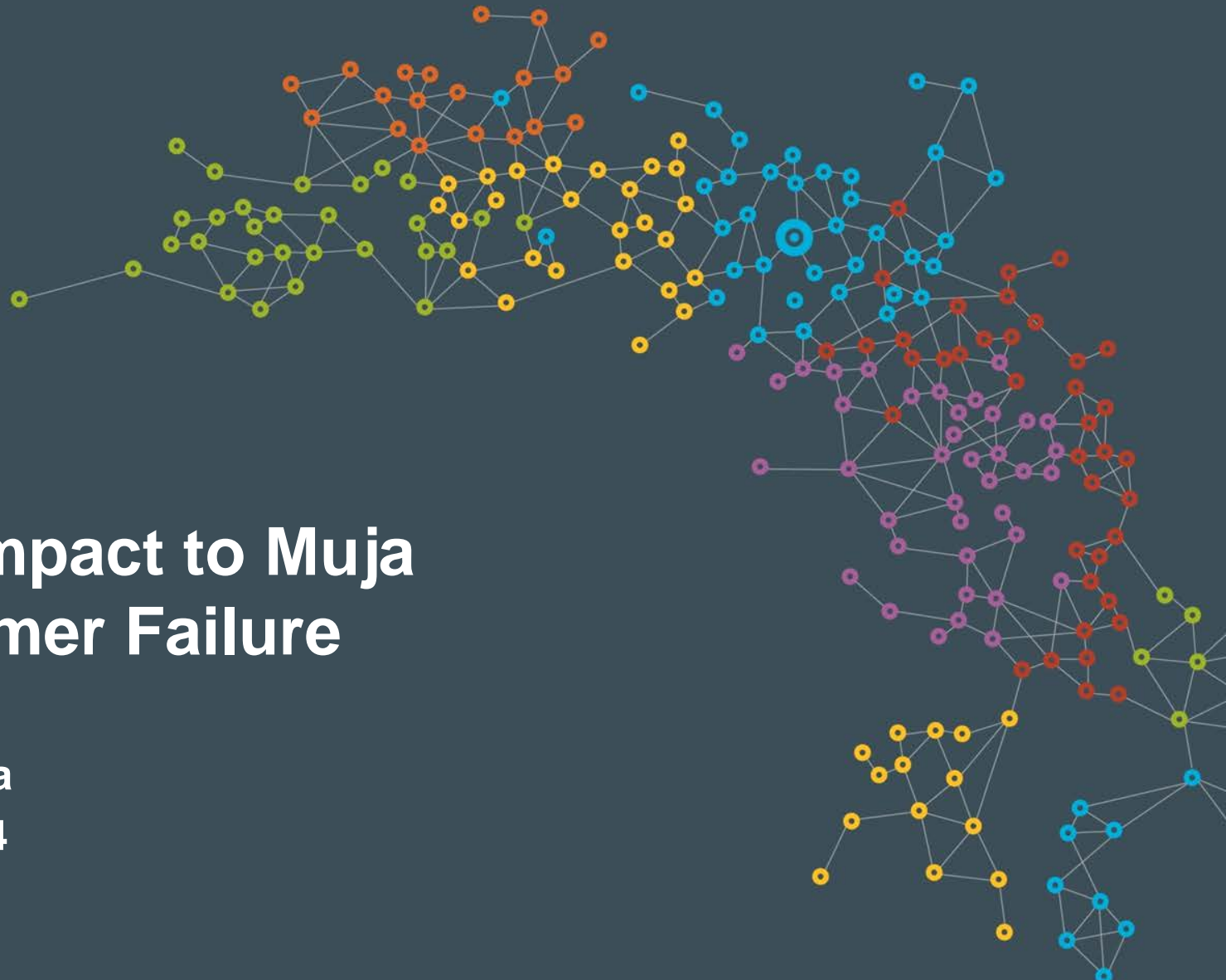




INDEPENDENT  
MARKET  
OPERATOR



# Market Impact to Muja Transformer Failure

Martin Maticka

19 March 2014

# Overview

System Management has indicated that the Vinalco facilities are the only option to provide required generation for reactive power in the Great Southern Region.

