Major Energy Users Inc.

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Australian Energy Market Operator
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Victoria to NSW Interconnector Upgrade

RIT-T PSCR

The Major Energy Users is pleased to respond to the AEMO Project Specification Consultation Report (PSCR) of its proposed Victoria to NSW Interconnector (VNI) upgrade

About the MEU

The Major Energy Users Inc (MEU) represents the interests of large energy consumers operating in the NEM and in the WA and NT energy markets. 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 NEM states 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 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.

About transmission interconnection

The MEU observes that the National Electricity Market (NEM) is in reality a series of connected regions and that the connection between regions is relatively modest and this has been the cause of too many price separation occurrences between regions. Price separation events are an indication that there is a surplus of supply in one region that could be used to supply a shortfall in another region. The MEU points out that with the market price cap set at such a high level, these price separation events cause a considerable transfer of wealth from consumers to generators when they occur, Further, when interconnectors are constrained, there is also the potential for voluntary and even forced load shedding to occur. As the MEU has consistently observed, while load shedding is an option to ensure there is continuity of supply to other consumers. It is not a costless exercise for the end user that incurs the reduction in supply.

The MEU considers that in order to incorporate increased amounts of renewable generation (most commonly in recent times driven by wind and solar and therefore intermittent in nature), increased transmission interconnection between regions and within regions is necessary to provide the diversity of supply that is an essential part to ensure reliability of electricity supply with large amounts of intermittent generation.

While the NEM is basically orientated on a north/south axis which imposes some limits of the benefits of diversity of supply for solar generation sources, significant diversity is present for wind generation and solar generation to overcome cloud cover impacts making the need for greater inter-connection an important aspect for maximising the use of renewable but intermittent generation

With this in mind, the MEU supports, in principle, the need for investment in the electricity transmission network to increase the ability to transfer electricity between regions and thereby increase reliability of supply in the NEM. However, the MEU sees that this is only part of the solution to increase reliability in supply from such intermittent sources and that intermittent generation, along with other forms of generation, also needs to take steps to improve the reliability of their supplies[1].

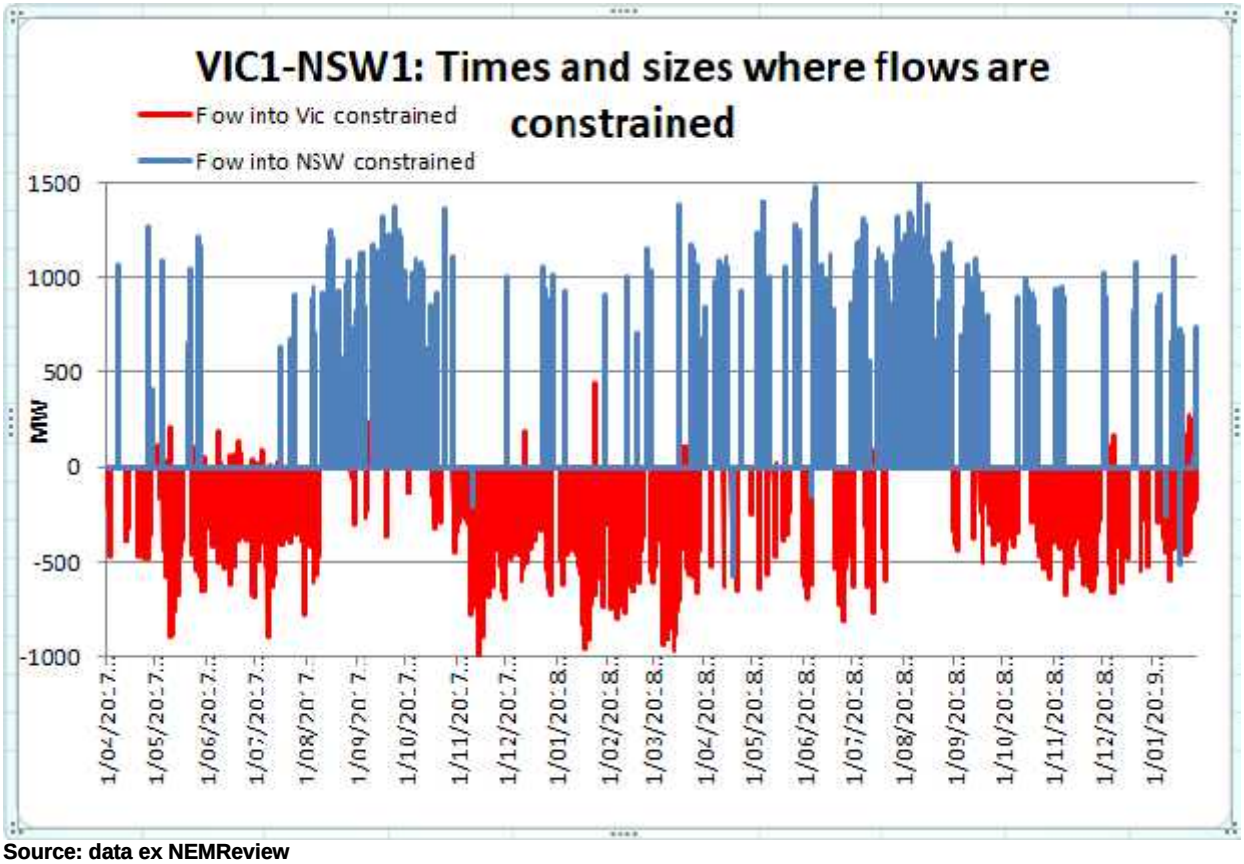
Equally, the MEU sees that this will increase costs to provide this increase in interregional transmission and therefore there is a need to ensure that the costs of this increased interconnection is demonstrated through the RIT-T process to be economically efficient and delivers tangible benefit to consumers whoe will pay for the augmentation.

