



10 March 2018

The Chairman
Energy Security Board
C/- CoAG Energy Council

Sent by: email to info@esb.org.au

Dear Dr Schott

**National Energy Guarantee
Response to Draft Design Consultation Paper**

1. Introduction

The Major Energy Users Inc (MEU) welcomes the opportunity to provide its views on the Draft Design Consultation Paper regarding the National Energy Guarantee (NEG).

The MEU and its regional affiliates have been advocating for energy consumer interests for over 20 years and have high recognition as providing informed comment on energy issues from the viewpoint of consumers with AEMO, AEMC, AER, regional regulators and governments.

1.1 About the MEU

The MEU represents the interests of large energy consumers operating on the east coast gas markets and in other jurisdictions. The MEU comprises some 30 large energy using facilities in NSW, Victoria, SA, WA, NT, Tasmania and Queensland. MEU member companies – from the steel, cement, paper and pulp, automobile, tourism, mining and the mining explosives industries – are major manufacturers in the National Electricity Market (NEM) and in other jurisdictions, are significant employers of labour and contractors, and are located in many regional centres, including Gladstone, Newcastle, Port Kembla, Albury, Western Port, Mount Gambier, Port Pirie, Kwinana and Darwin.

Analysis of the energy usage by the members of MEU shows that in aggregate they consume a significant proportion of the gas used domestically and of the electricity generated in Australia. As such, they are highly dependent on the competition that applies to the provision of gas and electricity, the retail functions needed to enable

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competition to apply and to the transport networks needed to deliver efficiently the energy so essential to their operations.

Many of the members, being regionally based, are heavily dependent on local suppliers of hardware and services, and have an obligation to represent the views of these local suppliers. With this in mind, the members of the MEU require their views to not only represent the views of large energy users, but also those of smaller power and gas using facilities, and even at the residences used by their workforces that live in the regions where the members operate.

The companies represented by the MEU (and their suppliers) have identified that they have a deep interest in the **cost** of the energy as well as the associated network services as this comprises a large cost element in their electricity and gas bills.

A failure in the supply of electricity or gas effectively causes every business affected to cease production, and MEU members' experiences are no different. The loss of supply effectively prevents the operations deliver the products the members make for their markets. Thus the **reliable supply** of electricity and gas is an essential element of each member's business operations.

With the introduction of highly sensitive equipment required to maintain operations at the highest level of productivity, the **quality** of energy supplies has become increasingly important with the focus on the performance of the energy transmission and distribution networks, because the transport systems effectively control the quality of electricity and gas delivered. Variation of electricity voltage (especially voltage sags, momentary interruptions, and transients) and gas pressure, by even small amounts, now have the ability to shut down critical elements of many production processes. Thus member companies have become increasingly more dependent on the quality of electricity and gas services supplied.

Each of the businesses represented by MEU has invested considerable capital in establishing their operations and in order that they can recover the capital costs invested, long-term **sustainability** of energy supplies is required. If sustainable supplies of energy are not available into the future, these investments will have little value.

Accordingly, MEU members are keen to address the issues that impact on the **cost, reliability, quality** and the long term **sustainability** of their gas and electricity supplies.

The members of MEU have identified that in addition to the need for strong competition in the competitive parts of the energy supply chains, energy transport plays a pivotal role in the energy markets. This role encompasses the ability of consumers to identify the optimum location for their investment in their production facilities, and provides the facility for generators and gas producers to also locate where they can provide the lowest cost for energy supplies. Equally, consumers recognise that the cost of providing the transport systems are not an insignificant element of the total cost of delivered energy, and due consideration must be given to ensure there is a balance

between the competing elements of price versus reliability, quality and long term security;

The MEU recognises there is tension between the four elements of cost, reliability, quality and long term security and therefore makes its comments in this submission in full knowledge of the need for managing this tension.

1.2 The National Electricity Objective

The National Electricity Objective (NEO) is

“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:

-) price, quality, safety and reliability and security of supply of electricity
-) the reliability, safety and security of the national electricity system.”

Yet today, the ACCC comments in its Retail Electricity Pricing Enquiry Preliminary Report (page 25) that:

“On any measure, it is clear that electricity prices in Australia have gone from a source of competitive advantage to a drain on business productivity and a serious affordability concern for households.

Figures 1.8 and 1.9 in the same report show that the NEM provides electricity delivered to end users at a price which is becoming less and less competitive and is now amongst the highest in the developed world.

It is clear that the NEO has not been achieved with respect to price, yet at the same time, quality, safety, reliability and security of supply remained relatively constant whilst prices rose. Clearly the rules of the NEM have not delivered the outcomes implicit in the NEO.

The NEO is intended to ensure that consumers are the focus of the electricity market – that the electricity market will deliver the lowest cost to consumer “over the long term” yet the NEG proposal does not seem to keep this in focus. There has been no attempt to assess whether the NEG delivers an outcome that is better than other alternatives.

Implicit in the NEO and the Rules underpinning the NEM, there is a requirement to demonstrate that a proposed change is the best solution to an identified problem. Identifying the best solution requires a cost benefit analysis over a number of options to identify the best outcome, but this approach has been overlooked in developing the NEG concept. In contrast to the Finkel Review which utilised experts, investigated many options to addressing the problems in the NEM, and consulted widely both in Australia and overseas, the NEG concept was developed in a short period of time with little consultation, with no assessment of the cost for its implementation. That recent modelling implies that the NEG should deliver lower costs, does not demonstrate that it delivers the best outcome for consumers

The NEG is advertised as likely to deliver some cost savings to consumers yet there has been no time allowed for other solutions to the problems perceived in the NEM to be assessed and identify if they will deliver even higher savings. Not investigating other solutions is entirely contrary to the expectation of the NEO, the NEM rules and the Hilmer reforms (which led to the creation of the NEM).

What also concerns the MEU is that the NEG seems almost to be a solution in search of a problem. For example, the AEMC Interim Report for its Reliability Frameworks Review highlights that the amounts of unserved energy across the NEM are still well below the Reliability Standard of 0.002%, implying that some loss of reliability from current levels might be acceptable. The same report comments that to change from this standard would cause significant increases in the cost of supply¹. Despite the assertions that increased reliability is required in the future (one leg of the NEG is to ensure this), it has not been demonstrated that any future shortfall in reliability cannot be managed by the tools that already exist in the NEM rules.

