17 January 2020

Mr Mark Feather
General Manager, Policy & Performance
Australian Energy Regulator

ISPguidelines@aer.gov.au

Dear AER,

Re: AER Guidelines to make the Integrated System Plan actionable – Issues Paper

Hydro Tasmania welcomes the opportunity to provide a submission to the AER's Issues Paper. The paper is well structured and the positions put forward by the AER are broadly appropriate. Hydro Tasmania recognises the complexity of the issues, particularly how to arrive at an appropriate Cost Benefit Analysis for the ISP and streamline the regulatory environment for 'actionable' ISP projects. While it would be impossible to meet the wishes of all stakeholders, the AER's focus on clear consultation, transparency and the requirement for AEMO to explain and justify its choices can provide a strong governance and regulatory framework.

As an overarching comment, economic modelling is currently the best tool available to assess system planning and future costs and benefits, however, it is only a tool and qualitative assessment, judgement and expertise are a critical component of the ISP process. Given the substantial future uncertainty facing the sector, Hydro Tasmania supports the use of the ISP to identify and progress short and medium-term development opportunities while also identifying a range of future options that need to be maintained and kept open to be selected as the transition of the sector becomes clearer. Significant generation and storage investment decisions will flow from the development of ISP transmission projects highlighting the impact of 'non-market' processes such as the ISP to shape and impact markets themselves. It is imperative that AEMO clearly communicate the choices that are made in selecting the optimal development path and the justifications for doing so.

A further challenge with modelling outcomes is that AEMO may produce different results through the ISP than individual TNSPs will when conducting a RIT-T. This further highlights the challenges in treating any modelling as a 'source of truth' without qualification. Where possible, we believe it important that AEMO draw on the expertise of TNSPs to inform cost estimates of ISP projects.

Hydro Tasmania agrees that the AER's expertise as an economic regulator makes it best placed to develop refined Cost Benefit Analysis (CBA) guidelines for projects. We look forward to contributing to further consultation on this when available. Hydro Tasmania has also made a parallel submission to the Energy Security Board's consultation on draft ISP rules.

Attachment A to this submission responds to the questions contained in the AER Issues Paper. We would be happy to discuss these views further if this can assist the AER. For further information or follow-up, please contact Colin Wain (colin.wain@hydro.com.au; 03 8612 6443).

Yours sincerely,

Andrew Catchpole
Chief Strategy Officer

Attachment A – Responses to AER Issues Paper Questions

Question 1: Do stakeholders agree with our proposed objective for the ISP guidelines?

Hydro Tasmania supports the proposed objectives for the ISP guidelines: *"to provide certainty, transparency and accountability for AEMO, RIT–T proponents and stakeholders."* As described in section 3.1 we also agree with the objective to promote: "*ISPs that identify the optimal development path that optimises the net economic benefit to all those who produce, consume and transport electricity in the relevant market".* We note that the use of the word 'optimises' is the key issue within this statement. There are many approaches and stakeholder views on how transmission investment can be 'optimised' for the benefits of all stakeholders.

As stated in section 3.1.1, *"while under-investment can reduce the quality of network services, it can also increase the cost of supply from generation. This could be due to inefficient generation investment (where transmission is a more efficient substitute) or the operation of higher fuel cost generation."* As confirmed in the Draft Rules section 5.2.2.8 (c) (viii), the consideration of market benefits should include analysis of competition benefits resulting from proposed ISP investments. It is Hydro Tasmania's view that under-investment risk could cause not just the over-use of more expensive forms of generation, but could also lead to potential costs from diminished competition. The CBA guidelines for the ISP and for RIT-Ts should appropriately consider and weigh the competition benefits that transmission investment can bring. This includes: the ability to protect against or minimise price shocks in the event of plant closure or changes in market concentration; increased market liquidity; and greater customer choice (among others).

Question 2: Do stakeholders agree with our proposed approach to flexibility and prescription for AEMO in the CBA guideline? Will this provide sufficient certainty and transparency to stakeholders?

Hydro Tasmania supports the intention to give AEMO flexibility in the CBA guidelines, and *"to choose an optimal development path based on its consideration of net economic benefits of development paths across reasonable scenarios."* The section 4.1.2 description of Requirements, Considerations and AEMO Discretion is useful for stakeholders and should be included in some form in the AER guidelines and ISP itself to explain how the optimal path has been chosen.