The PSCR for the VNI upgrade

Following on from the observations above, the MEU does not object to the concept of increasing the ability to transfer more electricity to NSW from Victoria. The MEU considers that the PSCR addresses this aspect well.

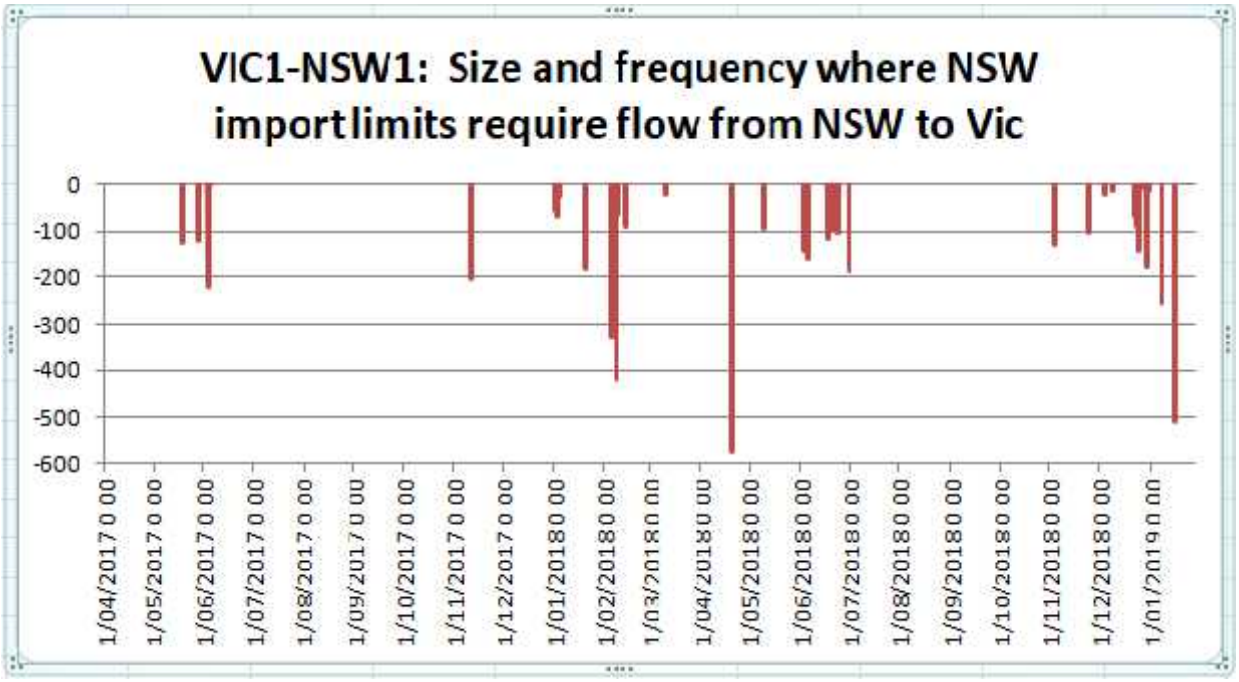
[1] In this regard, the MEU notes that while the focus of reliability is on intermittent generation, the NEM has seen many instances of failure of generation which uses more dispatchable technology

