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# Discussion with the AEMC on the Southern Generator Rule Proposal Modelling

21/06/06

# Overview

- Introduction
- Modeling Results
- Comparison with Snowy Hydro Modeling
- Discussion of assumptions
- Modeling Questions

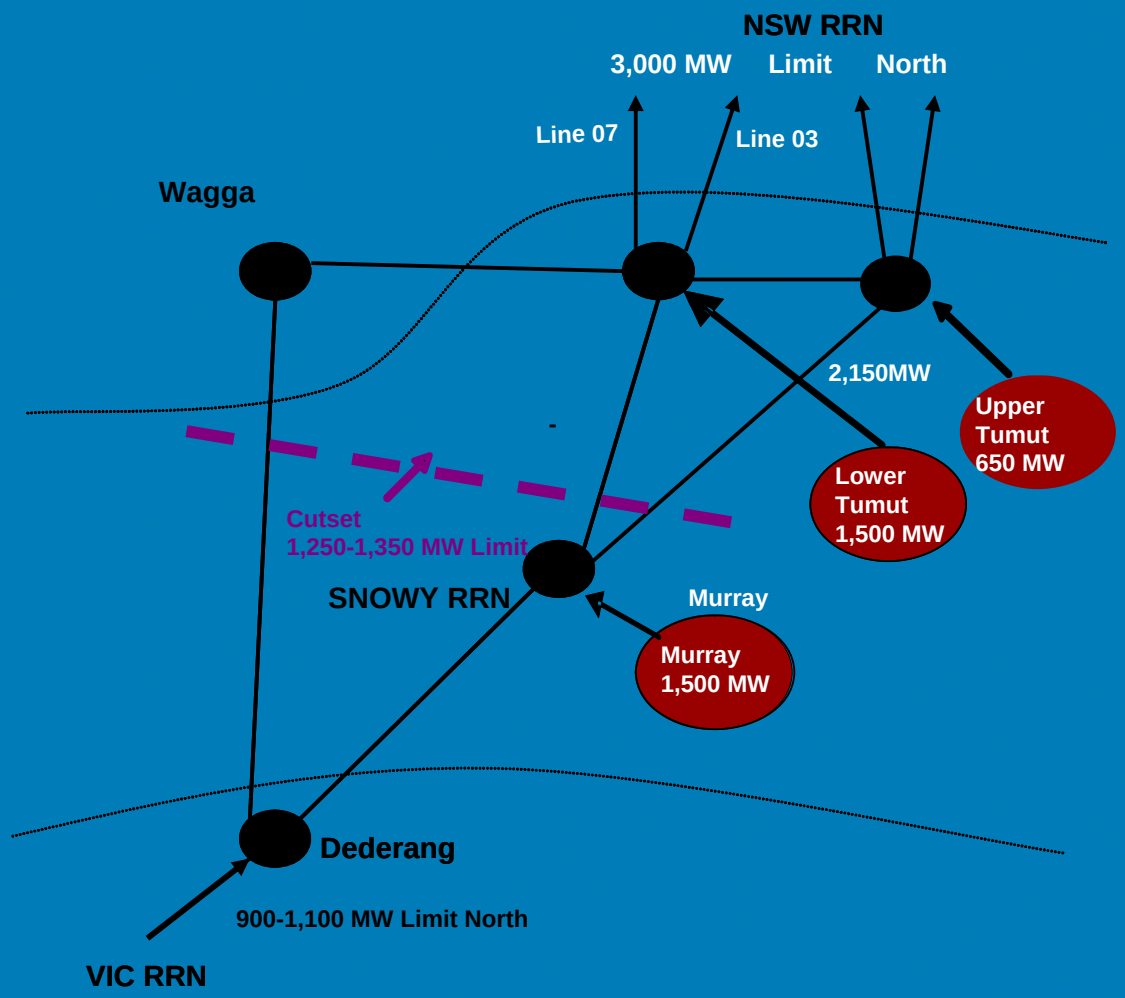
# Introduction

- Snowy Hydro welcomes and supports AEMC approach to model economic effects of rule change proposals
- Intend to keep discussion to modeling of SG proposal
  - Have provided a letter on high level approach – happy to engage separately if the AEMC wishes
- Such modeling is inherently complex and very challenging
  - feedback is essential ( and by definition Snowy Hydro is better informed with respect to itself)
- Snowy Hydro considers that such modeling should inform the decision making process, not be the decision process
- Our intention is not to engage in ‘battle of modelers’ – non productive
- We seek to help inform the AEMC modeling process