What is concerning is that the NEG has the potential to further increase costs but not lead to increased reliability because current levels of reliability are already better than the reliability standard. Consumers are now clearly pointing out that the electricity market is not delivering value for money and any increases in the cost of electricity will exacerbate this. The ACCC is delivering similar messages resulting from its electricity retail pricing review.

MEU members in South Australia remember only too well the impacts of the loss of supply in September 2016 and again in February 2017 but they are aware that these problems arose more from network constraints than from a lack of reliable generation which the NEG is designed to address. The MEU is also aware that it was the loss of “reliable” coal fired generation units that created the need to implement some of the existing tools in the NEM rules to address concerns about supplies in the summer of 2017/18 in Victoria.

The MEU is also very concerned that the introduction of 5 minute settlement in the NEM has the potential to reduce the amounts of generation that can be made available for providing reliable supply and will limit the amounts of demand side participation which are a part of maintaining a reliable supply for the NEM. This issue of the 5 minute settlement is not addressed within the NEG consultation paper.

The MEU sees that the concept of the NEG has the potential to address the political hiatus in providing a long term policy on energy supplies. Despite this, overall, the MEU remains unconvinced that the NEG (especially in terms of reliable supplies) is necessarily needed to address the challenge to maintain the reliable delivery of power in the NEM. In addition, the MEU is not convinced that the increased risks and complexity inherent in the NEG as detailed in the consultation paper will not lead to higher prices to consumers; such an outcome runs counter to the need in the NEO to minimise prices to consumers.

¹ See for example Box 7.2 in the AEMC Interim Report on the Reliability Frameworks Review.

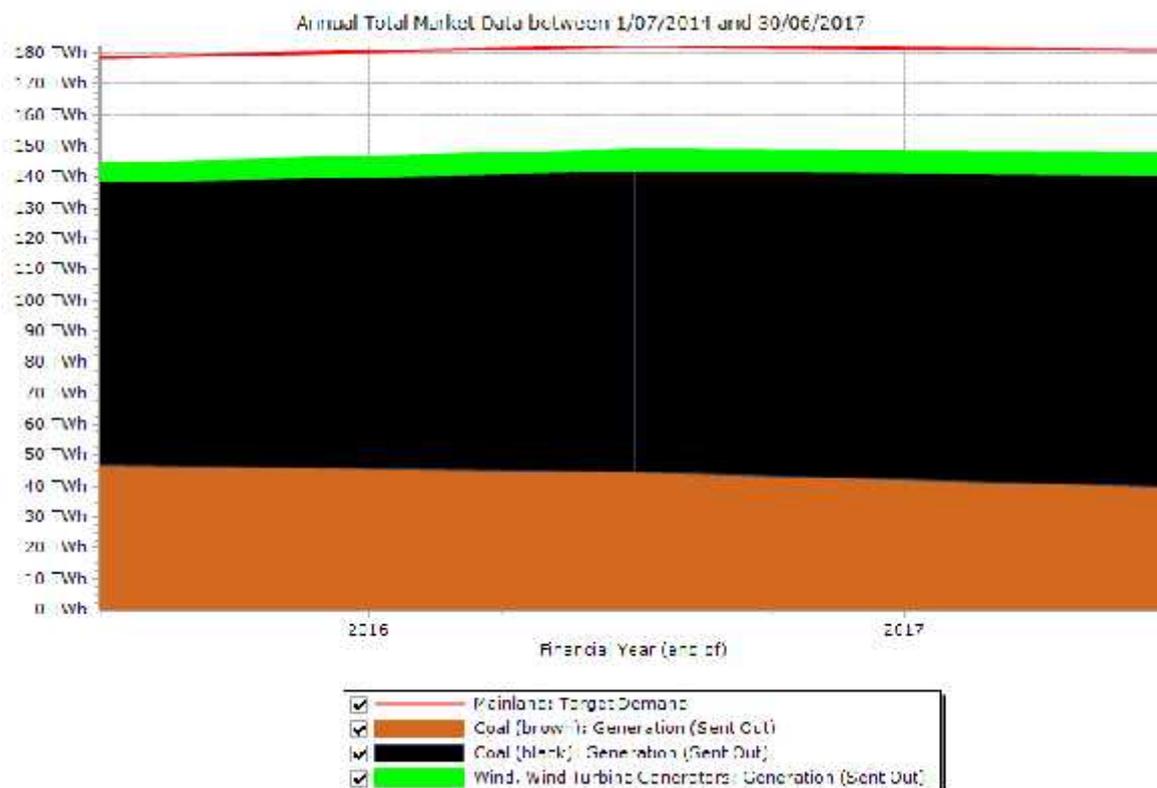
1.3 A view of recent market outcomes

As the consultation paper already highlights, there is a concern that the NEG has the potential to further reduce competition. This loss of competition will be enhanced by the dominant retailers using the NEG for their own purposes to increase their power in the market at the expense of new entrants. The MEU has already seen that in most regions, competition has fallen since the early days of the NEM. In its response to the ACCC interim report on its retail electricity pricing review the MEU observed

“In its earlier response, the MEU pointed to the futures market and the prices being sought and offered for wholesale electricity. The MEU provided a view that the prices offered reflected more the price of gas fired generation rather than reflecting the average cost of electricity production and that the “gentailers” were not passing the benefit of electricity coming from low cost sources.

With this in mind, the MEU has carried out some additional analytic work about how much the level of retail prices reflect the average cost of the electricity supplied to consumers. The following chart shows the proportion of electricity generated from coal sources and wind in the mainland states². Appendix 1 shows the same data for each of the mainland regions.

What the analysis shows is that over 80% of the electricity used in the mainland NEM states, is generated from wind and coal (black and brown).



Source: NEM data via NEMReview

² Tasmania is excluded because there is little competition in the region and the bulk of the generation is from hydro sources.

The short run costs for wind are ~\$0/MWh, for brown coal ~\$11/MWh and black coal ~\$20/MWh³. After allowing for the cost of capital and the hours each generator type can operate, the average cost of electricity supply from these sources is probably in the range of \$35/MWh to \$45/MWh. If over 80% of the generation used in the NEM mainland has a cost in this range, then it is clear that the low cost generators are not passing this cost benefit in their offers to retailers, whether they are internal customers or second tier retailers. As the MEU pointed out in its earlier submission, the bulk of this benefit is going to the large “gentailers” and they are able to retain the price vs cost benefit because of a lack of competition.

