DPIE REZ Framework Consultation –
Post webinar comments of Walcha Energy

1. Can the CWO REZ Access restriction scheme be a model for all REZ?

The REZ access scheme for Central West REZ should not be assumed to be transferable to other REZ. The situation of each REZ within the wider NEM grid is unique. Many of the REZ lie on inter-regional routes and others on intraregional routes. Central West is probably the REZ least influenced or impacted by major NEM load flow trunk routes. Access restrictions will have different implications for the CWO REZ compared with many of the others. The initial scheme will provide lessons learned, but there should not be an expectation that the same model will be applied to other REZ.

2. Access scheme model

This submission endorses in principle Option 1 ***Allocation of rights based on capped capacities of technology types***. With minor refinements Option 1 can deliver as firm an outcome as Option 2, Tier 1, without underutilisation. Financial risk can be effectively eliminated in Option 1 without the complexity, administrative burden and risks of Options 2A and 2B.

In a refined Option 1, initial capacity caps would be set so as to keep curtailment less than a low level (say 3%) with a sufficient statistical degree of confidence. This level would be included in the financial models of the Generators and investors eliminating their financial risk. Supplementary provisional rights allocations can be made above the initial caps but with no guarantee of release. After the initial allocation to secure the required funding for shared grid, caps can be incremented and supplementary minor access right allocations made to eliminate any underutilisation. Provisional allocations would be given priority for conversion to actual rights. The cap adjustments would have regard to any improvement in the accuracy of predicted wind resources, and the synergy of connected storage, as well as any underutilisation if this is seen.

The 27,000 MW registrations of interest to connect in the CWO REZ with 113 solar, wind and storage proposals should have laid to rest concerns about under-subscription. This risk should not be a factor in selecting the access model. It is however of great importance to balance development of the most prospective generation in the area served by the transmission infrastructure, considering the quality of the resource, social licence aspects, and concurrently to achieve a mix of energy sources that delivers very high grid utilisation if that is possible.

The complexity, administrative overheads, and the legal and commercial risks associated with the Option 2 models, should lead to their rejection for the CWO REZ. They introduce substantial NEM overhead costs. They will significantly increase Generators' legal costs in both the development and operational phases. They may lead to litigation against AEMO or the Regulator. They will distract AEMO from its key task of managing the transition on which if must focus its expert resources. We have to manage the most massive and rapid transformation of the electricity supply system ever seen in the history of electricity supply. The uncertainties of timing and duration of commissioning of multiple new Generators in a REZ will make any residual underutilisation risks of the refined Option 1 pale into insignificance.

3. Roles of storage

In general each solar farm and wind farm is likely to include some level of battery storage in order to regulate or fine tune its output to match the predicted value for each dispatch interval. Many will include additional storage for arbitrage purposes. Some will target frequency control and/or other ancillary services. Typically the amount of battery storage would be expected to correspond to less than 2 hours at solar farm maximum output, often much less.

Where the terrain is suitable for the development of high efficiency PHES that can generate substantial power for 8 hours or more, consideration should be given to joint development, development by government or by the TNSP, and targeted specifically to optimise grid utilisation. The provision of additional storage will generally be supportive of the objectives of the REZ and therefore should be encouraged and not subject to an arbitrary cap although the location and proposed functional priorities are critical.

As for storage, the development of suitably located local loads within a REZ can result in an increase in the generation headroom of the REZ grid.

4. Increases of REZ capacity with unchanged grid connection

Proposed additions of generation to the REZ connection capability, above what is agreed in access contracts, should be considered individually on their merits. However the rights of incumbent Generators must be taken into account. For example a supplementary access allocation might be permitted subject to endorsement by the holders of an appropriate proportion of the access rights and with a provision for compensation for any generator economically harmed by the connection. Rather than making this the dominant model, this kind of proposal should be considered case by case on its merits.

5. Trading of Access Rights

It is not in the interests of the NEM or of the government if investors with deep pockets acquire grid access rights for trading purposes. Prequalification criteria and rules should be adopted that preclude such investment. Access rights should be tied to a specific area of renewable energy development land for which the applicant has already acquired licence agreements with land owners securing at least (say) 50% of the corresponding access right generation capacity and have a demonstrable likelihood of securing the balance of the required licence agreements. Furthermore the access right should be for a nominated grid entry point.

6. Oversubscription of REZ network capacity and curtailment

The nameplate total of generation connecting at a renewable energy hub does not need to be lower than the grid entry capacity. Solar Farm output fluctuates very strongly with solar azimuth (i.e. seasonally) and wind energy may be considerably greater in winter and at night compared with during the day. An optimal range of solar and wind generation proportions may allow connection of (say) 50% more nameplate generation capacity than grid entry capacity with only a slight incidence of curtailment. It is important to take advantage of this synergy within limits of the predicted annual curtailment. Wind and solar data must be collected in advance and the invitation to apply for access rights must state that the total of rights to be issued will be limited so that a stated target for maximum curtailment will not be exceeded e.g. 3% of generated

energy. Where insufficient wind data is available the inaccuracy of the prediction needs to be covered by part of the allocation being provisional and only released for development when sufficient data is available. Supplementary allocations can also be made if shared storage to optimise grid utilisation is to be developed.

7. Generator connections and transmission funding

Ideally, from a grid funding viewpoint, the whole REZ should connect concurrently as soon as the grid entry substation and power line are commissioned. In practice this will not and cannot happen. GPS compliance tests cannot be conducted concurrently, especially at a shared node. Suppose access rights for 4,000MW of generation are allocated to 10 projects. Even if they were all ready to connect at the perfect date it would take 2 years to connect the 10 developments. It is proposed that government fund the annual cost of establishing the REZ connection until more than (say) 60% of the allocated generation and more than (say) 60% of the allocated projects have connected. Such an approach will generate a race to connect among the allocated Generators. The percentages would be decided in the light of the applications received.

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