

## Walcha Energy Response to ESB Consultation Paper on Interim REZ Framework Attachment - Responses to Consultation Questions

No.	Question	Response
1	Are REZs an appropriate interim solution to the challenges associated with open access?	<p>They are the best thing we have available for the present time.</p> <p>Access to new REZ connection lines needs to be restricted to the allocated REZ Generators (for new lines established solely to facilitate a REZ) however access should be open for storage and load connections.</p> <p>If a line has multiple functions, serving both REZ connections and inter/intraregion power transfer for example, the situation is more complex, especially where new connections consume a substantial proportion of the line capacity. It may also be necessary to augment the grid with open access lines to support the multiple functions where this is demonstrably in the interests of consumers. It may prove necessary to protect some interregional transfer circuits and this will need to continue to an extent determined periodically under ISP processes that have regard to the extent that REZ development and regional storage generally reduce the need for major power transfer. In the case of the New England REZ it may be appropriate to distinguish between a new 500kV line between Uralla and Bayswater constructed to the west of the existing 330kV lines and a 500kV line constructed across the Walcha plateau (east of the existing 330kV lines, to connect new REZ generation and storage.</p>
2	What are the likely consequences of a framework that addresses these challenges on a localised rather than a system wide basis?	<p>Locational pricing, other than MLF adjustment, is contrary to the concept of a national market. The best solution lies in rapid development of <b>priority REZ connected with ample transmission capacity</b>. This is the whole purpose of selecting priority REZs.</p> <p>Furthermore, prioritisation needs to consider the current needs of the NEM. A major present need is for rapid development of large scale grid-connected wind generation, pending commissioning of sufficient large scale regional storage. This is needed to complement ongoing rooftop solar PV development that will continue towards short term saturation, regardless of the NEM development, and is likely to force early closure of coal generators.</p> <p>It is also critical that the grid planning for REZ development be designed to be compatible with a vision for a sensible long term grid. It may be necessary to begin very soon to create <b>a separate inter-regional grid</b> overlay of single circuit lines (such as +/- 800kVDC) that is not open to generator connections (under foreseeable circumstances), to link a few selected 500kVAC nodes in the mainland east coast Regions (e.g. Western Downs in Qld, Gunnedah and Wagga in NSW and Ballarat North in Victoria). Development of 8,000MW of generation in the New England REZ, as intended by NSW, suggests an early need for a NSW North-South power transfer link in addition to completion of the NSW 500kV ring provided for by the 2020 ISP.</p> <p>Transformation of the NEM requires us to shed the incrementalism that has shown the present market design and Rules to be inadequate for our time. Studies towards forming a 30 year grid development plan for the NEM should be commenced as soon as possible and be mandated in the next ISP.</p>

- 3 Do stakeholders agree with the proposed objectives for a regulated REZ development model?
- The consultation objectives are in a sense "motherhood statements" that one cannot oppose, but they are not necessarily the most appropriate objectives or even self consistent.
- Furthermore the ESB or AEMO or the Primary TNSP of a Region may not be better placed to assess these matters than the respective state governments. The recent NSW **Electricity Infrastructure Investment Act** sets out criteria that address customer interests in a broader way than than can be achieved in planning based solely on high level network performance studies without deep granular investigation and liaison with the public to be impacted and to benefit from the infrastructure developments.
- Electricity consumers are also community members and community concerns go beyond just the component relevant to electricity consumption. For one thing consumers are increasingly going off grid. Even more important is **social licence**. Environmental impacts, climate change, social impacts and jobs are extremely important, as well as electricity market economics. Omitting these broader aspects until the project definition stage or later is one of the reasons for cost increases prior to delivery of the project. They must come out at the EIS stage and need early consideration.
- Walcha Energy** has been working with the community for 15 years to develop a master plan for development of the Walcha plateau renewable energy resource in a manner that directly addresses all social licence issues and secures benefits to the whole community. This work must not be disregarded in the development of the New England REZ.
