

# Reliability Panel forum 13-9-2007

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# Overview

- **Energy Adequacy Assessment Projection (EAAP)**
  - 2 year / 10 year
  - Matters for further consideration / clarification
- **Reliability and Emergency Reserve Mechanism (RERM)**
  - Matters for further consideration / clarification

# EAAP – 2 year projection

- **Current drought report – prototype process**
- **EAAP – potential framework (exposure draft)**
  - 2 year projection of energy adequacy
  - Based on known future capacity & energy availability
  - Published quarterly – monthly resolution – report of USE
  - Would differ from MT PASA in that timing of energy usage is modeled
  - Study scenarios (eg low/average rainfall – or other constrained input) specified by Reliability Panel
  - Form of outputs also specified by Reliability Panel

# Inputs to the EAAP

- **MT PASA capacity inputs (already available)**
- **Generator Energy Model (GEM)**
  - specified once by participant - Guidelines should aim to allow flexibility
  - Ideally, the simplest model at the portfolio level that would adequately represent the energy limitations for this analysis (many already specified for drought study)
    - simplest: annual energy limit for portfolio, or no energy limit;
    - more complex: hydrological model for a physical scheme
- **Inputs to GEM** – updated quarterly (incl max annual energy; min / max monthly energy; dependencies between months, pumping strategies) – **commercially sensitive**.  
These inputs are specified in 2<sup>nd</sup> Interim Report, but not in draft Rule.
- **Anticipated energy usage pattern** – updated quarterly (**commercially sensitive**)
- **Demand forecasts** – NEMMCO (to suit scenarios)

# EAAP Outputs

- **Outputs specified by Reliability Panel following consultation**
- **Allows EAAP to adapt to prevailing circumstances**
- **Some possible outputs**
  - Projected regional USE by month (would require generators' expected energy usage pattern)
  - Minimum regional USE by month (akin to current drought report)
    - If both above outputs were published, then the difference would represent the market response that is needed to minimise USE
  - Could also make publicly available aggregated capacity factors (akin to current drought report) – Not discussed in draft report
  - Could make available as confidential data – individual capacity factors

# Implementation of EAAP

## Consultations

- EAAP Guidelines (Reliability Panel)
  - Scenarios, modeling assumptions, form of outputs
  - Systems development may be affected by this
- GEM Guidelines (NEMMCO)
- Need to provide adequate time in the Rule for these consultations and for subsequent processes to be put in place

## Modelling tools

- NEMMCO currently uses Monte-Carlo analysis, similar to ANTS modelling
- If EAAP goes ahead , will assess merits of other tools

# EAAP – items for further consideration

- **Input data may need to be further specified**
- **Input obligations do not apply beyond NEM participants**
  - Eg water authorities, jurisdictional policies
- **Models and inputs are confidential**
  - Some of the input data is commercially sensitive and strategic in nature.
  - How does this relate to ANTS – energy models are transparent
- **Rules allow publication more frequently than quarterly**
  - does not match data provision
- **Pumped storage** – need to clarify whether it is included in GEM obligations.
- **Utility** – usefulness of the report is a question for the market.

# 10 Year Forecasts

## Additional obligations:

- Energy constraints associated with generation
- Projections of reliability of supply

## Current Process

- Market simulations for the ANTS use known energy limitations
- Modeling approach and assumptions consulted on annually and published
- Uses long term average hydro inflows
- Yields regional USE, which is published in Appendices to ANTS
  - Causation of USE cannot be readily apportioned among inputs

## Comments

- NEMMCO views the new obligations as largely met by current processes – some changes may be necessary to link explicitly with the obligations
- Is there potential for greater focus on energy input assumptions?

# RERM – items for further consideration

## “Regional Operation of RERM”

- Should not prevent reserves from being procured outside the region

## Alternative funding process

- Rationale for fund size, and independence from region size is unclear

## Trigger for RERM

- Guidelines indicate EAAP results should be taken into account when exercising RERM – this might imply intervention for energy (rather than capacity) shortages. This may need to be clarified.

## Cost effectiveness of exercising the RERM

- Guidelines do not make mention of Value of Unserved Energy

