Our responses (in red) to AEMO media release on 26th April 2023 (in black)

Simon Bartlett and Bruce Mountain, 27 April 2023

The Australian Energy Market Operator today responded to claims by the Victorian Energy Policy Centre (VEPC) regarding Victoria's electricity network.

The claims were included in VEPC's submission to the recent public consultation regarding the VNI West project – a major new transmission development that will provide a significant interconnection between the Victorian and NSW transmission grids.

VNI West will also open up new areas in Victoria for sustainable renewable energy generation development – VNI-West only adds 850MW to Murray R REZ and another 200MW to Western Victoria REZ which is not used. AEMO's modelling shows that, even with VNI West, 26% of Murray River REZ renewables will be spilled because of severe congestion on VNI West-WRL. Thus, it will only deliver 640MW of firm renewable generation in these REZ zones. Is this not a "piddling" amount?

AEMO's Executive General Manager System Design, Merryn York said AEMO had received more than 500 submissions in relation to the VNI West consultation report, demonstrating significant interest in the alternate options for the project, including where it links to the Western Renewables Link transmission project.

She said the authors of VEPC's submission had engaged with AEMO on a number of occasions during the public consultation period and had the opportunity to ask questions and receive responses to their enquiries from subject experts at AEMO, Transgrid, EY and Houston Kemp. We acknowledged that AEMO answered some but not all of our questions. This is somewhat besides the point anyway.

A response to the VEPC submission will be published along with responses to all the written submissions to the consultation report following the publication of the final regulatory report for the project in May.

VEPC's submission makes a series of claims related to the broader electricity system that are contrary to both government policy and numerous independent economic analyses of the energy transition. We will await AEMO's substantiation of this before responding further.

Recent publications from Net Zero Australia, the Clean Energy Investor Group, the International Energy Agency and The Economist, which chose transmission as the global cover story for its recent edition, do not support the broad theses in VEPC's submission. There is no doubt that transmission will be needed to ensure decarbonised electricity supply. Is it credible, however to suggest wasteful unnecessary expansion? None of these organisations suggest that and neither do we, but we think AEMO can be accused of this.

Victoria needs to develop capacity in both Gippsland and north-west Victoria

The VEPC submission claims that proposed or possible renewable energy generation developments in the Gippsland region could be transported using existing transmission lines, offsetting the need for the VNI West line. Indeed with an existing transmission capacity of 9,450MW that can be used immediately and easily expanded to 17,600MW, this is the quickest, cheapest and most reliable way for Victoria to make substantial progress in the transition from coal to renewables. Why has AEMO by-passed it?

Ms York described VEPC's claim as at odds with the views and analyses of transmission businesses and generators, who participated in the public consultation process to develop the ISP as well as AEMO's independent, expert analysis. Aspect of the ISP do seem to have been strongly supported by transmission companies – particularly TransGrid and Tasnetworks that stand to gain from it. But we know of other transmission companies that are remarkably scornful of the ISP, even if only behind closed doors. We leave it to others to assess the popularity and sectoral perspectives of the ISP. We are not particularly interested in that, but rather than the analysis should be able to withstand critical scrutiny, we contend is emphatically not the case.

"Detailed engineering and economic analysis in our ISP demonstrate Victoria will need to harness both existing transmission between the Latrobe Valley and Melbourne and build new transmission infrastructure to connect renewable generation from the west and northwest regions of Victoria with demand in towns and cities across the state," she said. For the last 6 years, AEMO's ISP has hobbled the development of the Latrobe Valley by assuming an extremely low 2,000MW transmission limit (only for green electrons), a minute Gippsland REZ land area, only sufficient for 1,030MW of wind-power with penalties of $570,000/MW and $250,000/MW respectively if those limits are exceeded. That has forced the development of WRL and VNI West via

REZ's much further from Melbourne and where up to 40% of the renewable energy generated is spilled because of severe congestion on WRL-VNI West.