# We generally agree with draft SG det' approach

- Why then are we here?
- Southern Generators draft determination – Choice is SG vs Status Quo (Base Case scenario)
  - Snowy Hydro recognizes that status quo is unsustainable
  - For SH, very large uncertainty over NEMMCO intervention
- Real issue is the choice between Southern Generators and Re-orientation
  - Our concern is the apparent (unrealistic) modeling outcomes and therefore the potential validity of comparison between SG and Re-orientation
  - Outcomes don't appear reasonable or make intuitive sense
  - Outcomes don't align with historical or actual data
  - Outcomes don't align with Snowy Hydro modeling

# Recap of the Snowy region constraint



# AMEC Modelling Results

- Modeling is showing incentives for Snowy Hydro to allow/send more flow into NSW
  - This is the only way for NSW price to decrease
  - Is modeling showing ~50 MWs Tumut to NSW constraint margin (headroom) being utilized ? – Unreasonable!!
  - Is modeling assuming withholding for Tumut? – not correct based on historical data for any reasonable NSW price!!
- NSW Price cannot be reduced without additional generation into NSW – SH cannot see how this can materially happen??
- Vic price will tend to align with NSW as suggested to AEMC by Southern Generators!!
- Modeling is showing substitution of brown coal for black coal
  - Simply not credible – How can the brown be displaced in any feasible scenario? (SH believes southern gas/hydro substitutes SH Hydro)

# AMEC Modelling Results

- Unclear what the AEMC modeling is showing for southerly flows?
- Status quo is re-orientation!
- Snowy Hydro $1 bidding assumption is not appropriate?
- Once Vic price is above SH SRMC, the real incentive for Murray generation relates to the level contracts held against Victoria.
- Ability to use Murray to hedge Victorian exposures doesn't materially alter under either re-orientation or SG proposal for southerly flows but:
- Ability of Murray generation to hedge Victorian (and NSW) exposures dramatically reduced under northerly flow scenarios when it really matters.

# Comparison of Key Modelling Outcomes

- Dispatch Efficiency
  - AEMC:  SG Benefit ~$1M pa
  - SH:  SG Benefit/Dis-benefit <$.3M
- Price Impacts
  - AEMC: $2 to $4/MWh Decrease in NSW/ $0.30 Increase in Vic
  - SH: ~$0 Impact in NSW / $6/MWh increase in Vic
- Inter-regional Trade (Risk)
  - AEMC: SG Increased inter-regional access/SH decreased inter-regional access to NSW/slightly increased to Victoria
  - SH:  SG Increased inter-regional access (but can't reasonably use)/SH dramatically decreased inter-regional access to both NSW and Victoria (& all output subject to I/R Risk)

# AMEC Modelling – Average Prices (p80)

- All (except scenario 14) shows Snowy price > NSW and Vic!
  - This is very suspect
  - It has never happened in history!
  - Suggest very low level of Snowy Contracts < 2000 MWs used?
- AEMC should review differences between case pairs 7/9 and 14/15
  - A 10% reduction in SH contracts in NSW results in a 10% NSW price increase
  - If SG goes ahead, SH will be forced to reduce contracts levels
  - Southern Generators cannot substitute these contracts (because they cant satisfy Vic contract demand if they only want to contract 70 to 80%).
- All cases (except 14/15) show Vic prices aligning with NSW. (Aligned price reduces inter-regional trade & and increased/non competitive Vic prices) – unclear how this relates to only $0.30 price increase in Vic
- NSW price outcomes (for all cases except 14/15) are between $25 to $36 – market expectations are much greater (>$40)

