Government of South Australia
Department for Energy and Mining

Regulatory Changes for Smarter Homes
New requirements for smaller electricity generators

South Australia's electricity grid is part of the National Electricity Market managed by the independent Australian Energy Market Operator. The market operator plays a critical role balancing supply and demand across the network and has various tools to manage the volume of energy generation from gas turbines, wind farms and large-scale solar. However, it has no ability to control generation from smaller generators such as rooftop solar systems.

There are now more than 278,000 homes with rooftop solar in South Australia, plus some small business systems, and this number is growing rapidly. Now, when there is a coincidence of mild temperatures, clear skies, and low commercial energy demand, it is forecast that these will soon output more energy into the grid than is being consumed. This presents considerable challenges in keeping the electricity distribution network stable and the market operator's advice is that it needs the tools to manage this generation output in extreme circumstances as it can for all other generators.

The changes outlined below have been designed to both increase the amount of generation connected to the distribution network in the future and to assist the market operator to maintain the required balance between our electricity supply and demand. Better balancing of supply and demand will help avoid potential energy outages.

What are the new standards and requirements?

From 28 September 2020 several new technical standards and requirements apply:

1. All new solar systems being installed require the technical capability to be remotely disconnected and reconnected to help manage risks to the electricity system during times of emergency. The new standards will only apply to existing solar systems if any declared part of the existing system (for example the inverter) is being replaced (excluding warranty repairs).
2. The systems above require an authorised agent to be nominated who can act on instructions to manage rooftop solar output in a power system emergency.
3. All new smaller energy generators being installed via an inverter, such as solar systems and energy storage systems, must be capable of remote communications. The new standards will only apply to existing generators if any declared part of the existing system is being replaced (excluding warranty repairs).
4. All inverters being installed must comply with new undervoltage ride-through performance standards designed to minimise the risk that they disconnect immediately following a technical fault on the system causing grid voltage to reduce below normal operating standards.
5. All new smart meters are required to be able to separately measure and control generation and any controlled load (for instance, hot water systems), from the general electricity supply.
6. Electricity retailers operating in South Australia will be required to offer retail plans which, through lower prices, encourage shifting electricity demand to periods of low demand and/or high rooftop solar generation (for example during the middle of the day).

Additional changes are also being proposed for the future. These include:

7. All new smaller energy generators being installed via an inverter, such as solar systems and energy storage systems, connecting to the distribution network must be capable of export limitation to provide for fair sharing of network capacity. The new standards will only apply to existing generators if any declared part of the existing system is being replaced (excluding warranty repairs).

Will the new standards impact my feed-in tariff or return on investment?

These new standards do not mean eligible households will lose their feed-in tariff(s) and, since export reduction or disconnection will only occur during extreme circumstances to avoid the risk of blackouts, the new standards should have a negligible impact on power bills or return on investment.

This measure will only be used in an emergency when there's a risk of a blackout and may never be used should those circumstances not arise. In extreme circumstances, some people's solar may need to be interrupted for only a few hours on a few days a year.

What broader actions are being undertaken?

New rooftop solar standards are being supported by an additional $10 million investment in improved voltage management within SA Power Networks' distribution network. This investment will improve the quality of electricity supply to consumers, will help make existing solar systems work better, and increase the capacity of the distribution network to host rooftop solar PV.

The $100 million Home Battery Scheme and $50 million Grid Scale Storage Fund are accelerating the roll-out of energy storage technologies to help store excess energy and improve grid stability.

The South Australian government is also investing in Project EnergyConnect, a second transmission connection to the rest of the National Electricity Market. The transmission line to New South Wales will better secure South Australia's connection to the National Electricity Market and also allow us to export more renewable energy to the eastern states.

By implementing the above changes, South Australians will be able to continue to realise the benefits of rooftop solar, whilst maintaining the security of our electricity network.