This is not an either-or situation – robust expert modelling detailed in multiple iterations of the ISP demonstrates that new transmission infrastructure is needed in both the east and the west of Victoria to ensure secure electricity supply to meet growing demand from Victorian consumers. AEMO only allowed 2,000MW of wind-power to be developed at Gippsland REZ, and even that was delayed to justify WRL and the 2,000MW was need to "keep the lights on" in Victoria until VNI West finally arrives. Any further development of Gippsland REZ has been hobbled, despite it having sufficient transmission capacity to quickly, cheaply and reliably host Victoria's transition to renewables, along with South-Western Victoria REZ which also has an existing 500kV network. It is not credible for AEMO to seek a defence of its WRL-VNI work on the basis that the ISP also said VNI-West is needed. The ISP seems to suffer from the same fatal flaws as AEMO's WRL-VNI analysis.

VNI West and WRL unlock new capacity and provide diversity of generation

"VNI West provides vital insurance against weather patterns in Victoria and an economy that is increasingly reliant on energy from variable, renewable generation. Does it? AEMO's analysis suggests it makes no difference to Snowy 2.0 dispatch, and the main justification for WRL-VNI – that it allows Victoria to access batteries to be built in NSW (which can just as cheaply be built in Victoria) is surely not credible.

"It's crucial back-up for those still days in the Bass Strait when Gippsland's wind turbines are idle, providing access to the sunshine in the northwest to power homes and workplaces throughout Victoria. Victoria already has 2,600MW of hydro-electric generation, and 1,900MW of gas-turbines installed close to Melbourne and 375MW of grid batteries, more than enough insurance for now. AEMO's plans include another 2,200MW of gas turbines and 9,000MW of batteries, pumped hydro and virtual power plants - totalling 16,000MW being double Victoria's current peak electricity demand without relying on renewables, VNI West, Tasmania or South Australia. Besides this, is the sun in Victoria's northwest so different to the sun in Gippsland as to justify this enormous (and horribly ineffective) augmentation? Elementary calculation reveals that the cost of WRL-VNI far exceeds the relative difference in solar (and wind) productivity between the area of best and worst sun and wind in Victoria.

“And on days when it is sunny and windy across the state, VNI West will export excess electricity from Victoria to Snowy 2.0, where it will be used to pump water up the hill. Then on cloudy and still days when renewable output is low, that water can be released and electricity brought back into Victoria using the same transmission lines.” AEMO's results show that Snowy 2.0 will be so choked by NSW renewables queueing up to access TransGrid's Project Energy Connect and Humelink transmission lines, that there will be no room for renewables or Snowy 2.0 import into Victoria. Did AEMO not notice that Snowy 2.0 has almost exactly the same utilisation with or without VNI-West?

VNI West and WRL will not double the transmission charges paid by consumers

Ms York also refuted VEPC’s claims that the VNI West and WRL projects would double or even triple the transmission cost component in Victorian electricity bills.

“We estimate an increase in the order of 25% for consumers in the Victorian transmission cost component as a result of the VNI West and WRL projects, however this will be more than offset by lower wholesale costs from utilising a portfolio of renewable generation sources,” she said. Even with AEMO’s grossly underestimated costs, Victoria’a share of WRL-VNI West represent a 69% increase in Victoria’s total regulated transmission asset value, and using the Mountain/Bartlett corrected costs the increase would be 100% . In addition, AEMO has not allowed for realistic ongoing costs of VNI West and WRL which the AER's 2022 Transmission Benchmarking Report shows are more than three times the level assumed by AEMO. Neither has AEMO allowed for the many new major transmission lines required in Victoria following VNI West that can be discovered in the results of the Consultation Report. We presume that AEMO’s 25% claim will reflect AEMO’s erroneous cost estimates and AEMO’s equally absurd assumption that Operating Demand in Victoria will more than double by 2050. AEMO has a well-established track record of consistently getting demand growth projections horribly wrong. It is remarkable that it fails to learn from this.

