Government of South Australia
Department for Energy and Mining

Our Ref: 2022D020245

Mr Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator

By email: ISP@aemo.com.au

Dear Daniel

DRAFT 2022 INTEGRATED SYSTEM PLAN

The Energy and Technical Regulation (ETR) Division of the South Australian Department for Energy and Mining (DEM) welcomes the opportunity to provide this input to the Australian Energy Market Operator (AEMO) in order to advance the 2022 Integrated System Plan (ISP).

ETR supports AEMO's process in consulting extensively with energy market stakeholders in developing the draft 2022 ISP and broadly supports the directions and the scenarios outlined in the work undertaken to date.

The draft optimal development path (ODP) proposes significant network investment that is expected to deliver over $29b in net market benefits. This investment is key to enabling variable renewable energy (VRE) development, storage and gas-fired generation while fulfilling public policy, security, reliability and sustainability objectives through what is a complex transition.

AEMO has sought to provide an appropriate balance of utility-scale VRE with transmission and small-scale distributed energy resources (DER). Transmission and distribution connected generation both have a significant role to play in the ISP scenarios.

ETR notes the Step Change scenario sees a rapid consumer-led transformation of the energy sector and co-ordinated economy-wide action and is a strong consensus of stakeholder representatives. It provides a consistently fast-paced transition from fossil fuel to renewable energy in the National Electricity Market (NEM) with some domestic hydrogen production supporting the transport sector and as a blended pipeline gas, with some industrial applications.

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ETR agrees that the step change scenario is the most likely scenario. In addition to significant government policy, global financial trends that are incentivising a rapid consumer-led transition contribute to this likelihood. We are already seeing some of Australia's largest electricity consumers introducing their own targets and ambitious pathways and plans for decarbonisation.

We also note the recent announcements by AGL and Origin to bring forward the expected closure dates of their coal generation, with Eraring coming forward to mid 2025. These announcements provide significant support for the likelihood of the step change scenario and the need to adopt the "least regrets" approach towards system planning in the ISP, as further early closure of coal generation is the key risk that must be considered and managed.

This scenario, however, does not include an increase in demand for hydrogen export. It is extremely likely that, with the significant government support and investor interest, an increase in consumption from a hydrogen export industry will eventuate in the period.

South Australia's Hydrogen Action Plan in September 2019 and the Hydrogen Export Modelling Tool and Prospectus in October 2020 continues our leadership in the hydrogen sector and positions the State to seize the significant export opportunities created by the emerging global market for hydrogen and its many applications. In March 2021, South Australia signed a memorandum of understanding to investigate clean hydrogen exports to the Port of Rotterdam in the Netherlands.

Further, two potential green hydrogen development opportunities at Port Bonython and Cape Hardy/ Port Spencer have been identified as potential production and processing facilities at these ports.

In the Step Change scenario, ETR notes development of 15 gigawatt's (GW) of new VRE by 2050 for South Australia, above what is already existing, committed or anticipated over the next 10 to 20 years, taking advantage of the Project EnergyConnect interconnector.

ETR notes that, as an update to the draft 2022 ISP, Project EnergyConnect is a committed project, and its ISP's regulatory status (page 56) is no longer 'anticipated' with commissioning likely between 2023 and 2024 and energisation of the first phase of the interconnector from Robertstown to Buronga (in NSW) being prioritised.

I can advise that DEM has proactively engaged with ElectraNet to undertake a planning study over the next twelve months on REZ developments in South Australia and the export capacity of electricity transmission interconnectors. This work will complement potential REZ Design Report requirements under

the National Electricity Rules. The planning study terms of reference seek an assessment of optimal prioritisation of the REZs in South Australia, based on a range of factors including:

- their generation potential
- scale efficient network extensions necessary to unlock the potential
- network augmentation or other works necessary for the generation to reach demand
- potential barriers or challenges to REZ development (such as land access, heritage).

The assessment also seeks the potential and impact of renewable (green) hydrogen developments on REZ prioritisation with the green hydrogen proposals (Port Bonython and Cape Hardy/ Port Spencer) identified.

This work is an acknowledgement of the likelihood of the step change scenario, with additional demand from the hydrogen export industry emerging before 2050 and the need for efficient network and REZ development to support this outcome.

A key component of the planning study is also investigating whether there are non-network technological options which can efficiently contribute to the sharing of resources across jurisdictions and optimising the capacity of our current network infrastructure.

ETR is also collaborating with AEMO and the South Australian network business on technologies and services which are needed to provide secure electricity supply in an energy system with significant VRE capacity, including distribution energy resources.

We encourage AEMO to provide further guidance to stakeholders in the ISP on the technologies that may be needed to contribute to network optimisation and a secure decarbonised energy system. This aspect is crucial for providing stakeholder confidence that the optimate development path is in the best interests of consumers.

ETR is supportive of the further work that AEMO intends to complete prior to the final 2022 ISP that includes:

- distributional effects of the Draft ODP
- impacts of the marginal loss factors on REZs
- climate scenarios and extreme weather events.

The analysis on network resilience and vulnerabilities to extreme events will be invaluable, noting that extreme heatwaves across South Australia and adjoining Victorian jurisdiction have often impacted on consumer demand and power system capability.

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Should you have any queries regarding this submission please contact Marino Bolzon, Principal Policy Officer of the Department for Energy and Mining on 08 8429 3183.

Yours sincerely

Vince Duffy
Executive Director

18 / 2 / 2022

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