Our high level support offered above is subject to many of the questions below, in particular, that:

- AEMO conduct transparent and rigorous consultation on the inputs, assumptions and scenarios used to prepare the ISP;
- sensitivity testing is used to further examine candidate development paths/outcomes; and
- that where AEMO uses its discretion and flexibility to select an optimal path, that the reasons and justifications for doing so are clearly articulated to stakeholders.

Question 3: What are stakeholders' views on our proposed approach to AEMO's development of inputs and assumptions? Are there additional principles we should consider?

Hydro Tasmania has welcomed AEMO's efforts to engage broadly and deeply with stakeholders in preparing the 2020 draft ISP. This has shown considerable improvement since 2018 and we would expect that this process can continue to improve with each ISP iteration.

The use of sensitivity analysis as noted in the issues paper is an important test that the ISP should be subject to.

Hydro Tasmania wishes to also highlight the following challenges of modelling:

- the impact of (real-world) imperfect foresight which may mean generation, DER, storage or demand management cannot be assumed to always be available at peak or constrained times. This implies that real-world operations may require greater dispatchable resources than models initially predict;
- there are benefits in diversity in both the type and location of generation sources available (particularly for variable renewable generation;
- that modelling may select theoretical energy resources before credible development opportunities (which already have a proponent and expenditure); and
- there are economic development and regional benefits of future transmission and energy investment that sit outside of the scope of the ISP.

Question 4: What are stakeholders' views on our proposed approach to AEMO's development of reasonable scenarios? Are there additional principles we should consider?

With respect to scenario probability weighting, section 4.2.2 states that:

> *"Our initial [AER] view is that, while AEMO is not required to assign probabilities to scenarios, when it is choosing the optimal development pathway, it should consider, in a qualitative sense, the likelihood of each scenario occurring."*

Hydro Tasmania believes that this is appropriate, however, the choice of optimal development path is intrinsically predisposed towards the central planning scenario due to the condition that the optimal development path have positive net economic benefits in the planning scenario. While we appreciate the truly problematic challenge of choosing the 'right' scenarios, it is Hydro Tasmania's view that the central scenario chosen for the 2020 ISP was relatively conservative and is unlikely (in our opinion) to reflect the median of current probable outcomes. We therefore believe there needs to be an emphasis on ensuring that the central planning scenario represents a consensus and median view among informed stakeholders.

A further challenge is that the ISP is a 20 year plan. It is Hydro Tasmania's view that a majority of electricity sector participants believe that the sector will need to be at or very close to net-zero

emissions by 2050. While we understand the intention that the ISP cover a 20 year planning horizon, the ISP modelling could consider emissions trajectories beyond this point if it is to accurately reflect the investment appetite of the sector's current participants.

Question 5: What are stakeholders' views on our proposed CBA steps for the ISP? Are the amended steps from the RIT–T application guideline applicable to the ISP analysis? Are there particular areas where a worked example would be helpful in providing this guidance?

"*The key steps we propose AEMO undertake are:*

- *Identify a set of development paths for assessment that contain individual ISP projects (both actionable ISP projects and ISP development opportunities).*
- *Characterise the base case, or counterfactual, development path.*
- *Identify the categories of costs and benefits using the classes of costs and market benefits set out in the draft rules.*
- *Quantify the expected long term costs and market benefits of each development path against the base case / counterfactual, under each reasonable scenario. Then calculate the expected net economic benefit. For each development path, this will require an assessment of the resulting development of all other generation and load assets.*
- *Conduct sensitivity analysis to test alternate hypotheses or drivers of costs and market benefits, and explore option value." (Issues Paper section 4.3)*

The key steps outlined in section 4.3 of the Issues Paper appear to be appropriate. Given the uncertainty facing the sector, Hydro Tasmania believes that analysis of competition benefits, sensitivity testing and option value are critical components of the ISP CBA methodology.

Question 6: What are stakeholders' views on our proposed approach to AEMO's selection of development paths for assessment? Are there additional principles we should consider?

"Our initial [AER] view is that AEMO should select development paths that:

- *are commercially and technically feasible (including in terms of meeting timing requirements) without bias to technology or ownership*
- *contain, where relevant, non-network substitutes to network investment, such as demand response, generation, storage, distributed energy resources (DER), etc.*
- *are a representative sample of the full range of possible transmission development paths—as transmission investments can differ in terms of location, timing, size and form*
- *contain, where relevant, staging considerations, such that option value can be assessed (see section 5.1)."*

The proposed approach above is appropriate. With respect to the interpretation of "technically feasible" Hydro Tasmania's view is that announced, 'real-world' projects should be given additional consideration over and above theoretical modelled proposals. Having an actual proponent attached

to a project or project investigation should elevate the likelihood of that project being considered and selected as part of AEMO's development pathways. To do this, AEMO could consider an appropriate threshold test, such as: feasibility studies; formal steps towards development approvals; material spend (e.g. greater than $5m); community information sessions and/or consultation.