In its preliminary report, the ACCC has identified that the lack of competition in the wholesale electricity market is providing an ability for the “gentailers” to maximise their profitability at consumer expense because of a market structure that allows electricity prices to be set at the cost of electricity generated from gas.”

The MEU has subsequently reviewed the profit outcomes of the main gentailers released in their half yearly reports and it is clear that the gentailers have certainly generated massive profits from the electricity market in recent times to the detriment of consumers.

This demonstrates that the gentailers have already used their market power to drive electricity prices higher and would be expected to use the NEG to continue entrenching their ability to control the market to maximise profits.

1.4 A view of the National Energy Guarantee (NEG)

The MEU and its members have long been concerned that there has been an inability to reach a politically acceptable solution to manage the reduction of carbon emissions from the generation of electricity over the long term; a long term policy on energy and emissions has been absent since the start of this decade. As a result, there has been a hiatus in providing a policy which will allow a clear long term solution to ensure there will be reliable supplies of electricity while achieving emission reductions in the NEM at an affordable price to consumers.

In principle, the MEU considers that the National Energy Guarantee (NEG) provides a mechanism to achieve the joint goals of delivering both the controlled reduction in carbon emissions from the generation of electricity while ensuring there will be sufficient reliability in its supply. The consultation paper posits that the NEG is only part of the solution to resolving the challenge of migrating the NEM to a lower carbon future and that other aspects will also be required. Some of these include introduction of:

-) Strategic reserves
-) Day-ahead markets
-) Demand response

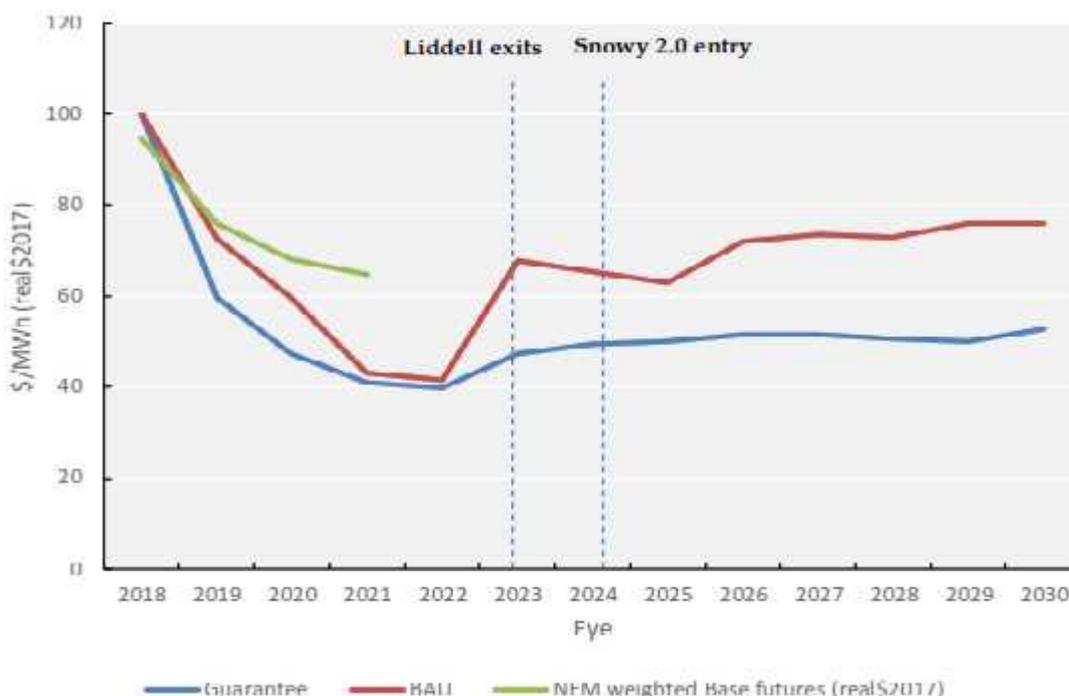
³ See Jacobs report for AEMO Retail electricity price history and projections – Public 23 May 2016 appendix A3

The consultation paper also considers that there might be a need for more inter-regional connections and there needs to be consideration as to how trades across inter-connectors might be made more “firm”.

While the MEU considers that the reporting of the potential savings arising from implementation of the NEG are overstated, savings are primarily seen to be a result of an expectation that by retailers having to contract capacity this will drive a significant reduction in the spot price. Based on the modelling carried out for the ESB⁴, it forecasts a 20-25% reduction in wholesale prices, after allowing for the increased costs for contracting additional firm capacity. After making an allowance for the cost of contracting firm capacity, it would seem the expectation is a return to spot prices last seen in 2016. What is not made clear from the modelling is how much of the saving attributed to the NEG is a result of the commitment to new investment in renewable technologies that is occurring under the current arrangements – that is, are the savings going to occur anyway without the NEG.

What the NEG modelling seems to indicate is that the savings in the next 4-5 years from new renewable generation investment will be eroded in the absence of the NEG as shown in figure 2 of the Energy Security Board (ESB) report to the Energy Council dated 20 November 2017.

Figure 2 NEM weighted-average wholesale prices (incl. RET certificate costs)



What is of considerable interest is that the 2023 rise in the BAU case is driven by an assumption that the closure of Liddell power station will drive prices higher. The MEU considers that this point is moot, especially as AGL has provided a 5 year warning of

⁴ see letter to Minister for Environment and Energy 13 October 2017,

the closure⁵. In contrast, the high prices in the Victorian region in late 2016 and 2017 were driven by the decision to close Hazelwood power station with 6 months notice, allowing little time to invest in other generation.

The chart also seems to indicate that the NEG will provide even greater benefits in the next 2-3 years than on a business as usual approach. Specifically, the NEG is seen to drive lower prices in 2019 than under the BAU case. Based on the time needed to implement other less contentious changes to the NEM rules, the MEU considers that for the NEG rules to be in place by the end of 2018 and to have such a significant impact on 2019 prices, is unlikely.

As is usual with all modelling, it is the assumptions made that drive the outcomes, but the assumptions underlying the modelling have not been fully detailed, but one very courageous assumption is that generators will contract more of their output under the NEG than they currently do. As discussed in section 3.7, the experiences of MEU members and information provided by generators, does not support this assumption.