Dispatch Advisories have been issued indicating required generation.

## 23/2/2014:

“Bus tie transformer 2 has tripped and System Management has lost voltage control in the Great Southern region. Out of Merit Dispatch **WILL** be required immediately to enable Power System Security and Reliability to continue.

This issue is likely to be ongoing, Market Participants will be advised when no further Out of Merit Dispatch is required and there is no longer a High Risk State.”

## 28/2/2014:

“Bus Tie Transformer 1 (BTT1) and Bus Tie Transformer 2 (BTT2) remain out of service and the potential issues with Voltage control in the Great Southern region and the **possibility of overloads** of the 132 kV network remain current. Western Power Networks continue to assess the circumstances of BTT2. We remain in High Risk and System Management will continue to assess all options.”

# System Management Dispatch Criteria

System Management can do this under the market rules to maintain network security or address a potential network security issue.

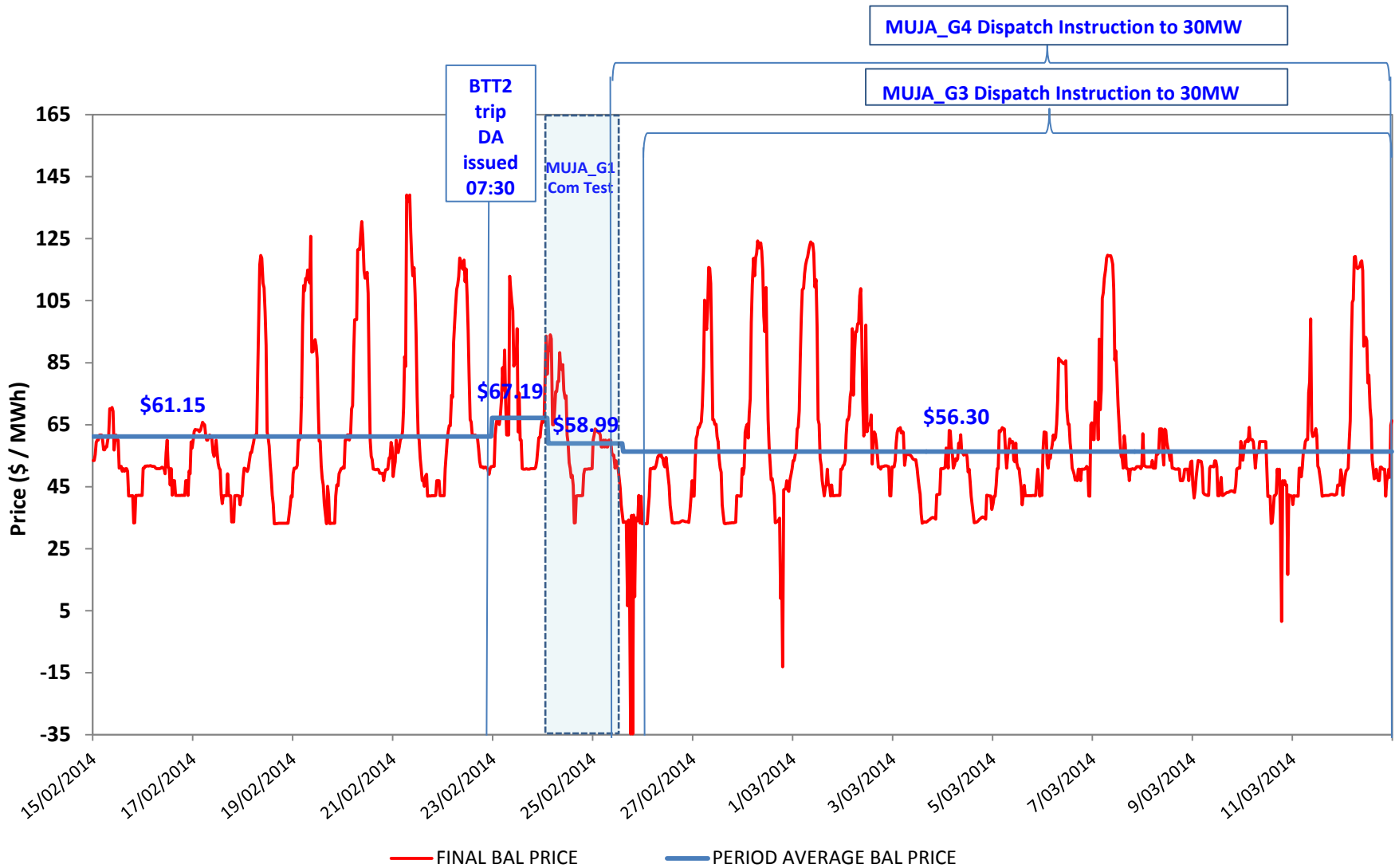
- 7.6.1 (a) to enable operation within the Technical Envelope parameters appropriate for the applicable SWIS Operating State;
  - (b) to minimise involuntary load shedding; and
  - (c) to maintain Ancillary Services to meet the Ancillary Service standards appropriate for the applicable SWIS Operating State.
- 7.6.1D (d) Where System Management considers, on reasonable grounds, that it needs to do so in order to avoid a High Risk Operating State or an Emergency Operating State.
- 7.6.12 Give direction for reactive power output for a Facility to the relevant Network.