- Some states are looking not only at the interests of electricity consumers but also targeting new major export industries.
- The Constitution** gives primary responsibility to the states for infrastructure and there must be deep interaction with the states if not actual leadership by the relevant state in the REZ development. Accordingly the REZ development objectives should be framed to ensure that the Electricity Market gives **appropriate guidance and advice to the states** on all relevant aspects arising from market economic aspects, national grid integration, and power system security in relation to their grid development initiatives.
- 4 Are there alternative, preferable options for deciding which generators become part of the REZ?
- Yes.** The appropriate criteria may vary according to whether the REZ has existing or committed grid to which connection can be made or requires a new greenfield project to be well defined before technical studies are warranted.
- Geographic location must be combined with land rights** . Geographic suitability of the land for development for the stated technology is always a valid requirement and this must take into account the quality of the resource available at the site and suitability of the terrain. Site suitability must be combined with the holding of a sufficient proportion of the **necessary land rights** (option agreements or licences from the owners of land at the proposed location within the REZ) for the proposed development. Land rights are essential for the project to proceed so developers without significant land rights should be rejected from pre-qualification. Developers who hold substantial land rights covering **suitable lands** for the development should be automatically pre-qualified to tender for rights to connect to a greenfield grid augmentation through which the connection would be made. How much is substantial? Holders of land rights over suitable lands covering (say) 10% of the capacity of the proposed grid augmentation should automatically prequalify.
- Prospective social licence** is another critical criterion that must be taken into account in the selection criteria. Developers who have established a strong social licence and/or are committed to return sufficient benefits and jobs to the community should qualify. The REZ co-ordinator must also take into account the multiplicity or otherwise of connections required and whether the impacts of multiple lines is reasonably likely to be acceptable.
- Project finance** is an unrealistic requirement for projects dependent on a future grid augmentation but clearly could be a requirement before finalising the allocations at a later round.
- Technical performance** in terms of suitability to maximise the utilisation of the proposed grid augmentation makes sense. As indicated in section 4.2.2, an appropriate mix of technologies such as a suitable mix of daytime solar and night time wind generation can be an appropriate selection criterion for a suite of allocations in a priority REZ. This should be further refined in the REZ Co-ordinator's process as the definition of priority REZ and optimal development path in the ISP to date includes no optimisation of the mix of resources. The total of allocations might be increased for a round where storage proposals present the opportunity to further enhance the efficiency of the grid development. Technical performance in terms of proven compliance with Chapter 5 of the NER would be unrealistic at the initial stage of an application and in any case is usually achieved through fine tuning of the design. Generic capability to comply of the proposed technology is reasonable in the first round. An allocation is always necessarily dependent on compliance with NER technical performance requirements.

- 5 Which party is best placed to perform the role of REZ coordinator where the REZ is being developed in accordance with the regulatory framework? Should the decision regarding the identity of the REZ coordinator lie with the State government?
- Yes.** The REZ Coordinator should be appointed by the State government for a REZ prioritised by that State. Prior to defining the REZ-specific development process, the REZ Coordinator should be required to consult with planning authorities, the primary TNSP, any developer that has undertaken master planning activity within the REZ, holders of substantial land rights in the REZ, developers that have undertaken substantial community consultation, land owners whose lands comprise significant portions of the REZ area served by the proposed REZ development area, any community action groups.
- A privatised TNSP should not be the authoritative body defining the grid development for connections of a REZ proposed by a State. Where the lines have both national Grid functions and the priority REZ connection role, AEMO in its ISP has a key role but must take the REZ Coordinator's Priority REZ connection plans into account in its overall planning. The TNSP must also have regard to State government Priority REZ connection planning.
- 6 Are the functions to be undertaken by the REZ coordinator in the regulated model appropriate?
- The range of possible options outlined in the Box is broadly endorsed subject to the following comments.