However, the MEU has reservations as to whether the NEG is the best solution to deliver the required outcomes or whether it is more a stop gap measure that could result in long term harm to consumers. While the modelling carried out for the ESB seems to indicate that there will be benefits to consumers, the MEU is not so sanguine.

The MEU points out that the three main costs comprising the delivered cost of electricity to consumers – generation of power, transport to consumers and the retail function to manage risks and interface with end users of power. While the proportions of these three elements varies between different classes of users, at the residential level of the market, the cost break up between the three elements is approximately 25% generation, 50% network and 25% retail costs.

The network costs are the biggest element and under the current regulatory arrangements, the NEG will provide no downward pressure on these costs and if some of the other approaches are implemented (eg more interconnection), then network costs may well increase.

Similarly, the MEU can readily see that the NEG will increase risks and complexity for retailers and with risks and more complexity, come costs for managing these. It is clear from the consultation paper that the NEG is attempting to provide an overlay of physical⁶ constraints over a NEM is essential designed as a financial market. Conflating a financial market with the imposition of physical constraints effectively imposes additional costs which do not offset by the costs inherent in the financial market that currently operates. For example, the NEM has a very high market price cap to provide an incentive to new generation investment. In theory, if capacity is to be paid for by retailers, then the high market price cap effectively doubles up on the incentive for investment

⁵ It is also worth noting that the proposed closure of Liddell has received significant attention, especially political attention, placing pressure on AGL to ensure there will be adequate investment in new generation to replace the loss of Liddell output.

⁶ The MEU points out that there are some financial hedges provided in the NEM which have no physical backing at all and are based on actuarial assessments of spot market price movements

So if the costs for two of the elements which make up the delivered price for electricity are more likely to increase under the NEG, these increases in costs have to be more than offset by the cost savings in the wholesale market. Bearing in mind the pressures the wholesale market is already under, the MEU doubts that sufficient cost reductions in the wholesale market can be achieved for the NEG to deliver overall savings to end users. The MEU develops this theme later in this response.

The MEU also notes the many comments made by energy industry stakeholders (including consumers) in the public forum on 26 February 2018 raise concerns about the

-) Cost impact of the scheme
-) Complexity of the scheme as outlined in the consultation paper, and the inevitable costs that will arise as a result
-) Loss of transparency that will inevitably lead to exercise of market power to the detriment of consumers
-) Loss of competition and liquidity
-) Impact of a physical market overlay on what is essentially a financial market
-) Better solutions are possible
-) Enabling of greater demand side responsiveness.

The MEU agrees that these are important aspects that are still unresolved.

1.5 A countervailing view to the NEG

A July 2013 research report by Simona Benedettini for the IEFE Centre for Research on Energy and Environmental Economics and Policy on *PJM and ISO-NE forward capacity markets: a critical assessment*⁷ provides some useful information about electricity markets and achieving reliability.

This report commences with words familiar to those heard in the NEM.

“The increasing penetration of intermittent generation sources, retirement of ageing plants, decommissioning of nuclear power plants and provisions for the decarbonisation of the electricity sector in the medium to long term have led to a revival in forward capacity markets and their ability to encourage the appropriate availability of flexible generation capacity.”

The report provides solutions used elsewhere to address the many issues raised in the consultation paper. As the NEG essentially introduces a cost for providing capacity, it is incumbent to introduce a methodology to ensure that consumers face the lowest cost to ensure reliability. This report details approaches that can achieve this outcome but would overtly introduce a transparent approach to ensuring that the cost of reliability is

⁷ Available at

http://www.iefc.unibocconi.it/wps/wcm/connect/Cdr/Centro_IEFEen/Home/Publications/Research+Reports/

minimised. In contrast, the NEG introduces a covert (bilateral between a retailer and a generator) approach which is not transparent and therefore allows the market to be less transparent. Loss of transparency can result in a loss of competition.

1.6 Summary of MEU views

While the MEU supports the objectives of the NEG (ie an approach to integrate the incorporating of emissions reductions in a controlled manner while ensuring the NEM continues to provide a source of reliable supply to consumers), it will be the design of the changes to the rules that will be critical to ensure that consumers are not further burdened with additional costs in an already over-priced electricity market which is already highly concentrated and delivering super profits to the dominant retailer/generators at the expense of consumers.

2. Emissions

The MEU accepts that it is government policy to reduce the amount of carbon emissions from the electricity sector and that governments (state and federal) have taken steps to ensure that reductions do occur. The MEU sees that it is the responsibility of governments to ensure that carbon emission reductions occur at the lowest possible cost and to ensure the rules provide for adequate signals to maintain reliability of supply.

The MEU is also aware that the issue of implementing carbon emission controls has been a challenge over a long period and the vacuum created by a lack of a long term policy to achieve these reductions has led to significant difficulties in the sector. The MEU considers that a firm long term policy on carbon emissions acceptable to all is essential for the well being of all electricity consumers, including MEU members.

The MEU makes the following observations about the NEG in response to the consultation paper. .

2.1 Complexity in relation to emissions

Applying an obligation for carbon emissions onto retailers moves responsibility from the causer of a physical problem to an entity that operates in a financial market. This transfer of responsibility seems counter-intuitive and is diametrically opposed to the concept already embedded in the NEM rules that the causer should pay as it has been recognised that applying costs to the causer is a more efficient and equitable approach than transferring the risk to another party.

In providing an accurate accounting of emissions in the NEM, there are varying levels of complexity which range from imposing a cost on each generator (as applied under the carbon price approach used in earlier times) through an averaging approach across the NEM (or each region) to requiring every contract with a generator to stipulate the

actual rate of emission from each specific generator used to provide the financial hedge.

There is no doubt that the proposed approach detailed in the consultation paper to the building up a portfolio of electricity supply contracts will impose a greater level of complexity on retailers in an already complex market. The MEU can see that rather than electricity suppliers ensuring that they have sufficient capacity to meet financial contracts of supply, a new level of contracting will be required identifying which generation sources will be providing for each contract of supply. While such an arrangement is possible, there is also no doubt that there will be significant costs for the process to be implemented by both generators and retailers.

However, regardless of attempts to provide retailers with flexibility to manage their exposure to emissions, all of the processes envisaged in the consultation paper will increase costs by retailers and generators to demonstrate compliance with the new arrangements. To these costs will be those of the AER to measure each retailer's portfolio to assess compliance and then to enforce penalties for any non-compliance. While the concept seems simple, the MEU points out that the AER has experienced significant difficulties in enforcing other market non-compliances in the past. The MEU points out that once financial penalties are likely to be incurred, those likely to incur the penalties will use every option they have to avoid them, resulting in the AER decisions being appealed.

