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Grid supports new approaches to power system security

Australian energy networks have supported an overhaul of rules for power system security to reflect the changing generation mix and new technology opportunities.

The Energy Networks Association (ENA) supported new rules to clarify parties' responsibilities for maintaining system stability and security in a submission to the Australian Energy Market Commission (AEMC) *System Security Market Frameworks Review.*

ENA Chief Executive Officer John Bradley said new market rules were required to ensure power system security is maintained as 'synchronous' large generators close and wind generation and distributed technologies like solar panels and storage increase.

"Today's electricity rules are from another time, when the system could rely on the built-in benefits of big heavy generator turbines with 'spinning mass'," Mr Bradley said.

"As the generation mix changes, we need to set standards for the minimum levels of inertia and system strength which must be maintained on the power system to protect customers and ensure system stability."

Mr Bradley said power system stability relied on managing voltage, frequency and the ability of the system to withstand changes.

"The first step is to define what services are needed for system stability and security, and then to ensure the role of the market operator, transmission networks and generators are crystal clear.

"The rules need to clarify responsibilities for securing fast frequency responses which stabilise the system during times of system disturbance, such as faults, and avoid unnecessary impacts on customers."

Mr Bradley said electricity transmission networks already work closely with the Australian Energy Market Operator in planning and managing the networks for stable operation and would welcome explicit responsibility for support services to efficiently maintain power system stability.

"Transmission networks are ready to play their role ensuring system security in a much more dynamic market but the rules will require clarification.

"Transmission grids already manage system stability and are well placed to evaluate optimal solutions, using transmission infrastructure, services from grid-scale battery storage or load management.

"Our grid providers have the technical capability, information and engineering systems to evaluate innovative solutions in a technology-neutral way to keep the lights on, at a minimum cost to customers," Mr Bradley said.

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ENA's submission to the AEMC's System Security Market Frameworks Review can be accessed here.

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The Energy Networks Association is the peak national body representing Australia's electricity transmission and distribution networks and gas distribution networks on economic, technical, environmental and safety regulation, and national energy policy issues. ENA members provide energy to virtually every household and business in Australia.