

AEMO

Power System Issues - Technical Advisory Group (PSI TAG)

TERMS OF REFERENCE

BACKGROUND

The changing electricity supply mix and consumer behaviour brings about new challenges for effectively operating the power system. For example, challenges associated with operating a power system where conventional generating plant is being displaced by generating technology with different technical characteristics and where more generation is embedded with and without storage.

AEMO continually scans the changing environment and adapts its tools and processes to ensure that it can fulfil its system operation functions. Although there is a strong focus on meeting the short to medium-term challenges arising, AEMO also looks at the potential longer-term trends and their implications.

AEMO is refreshing its longer-term outlook to ensure that it has a comprehensive list of potential technical challenges together with their implications if left unaddressed. This work will inform prioritisation of preparedness activities, some of which may have long lead times.

PURPOSE

The PSITAG is being established to provide expert technical input for AEMO to identify and prioritise the technical challenges in operating the power system in the longer term with the changing supply and demand side.

AEMO will seed the discussions with an initial list of issues and the PSITAG being a technical group with diverse electricity industry backgrounds is expected to validate the list and add to it to make it as comprehensive as possible.

The PSITAG will inform a report prepared by AEMO which aims to constructively inform actions that may be needed to provide for efficient management of the power system in the future, be they changes to AEMO tools and processes, or regulatory changes, or possibly policy developments.

The PSITAG is an advisory group and does not have decision-making functions.

SCOPE

The scope needs to be broad enough to avoid missing key issues, but sufficiently focussed to achieve the outcome within reasonable timeframes.

In Scope

The group's focus will be on exploring and identifying:

- Technical issues affecting the ability to securely and reliably operate the power system
 - could range across information, regulatory, technology and power system modelling
 - cover both transmission and distribution levels to the extent that they affect the secure operation of the power system
- Time when, or conditions under which, the technical issues are likely to emerge (to the extent feasible)
- Implications if the issues are not addressed

- Range of potential options (although the detailed options analysis and solution recommendation is out of scope)

The potential future operating conditions will be broad and include:

- Wind generation, PV generation (utility and distributed), and energy storage technologies displacing synchronous generation.
- Both transmission connected and embedded facilities.
- Active vs passive consumer behaviour.
- Range of operating scenarios: normal operation and coverage of credible contingencies, with the implications for non-credible contingencies also considered where appropriate.

The technical issues will be explored and described in an overall Australian context, but it is anticipated that the initial focus will be on the South Australian and Tasmanian power systems as these are the regions likely to first experience operational challenges.

Out of scope

- detailed analysis and recommendation of solutions, but any insights arising through the PSITAG will be recorded for later consideration.
- challenges to asset management, design or planning, except to the extent that they affect the ability to securely operate the power system.
- non-technical matters such as commercial or market interests, except as required for the identification of technical issues.

PROCESS AND TIMETABLE

It is anticipated that:

- The group would meet 3-4 times to workshop issues, with the majority of work carried out between meetings.
- Meetings will be face-to-face in the early stages of the work, with some potential for this to be replaced by teleconferences or videoconference as work progresses.

It will be advantageous if members liaise with the industry sector which they represent, and bring the view or range of views from their sector to the group.

It is anticipated the following broad timetable will apply, subject to review as the work unfolds:

- November 2015: AEMO to circulate an initial list of technical issues.
- November 2015 to February 2016: 1 or 2 meetings to workshop and prioritise the issues list.
- March-April 2016: AEMO to analyse outcomes and to the extent possible quantify consequences of issues
- April: 1 or 2 meetings to workshop a final list of prioritised issues.
- May 2016: AEMO drafts report setting out the findings.

Where a high priority or critical issue is identified, AEMO may decide to initiate a resolution in parallel with the above process.

MEMBERSHIP

Membership is by invitation and will comprise representative technical experts from:

- AEMO (Chair)
- TNSPs

- DNSPs
- Emerging technologies
- Conventional generation
- Retailers
- SCO
- AEMC
- AER

AEMO will convene and chair the group and provide secretariat services. Specialist consultancy support may be engaged to support discussion, and assist with issues identification and verification.

EXPENSES

Any expenses incurred as a result of attending meetings or activities associated with the PSITAG are at the expense of the individual business that the person represents.