The MEU is aware that generators contracting output to retailers face a risk of having to make up from the spot market they lose of a generator if it trips. The alternative to buying in an already high spot market is to limit the contracted output from each generator in the fleet to provide the ability of the fleet owner to replace lost output from within the fleet. This results in generators contracting less output to retailers. The MEU notes that the default emissions level for electricity drawn from the spot market (ie unhedged) is to be at a premium to other sources of generation, and so the risk of the new emissions requirements will have to be managed within the portfolio of generation assets and this will be at a cost to consumers.

Similarly, while retailers do attempt to have the bulk of their demand hedged in some way with generators, retailers are exposed to end users being "out of balance" causing the retailers to have some exposure to the spot market and the level of exposure is not forecastable. As there is an implicit penalty for emissions sourced from the spot market, retailers face an increased risk in managing their spot market exposure on emissions as well as for volume, and to manage this increased risk will result in higher costs for retailers which will be passed onto consumers.

The MEU considers that a much less complex arrangement could be implemented than the NEG in relation to managing emissions from the electricity generation sector. It is clear that this new complex arrangement has been developed for reasons other than the most cost effective solution to managing carbon emissions from the electricity supply sector.

2.2 Emissions Intensive Trade Exposed industries

Most of the members of the MEU are active in emissions intensive and trade exposed (EITE) industries and to ensure that they do not suffer unbalanced competition from imports from countries that do not have carbon emission constraints, it is essential for Australia to continue to provide exemptions for EITE industries from carbon emissions liabilities so that they can operate with imports on a level playing ground. There is no doubt that much of the overseas competition to EITE industries in Australia continues to be from countries which do not have carbon emissions controls or impositions to increase the amounts of renewable generation.

The MEU considers that an exemption program similar to that that applied for the erstwhile carbon price and which continues under the RET program should be maintained for the same reasons that the exemption program was initially implemented.

The MEU supports the concept outlined in the consultation paper that EITE industries should be exempt from the emissions leg of the NEG and that retailers providing supply to EITE industries should be able to discount the electricity supplied to EITE industries from their overall liability.

2.3 Offsets

The MEU considers that global warming is an international problem and that the wider the catchment of carbon emissions, potentially the lower cost to all for achieving a reversal in carbon emission growth on a global basis.

The MEU is aware that the Emissions Reduction Fund targets getting the lowest cost emissions reductions through a tendering process, seeing this as the most cost effective approach to limiting emissions. This approach is used to limit the financial burden on Australia for reducing its high carbon emissions.

The NEM should also seek to minimise the cost of achieving emissions reductions in the most cost effective manner. If this can be achieved through using international offsets then this avenue is an appropriate tool to achieve the overall amount of carbon based gases in the atmosphere

With this in mind, the MEU supports the use of international carbon offsets to assist in achieving the NEM emissions targets. Further, in order to achieve the lowest cost to all electricity users, there should be no limit to their use, subject of course to ensuring that the offsets used are legitimate.

2.4 Summary

The MEU sees that the leg of the NEG focused on carbon emissions transfers the responsibility from a party that causes the problem and operates in a physical market to another party that doesn't cause the problem and operates in a financial market. This is inefficient and adds costs to manage the risk being transferred.

Exemptions for carbon emission cost should continue for EITE industries as apply now and carbon offsets should be introduced to assist in managing the costs inherent in managing carbon emission mitigation at the lowest cost.

3. Reliability

It is clear from the consultation there is so much still to be done to develop the reliability component of the NEG so that it is difficult to see how the reliability leg of the NEG will work. With this in mind, the MEU makes the following observations:

3.1 Current levels of reliability

The MEU is concerned that the NEG does not fully recognise that the current reliability setting of 0.002% unserved energy only reflects a loss of supply for about 10 minutes each year, and that over the nearly 20 years of the NEM operation, the reliability standard has only been breached rarely and on average over the entire life of the NEM, the actual loss of supply from insufficient generation, the actual amount of unserved energy is negligible. In contrast, the loss of supply due to network outages is significant.

While the MEU recognises that the NEM has changed, the concept of the NEG implies that there is a lack of confidence that the market structure developed and used successfully for that last 20 years does not have the ability to transition to a lower carbon future⁸. If this is the case, then rather than applying a “patch” to the NEM, it would be more effective to address the concern in terms of transitioning the market structure to one more aligned to achieving the continuity of supply to all consumers at the lowest cost.

Implicit in the NEG is that a “patch” is more cost efficient than a changed structure, but this has not been tested in any way. This is a major failure of the NEG process.

3.2 Forecasting

Under the NEG, AEMO forecasting is expected to be more accurate than it has been in the past. The longer the period of forecasting, the less accurate the forecast can be considered to be – this is not a fault of AEMO but it is reality. While AEMO is devoting considerable resources to improving its forecasting (and the MEU is contributing to that process), it must be recognised that forecasts will still be wrong at times and that this will have significant impacts on the reliability leg of the NEG.

⁸ The MEU notes that in 2009, the AEMC review of the ability of the NEM to manage the transition to include a carbon reduction scheme (CPRS) and an increased RET to 20% determined that the NEM rules were adequate to manage the transition.

It must be noted that the imposition of the reliability leg of the NEG is to be made 3-10 years ahead and the experiences of the NEM over its 20 year operation is that assumptions made so far out are likely to be significantly wrong. For example, owners of generators are required to advise AEMO of forecast closures and additions and this information is used by AEMO to make its forecasts. But who in the late "aughties" provided AEMO with forecasts that by 2018, so much of the coal fired generation that has been retired, would be retired? In fact, only the closures of Munmorah and Bell Bay power stations were forecast for closure by 2019 in the 2009 ESoO!

As the NEG imposes considerable risk to retailers (especially under an ex post assessment regime), the MEU sees that this risk will result in retailers managing that risk through increased costs on consumers.