Question 7: What are stakeholders' views of characterising the ISP counterfactual development path? Should replacement and small augmentation expenditure be included or excluded?

Demand driven replacement or small augmentations should be included in the counterfactual case as without these it would become unrealistic.

Question 8: What are stakeholders' views on quantifying costs and market benefits? What market benefits do stakeholders consider need to be estimated using probabilities?

> The paper notes that: *"CBA values costs and market benefits to maximise net economic benefit. Least cost optimisation, on the other hand, identifies the lowest cost development path that meets certain conditions or constraints."* Further, *"high impact low probability (HILP) events have, by definition, a low probability of occurrence. If market benefits associated with avoiding costs from HILP events were not weighted by their probability of occurrence, this would skew the results." (Issues Paper sections 4.3.3)*

Hydro Tasmania agrees that HILP events should be probability weighted. The paper is not clear how the AER intends AEMO to test HILP events – whether this is through the same process as sensitivity analysis? This could be clarified further in the guidelines. Hydro Tasmania is also unclear about how 'option value' can be fully considered without some assessment of scenario probability (question 12).

It is important to reflect the externalities of increased and adverse weather events, such as the risks of fire, flood and wind impacting on transmission assets. Local TNSPs are best placed to understand and advise on these risks, nonetheless, Hydro Tasmania believes that consideration of these impacts on the NEM should be included in the selection of the optimal development path. This could be done through the HILP framework or through a similar mechanism and can ensure that system planning increases resilience to these future risks.

The current draft ISP released in December 2019 outlines 5 core scenarios. Hydro Tasmania understands that these are equally weighted in the cost benefit assessment of candidate development paths. However, most stakeholders would recognise that there is not equal probability of these 5 scenarios eventuating. Therefore, Hydro Tasmania supports inclusion of qualitative analysis of the scenarios in the ISP which will make the process a more transparent and robust contribution to decision making.

Question 9: What are stakeholders' views on whether and how AEMO should conduct sensitivity analysis in its ISP process?

Hydro Tasmania supports the use of sensitivity analysis. Without this, there would be insufficient rigour in the outcomes and limited insights for stakeholders from the 5 scenarios alone. While it is not the role of AEMO to determine public policy decisions, it could be granted the flexibility to consider how the NEM would develop in the absence of some or all federal or state-based policy interventions. This could provide some additional insights into the optimal and least-cost development pathway for consumers. This analysis would build on AEMO's established work on Renewable Energy Zones and could highlight the transmission development paths, energy resources and geographic areas that are best suited to further development. It may also provide insight into any additional costs and/or benefits imposed by having locational based constraints in generation or resource development. Hydro Tasmania believes that providing advice on least-cost supply in this manner would be consistent with the National Electricity Objective.

Hydro Tasmania also believes that AEMO must consider international experience of market trends and developments. This includes technology costs, asset closure and re-investment schedules and the decarbonisation of energy systems in other jurisdictions. Reference to these international developments is important when considering what sensitivity analysis to conduct in an Australian context.

Question 10: What are stakeholders' views on our proposal to provide AEMO with the flexibility to choose its decision making approach(es) to determine the optimal development path, subject to consultation and justification? Does this satisfy the draft rules requirements and sufficiently mitigate the risks of over-investment, under-investment, premature or overdue investment?

> AER does *"not propose to prescribe a particular decision making approach, provided the net economic benefit of the optimal development path is positive in the planning scenario, and AEMO transparently sets out the basis for its decision making with stakeholders."*

The Issues Paper considers whether AEMO's approach should be based on: selecting the development path with the highest net market benefits; least-cost optimisation; least-worst regret; and/or whether scenarios should be probability weighted. Section 4.4 refers to the need for AEMO to consider the risks of: under; over; premature; or overdue investment. This appears to be appropriate guidance for AEMO at this time. In addition, at a system level, some investment types have a lower potential for regret than others. For example:

- flexible, clean sources of generation are likely to provide ongoing future value and can complement other energy resources;
- transmission investments that link regions with high-quality but diverse resources types, or link to a region with a range of future expansion or development opportunities, will be robust to a wide range of future developments.

AEMO should consider these perspectives into account when selecting the optimal development path.