- Comments:
- The use of the terms "tenderers" and "auction revenue" are not appropriate as they imply that the process is one of competing money tenders but the process may be entirely different in some instances. It would be more appropriate to refer to "proposals" and "successful proposals".
- In defining the REZ transmission infrastructure connection allocation process the REZ Coordinator should also define the manner of funding the transmission infrastructure and may define the proposed basis for contributions to be made by successful proposed projects if they are successful and proceed to connection.
- 7 What, if any, qualification criteria should the REZ coordinator apply to prospective REZ participants?
- See response to question 4.
- Attention is drawn to the need to consider the holding of "land rights" for development proposals to be a major qualification representing a substantial proportion of the pre-qualification score.
- 8 What objective or objectives should the REZ coordinator seek to achieve when selecting successful tenderer?
- > Social licence. Evidence of land holder agreements and a community supportive of the development.
  - > Development of the best resources of the REZ and the quality of the resource at the Tenderer's project.
  - > Diurnal pattern of grid utilisation including consideration of the synergy of wind and solar.
  - > The growing impact of rooftop PV on daytime NEM wholesale prices.
  - > Where applicable, the opportunity for PHES to further optimise grid utilisation.
  - > In the case of PHES, evidence of resource availability in terms of hydrology.
- 9 Should the Rules establish a framework to ensure that the REZ delivers an optimal supply mix?
- No. Delivering an optimal mix is one of a number of proper objectives but this is not an appropriate matter for the National Electricity Rules. Optimal mix of available resources is a consideration in selecting a Priority REZ, and optimisation within the RFEZ should be a matter for the REZ Coordinator. For example a state may have plans for an incentivised development zone that will grow loads in a proposed REZ. The range of relevant factors cannot be fixed in advance by Rules.

- 10 Should REZ developments be subject to a requirement that they may only proceed if a certain proportion of the planned capacity of the preceding REZ stage is subscribed?
- No.  
 Firstly, the requirement is unlikely to be needed. The level of developer and investor interest is such that the transition to renewable energy will be rapid. Development will occur quickly as grid capability is provided in the REZ, subject only to due consideration having been made in respect of social licence.  
 Secondly, previous stage subscription cannot be the criterion for a general rule. The transmission infrastructure should be located to ensure that the development will be well utilised by the REZ, or by interregional or intraregional power flows.
- 11 Should the REZ coordinator return any surplus auction proceeds to customers in the form of a reduction in TUOS charges?
- This can be done, but more important is developing the grid to facilitate system adequacy, especially adequacy of generation to mitigate the great risk of early coal plant exits from the NEM due to simply becoming uncompetitive or due to inability to match the daily load curve (duck curve). This could emerge rapidly, accelerated by plant failures when generators designed for base load or shoulder load attempt to ramp up and down more rapidly and substantially than the aged plant can sustain.  
 Excessive focus on cost minimisation to consumers at the present stage of rapid transformation of the NEM power system sounds prudent but involves great risks to consumers and the economy.  
 Between the 2018 ISP and the present time the predicted closure of coal plants has been advanced several years. Key issues in the briefing for the REZ process work for the COAG Energy Council stated following the 20 March 2020 Council meeting that "*Just under 1,000MW of new renewable generation capacity per annum is projected to connect over the next decade ...*" but this is now clearly vastly inadequate to meet the current needs associated with the predicted exit of fossil fuel power stations. Current predictions already lie on the Step Change scenario of the 2020 ISP. The present risk is that the renewable generable requirement is very likely to accelerate further. In NSW this means that Vales Point power station of 1,320MW may exit several years before FY2030 and economics suggest this may also apply to Eraring Power Station. Given the lead time for major transmission line development of 6 years (Figure 2 of consultation paper), the development of new lines to connect priority REZs is extremely urgent.
- 12 Should the ESB consider REZ models that allow for speculative investment that departs from the ISP, in order to reallocate risk away from customers, such as the one put forward by the Public Interest Advocacy Centre (PIAC)?
