REGISTRATION OF NEW GENERATION AND RESOURCES

December 2017

PRESENTED BY AEMO

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

AGENDA SLIDE

1. Welcome and introduction
2. Overall objective
3. Today’s meeting objective
4. The NEM is changing
5. Current challenges
6. AEMO challenges
7. Example scenarios
8. Next steps

OVERALL OBJECTIVE

To enhance the existing NEM arrangements to:

- Facilitate and support efficient participation of emerging generation and energy storage.
- Efficiently integrate technologies on the basis of technical requirements and capability of the technology.
- Improve process and system efficiency by having flexible, robust and transparent arrangements.

In collaboration with stakeholders, we intend to explore the challenges, develop and test ideas.

TODAY'S MEETING OBJECTIVE

- Discuss changing context and how this impacts new generation and energy storage:
  - what are the pain points for stakeholders.
- Identify new generation and energy storage scenarios – what we need to plan for.
- Challenge existing concepts to enhance the NEM's framework to meet the changing market needs:
  - short term and longer term.

THE NEM IS CHANGING

The rise of renewable generation

Small wind units

43 → Near 10x increase (2008 - 2017) → 412

Large scale wind

4035MW → More than doubled (2016 - 2020) → 10,678MW

Small solar PV units

14,064 → Over 100x increase (2008 - 2017) → 1,691,840

Large scale solar

233MW → Over 47x increase (2016 - 2020) → 11,043MW

CURRENT CHALLENGES

Stakeholders are talking to us about:

- A faster and clearer registration and connection process.
- Perceived inconsistencies in applicable registration category.
- Identifying revenue stream opportunities for new business models.
- A need for investment in projects to make them ‘bankable’.
- A need for lower cost network connection.

AEMO keen to hear and understand concerns

AEMO CHALLENGES

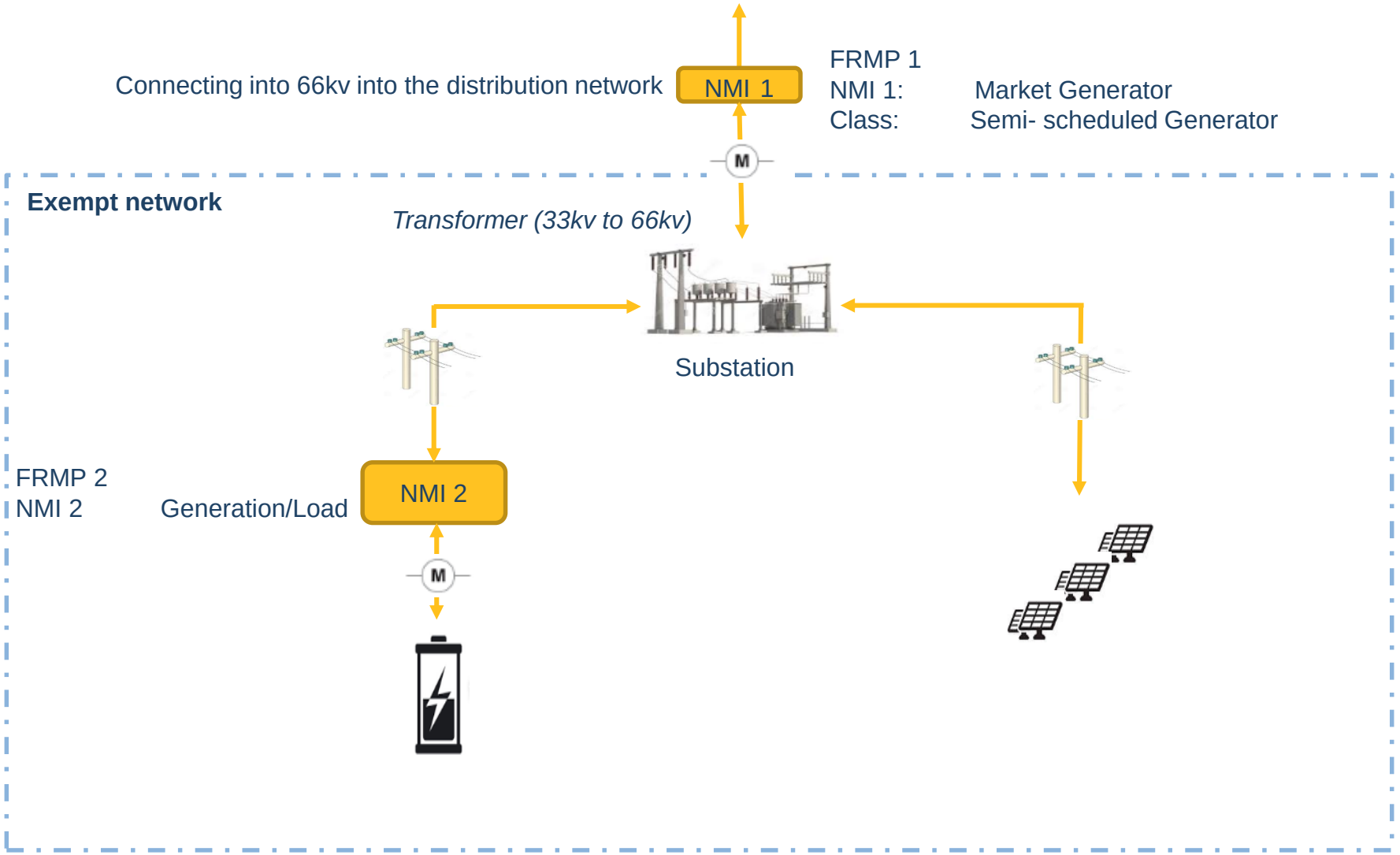
Complexities AEMO is dealing with include:

