Power System Update

Presented to WA Electricity Consultative Forum

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Overview of interesting Autumn phenomena

1. Power Swing on 26 March 2022
2. April holiday minimum demand levels

Moving from a duck to a dinosaur…

26 March 2022 – Cloud Movement

Between 10:30 and 13:30 there was a swift cloud formation over the Greater Perth Metro area resulting in a significant power swing in the output of distributed photovoltaic (DPV) across the SWIS.

This resulted in a quick reduction in PV output (increase in load) followed by an increase in PV (and decrease in load) with resultant change in frequency.

26 March 2022 – System Impact

1. Power Increase - DPV Reduction
   - 600 MW power increase with a ramp rate of 15 MW/min between 10:38 to 11:18 (40 min),
2. Power Increase - Load Increase
   - 200 MW power increase with a ramp rate of 3.5 MW/min between 11:18 to 12:16 (58 min), and
3. Power Reduction - DPV Increase
   - 720 MW power reduction with a ramp rate of 13 MW/min between 12:30 to 13:26 (56 min).

April minimum demand levels

- New Q2 minimum record on Sunday 24th April 2022
  - 978 MW Operational Demand
- Previous Q2 minimum record
  - 1105 MW on 18th April 2021
- Previous Autumn record
  - 952 MW on 14th March 2021
- All time minimum Operational Demand
  - 761 MW on 14th November 2021

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