

## **What is the System Operating Plan (SOP)?**

As part of our daily planning processes within the ESO control room, the control room strategy team produce a System Operating Plan (SOP)s at key demand peaks or troughs throughout the day, at what we call a Cardinal Point (CP). Prior to each CP the Strategy team hand over the relevant SOP to the real-time Energy team, who then use this plan to take real time operational decisions to balance the electricity system.

The SOP is a snapshot of key information that is available to the ENCC at that time of its creation and based on this information provides a flexible strategic plan to ensure the ESO fulfils all its obligations to balance the system. It among of things covers

- commercial information in terms of submitted prices and parameters of available BMUs that could be utilised to balance the system
- any identified transmission constraint issues that may affect the balancing of the system

It indicates if any operational decisions (e.g. additional Balancing Mechanism Units are required to meet demand) are needed to be enacted by the energy team. Currently the SOP contains that following information

- National demand for the Cardinal Point.
- An indication of the amount of action is required by the ESO in the balance mechanism to meet it required position (demand plus margin) at the cardinal point. Either through bids or offers.
- Expected contribution from Interconnectors, Wind and small BMU's based on submitted data and forecasts.
- Reserve requirements - Positive/negative
- Amount of Short Term Operating Reserve (STR) available (if CP within contract window)
- Our contingency requirements; any shortfall or excess in our margins that are required to be maintained to ensure generation is capable of synchronising in sufficient time to achieve full output for the relevant Cardinal Point.
- System Imbalance – Positive/Negative
- Largest generation and demand loss on the system at the CP

This information within the SOP ensures that the most economic, secure and flexible plan is developed for that moment in time at the time of handover.

The real time energy team constantly review the information with the SOP to ensure that the information within is still relevant as they approach the CP, so that to ensure the operational plan is still valid, and if required modify as needed.

The current objective is to publish the following SOPs every day ahead of the respective cardinal point

- 1A, 1B, 2F/A/B (whichever is the peak of the morning), 3B, 3C and 4B.

## **How to read a SOP?**

Initially looking at the SOP it appears to be a mass of information and it should be read in conjunction with the detailed glossary to understand all the terminology used.

There is no prescribe approach to reading a SOP, as it depends on the information a person is hoping to extract.

The market position for the CP at the time of creation of the SOP will dictate how much balancing the ENCC is anticipating of having to carry out to meet demand plus any required reserve (either upward or downward) considering any transmission issues that may exist.

If the market has self-balanced in terms of meeting forecast demand then the ENCC may only need to take actions to meet reserve requirements or for transmission issues, and this is reflected in the "Imbalance" figure. Obviously a un-balanced market position will require more actions.

The most common information that are extracted from a SOP are

- Cardinal Point time: - CP at Time (just below title System Operating Plan)
- Forecast demand: - Total (SOP Demand)
- The amount of balancing required: - Imbalance (SOP Demand – EOL)
  - o This will be achieved through Bids or Offers
- The amount of Margin within the balancing mechanism: - Operating Margin Surplus/shortfall
- The largest Generation Loss on the system at the CP: - Maximum loss (Generation)
- The largest demand loss on the system at the CP: - Maximin Loss (Demand)

Other information that is now easily available include reserve and response levels and expected contributions from Wind, Interconnectors.