This is exemplified in the following chart which is based on the most recent 2 year period of flows between Vic and NSW where the flows are constrained. These constrained flows do not reflect the expectation that the nominal maximum flow from Vic to NSW can reach some 1600 MW and from NSW to Vic of some 1100 MW. The fact that too frequently, actual flows are constrained at flows much less than the nominal expected flows supports the view that there is a need for increased capacity northward. What the chart also shows is that even more frequently southward flows are constrained at much lower levels than the nominal maximum capacity.



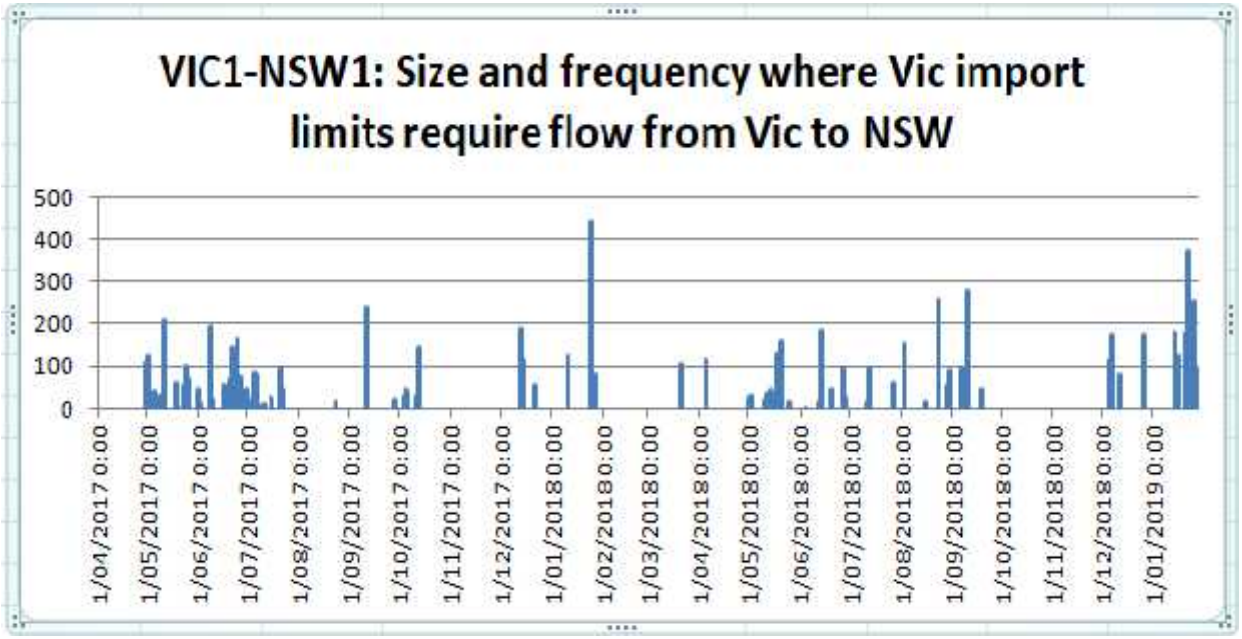
Source: data ex NEMReview

This concern is also exemplified when examining the frequency of where northward flows are constrained to flow southward regardless of whether the need is for northward flow. The following chart shows the time and frequency of these constraints



Source: data ex NEMReview

But even more striking is the size and greater frequency where import limits into Victoria require actual export to NSW