- Whilst it is reasonable for the costs of transmission infrastructure to be spread, the risk to electricity consumers, to the state and to the economy of delaying priority REZ development is far greater than the risk of early completion or stranded assets. A substantial proportion of transmission infrastructure cost must be met by consumers and it is reasonable for a significant proportion to be met by state governments promoting a REZ as a means of ensuring adequacy of supply to the load centres of the state.  
 The balance of the spread of contributors to costs has to be determined by the REZ co-ordinator, however this submission proposes that the ESB issue non-mandatory guidelines.  
 In view of the necessity to incentivise new generation in priority REZs and regional large scale storage, one such guideline could be that a Generator's contribution to new transmission infrastructure for a priority REZ should have an upper limit, for example, not be more than the cost of 20km of new REZ transmission line plus not more than the equivalent of three switchbays at a connection hub (as against full cost of a new dedicated connection substation). It is important for the NEM to provide an incentive in support of hubs in REZ development and against multiple individual connections in the one locality.

- 13 How should pre-existing developments be treated within a REZ framework? At what stage of development should a project be considered a pre-existing development
- Pre-existing projects within a REZ may be already connected to an existing grid or else may be projects "committed" to construction based on an approved connection point. Such Participant connections should not be charged extra for new grid augmentations or enhancements for the REZ, even if they benefit from new REZ infrastructure providing an enhanced path or an alternate path for the output of the generator through meshing of the existing and proposed new REZ infrastructure or other enhancement. This potential benefit to an "incumbent" Generator requires a precise definition of pre-existing "commitment" if the actual physical connection has not yet been made.
- In all cases "commitment" must include the proponent having obtained a favourable planning consent/approval/determination (including completion of any relevant EIS process and any federal government approval requirements), must have received and accepted an Offer to Connect from the TNSP, and must have purchased/settled/acquired land (or commenced legal proceedings to acquire land) for the purposes of construction. In addition, if the approved connection point lies on the existing shared network prior to the REZ EOI/proposal submission date, contracts should have been executed and financing arrangements finalised. Where these requirements have not been met the proponent may follow the path of competing for access to the proposed new/enhanced/augmented REZ infrastructure.
- Section 4.4 of the consultation also raises the question as to a lesser level of commitment in the following terms:
- Generators that have already reached a certain level of certainty (for instance ...) at the time that the decision to proceed with a REZ stage is made would be treated as if they are already there for the purposes of the REZ planning framework, in which case the REZ coordinator would develop the REZ taking their project into account.*
- It is submitted that another instance where Generators should be treated *as if already there* could include a proponent of a REZ development with a long history of master planning for the relevant REZ, including social licence considerations, especially where that Master Planning and history of submissions to the ISP, TNSP & RIT-T processes, and state government transmission infrastructure planning (where relevant) has been recognised by the adoption in the ISP and/or the state transmission infrastructure planning of the foundational REZ infrastructure proposed by the proponent. In such a case the holding of land agreements for renewable energy generation development covering a significant area of highly prospective land within the REZ would need to be a second critical qualification, as REZ development would be impaired by the omission of those lands.
- Note that for the purpose of expressing interest or lodging proposals for connection to new REZ infrastructure for which invitations to submit proposals are opened by a REZ Coordinator, eligibility to make a proposal will have different pre-qualification criteria.
- 14 Should the interim REZ framework contemplate brownfields developments? If so, should developers have the ability to influence the location and configuration of the REZ transmission assets within a brownfields REZ?
- Perhaps Yes and Yes, but what is a brownfield REZ? Is it an area where existing grid allows development of **part** of the capability of the prospective REZ development? By all means do not exclude this scenario as expanding into adjacent high quality areas may be entirely justifiable. This is especially the case where the proposed REZ is within a reasonable distance of the major load centres, say within 200km of the grid supplying the largest load centres.