- New and different combinations of technologies.
- Volume of new connections coming on line.
- Co-located generating systems at a common connection location.
- Different investor / ownership models.
- Private or exempt networks.

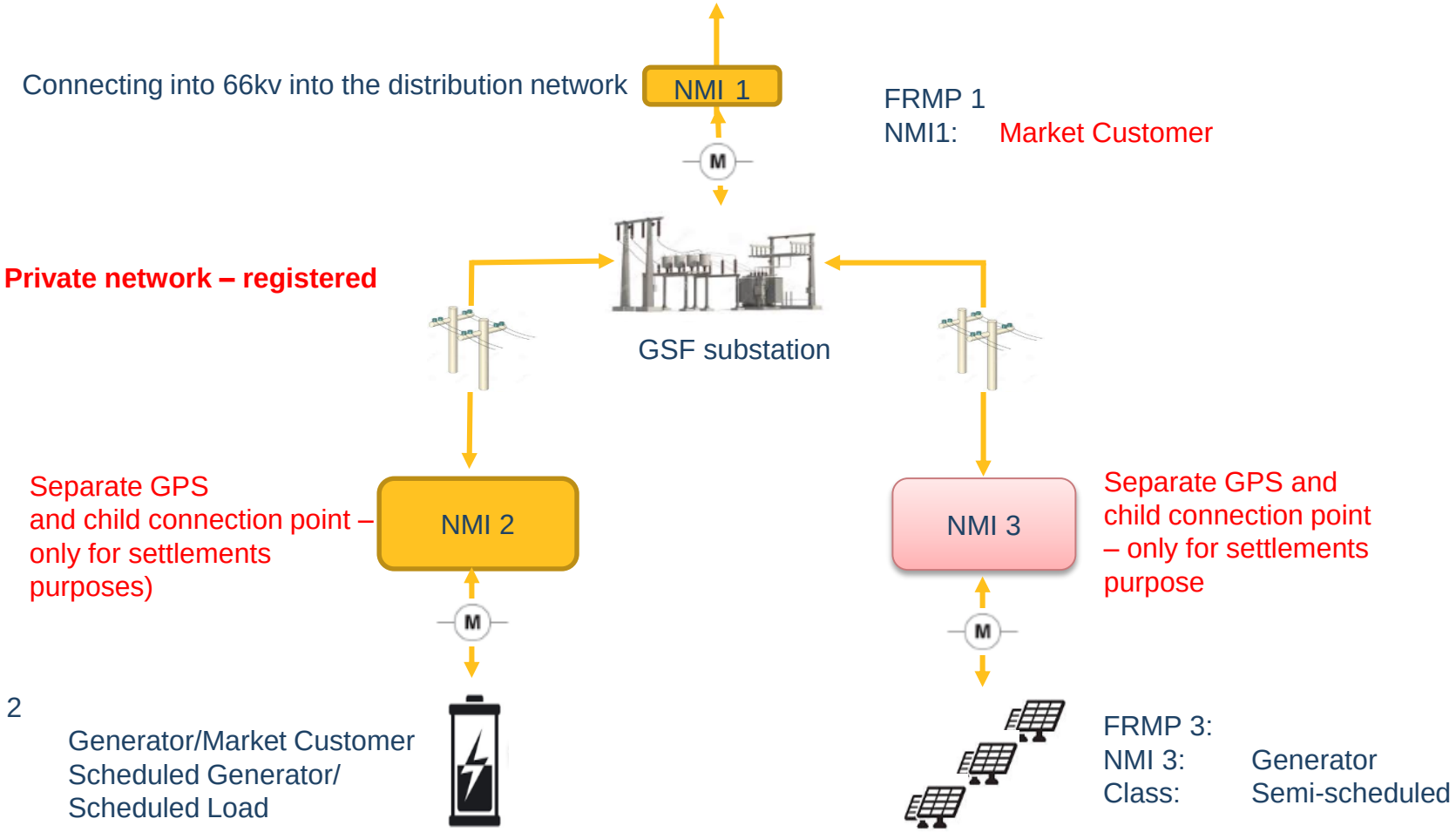
Need to ensure:

- System security is maintained – no adverse impacts.
- Metering and settlements – are accurate and reflect value to the market.

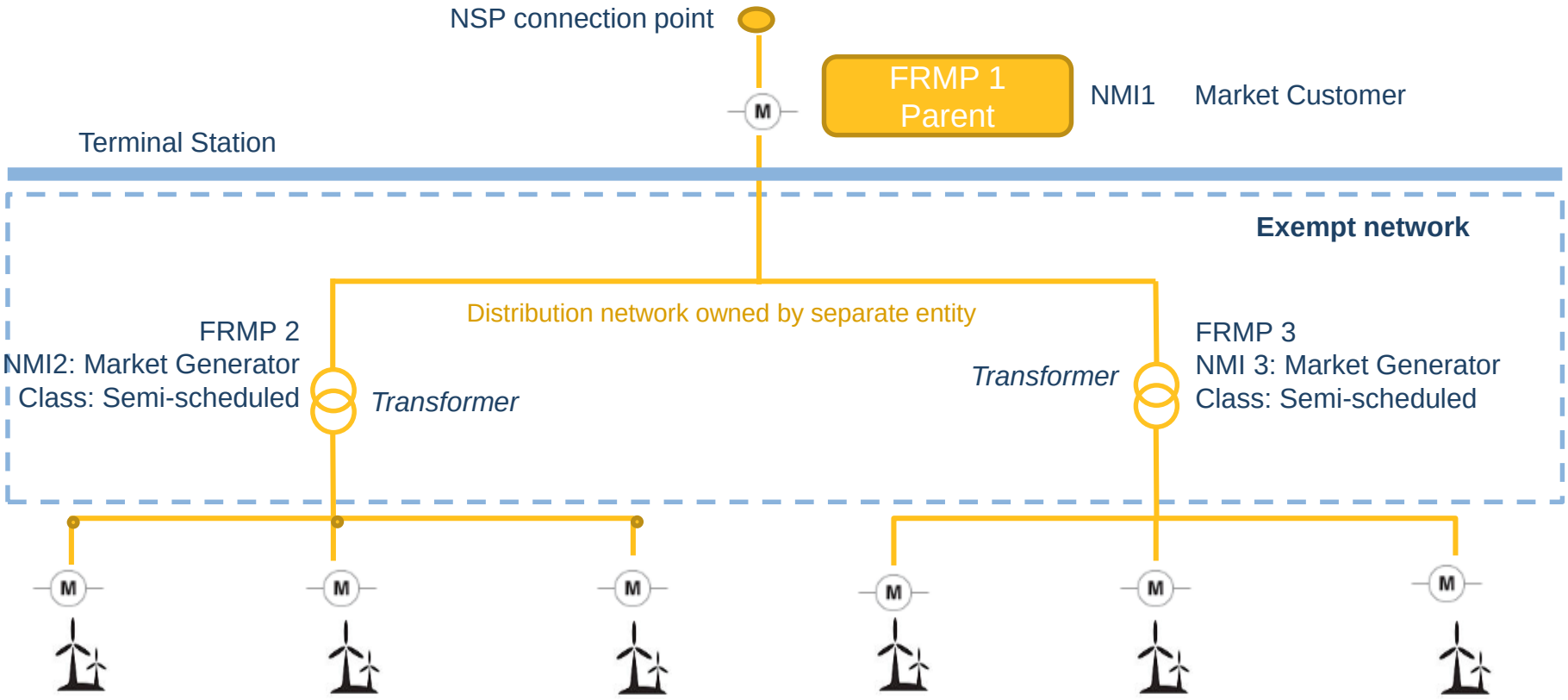
SCENARIO 1 – PROPOSED RETROFITTED BATTERY