3.3 Reliability of generation

There is no clarity on how "firm" reliable generation is assessed. Is a generator that takes a day to deliver considered to be reliable, considering that settlement will shortly be assessed over 5 minutes, and that peaks usually last less than 2- 3 hours? Is a DSR offer reliable when recognising there are times when it cannot be delivered (eg when the user is not operating) or which takes 2-3 hours to deliver after being called? Is a hydro generator considered to be "firm" even if it is dependent on rainfall⁹? Is a battery which has limited output considered to be reliable? This issue of reliability was raised during the stakeholder responses at the 26 February forum on the NEG and needs to be clarified.

What period of notice is required to make a generator to be classed as "reliable" – 5 minutes to meet the new settlement periods shortly to be introduced? 30 minutes as applies for the current settlement period? One hour? One day? Again, there needs to be some clarity provided about the period between notice and dispatch what is considered to be firm reliable generation.

The implication of the consultation paper is that if the generator is dispatchable it is considered reliable yet each of these generators is constrained by delivery of its fuel to be able to deliver the guaranteed output and by the technology that is used for the generation. While the assumptions inherent in the AEMO forecasts are based on the assessments of fuel availability¹⁰, recent experiences in the gas market show that such assumptions can be questionable. In the case of hydro generation, the assumption is that there will be rainfall, but the recent Tasmanian experience after the failure of Basslink shows this is also questionable. A battery is dispatchable but only to the extent that it has been recharged and its output is limited to modest amounts of storage.

The MEU considers that the consultation paper does not provide adequate definition as to what are the parameters that define "reliable" generation. While it is accepted that AEMO has developed its own approach to identifying the levels of reliability of different

⁹ This recognises that most hydro generation in the NEM is "run of river" which provides limited long term resource availability without replenishment from rainfall

¹⁰ AEMO considers fuel availability in its STPASA and MTPASA

sources of generation and demand side responsiveness, this is only used to provide guidance for future needs.

In contrast, the NEG imposes financial penalties on retailers for any failure to provide against the reliability leg of the NEG. With financial implications, it is essential that there be clear and unambiguous definitions of what is considered to be reliable and the levels of certainty of that each type of reliability options will deliver. The absence of such clarity will allow the providers to appeal any AER decisions made for penalties and as noted earlier, the AER record in appeals on market issues is not good.

3.4 Load variations

Retailer loads vary frequently, even as short as on a daily basis, as do large user loads. This raises the question as to how can they forecast ex ante what their loads will be on the peak day in each region (noting that peak days in most regions are not coincident) at any time in the future, let alone over a 3-10 year timeframe. This then raises the next question: how can they forecast whether they have adequate reliable generation contracted ex ante in the time frames expected under the NEG.

The risk for consumers is that there will be over contracting of capacity adding to the price of electricity that will be passed onto consumers

3.5 Forward contracting of capacity

The reason for the NEG is to ensure that there will be a reliable supply over the long term. It is the need to ensure certainty of supply that drives this solution for the NEM needs.

New capacity (or load reduction) must be bid for on a long term basis as this ensures that the investors have a high degree of certainty that they will recover their investment. But to maximise consumer benefits, it is essential that such offers are made on a transparent basis to ensure that the lowest cost for consumers results.

In most capacity markets, the responsibility for ensuring there is sufficient capacity is identified by the market operator and tenders called for the supply of what capacity is deemed to be needed. Costs are allocated ex post for the provision of the new supply side investment or for load reductions.

Just as AEMO has bought new capacity/load reduction under its RERT program, the MEU considers that rather than imposing a hidden cost for providing capacity through retailers, it would be a better solution for the costs for supplying new capacity/load reduction on a competitive tender process under the aegis of AEMO, allowing all stakeholders the opportunity to enter the market on an equal basis. This avoids the potential for a shortfall of reliability products and provides greater certainty for consumers. As noted in the report referred to in section 1.5, AEMO purchasing “reliability options” is a demonstrable and transparent process for achieving the

necessary reliability in sufficient time for the new investment to be made before the need occurs.

Of course the alternative to overt buying of new capacity/load reduction is for the market to deliver the needed outcomes using the current market structure without the NEG and, for unresolved issues, to allow the current tools in the NEM rules (such as the RERT) to be used when the need is identified.

While there is a view expressed in the consultation paper that contracting of capacity by retailers to accommodate peak demands in the future might lead to downward pressure on prices in the spot market, there is no certainty that any reductions in spot market prices will occur, even to the extent to offset the cost incurred in contracting capacity.

What is known is that:

- a) Supporters of energy only markets aver that capacity markets (of which the NEG has many features) are more expensive for consumers than energy only markets¹¹
- b) The providing demand side responses is not costless

These observations imply that the requirement in the NEG to contract forward for firm capacity will result in higher costs than the current arrangements. What has not been tested is whether other solutions for forward contracting of capacity might provide a lower cost than the NEG.

3.6 Market transparency

Transparency is a feature of the NEM that provides a degree of certainty for all participants. But the NEG requirement for retailers to contract for capacity on a bilateral basis reduces this transparency. In particular, reduced transparency will have a significant impact on the secondary markets and, as mentioned at the NEG forum, could reduce market liquidity with a corresponding negative impact on prices for consumers

The MEU has a concern that the dominant retailers with dispatchable generation under their control will hold that capacity for their own use first (potentially hoarding it to ensure they are not exposed to any penalties), reducing the ability of other retailers to get reliability contracts at reasonable prices. Yet any hoarding¹² will not be discoverable as it will be based on a retailer's view of its future needs and there is no one able to disprove such an assessment.

The loss of transparency imposes a barrier to entry of new retailers and potential discrimination against second tier retailers.

¹¹ The MEU is not necessarily a supporter of this view

¹² The MEU points out that in the gas market the issue of hoarding of pipeline capacity is a major issue and steps have been taken to make such hoarding more transparent

3.7 Allocation of capacity costs

There is an assumption in the NEG assessment that generators will sell more capacity to retailers than they do under the current arrangements. However, this assumption has limits. For example

- a) A generator is not constrained to sell its capacity, but a retailer has an obligation to contract capacity. This puts the retailer at a disadvantage in any negotiation.
- b) A generator selling capacity knows that at some time it will have a unit fail. Already generators do not sell 100% of their volume because of the risk they face if a unit fails and they have to make good the lost production out of a spot market which has responded with higher prices caused by the lost supply. The sale of “reliability” will follow a similar trend¹³
- c) A gentailer will retain much of its “reliability” to itself on the basis that it is not sure how much “reliability” it will need in the future.

