retail regulation is proposed to be developed and implemented before this occurs.

- [Refer to the accompanying slides on the magnitude of the regulatory asset base and the timetable of regulatory resets.]

The AER's priorities over next 2-3 years

Essentially there are three key priorities for the AER over the next few years. There is firstly a need to deliver a seamless roll-in of electricity distribution and gas functions to the national regime.

- The AER is proposing a proactive approach to taking on distribution regulation and will be engaging with stakeholders to facilitate a successful transition. Significantly, there are a number of policy reviews underway that will have a major bearing on the regulatory process to be adopted by the AER. I will talk about these shortly. Pending the outcomes of these reviews the AER is currently undertaking an analysis of the current arrangements in gas and electricity distribution regulation to identify major transition issues to be addressed.

- Our second priority, which to some extent is an ongoing focus, is to further develop our regulatory approach with a view to implementing well understood and, as much as possible, streamlined regulatory process for both the gas and electricity distribution and transmission sectors. We are also interested in further developing the incentive approach to regulation. I note that last year the AER released a Compendium of Electricity Regulatory Guidelines which embodied our Statement of Regulatory Principles for the electricity transmission. This work will be significantly influenced by the outcome of the various regulatory policy reviews.

- Our third priority is to develop our electricity market monitoring and compliance role. We issue weekly reports on the market and will be releasing a "state of the market" report on an annual basis.

Current key policy issues regarding the regulatory framework

- There are a number of policy reviews underway which will have a large bearing on the future regulatory and market framework for the sector. In respect of regulation, and put simply, these reviews primarily relate to:

- The form of regulation to apply to gas pipelines and electricity networks;
- To what extent a consistent regulatory framework can be achieved across gas and electricity;
- What sort of appeals mechanisms should apply against regulatory decisions; and
- Development of a national regulatory framework for distribution and retail.

- In respect of the market more broadly, issues under review include:
  - Transmission pricing (including how prices should be structured to improve locational pricing signals and whether generators rather than loads should pay more for certain transmission services.)
  - whether there should be a change to the existing regional boundaries as a means of addressing congestion management, and
  - the adequacy of the existing regulatory (economic cost benefit) test employed to assess the efficiency of proposed network augmentations against possible alternatives.

- These various reviews are being undertaken by the AEMC and the MCE. Many of these matters have been “on the table” for a while now so it will be good to get some resolution.

- The AER is vitally interested in those reviews relating to the ongoing form and style of regulation as they will establish the framework for regulating electricity network service providers for the foreseeable future.

- There has been considerable debate recently about regulation in the energy sector being too heavy handed. We now have a ten year history of regulation in the sector and it is timely that we give some reflection to the strengths and weaknesses of current regulatory approaches.

- I fully acknowledge that improvements can be made to enhance the quality of regulation. Regulation is an art not a science. Regulators need to be conscious that they can't precisely replicate competitive outcomes; so there's no point in trying to finesse to achieve economic optimality. Regulation is also there to support the market and to facilitate timely investment in energy infrastructure.

- On the other hand, the reality is that electricity networks are natural monopolies and that a comprehensive regulatory framework is warranted. The central issue going forward is what form should that regulation take and to what extent is any significant shift away from the status quo approach justified.

- The AEMC's review of electricity transmission is considering this threshold question of whether it is appropriate to fundamentally move away from the traditional CPI-X building block approach; and if so to what model? (If this is economic "gobbledegook" to you engineers I'm happy to explain later). An alternative of productivity based regulation (such as total factor productivity or data envelopment analysis) does have appeal over time. However, such approaches need comprehensive benchmark development and ongoing reporting which, I would suggest, may be just as if not more intrusive than the existing regime.

- The reviews are also considering the extent of regulatory discretion that should be afforded to the regulator. There has been a push by some parties to include greater prescription in the regulatory framework to increase regulatory certainty.

- The current regulatory framework set out in the National Electricity Rules provides high level guidance on the form of regulation. This has been supplemented by guidelines produced by regulators, such as the Statement of Regulatory Principles (SRP), service standards guidelines, ring fencing guidelines, information requirements guidelines, the regulatory test, and the ACCC and now AER's Post Tax Revenue Model.

- Whilst certain aspects of the Rules clearly need improving the AER believes that the existing framework largely reflects an appropriate balance between prescription and discretion. Providing less prescription risks leaving the regulator with inadequate guidance as to the rule maker's intentions. Conversely, significantly

increased prescription is likely to reduce flexibility and breach the requirements of good law making.

- One of the arguments used to support high levels of prescription is that it provides greater certainty for regulated businesses. However, certainty can be achieved through guidelines such as the Statement of Regulatory Principles, which sit outside the Rules. The SRP clearly defines and locks in the regulatory process and parameters well ahead so that the NSP and stakeholders have certainty regarding the regulatory framework.

- This certainty is delivered without any of the risks associated with a more prescriptive approach. Highly prescriptive rules can result in insufficient flexibility for the regulator to accommodate individual business environment differences and changing market circumstances.

- Another issue being considered in these reviews concerns the merits of using a Gas Code-style "propose-respond" model for regulatory decisions in electricity. Under the Gas Code, the regulated business is provided with discretion in the methodologies for establishing tariff paths, determining required revenue, establishing the value of an existing pipeline and incentive mechanisms. The regulator is required to determine whether these choices have been made consistent with the Code.