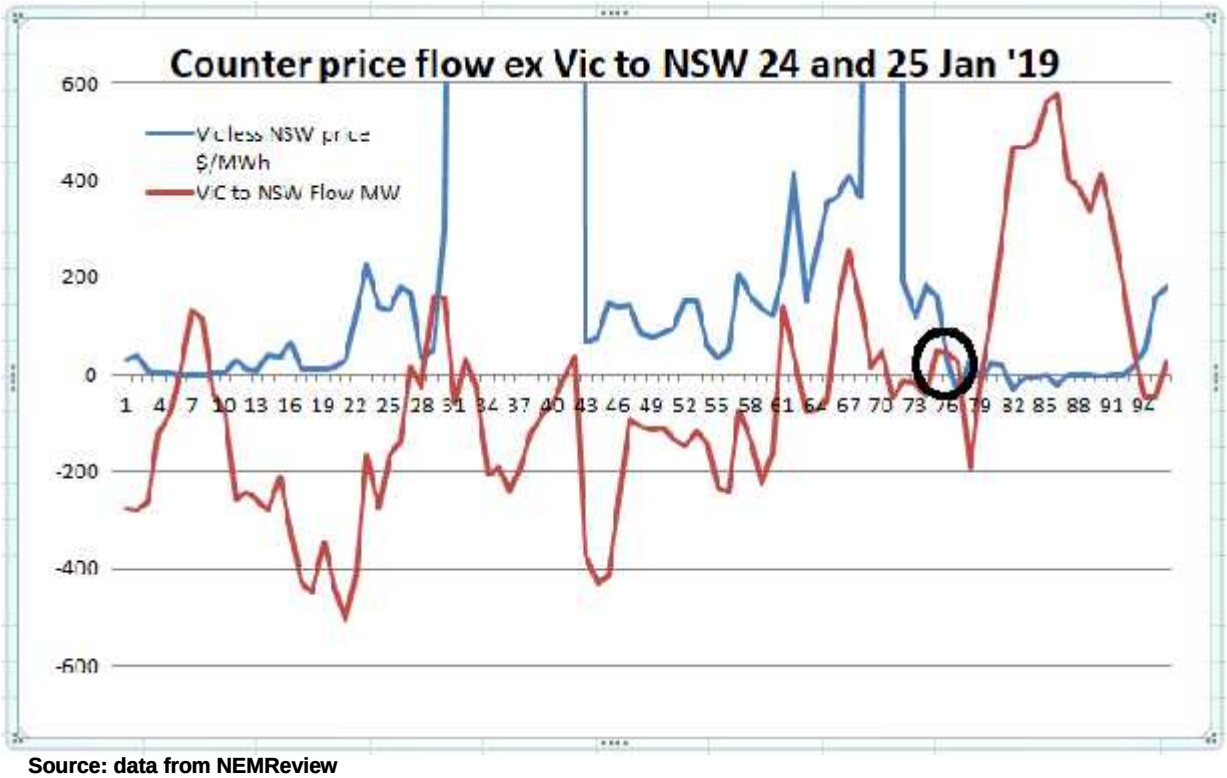
Source: data from NEMReview

These three charts all support the view that there needs to be more capacity for northward flow from Vic to NSW but even more strongly, they show the need for increased southward flow capacity and relief of constraints.

The MEU has concerns in that the PSCR does not address the real need for a greater ability to transfer power from NSW to Victoria or that this issue is not even raised.

The MEU points to the recent high demand in Victoria where there were such high prices in Victoria that AEMO had to implement the cumulative price threshold (CPT) constraints in Victoria for nearly a week as a result of the high prices recorded on 24th and 25th of January. Even more concerning was that even though AEMO had implemented its voluntary RERT program this was insufficient for the demand seen and involuntary load shedding in Victoria had to be implemented. This load shedding passed considerable cost to consumers.

Yet this load shedding could have been avoided if there had been greater southward flow capacity on the VNI. The MEU noted that even though Victoria was experiencing very high prices, due to constraints, there were times where Victoria was exporting to NSW. Of even greater concern was an instance where the constraints against southward flow from NSW resulted in Victoria exporting to NSW while at the same time Victoria was experiencing load shedding activities. Both of these aspects can be seen in the following chart[2] - the circled flow counter price flow occurred when load shedding was being applied in Victoria.



Source: data from NEMReview

The chart also shows that even though more power from NSW was needed by Vic region, the nominal southward flow capacity of 1100 MW was nowhere reached at a time of greatest need of Victorian consumers.

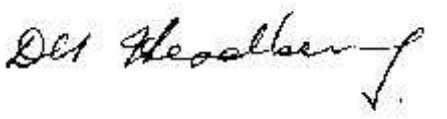
[2] Note that the abscissa of this chart indicates each half hour period from the start of 24th January to the end of 25th January

The MEU considers that the PSCR needs to be expanded to include the need for increased capacity to flow southward from NSW to Vic as well as the planned northward increased capacity addressed by the PSCR.

Increasing the capacity of the VNI southward flow is needed to better provide for the long term interests of consumers.

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



David Headberry
Public Officer