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Dear Matthew

Consultation on the Draft Transmission System Operational Capability Framework (TSOCF) Overview

Executive Summary

Iberdrola Australia Networks welcomes the opportunity to provide feedback on AEMO's Draft Transmission System Operational Capability Framework (TSOCF). As a non-incumbent Transmission Network Service Provider (TNSP) operating within the National Electricity Market (NEM) Iberdrola Australia Networks strongly supports AEMO's objective to standardise operational roles, workflows, and technical capabilities required for a modern, inverter-dominated grid.

However, as the NEM transitions toward a more pluralistic transmission landscape, characterised by contestable transmission assets, and private transmission link owners, it is critical that the TSOCF consider whether it explicitly accommodates non-incumbent operational models and enforces binding compliance.

Specifically, this submission highlights five key areas where the Framework should be refined:

1. **Mandatory National Operational Standards:** Incorporating critical TSOCF capabilities and operational workflows from voluntary guidelines into mandatory, enforceable standards across all network operators.
2. **Fair Interface & Communication Architectures:** Ensuring direct, non-discriminatory communications between non-incumbent TNSPs and AEMO without unnecessary dependency on incumbent TNSP, including network planners such as VicGrid and Energy Co. This seems particularly relevant because, although connection and network planning are stated to be out of scope, the RACI includes standards-based model exchange and model data governance. Operational model data and the data required for network planning and augmentation will inevitably overlap.

3. **Transparency in Constraint Formulation & Limits Advice:** Protecting against asymmetric operational requirements and ensuring objective treatment in limit equation formulation.
4. **Proportional Control Room and Compliance Standards:** Establishing right-sized operational capability expectations for standalone or non-incumbent asset operators while maintaining mandatory technical compliance.
5. **Clarification of Multi-TNSP Remedial Action Schemes (RAS):** Establishing clear accountability, standardized obligations, and dispute resolution mechanisms for joint protection and control schemes.

Enforceable and Mandatory Operational Standards

The draft framework currently relies on voluntary guidelines, self-governance, or discretionary adoption for several operational workflows, data exchange practices, and technical capability baseline definitions.

Voluntary frameworks create regulatory ambiguity, allow incumbent TNSPs to adopt inconsistent operational practices across jurisdictional boundaries, and leave non-incumbent TNSPs vulnerable to discretionary gatekeeping. Furthermore, critical system security functions, such as grid-forming inverter integration, dynamic line rating delivery, and standardized limit submission timeline, cannot rely on voluntary compliance if grid security is to be maintained.

Iberdrola Australia Networks suggests that AEMO consider which of the critical TSO CF operational capabilities and technical interface requirements could be considered mandatory, legally binding standards and which should be retained as voluntary guidelines or best-practice notes. Enforceable rules ensure that all network service providers—regardless of size or incumbent status—are held to identical operational baseline standards, preventing arbitrary or asymmetric operational demands being placed on non-incumbents.

Standardising Control Room Interfaces and Operational Communications

Non-incumbent TNSPs operate distinct supervisory control and data acquisition (SCADA) systems and operational centres yet are required to interface with primary regional TNSPs as well as AEMO.

Relying on primary incumbent TNSPs to relay switching orders, telemetry, or operational constraints introduces latency, operational risks, and potential commercial conflicts with regulatory and contractual arrangement. Our understanding is that when coordinating outages of inter-regional lines AEMO will nominate one of the TNSPs as the primary contact, who in turn liaises with the other TNSP. However, it is unclear to what extent, or how extensive, AEMO relies on the incumbent TNSPs to relay switching orders, or operational constraints which can introduce latency and operational risks. In the case of Victoria, there are already some “small” TNSPs, with a major transmission interconnector to be operated and maintained by a non-incumbent, leading to increased complexity and risk.

Further, incumbent TNSPs currently have formalised legal agreements between them that date back many years that were fine at the time essentially between non-competing parties, but it’s a little more complicated with “embedded” TNSPs, like VNI(W). AEMO should pursue a formalised agreement

between incumbent and new entrant non-incumbent TNSPs which should address not only SCADA data but issues such as liability, reciprocal data sharing, how far into the other party's network data must be provided for and also modelling data etc

The TSOCF should formally define a Standardised Direct Interface Protocol for non-incumbent TNSPs directly to AEMO's central control systems.

Protocols should establish clear operational boundaries so that incumbent regional TNSPs do not act as regulatory gatekeepers for non-incumbent connection assets.

Limits Advice and NEMDE Constraint Equation Development

The TSOCF sets out the process by which network limits advice is converted into constraint equations within the NEM Dispatch Engine.

Non-incumbent TNSPs may encounter delays or lack visibility when primary TNSPs provide regional limit advice that directly impacts non-incumbent asset utilization or curtailment risk.

AEMO should include explicit, mandatory SLAs within the TSOCF for assessing and updating constraint equations based on limits advice supplied directly by non-incumbent TNSPs.

It should also ensure constraint formulation models treat non-incumbent transmission line ratings, dynamic line ratings (DLR), and grid-forming inverter capabilities on equal operational terms with incumbent assets, notwithstanding that there can be different line rates at each end of longer lines due to varying weather conditions or geographic separation.

Proportionality of Operational Requirements

The TSOCF introduces enhanced requirements around 24/7 real-time monitoring, short-term forecasting, and emergency restoration capabilities.

Applying a "one-size-fits-all" capability requirement meant for state-wide network operators to smaller, discrete, or targeted non-incumbent assets creates disproportionate compliance costs. Importantly for non-incumbents, there is a question about the extent of analytical capability required for activities such as contingency analysis, outage studies and EMS/offline power-system analysis, versus capability provided by AEMO or the adjoining TNSP.

We believe that AEMO should implement a tiered capability matrix based on asset scale, network criticality, and systemic risk impact while keeping baseline technical safety standards mandatory.

Allow third-party or outsourced operational control room models where safety and security criteria are met, rather than mandating full-scale bespoke 24/7 control centres for smaller non-incumbent footprints.

Co-ordination of Remedial Action Schemes (RAS) and System Strength

Non-incumbent assets (such as BESS, grid-forming inverters, or contestable lines) are increasingly used to deliver Remedial Action Schemes and system strength services.

Multi-entity protection schemes carry complex liability and operational execution handoffs across different TNSP boundaries during contingency event

The TSO CF should include mandatory, template operational agreements for multi-TNSP design, testing, and real-time execution.

Clearly delineate liability and control authority during restorative states or automatic trip events triggered by cross-boundary control schemes.

Next Steps

Iberdrola Australia Networks welcomes further direct engagement with AEMO's System Operations team to ensure the final TSO CF establishes a binding, competitive, and multi-provider transmission ecosystem in the NEM.

We look forward to continuing our close and collaborative relationship with AEMO.

Should you wish to discuss our supply chain readiness or project capabilities further, please do not hesitate to contact me at louis.tirpcou@iberdrola.com.au or on 04 22 209 667.

Yours sincerely

A handwritten signature in black ink, appearing to read "R Da Silva", written over a horizontal line.

Ricardo Da Silva Alvarez
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