- It has often been the case that areas of development interest have been a surrogate for best locations to develop. The majority of existing and current developments have been along existing power lines to which they can connect, that is they have been brownfield, and developments within the capacity of existing grid (and sometimes beyond that capacity) have run ahead of development of truly greenfield resources, even resources that are superior. It has not been practical for developers to progress large projects to the connection application stage where hundreds of million of dollars are required for dedicated connection assets or shared grid augmentation. Even now when a single development can consume the capacity of a 220kV, 275kV or 330kV line, the viability can depend on deeper power system planning and development is held back until that deeper planning is clarified.
- Where existing Generators are suffering curtailment due to generator export load flows exceeding line ratings, the existing RIT-T process should be used by the TNSP to explore the viability of a grid augmentation unless a priority REZ is considered desirable by state planners or the ISP.
- Prioritisation of REZ located on an existing interconnection route but far from the load centres does not make sense at the present stage of the NEM power system transformation as such a REZ is likely to displace more efficient development closer to the load centres.

- 15 Are the evaluation criteria set out in the introduction to Chapter 5 appropriate?
- The most important criteria at the present time are:
- > Practicality and deliverability
  - > Impact on rewarding storage.
  - > Consistency with actioning the **evolving** ISP.
- Complexities will need to be addressed in the evolution of the ISP priorities, and those ISP priorities will need to accommodate state government legislated plans and strategies as well as adapting to the success of long term storage options for example.
- 16 Which option for access within a REZ is preferable?
- None of the four options is adequate on its own or capable of implementation without severe practical difficulties and ongoing legal disputation. What is needed is a practical engineering and strategic planning solution, not an attempted economic optimisation which is bound to fail at a time of rapid technological change. Of the options for access rights listed, protected connection access is the best, however see also the response to Q17 below.
- 17 Are there alternative options that the ESB should consider?
- Yes. An alternative solution lies in appropriate grid and connection designs. At a time of major power system transformation the notion of fine cost optimisation is a myth. Changes are occurring too rapidly. Optimisation will be more important post 2025 after many key decisions on REZ and grid development have been taken.
- The practical solution is option 1, protected connection access within the REZ, **combined with** planning and constructing priority REZ connections and deeper grid augmentations so that further access protection is not required. The practical approach would be to limit connections within the REZ to the declared capability of the REZ connection(s) and where the connection is meshed to ensure a REZ bypass is sufficient to protect the REZ Generators access under normal operating conditions. The declared capability of the REZ could be incremented when major storage is added by defining a grid utilisation function for the storage. Priority REZs on intra regional and interregional trunk routes, and their connections, should take into account the practicality of combinations of radial REZ connection or meshed connection with bypass circuits.
- To summarise, this can only be an interim solution and it requires appropriate selection of each priority REZ together with smart strategic connection options and consideration of viable expansion options consistent with foreseeable further national grid development requirements.
- 18 Are there potential improvements to the options that the ESB should consider?
- See response to question 17.
- 19 If the ESB were to adopt one of the access options outlined in this chapter, would it be necessary to restrict connections outside of REZs?
- It would be wise to temporarily restrict large generator connections that are unduly remote from load centres. Large in this context means large relative to the shared main grid line capability at the connection point adjusted for local load. It would not be appropriate to restrict early development within a priority REZ whose development is not imminent.
- 20 If the ESB were to adopt the financial access protection model, should it also adopt measures to avoid winner takes all outcomes?
- The implementation of a financial access protection model will face serious practical difficulties and will precipitate ongoing legal disputation. This model should not be adopted.

- 21 If the ESB were to adopt the financial access protection model, should subsequent connecting generators be required to provide compensation that reflects the regional reference price? The implementation of a financial access protection model will face serious practical difficulties and will precipitate ongoing legal disputation. This model should not be adopted.
- 22 If the ESB were to adopt the financial access protection model, how should financial compensation be allocated between REZ generators? Is generator availability an appropriate metric? The implementation of a financial access protection model will face serious practical difficulties and will precipitate ongoing legal disputation. This model should not be adopted.