# Vinalco Units

All Vinalco units have completed Commissioning and are Balancing Active.

Unit	Fuel	Min Generation (MW)	Max Generation (MW)	Commissioning Completed
Muja_G1	Coal	27.5	55	Feb 2014
Muja_G2	Coal	27.5	55	Jan 2014
Muja_G3	Coal	27.5	55	Mar 2013
Muja_G4	Coal	27.5	55	Feb 2013

# Balancing Market 15 February - 12 March 2014

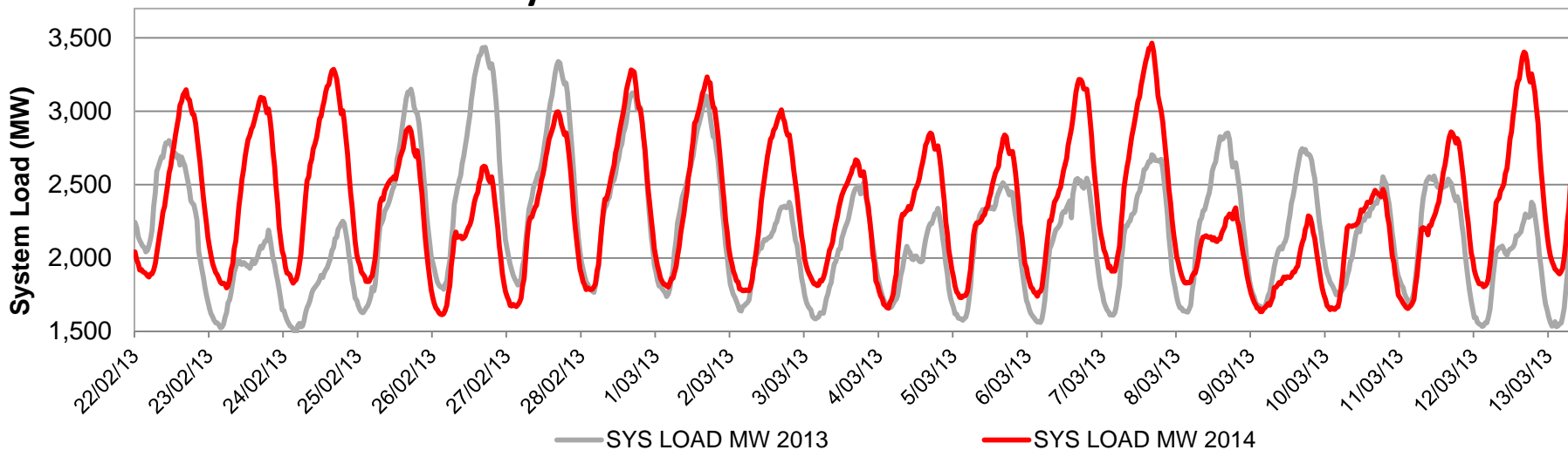


# 22 Feb -13 Mar Period Comparison 2013 & 2014

## System Load 2013 vs 2014

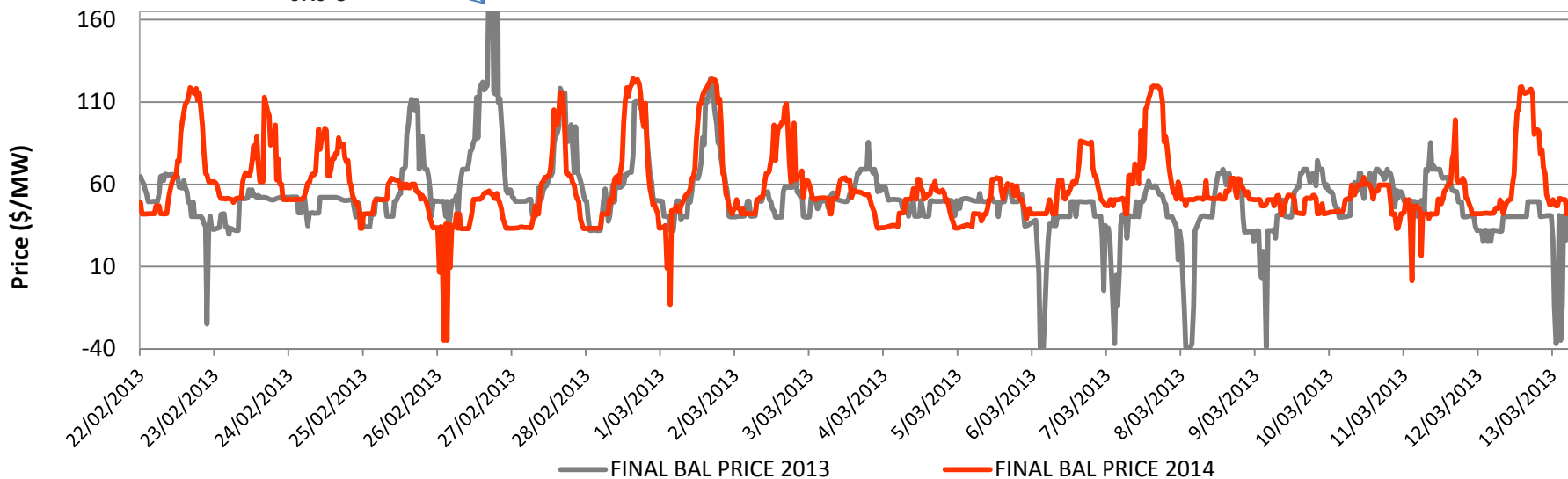
35.5 °C 37.7 °C

37.5 °C

