

# Sub-synchronous oscillations in the West Murray Area

Update – March 2023



# Background

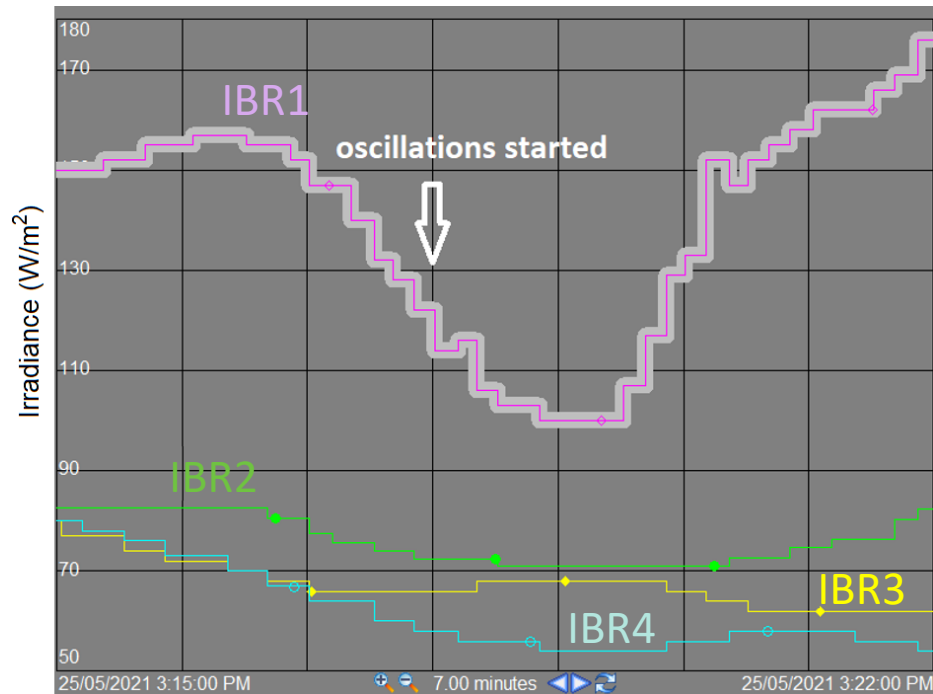
- AEMO has been closely monitoring sub-synchronous oscillations of 16-19 Hz in the West Murray area
- Relevant network service providers (NSPs) have started to install additional monitoring equipment across the West Murray
- AEMO has published a reviewable operating incident report and detailed observations report on the oscillations<sup>1,2</sup>
- Since the publication of these reports, AEMO has identified new information that shows some correlation between onset of oscillations and irradiance change
- AEMO analysed an additional four events to gain better understanding of this correlation

1. Reviewable operating incident report: <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-events-and-reports/power-system-operating-incident-reports>

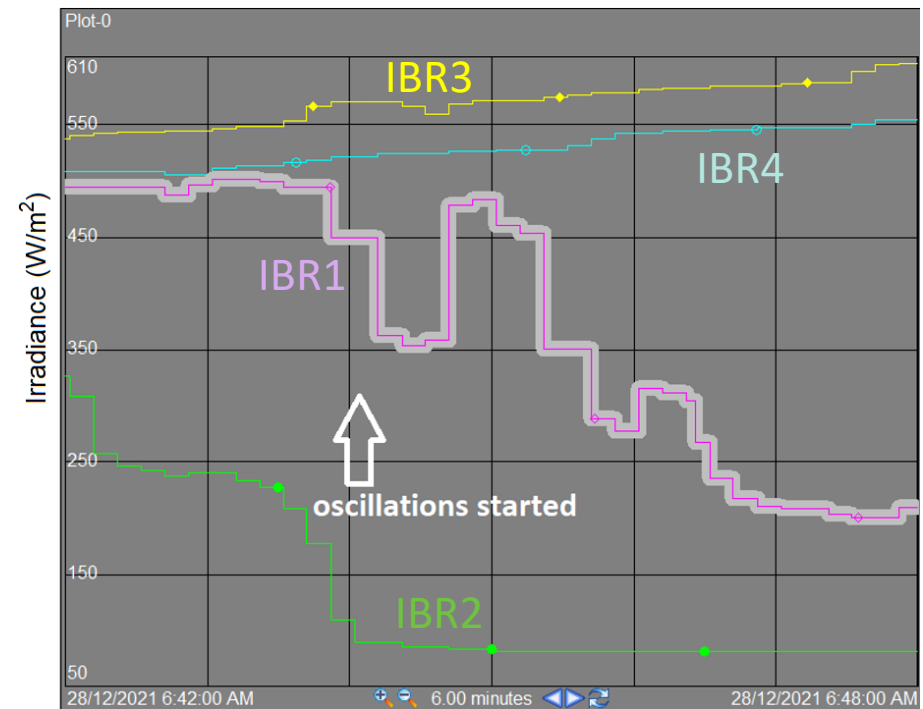
2. Detailed observations report: [https://aemo.com.au/-/media/files/electricity/nem/network\\_connections/west-murray/west-murray-zone-power-system-oscillations-2020--2021.pdf](https://aemo.com.au/-/media/files/electricity/nem/network_connections/west-murray/west-murray-zone-power-system-oscillations-2020--2021.pdf)