- As noted earlier, one of the key reasons behind the establishment of the AER is to promote greater regulatory consistency. However, the Gas Code propose-respond model precludes any prospect of achieving greater consistency across sectors. Since under the Gas Code the regulator must "respond" to the regulatory methodologies proposed by service providers, there is a significant risk of a proliferation of different approaches for dealing with the same issue. In effect, the electricity sector operates under a propose respond model as well. However, by contrast, the current model used for electricity enables assessment of proposals on a consistent basis.

- There will always be a legitimate role for judicial review of regulatory decisions. Regulators need to be accountable for matters of bias; errors of fact; conflict or simply bad process. However, the need for merits review of energy regulatory decisions involving the exercising of regulatory discretion is less clear.

- The essential issue is whether the objective of merits review is to ensure that the right decision is made. A review system which revisits the regulator's exercising of discretion in light of the broader public interest, and of course pursuant to the objectives of the market rules or code, can increase the costs, complexity and time taken to complete a regulatory process. It delays regulatory outcomes - for example, the average time taken by the Australian Competition Tribunal to deal with gas merits reviews is 13 months. By the time the review process is finished, the time taken for regulatory determinations has effectively doubled, when timely decision-making is critical for effective infrastructure regulation.

- The objective of establishing the AER was to ensure that there is a specialist body that has the skills and resources to make regulatory decisions. The AER's decisions are made following an extensive and open public consultation process. Anyone can participate in the AER's consultation processes. There is no review body that can bring this level of openness and transparency to their processes. Energy users, in particular, find it much harder to have a voice once a decision is appealed to a review body.

- Simply having a different opinion on how the regulator should have used their discretion can be grounds for merits review. Referring the exercise of discretion to a review body does not guarantee a more correct answer.

- Finally it is important that any review mechanism does not enable the service provider to "cherry-pick" those aspects of a decision that they wish to be changed. Economic regulation is complicated. Decisions are made up of a range of components, most of which are inter-related. Changing one part of a decision will usually affect or necessitate changes to another. The review body must be able to address aspects of the decision which are connected to those parts that are being appealed.

- I can appreciate why industry is strongly supportive of merits review; they see it as providing more certainty. It also provides them a "second innings." Or in tennis parlance, "replay the set with a different umpire". My essential message on merits review is that judicial review is entirely appropriate but that the policy makers need to carefully consider the costs and benefits of broader merits review.

- I'd like to briefly comment now on a couple of topical technical regulatory issues which might be of interest to this audience. The first relates to generation performance standards.

Generation performance standards

- Under the NER generators have to abide by certain technical standards to protect system stability and, in the event of an incident occurring, to prevent a cascading effect across the system. The Generation technical standards regime commenced in December 2004 and has led to a requirement for compliance monitoring programmes to be established by each generator in the NEM.

- These programmes, which ensure compliance with performance standards, were required to be in place by mid 2005. The investigation into the events of 14 March 2005, which saw major outages in South Australia, highlighted the importance of these arrangements.

- The AER, as a first step, is working with NEMMCO, Network Service Providers and generators to establish a common understanding prior to completing negotiation of those compliance monitoring programmes.

- These programmes should include an agreed method for each generating unit to confirm, and test, ongoing compliance with the applicable technical requirements of the National Electricity Rules.

- The AER will be reviewing generator performance compliance programs as part of its compliance monitoring strategy in early 2006 to ensure the arrangements are effective.

- To date there has been reasonable compliance from generators. The AER will continue to ensure that generators meet performance standards and enforce compliance with the rules where appropriate.

Network reliability

- Network outages can have major financial consequences for other market participants. As such, network outages have become a key focus of attention in recent years. In this area, the AER's compliance monitoring programme will focus on:
    - assessing the compliance with, and effectiveness of the additional reporting requirements placed on transmission network service providers in relation to planned network outages that will, or are likely to, have a material effect on interconnector transfer capabilities; and
    - the extent to which network service providers have developed compliance programs in accordance with the Rules to ensure that its facilities operate reliably and in accordance with their performance requirements.
- This work will relate closely with work on transmission service standards through the Report on the Market Impact of Transmission which we propose to release early in 2006.

Transmission Constraints

- The physical characteristics of electricity make it different to other commodities. Electricity is non-storable and needs central market dispatch to efficiently co-ordinate the different assets in the market instantaneously so that electricity is delivered to consumers in a safe and secure state.
- These characteristics have a bearing on regulation, such as the unpredictability of transmission flows which makes firm transmission rights difficult to implement and intensifies the risk to participants in the case of transmission outages.
- The AER is currently working on transparency measures which, amongst other benefits, will provide a clearer understanding of the impact of transmission constraints in the NEM and their causal elements. Indeed, significant progress has been made in working towards publishing the first Transmission Network Service Standards Market Impact Transparency Report (MITR). This report will help provide a clearer picture of the causal elements of

transmission constraints including those elements that may be attributable to TNSPs' operating behaviour. It is anticipated that the MITR will be published in the first quarter of this year.

- Following the publication of the MITR, the AER will continue to explore opportunities flowing from increased transparency including investigating the possible introduction of an economic incentive mechanism directly linked to the cost of network constraints.