With these in mind, the allocation of the costs for a short fall in reliability is likely to fall on the second tier retailers who will be exposed to a significant but unknown cost for any gap. This creates an entrenching of the power of the large gentailers with a loss of competition as a result. Certainly, there will not be an increase in competition as a result of the NEG.

As the consultation paper highlights, an ex ante allocation does not reflect that over time (especially a 3-10 year time frame) a retailer’s load will vary considerably from its forecast. But under an ex ante approach the allocation of reliability costs made years ahead of when the actual usage occurs will cause considerable risk to retailers, who will pass the cost of this risk to consumers. It would be inequitable if a retailer has to pay more (and others less) because of a forecast of expected usage years into the future. An ex ante approach also opens up the opportunity for gaming the system, with retailers minimising their expected usage, hoarding capacity or on-selling it at a premium.

In contrast, an ex post allocation of costs has some relationship to what occurs now with the RERT where AEMO costs for the RERT are passed onto retailers after the costs are known. The risk of an ex post approach is that without intervention by AEMO, there is significant potential for there being insufficient reliable capacity installed before the event of a shortfall.

If the costs of ensuring there is sufficient reliability are applied as penalties rather than the recovery of costs, this will drive inefficient levels of contracting for capacity and this cost will ultimately be passed onto consumers. If the penalties are the recovery of costs, this allows the choice as to whether it will be more cost effective to incur a share of the allocated costs rather than incur excessively high costs for acquiring capacity¹⁴.

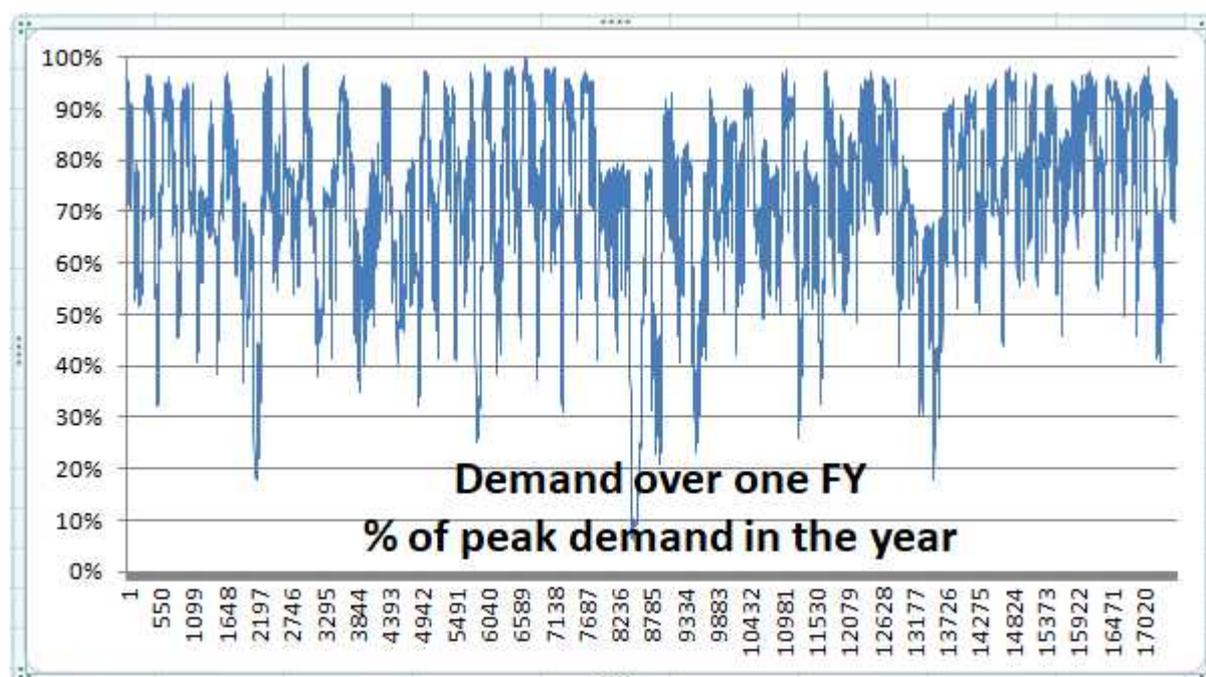
¹³ The MEU notes the assumption in the modelling that generators will sell more capacity but this assumption has not been tested and runs counter to current practice

¹⁴ A variation of this applies in the provision of the RET costs where retailers can either acquire certificates or incur a defined penalty

3.8 Demand side reliability

There is an assumption that the demand side will be a significant player in the provision of reliability in that it is assumed that retailers will contract with end users to limit their usage of electricity at times of high demand. The MEU has seen such demand side involvement in other electricity markets¹⁵ yet this has not occurred in the NEM to any significant level.

The MEU notes that a number of its members already limit their demand when spot prices are high or if their contract of supply includes such a provision (either from their retailer or their network provider). What is not recognised is that the demand of end users is not constant over time. For example, below is the annual usage pattern of a typical end user of electricity.



Source: MEU member usage data

This demonstrates that while an end user might be able at times to provide a demand reduction “at call” and so provide demand response reliability, there is no certainty that the end user peak demand and the system peak demand will coincide. This shows there is a need for an aggregator of demand side responsiveness to be able to discount the total amount of responsiveness to provide a high degree of certainty of being able to provide a specific level of load reduction. As was pointed out at the NEG forum, the rules do not permit third party aggregators of demand side responses.

The MEU also notes that demand side response is not costless, and that end users incur significant costs when reducing demand and even implementing measures to enable it to reduce demand. These costs vary with the frequency, duration and time of any call to reduce demand. The MEU has received advice from its members that in

¹⁵ Such as in the WA electricity market

discussions with their retailers, retailers want a significant share of the benefits that accrue from such demand reductions, often to the extent that it becomes uneconomical for the end user to provide the demand response.

The MEU is aware that demand response aggregators (as distinct from retailers) do not seek such a large proportion of the benefits of demand side responsiveness but are prevented from providing this aggregation service through NEM rule constraints.

Despite the fact that demand side responsiveness is not costless, there is little doubt that DSR should be used as a tool for providing reliability options, despite the fact that it can lead to increased costs for its incorporation into the reliability leg of the NEG. The MEU sees that DSR provides a strong counter to the exercise of market power by the supply side.