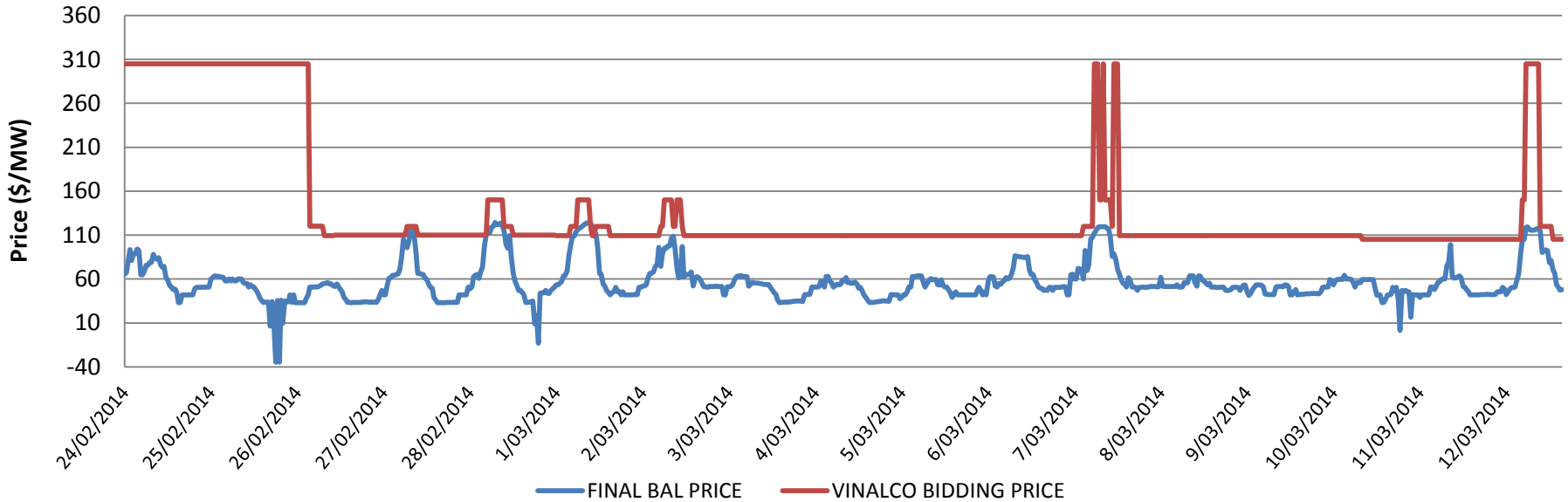


## Balancing Price 2013 vs 2014

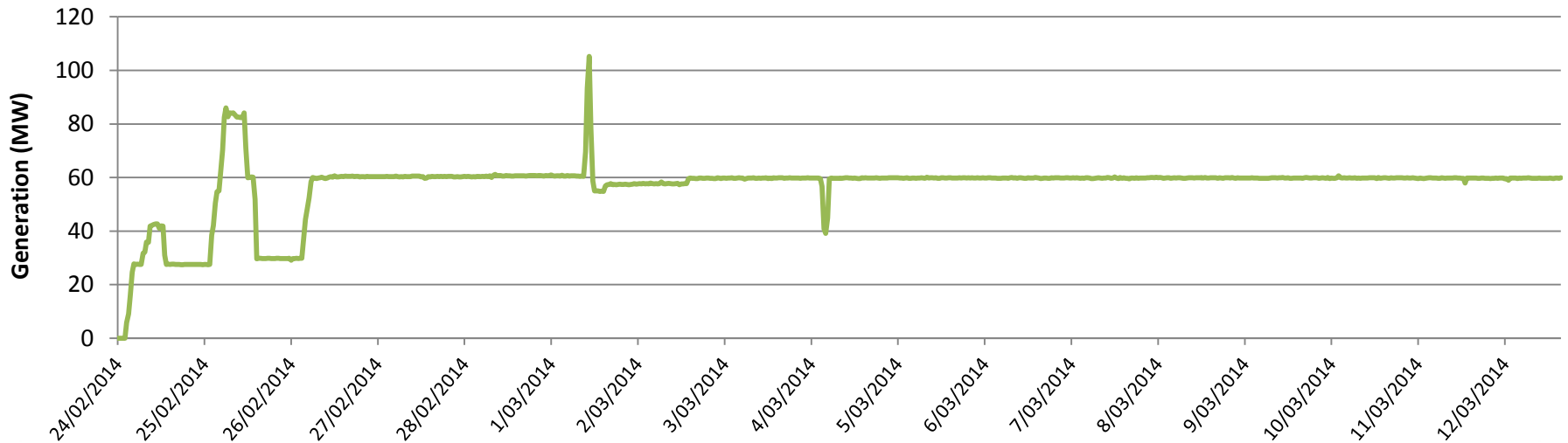
Sys Load 3,400 @  
37.5 °C



# Vinalco Bidding Behaviour & Generation 24 Feb to 12 Mar MUJA\_G3 and G4



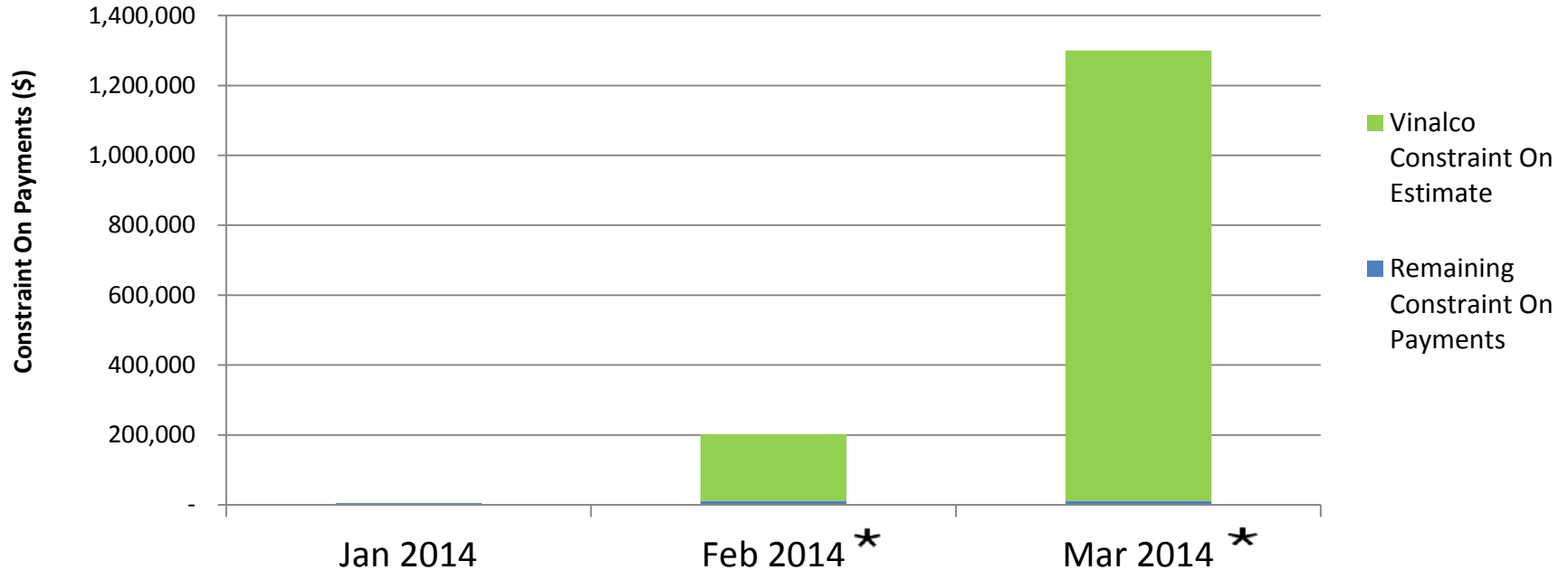
## VINALCO GENERATION (MW) – MUJA\_G3 & G4



# Estimate of Impact of Vinalco Constraint On Payments

Vinalco	Constraint On Compensation to date	Constraint On Compensation forecasted	Total Estimate for Month
Feb 2014	\$190,324	-	\$190,324
Mar 2014	\$502,969	\$785,461	\$1,288,430

