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Marinus Link Stage 1B Expenditure

To The Australian Energy Regulator

19/12/25

Aurecon's Response to AER Queries on MLPL Expenditure Submission:

The Australian Energy Regulator (AER) recently made a Draft Decision on MLPL's proposed Stage 1B expenditure for the Marinus Link project. The AER has made the determination that a 6% risk allowance is suitable for the project as a portion of total project costs. We understand that the AER has relied largely on advice from its independent consultant, EMCa, who has determined that MLPL's risk allowance for the project may be 30-45% overstated. This document reviews the AER and EMCa position that MLPL's risk allowance is overstated.

Aurecon has reviewed the EMCa Assessment of Proposed Risk Allowance Expenditure for Stage 1 and the E3 Advisory Draft Response in developing this document.

Industry standards for Major Infrastructure Risk Assessment

The Monte Carlo modelling conducted by E3 on behalf of MLPL appears to be methodologically sound and does not indicate bias towards worst-case scenarios from a technical perspective. This is evident by the following:

- The use of the widely accepted BetaPERT distribution is appropriate as a means of capturing experts' most likely values compared to a simple triangular distribution. This choice allows for a more realistic and representative reflection of uncertainty within the model variables.
- MLPL's risk assessment aligns with recognised practices outlined in ISO31000, including:
  - facilitated workshops with competent participants,
  - thorough risk identification,
  - validated likelihood and impact assessments, and
  - the application of Monte Carlo simulation for a rigorous probabilistic analysis
- While Aurecon did not participate in these workshops, it appears that the participants who took place in the quantitative risk assessment workshops were appropriately qualified. Thus, the quantitative assessment has been generated on the basis of the inputs of stakeholders with project expertise and deep understanding of project risks.

EMCa has challenged the aggregate risk allowance, suggesting that MLPL's P50 risk estimates are up to 45% overstated. EMCa has made adjustments to the E3 assessment to put forward what it believes is a suitable position under Scenario A and Scenario B. However, there are significant concerns about the statistical rigor and robustness of EMCa's methodology in defining these scenarios which have informed the AER's draft decision:

- From the information provided, it appears that EMCa has simply applied an arbitrary percentage reduction to the recommended P50 values without re-running the Monte Carlo simulation or redefining the underlying input parameters, namely, risk likelihoods and three-point estimates.
- The approach distorts the true uncertainty inherent in the model and fails to accurately reflect the underlying risk distributions. Further, it indicates that EMCa has not assessed each risk on its merits, rather has applied formulas to reduce the impact of risk.

- Critical aspects such as the variability and likelihood of low probability, high impact events (tail risks) are not appropriately captured. Furthermore, adjusting the P50 values alone to fit preconceived outcomes introduces bias, rendering the results unreliable and statistically invalid for informed decision making or risk evaluation.

Ultimately, the Monte Carlo simulations depend on probabilistic inputs provided by experts to model a realistic range of outcomes. Modifying summary statistics like the P50 without revisiting the full distribution and underlying assumptions undermines the modelling robustness and credibility.

EMCa's proposed risk adjustments

Aurecon has reviewed the analysis put forward by EMCa and its basis for removing and/or reducing the P50 risk allowance put forward by MLPL. As noted above, we do not agree with the methodology applied in arriving at the proposed risk allowances. Aurecon was not able to form a view on all of the risk items EMCa has commented on as our review was limited, however, we identified several positions put forward by EMCa which we feel did not warrant the proposed reduction or removal of risk provisions. We provide examples below:

Risk Item	EMCa Basis for Reductions	Aurecon Comments
Commentary from EMCa where the basis for reduction is not valid in Aurecon's view		
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Risk Item	EMCa Basis for Reductions	Aurecon Comments
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Risk Item	EMCa Basis for Reductions	Aurecon Comments
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Commentary from EMCa where no data has been put forward to support the view that the MLPL position is overstated:		
[redacted]	[redacted]	[redacted]

Concluding Remarks

Aurecon in its initial review of MLPL's risk allowance provided a top-down range of risk allowances which ranged from 3% to 12% of capex. Since this time, E3 has provided an updated review which:

- Normalised the basis of these calculations on the basis of total project costs.
- Considered projects put forward by EMCa in Australia, such as the Eyre Peninsula and Project Energy Connect. However, these were removed as they are primarily HVAC overhead lines and lumpsum contracts.
- Removed GreenLink from the sample of projects as it is understood that opex allowances were included within total project costs. Moreover, the GreenLink project was a smaller scale single lump sum contract.
- Removed NeuConnect from the sample range as the project was smaller in scale and did not have a land cable component.

E3 has concluded that a more appropriate range of risk allocations could range from 8.7% to 10.5% as a portion of total project costs.[1] Aurecon believes the range put forward by E3 is reasonable when taking into account these adjustments.

When comparing to projects under the Ofgem regime, it is also worth noting that the cap and floor regime provides a guaranteed minimum return, and that the risk allowances put forward are generally placeholders until the project nears completion and a Post-Construction-Review (PCR) is undertaken. That is, proponents are paid a top-up payment if generated revenues are less than the floor determined by Ofgem (revenue is equally repaid if above the cap). The AER's approach via the CESS and ex-post review is different in that the TNSP is exposed to greater potential consequences if capital allowances are exceeded and does not necessarily guarantee a minimum return for efficient costs.

It is worth noting that the majority of the projects cited as comparable benchmarks have or are being delivered by National Grid and other parties who have delivered multiple HVDC interconnectors. The level of maturity and regional experience to draw upon for these projects is much greater than in the Australian market.

Reference Project in Report	Proponent	Other Projects Delivered / Supported
▪ North South Link ▪ Viking Link ▪ IFA2	▪ National Grid Electricity Transmission	▪ BassLink ▪ BritNed ▪ IoM ▪ Western Link
▪ Celtic Interconnector	▪ EirGrid	▪ East West Interconnector ▪ Provided input into GreenLink
▪ GreenLink	▪ GreenLink Interconnector Limited (Element Power and Hudson Sustainable Investments)	▪ None identified, but received input from EirGrid

[1] Values have been rounded

Reference Project in Report	Proponent	Other Projects Delivered / Supported
▪ NeuConnect	▪ NeuConnect Consortium, including: – Kansai Electric Power – TEPCO – Greenage Power – Frontier Power – Meridiam – Allianz Capital	▪ Hokkaido-Honshu HVDC (in development) ▪ Triton Knoll Offshore Transmission ▪ Kii-Channel HVDC Link

Finally, the EMCa approach to estimation of the P50 risk allowance appears to be based on applying standard reduction factors or adjustments to probabilities. This is not a credible approach applied in the risk industry, nor does it reflect the outcome that would be achieved via a monte carlo analysis.

Aurecon was not able to form a view on all of the risk items EMCa has commented on due to our limited review. However, for those we have reviewed, arguments put forward by EMCa do not justify the removal or reduction of risk provisions.

It is Aurecon's opinion that an appropriate risk allowance for the project should be based on a quantitative risk assessment and in line with ISO31000 practices, as originally undertaken by E3.