# April 2013 MAC
# LFAS Initiatives Update

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# December 2013 Presentation

**Summary**

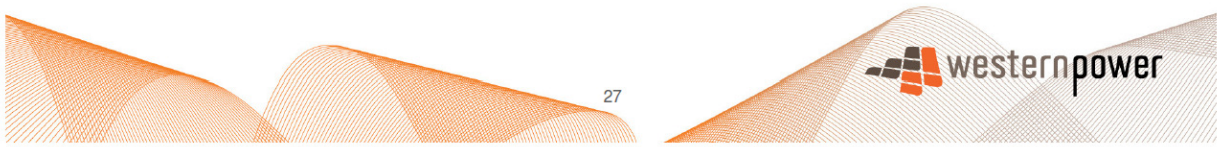
► Frequency Control has been traditionally kept very close to 50.0Hz in WA and Power Systems within the region.

► If the cost of LFAS is considered high relative to the benefits, there are a range of options to reduce the quantity of the LFAS needed

► One untried option is to allow larger and more frequent variations in System Frequency compared to those previously experienced

► Industry feedback is sought with a view to relaxing the Frequency Control

► Positive feedback can initiate a test whose result will feed into the 2013 Ancillary Service Report Recommendation/Approval in June 2013.



# Frequency Control Relaxation

- Survey has been performed and distributed to MAC members
- SM Conclusions
  - There is no unified outcome
  - There is a perceived value transfer between LFAS payers and customers whom have safety, environmental and commercial impacts
- Recommendation of **WP System Management**
  - No change should be made without a more complete evaluation and consultation with industry

# LFAS Market Entry

SM has worked with one participant to enable technical and commercial co-ordination of LFAS entry.

Working correctly over past 5 weeks

Work in progress to add another 4 facilities

# IMO/ SM LFAS Working Group 1

IMO and SM are working together to determine:

- How much LFAS is being used; and
- What is causing the requirement for LFAS.

and to investigate commercial & technical changes that may be implemented.

About the analysis:

- Using 1 minute SCADA data, DIs and EOI demand/NSG forecasts used to create DIs
- Involves constructing theoretical “VEBP Dispatch Instructions”
- Preliminary analysis for one month period but to be extended
- Data will be provided to IMO for independent review

# IMO/ SM LFAS Working Group 2

LFAS usage

- Measured as the difference each minute between:
- The expected output of the LFAS Facilities based on DIs; and
- The actual output of the LFAS Facilities.

Determining measures for the potential causes of LFAS:

- Variations between forecast and actual SWIS demand
- Variations between forecast and actual intermittent generation
- Variations between Dispatch Instructions (including VEBP) and forecast Load for Scheduled Generators (LSG)
- Variations between Dispatch Instructions and actual output for IPP Scheduled Generators

Preliminary measures will be used to determine priorities for next stage of analysis.

Timing – WG plans to share findings with MAC members by the next MAC meeting

# Possible Technical Initiatives

From December MAC - “Investigating opportunities to minimise load following requirements, such as through

1. Effective wind forecasting
2. Allowing expanded frequency limits √
3. Limiting aggregate maximum ramp-up rates for wind farms
4. Varying the load following requirement by time of day, or depending upon the current output level of intermittent generation – Underway, statistical analysis by SM
5. More nuanced management of aggregate intermittent generation – geographical diversity encouragement
6. Reduce the dispatch interval from its current 30 minutes to shorter time to reduce variability and uncertainty e.g. in the NEM it is 5 minutes
7. Reduce the variability of Balancing Generators from the linear change in output in response to dispatch instructions.”