## Constraint On Payments Feb 2013 - March 2014

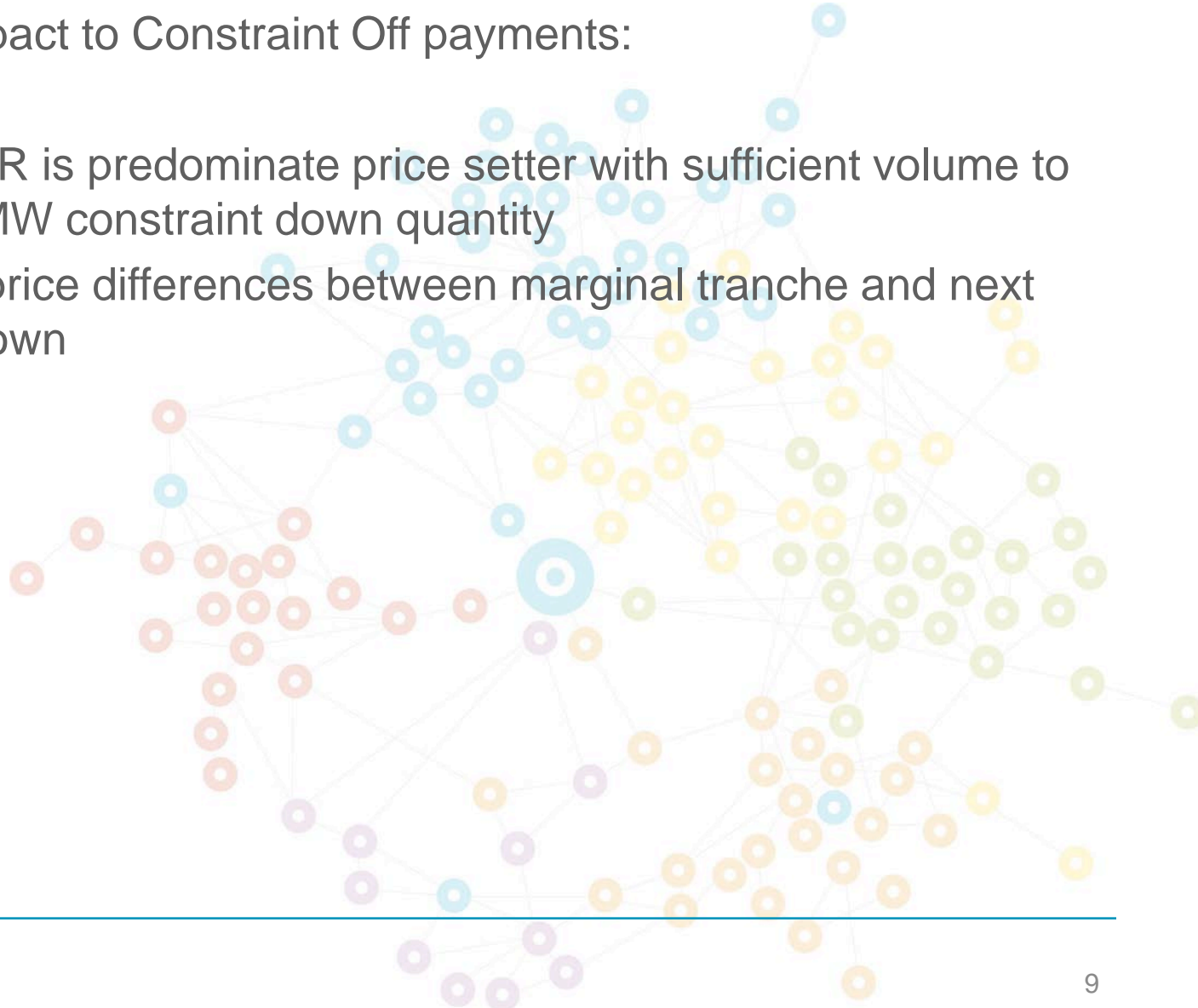


\* Estimates for Vinalco Constraint On Payments are taken from publically available Facility SCADA and Balancing Price Quantity Pairs. Clauses 10.5.2.(a) and 10.5.1(i)(iA)1.



# Estimate of Impact to Constrained Off Payments

- Negligible impact to Constraint Off payments:
  - WPGENER is predominate price setter with sufficient volume to buffer 60MW constraint down quantity
  - Marginal price differences between marginal tranche and next tranche down





INDEPENDENT  
MARKET  
OPERATOR



Questions?