3.9 Coverage of the NEG

It is contemplated that large end users (both market customers and those embedded in retailer portfolios) should be directly responsible for reliability, much the same as is proposed for retailers. For the reasons noted above, the MEU does not support this proposition. To achieve such an outcome will require the establishment of an arbitrary setting of a demand level beyond which the end user is liable. All end users manage their electricity usage in different ways (for a variety of reasons such as being able to safely reduce demand in the most cost effective manner) so a “one size fits all” approach has the potential to impose considerable hardship. Adding another level of complexity of compliance to end users, already suffering considerable challenges from the high cost of electricity and the costs they already incur for being electricity consumers will reduce their ability to remain competitive in their own markets.

It needs to be remembered that the needle peak demands that drive the reliability leg of the NEG are not caused by large end users of electricity. Although they have some variability in their usage, the main cause of the peak demands is a function of the weather which drives the peaks demands very high levels but reasonably infrequently and for relatively short periods of time. To impose additional costs on those end users that do not cause the problem but are “easy targets” due to their size belies common sense and equity and abrogates the causer pays principle embedded in the NEM rules.

3.10 Interconnectors

There is little doubt that the NEM is really a series of interconnected regions rather than a single system and this raises the importance of the interconnectors in the NEM.

The MEU notes that the ESB recognises the importance of interconnectors in the assessment of reliability but it does not address the reality that interconnectors are frequently constrained due to flows in other parts of the networks. For example, the capacity on the Vic-SA interconnector can be impacted by flows within other parts of the Victorian region, effectively increasing the need for contracts for capacity in SA.

The MEU points to the loss of Basslink to Tasmania which in theory has more than adequate “reliable” generation but, due to earlier usage of available volumes of water for generation, Tasmania was left short when Basslink failed.

The issue of how reliability and interconnection between regions needs greater attention in the development of the NEG rules. However, recognising the value of interconnection to limiting the need for installing unnecessary “reliable” generation in any region, the MEU considers that there needs to be more clarification as to how interconnection is to be treated as a source of reliability and capacity for NEG purposes.

3.11 ACT and Tasmania

Reliability requirements in ACT and Tasmania offer a different challenge to those in other NEM states.

The MEU sees that the ACT is, electrically, really part of the NSW region and should be treated as such

However, Tasmania is quite different with regard to its delivery of power. Electrically, Tasmania is not subject to the vagaries of frequency movements on the mainland, effectively it has a single government owned retailer and all generation is owned by a single government owned entity. Further, the installed capacity of generation exceeds peak demand by a factor of two¹⁶, implying that reliability of supply is not an issue and as the bulk of generation is hydro, it already far exceeds the carbon emissions target. While it is acknowledged that the ability of the regional generation to supply Tasmania’s needs is dependent on rainfall, the ability of AEMO for forecast 3-10 years ahead if there will be sufficient rainfall to ensure reliable supply would be challenging¹⁷.

However, it is noted that Tasmania could be a provider of reliable supply to the extent of the capacity of Basslink. This highlights that a retailer seeking to use Tasmania as a source of its reliable supply of both emissions reductions and capacity, will be required by TasHydro to pay for these, adding to the costs imposed on consumers. Equally, the MEU notes that the capacity of Basslink is controlled by network constraints in Tasmania and in Victoria, highlighting the difficulties in contracting reliability across interconnectors.

3.12 Summary

The MEU notes the concern included in the consultation paper that the NEG might result in a loss of competition and many of the points made by the MEU in section 3 all demonstrate that the a further reduction in competition from the already very low levels now seen in the NEM, is likely from introduction of the NEG. The MEU considers that greater analysis about the impacts on competition caused by the NEG must be undertaken.

¹⁶ It is noted that Tasmania did suffer insufficient generation when Basslink failed,

¹⁷ The same issue will apply to Snowy Hydro resources and AGL’s Victorian hydro resources

A fundamental question has not been sufficiently answered by the NEG. Could the existing rules and current market structure address the issue of reliability without the NEG? The MEU is not convinced that a new complex arrangement is needed to ensure long term reliability and there has been no cost benefit analysis carried out to demonstrate that the NEG provides the best answer if change is needed. The MEU sees there are other, possibly better solutions if there is a need identified.

The MEU is very concerned that the proposed approach will lead to higher costs for consumers and that many of the elements embedded in it (eg loss of transparency, lack of definitions, coverage, allocation of costs, treatment of interconnectors, etc.) need to be investigated in more depth.

4. Conclusions

There is no doubt that a solution to the political impasse about future energy policy is needed. The MEU accepts that the NEG does provide such a solution but it queries whether the NEG is the best solution for consumers – it is the long term interests of consumers that is required under the NEG, not any other requirement.

The MEU is concerned that the decision to proceed with the NEG is not a result of analysis of the many options available but a politically pragmatic one which might address some of the challenges facing the NEM in its transition to a low carbon electricity system. With this in mind, the MEU considers that the two legs of the NEG could be separated – each addressing their own specific needs. In particular, if there is concern about the need to ensure there is a more reliable delivery of electricity in the NEM, are there better solutions than imposing on retailers such a complex arrangement as proposed?

It is clear from the stakeholder commentary at the NEG forum on 26 February 2018 that the significant concerns about the NEG (especially about the reliability leg of the NEG) and the concerns raised by the MEU in this submission are quite widespread, especially about the high degree of complexity required to get a workable and equitable outcome.

There is little doubt that the extent of the amount of “unknowns” raised in the consultation paper are excessive and that there is no clarity on how best to address the issues the NEG raises. This particularly applies to the reliability section where there is a high degree of complexity introduced to enable implementation let alone the extent of the assumptions and lack of appreciation of how demand side responsiveness can be provided.

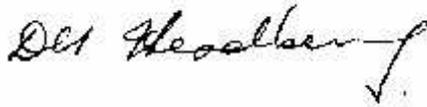
The ACCC has already highlighted that the NEM is highly concentrated and as a result, prices are higher than would occur under a more competitive market. As highlighted in the consultation paper, there is a concern that the NEG could very well entrench the power of the dominant retailer/generators, raise barriers to entry of new retailers and

increase the difficulties that second tier retailers will face under the NEG. Combined, these aspects will further reduce competition.

What consumers need are changes that increase competition, not reduce it.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at davidheadberry@bigpond.com or (03) 5962 3225

Yours faithfully

A handwritten signature in black ink, appearing to read "David Headberry", with a checkmark at the end of the signature.

David Headberry
Public Officer