AEMO described comments in VEPC’s submission on the potential for increased acts of sabotage as reckless, saying Victoria was already home to more than 6,000 kilometres of existing transmission line. Victoria has already experienced destructive winds which collapsed six 500kV transmission towers near Cressy in 2020, taking 18 days even for temporary repairs. Wildfires have tripped or forced out of service the existing VNI interconnector

including in 2020 and 2007, immediately blacking out 200,000 customers across Victoria. Following severe lightning causing simultaneous electrical faults on both 500kV circuits in NSW using a design similar to VNI West, AEMO has been issuing market notices almost every week that they consider simultaneous trips reasonably possible. This week's electromagnetic bombardment from solar flares have previously blacked out most of Quebec, Canada by tripping long distance interconnectors running north-south like VNI West. Whilst not public knowledge, sabotage using explosives and other malicious attacks has damaged critical transmission towers in several states. AEMO appears to be flippantly disregarding all these risks in the ISP and Consultation report. Every one of the 1,500 transmission towers supporting VNI West, is a critical point of failure likely to immediately interrupt Victoria's largest future electricity supply causing a widespread Victorian blackouts and extended rationing of electricity until the damage is repaired.

"There are transmission lines that deliver electricity to customers throughout Australia, so suggesting additional lines would increase risks is not supported by any evidence," she said. It has nothing to do with increased transmission lines. WRL-VNI West will be 800km long with 1,500 single towers using the same tower design that AEMO frequently reclassifies as a credible risk due to the increased threat of the above events. Widespread blackouts have already occurred in the NEM from taking these risks which will increase with climate change.

Comments in VEPC's submission on fire risk were misguided. Transmission of this scale does not represent a significant risk in terms of starting fires. This is quite astounding: AEMO has again misunderstood the fire risk. The risk is from fires passing near or under transmission lines when smoke and flames have caused both transmission circuits to trip as has already occurred on the existing VNI.

We never suggested that WRL-VNI would cause fires. AEMO itself is predicting that the risk of severe fires interacting with major transmission lines is expected to increase nearly ten-fold over their study period for the ISP and VNI West.

Energy Safe Victoria recently published a guide to bushfire management and community safety around transmission lines, addressing a range of key issues including how companies that own and maintain transmission lines work with fire authorities to ensure that aerial firefighting is possible in the vicinity of transmission lines. This is not about fighting fires but it's about the risk of severe fires causing major transmission lines to trip.

AEMO chief executive Daniel Westerman said the urgent need for new transmission to bridge the gap left by the rapid exit of coal-fired generation was not unique to Australia. Victoria's transition from coal to renewables can be achieved in around half the time by making proper use of Victoria's existing 500kV transmission lines to the Latrobe Valley and to Portland, rather than waiting for the completion of the lengthy processes to acquire the necessary easements and to construct VNI West.

“Governments and system planners worldwide are wrestling with the urgent need to build new transmission to guarantee the safe, secure and reliable supply of basic services to towns and cities,” Mr Westerman said. Our coming “Plan B” for developing Victoria's transmission network using existing transmission lines and building primarily on existing spare easements will enable a much faster transition to renewables, at a fraction of the cost and ensure the lights stay on in Victoria.

“The rigour and public consultation process we undertake to develop the ISP has earned AEMO widespread recognition and is fundamental to ensuring robust, evidence-based decision making to maintain downward pressure on electricity prices. We will leave this to others to judge.

"AEMO is proud to be Australia’s independent, not-for profit, system operator and system planner. Our staff are recognised globally as experts in their field, and act solely in the best long-term interests of Australian energy consumers.” We will leave this to others to judge.

The VNI West Project Assessment Conclusions report will be published here in May along with the submissions and responses to submissions for the consultation report, which concluded on Wednesday 5 April, 2023. We encourage AEMO to immediately publish the 500+ submissions to the Consultation Report, as per past practice and for transparency.

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