# Power system oscillations and irradiance change

- 25 May 2021
  - No clear network disturbance.
  - 16.5 Hz, 12 minutes, 2.2% peak-to-peak at Red Cliffs

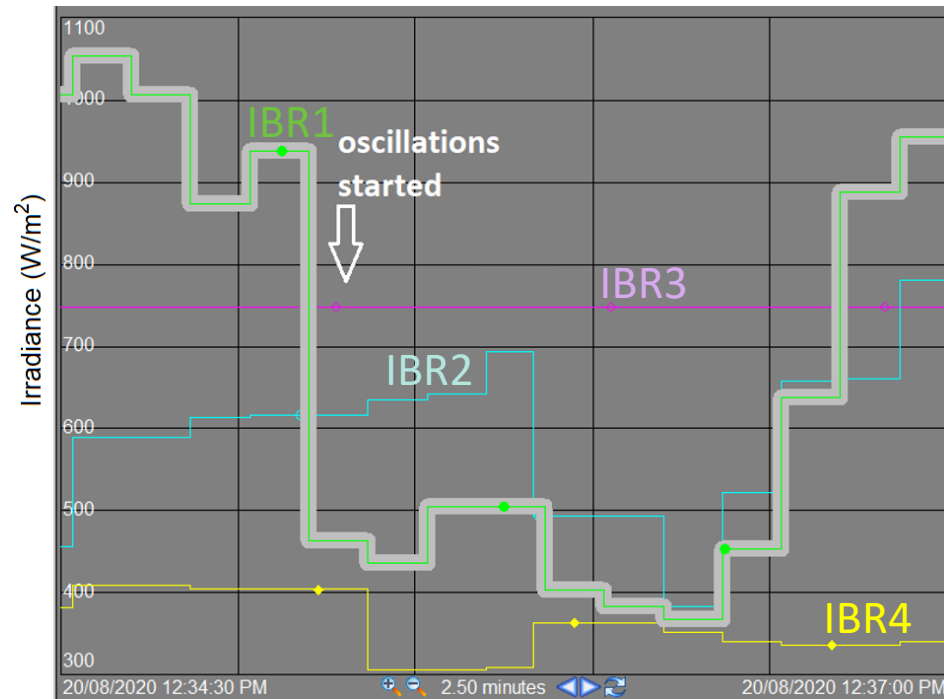


- 28 December 2021
  - No clear network disturbance.
  - 19 Hz, 2.5 minutes, 2% peak to peak at Red Cliffs

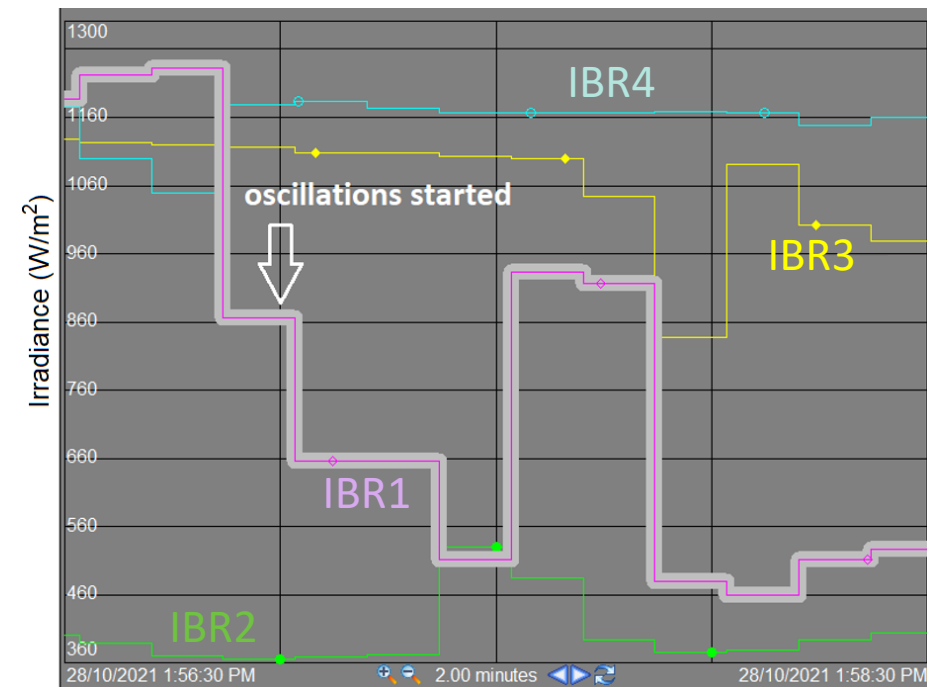


# Power system oscillations and irradiance change

- 20 August 2020
  - No clear network disturbance before the oscillations
  - 19 Hz, 40 sec, 0.65% peak-to-peak at Red Cliffs



- 28 October 2021
  - No clear network disturbance.
  - 19 Hz, 6 minutes, 0.62% peak to peak at Red Cliffs



# Next steps

- AEMO modelling successfully replicated the observed oscillations, and AEMO is working with relevant NSPs, generators and original equipment manufacturers (OEMs) to further confirm the positive correlation between change in irradiance and onset of oscillations
- A potential solution has been developed by an OEM and the relevant NSP is working with AEMO on rolling out the solution to the affected plant



For more information visit

[aemo.com.au](http://aemo.com.au)