Specialist Consultants to the Electricity Industry

Submission

Date: 29th May 2019

To: Electricity Regulation Authority
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Power Systems Consultants Australia (PSC) on Australian Energy Market Operator's funding for 2019/20 to 2021/22

PSC welcomes the opportunity to respond to the draft decision on the Australian Energy Market Operator Allowable Revenue and Forecast Capital Expenditure 2019/20 to 2021/2022.

PSC provide specialist consultation services across a broad range including market systems, operational technologies (OT), power networks, HVDC, DER, and strategic advisory. PSC have been active in the Western Australian Wholesale Electricity Market for over 10 years providing consultation services to numerous clients including Western Power, Horizon Power and AEMO. As a vendor with over 20 years in the electricity industry, PSC have been involved in numerous software development, OT and IT projects.

PSC would like to provide respectful comment on ERA's determination to not approve AEMO's approach to contingencies on capital projects from both a vendor and a practical perspective, namely the average 30% contingency applied to the 22 capital projects.

Large software, OT and IT projects are unlike most CapEx projects which fit the traditional three-dimensional project theory of cost, time and quality and have relatively well-defined specifications, inputs and outputs. They are recognised as Complex Projects, susceptible to variation in requirements mid-way through execution due to the high degree of interrelation between stakeholders, outcomes and other dependant variables and are thus notoriously difficult to estimate and execute.

There are many case-studies showing that it is not uncommon for such projects to go over their original budget. According to research by McKinsey and Oxford University, large IT projects, on average, run 45% over budget and 7% over time[1]. In the case of AEMO's submission in the context of the WA market, the complexity of the currently proposed capital program makes changes to such projects no less likely and having an average 30% project contingency is, in PSC's opinion, not an unreasonable percentage and falls in-line with current industry thinking and practice.

Assuming that a best-practice change management and value-assurance framework is in place at the project level, this approach will likely improve the final value-return on capital by creating a more agile environment and reduce implementation overhead by focussing on outcomes early on in the definition phase. Indeed, the research by McKinsey and Oxford University has shown that Value-Assurance typically reduces the likelihood of overruns and

[1] Bloch, M & Blumberg, S & Laartz, Jürgen. (2012). Delivering large-scale IT projects on time, on budget, and on value. McKinsey Quarterly. 27. 2-7.

missed value delivery. This research concluded that over-focussing on budget and schedule at the expense of strategy and stakeholders is responsible for around 50% of overruns. In other words, by enforcing an overly tight contingency level that requires very tight focus, the unintended consequence is budget exceedance and missed value delivery.

To illustrate further and more specifically, in PSC's experience, the impacts of requests for further funding are likely to result in increased overall costs and potential schedule impacts being incurred by AEMO and ERA. Downstream impacts are often not considered in these processes, i.e. project delays caused by additional funding requests will have a substantial impact on project resourcing where delays, resulting in the redeployment of resources, create a multiplier effect on the project over-runs of cost and schedule.

PSC have worked extensively with AEMO and can attest that they are extremely prudent with how project budgets are utilised during execution.

PSC respectfully suggests that the mechanism for AEMO to spend 10% above its capital expenditure before applying to the ERA for additional funding, be mutually exclusive from the 30% per project contingency. PSC understands that this mechanism is for unforeseen issues with the overall capital program (e.g. addressing a major cyber security breach or a major data centre failure), or for projects that were not identified during the AR process.

PSC supports the original submission of 30% contingency for the 22 capital projects identified for AR5 for the reasons outlined above.

Yours faithfully

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