Meeting record

Meeting:	Tesla and AEMO meeting, RE: Power System Model Guidelines consultation submission.
Date:	9 May 2023
Time:	12:00pm – 12:45pm (AEST)
Location:	Microsoft Teams meeting

Attendees:

Name	Company Department
Nilesh Modi	AEMO - Lead Specialist, Operational Analysis & Engineering, Operations.
Marina Delac	AEMO - Specialist Engineer, Systems Performance, Operations.
Jingwei Lu	AEMO - Principal Engineer, Operations.
James Guest	AEMO - Senior Engineer, Operations.
Hayley Gilbert	AEMO - Stakeholder Engagement Advisor, Government & Stakeholder.
Emma Fagan	Tesla - Energy Policy and Regulatory Manager.
Wen-Cheng Huang	Tesla - Power System Engineer.
Josef Tadich	Tesla - Regional Manager.

Disclaimer

This document provides an overview of the main points of discussion at a meeting convened by Tesla, on 9 May 2023 to provide information and facilitate further discussion on matters relating to Tesla's submission to the Power System Model Guidelines which AEMO is currently consulting on. Readers please note that:

- This document is a summary only and is not a complete record of discussion at the meeting.
- For presentation purposes, some points have been grouped together by theme and do not necessarily appear in the order they were discussed.
- The views expressed at the meeting and reflected here are not necessarily those of AEMO.

Meeting Notes

This meeting was to discuss four main points raised by Tesla, prior to making their written submission to the PSMG consultation. Tesla noted all items discussed would be detailed in their written submission.

- Item 1. Snapshot feature in proposed format:
    - Tesla raised that they have been in discussion with their model developer, and the feedback is that it will be very difficult to use this feature, and question if this is a concern for any other stakeholders. Noting they want to ensure the PSMG can be abided by in a timely manner and don't want to have to develop new software/processes to meet the criteria.
    - AEMO explained the DLL standard; the B4.82 standard is fully supportive of the snapshot capability in PSCAD. The proposed format is certainly possible, and the Guidelines are supportive of the snapshot feature.
    - AEMO suggest Tesla reach out to the B4.82 working group if they require more information on this as other OEMs are using this feature already.
    - Tesla questioned if AEMO could consider alternate ways to do the file, or if has to be through the PSCAD snapshot. AEMO was not sure on this and suggested the B4.82 working group would be able to advise on the standard and what was considered.
- Item 2. General concerns regarding model speed:
    - Tesla raise that variables will need to be passed to and from the DLL on every timestep and will make simulations even slower than they are currently.
    - AEMO does not think every parameter has to pass through on every time step, and that the intention of the B4.82 standard is to use pointers thus not having a material time impact.
    - Tesla conclude that what AEMO proposes is possible but warned it will be slow. Again, AEMO suggested the B4.82 working group would be the best people to speak to around this concern.
    - **Action: AEMO will provide contact and member information of the working group to Tesla.**
- Item 3. Futureproofing Guidelines:
    - Tesla are unsure that moving to DLL format is future proof and wanted to understand what other OEMs are saying.
    - AEMO confirms it has had this concern raised by other OEMs, but noted the Guidelines as proposed do allow a model to utilise redistributable libraries – as long as they can be included as part of model. Apart from that, there should not be any other dependencies.
- Item 4. Small signal modelling:
    - Tesla raised that there is already a lot of software simulation platforms (i.e. power factory, PSS/e & PSCAD) being used by AEMO and question if they are expected introduce another one for small signal studies.
    - AEMO confirm Tesla do not need to use additional software but can provide detailed the block diagrams and AEMO can do the conversion into its system for Tesla, as they do with other OEM's (noting not to use PSS/e block diagrams as it cannot replicate all sub-synchronous frequencies).
    - Tesla request a definition of 'detailed block diagram' to know what details AEMO needs exactly and would like more information and clear guidelines to provide information that AEMO requires.
    - Discussion on sub-synchronous frequency ranges and the block diagrams that support them.

- It was noted that the Draft Report and Guidelines do not add any new requirements for OEMs, and that participants can still submit the block diagrams. The proposition however is just opening the possibility of OEM's using it.
- Tesla was satisfied with this and confirm AEMO does not require OEMs to acquire new software.
- Noted that the Draft Guidelines are in line with the requirements on the National Electricity Rules (NER).
- Tesla raised the issue of IP and a possible preference in submitting SSAT blackboxed model.