Hydro Tasmania recognises that there is unlikely to be a perfect answer to how much flexibility AEMO has, nor will there be an approach that satisfies all stakeholders. The arguments put forward by the AER in the issues paper offer sound guidance, further the Draft ISP released by AEMO in December 2019 provides informative commentary on AEMO's decision making and justifications. We therefore support the proposal put forward in the AER Issues Paper, (not withstanding our responses to the other questions in this paper).

Question 11: What are stakeholders' views on our proposed approach to describing the identified need to be used by TNSPs in applying the RIT–T for an actionable ISP project?

The proposed approach (of allowing the identified need from the ISP to replace the Project Specification Consultation Report (PSCR) phase of the RIT-T) is sensible.

Question 12: What are stakeholders' views on how AEMO should take option value into account in the ISP, and TNSPs in RIT–Ts for actionable ISP projects?

> *"We note that assessing option value depends on the qualitative likelihood of scenarios occurring, as well as the specific quantitative probability of particular events (or new information) that are critical to the particular investment. For example, there may be new information that arises in the future on the likelihood of generation locating in a particular area, or the likelihood of an existing generator closing, that is critical to the investment decision. Assessing option value requires testing the costs and market benefits of the different options under different probabilities of those events occurring." (Issues Paper section 5.1.1)*

As noted under question 8, option value requires assessment of scenario probability. At a high level it may be inconsistent to weight scenarios for the purposes of option analysis but not do this more broadly in the cost benefit analysis of candidate development paths.

> *"In the RIT–T application guideline, we require RIT–T proponents to consider option value as a class of potential market benefit as per NER clause 5.16.1(c)(4)(ix)……. In the CBA guideline, we propose to remain consistent with the RIT–T application guideline to the extent possible. We consider AEMO should, where practicable, consider option value by considering the costs and market benefits of development paths that contain staging decisions." (Issues Paper section 5.1.2)*

The proposed approach (of aligning the RIT-T and ISP where possible) is sensible.

Question 13: What are stakeholders' views on our proposed guidance on non-network options in the CBA guideline?

The proposed approach is sensible.

Question 14: What are stakeholders' views on our proposed approach to RIT–T application guidance for actionable ISP projects and non-ISP projects?

The proposed approach is sensible.

Question 15: What are stakeholders' views on what network development should be included in the base case of the RIT–T for actionable ISP and non-ISP projects? What are stakeholders' views on what generation (and other) development should be included in the base case of the RIT–T for actionable ISP and non-ISP projects?

Hydro Tasmania understands that a key benefit of system planning through the ISP is that individual investments may have cumulative benefits greater than the sum of individual projects. It is therefore appropriate to consider 'actionable ISP projects' as part of the base case. As an example, and with respect to a potential future MarinusLink, previous analysis has shown that this has additional benefits when considered alongside NSW-SA interconnection.

Question 16: What are stakeholders' views on the scenarios to be considered in RIT–Ts for actionable ISP projects? Would the 'feedback loop' help to overcome any misalignment between the ISP and RIT–T?

> *"When RIT–Ts are triggered by an ISP, there is question as to whether these RIT–Ts need to take into account a range of scenarios (potentially those identified in the ISP), or whether it would be sufficient for the RIT–T just to consider the planning scenario." (Issues Paper section 6.1.3)*

Hydro Tasmania considers it appropriate that RIT-Ts continue to consider probability weighted scenarios in their CBA and not solely the planning scenario. As the paper acknowledges, TNSPs will have additional 'local' knowledge of the costs and benefits of options, testing these against only the ISP 'planning scenario' has the potential to over simplify or miss key sensitivities and outcomes. Further, as AEMO takes into consideration all scenarios and sensitivities when selecting the optimal development path, assessing a RIT-T only on the planning scenario would appear to be inconsistent.

Where simplification and streamlining of RIT-T modelling and/or processes is possible without compromising outcomes, Hydro Tasmania would support this.

Question 17: What areas of the ISP do stakeholders require further transparency and/or consultation to engage effectively in the process?

Hydro Tasmania supports the proposal to make the forecasting best practice guidelines as consistent as possible with the RRO best practice forecasting guideline. Our experience of AEMO's engagement for the 2020 ISP has been positive - with significant consultation and transparency between AEMO and stakeholders.

Question 18: What are stakeholders' views on our proposed guidance on dispute resolution in the RIT–T and ISP processes? What specific guidance on dispute resolution would stakeholders value?

Hydro Tasmania supports consistency between ISP and non-ISP RIT-Ts where possible.

Question 19: Do stakeholders agree with our proposed approach to compliance and enforcement of the rules and binding guidelines?

The proposed approach is sensible.