SCENARIO 1 – REVISED RETROFITTED BATTERY

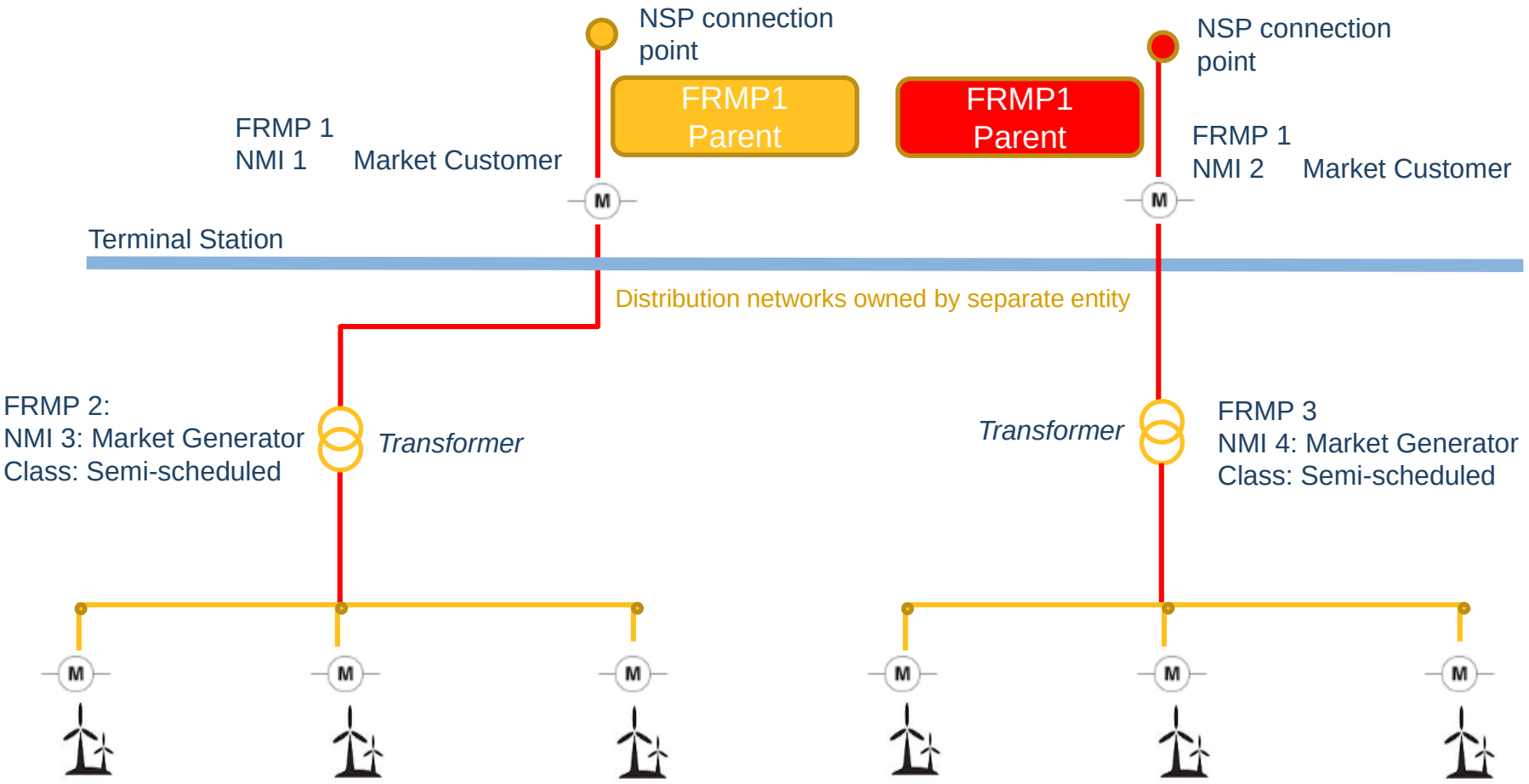


SCENARIO 2 – PROPOSED CO-LOCATED GENERATION



Generating systems to be individually registered – meters also represent child connection points

SCENARIO 2 – REVISED CO-LOCATED GENERATION



DISCUSSION – STAKEHOLDER CHALLENGES

DISCUSSION – IDENTIFY NEW GENERATION AND RESOURCE SCENARIOS

DISCUSSION – IDEAS TO ENHANCE THE NEM'S FRAMEWORK

NEXT STEPS

- Late January – stakeholder meeting to provide and discuss collated:
  - stakeholder challenges,
  - new generation and resource scenarios,
  - Ideas to enhance the NEM's framework,
- Using stakeholder feedback, AEMO kicking-off internal process:
  - Ongoing dialogue throughout – AEMO keen to receive input and feedback.
- Draft strawman to be developed for discussion with stakeholders – expected March/April 2018.