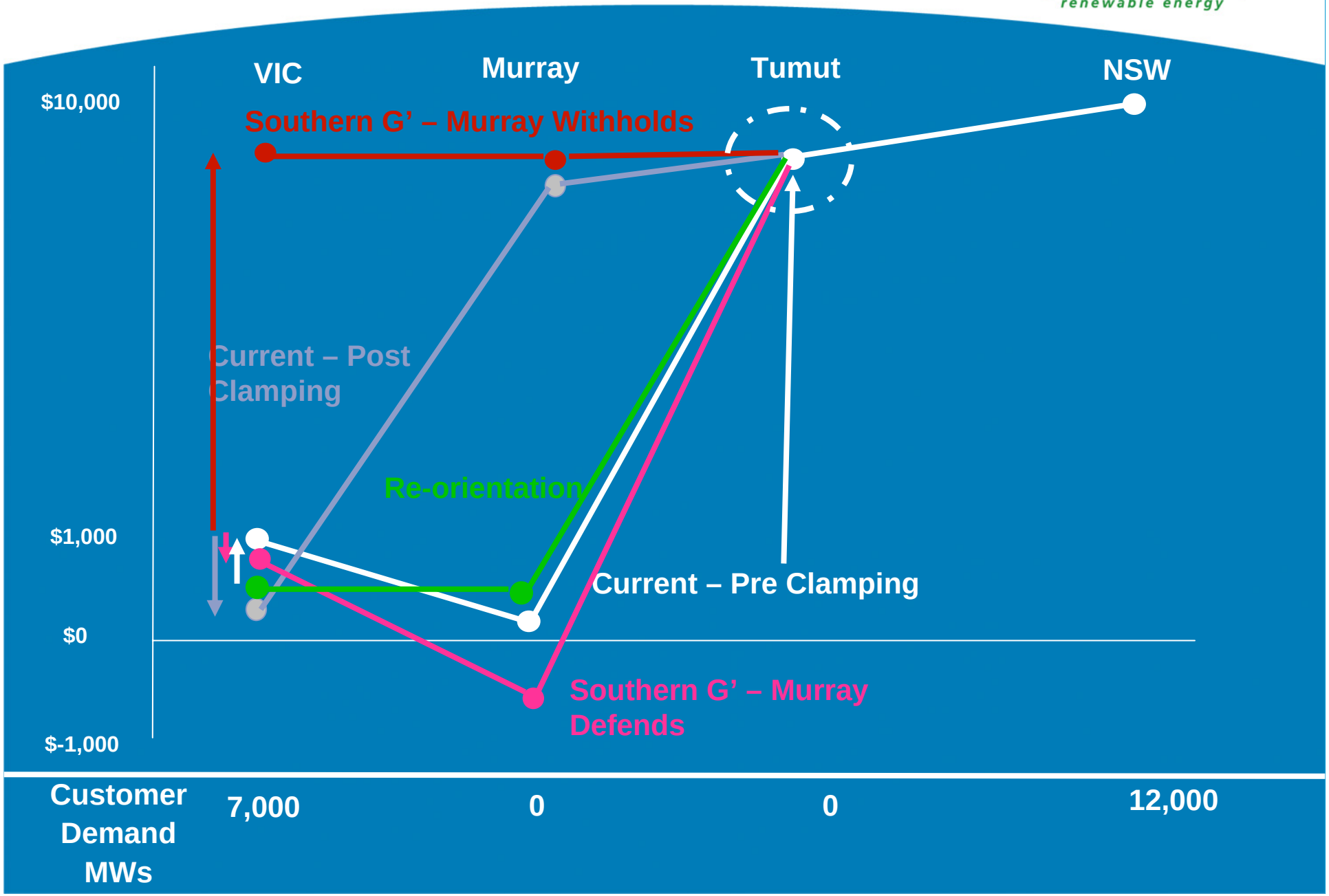
# Critical Assumptions

- Potentially the most critical assumption is the level of contracts held by Snowy Hydro
  - Unreasonable for this to be materially different to any other major (strategic) generator (and also good arguments why others generator assumptions are too high)
  - How do the % capacities bid at SRMC cost relate to contract volumes?
  - Split of contracts NSW/Vic are unreasonable
  - Modeling of Snowy Hydro energy constraints unreasonable

# Other modelling questions

- What form of contracts (and associated strike prices) does the Frontier modelling assume that participants hold?
- Is $1 SRMC cost bidding assumed for SH for other than status quo?
- The modelled price outcomes reductions of $2 to $4/MWh for NSW do not appear credible. It would be useful to break down the price decreases into spot price bands. For example, does the modelled average price decreases come about from reduction in relatively low price periods (eg < $50/MWh), during mid price periods (>$50, < $500) or during high price periods (>$500).
- Frontier Economics states that strategic players can choose quantity strategies (Cournot game) and / or price strategies (Bertrand strategies) but is unclear how a strategic player chooses between the options.
- How does the modelling treat SRA units? SRAs are not sunk investments, and must be purchased on an ongoing basis, and the modelling must recognise this.

# Price Outcomes & Customer Benefits



# Snowy Hydro suggested way forward

- AEMC review modeling outcomes
  - Perform Reasonableness check
  - Check fit to historical outcomes (status quo vs historical data)
  - Narrow down critical assumptions & retest output
- Happy to provide additional specific information
- What does AEMC need to move to more reasonable assumption set?

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# Discussion / Questions