



Australian Energy Market Commission
SEMI-SCHEDULED GENERATOR DISPATCH OBLIGATIONS
Response to Draft Rule Determination - ERC0313

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Submitted online



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Please note this submission contains the views of Stanwell and should not be construed as being indicative or representative of Queensland Government policy.

1. Introduction

Stanwell Corporation Limited (Stanwell) welcomes the opportunity to respond to the Australian Energy Market Commission's (Commission), draft rule and determination (Draft Rule) on Semi-scheduled Dispatch Obligations.

In the Commission's 2019-2020 Annual Report it was noted that "the power industry is undergoing an incredible transformation"¹. "The system is moving away from being dominated by central, large power plants"², and that there are "opportunities to develop new knowledge and expertise to integrate high levels of renewables to achieve a secure and reliable power system"³.

Stanwell supports market reform that facilitates integrating higher levels of renewable generation and emerging technologies, whilst maintaining a secure and reliable energy supply and efficient market.

We acknowledge this rule change commenced as part of the Energy Security Board interim security measure package, yet we are disappointed with the outcome and the "narrow focus" that has been adopted by the Commission and Australian Energy Regulator⁴. Stanwell considers that an opportunity has been forgone to progress energy regulation that would manage the anticipated increase in impact of the semi-scheduled generation class.

¹ Australian Energy Market Commission, 2019-2020 Annual Report, p 9.

² Australian Energy Market Commission, 2019-2020 Annual Report, p 6.

³ Ibid

⁴ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 38, section 5.5.1.

Whilst offering constructive advice to enhance drafting of the proposed rule and seeking clarification on several points, Stanwell considers that the Draft Rule has not met the Commission's assessment framework, is anachronistic, and is inconsistent with what has to date been progressive approaches to regulatory changes. Given the undeniable future of the NEM becoming more reliant on intermittent resources, semi-scheduled generators need to take on more responsibility and accountability to support the secure and reliable operation of the National Electricity Market (NEM). Stanwell contends that the draft rule does not achieve this. Our rationale for this position is set out in detail in Section 4 of this submission.

Notably, the Draft Rule:

- Does not adequately promote a secure power system at lowest cost, and does not strengthen the NEM's ability to rely on intermittent energy sources;
- Marginally promotes market efficiency by not specifically addressing competitive advantages that the semi-scheduled category provides;
- Is not technology (or asset) neutral in drafting;
- Does not articulate how compliance will be measured is it against the resource "*input*" or the "*output*" of a semi-scheduled generator? Refer to section 4.3; and
- Increases, as opposed to reduce regulatory complexities.

Market actions of some semi-scheduled generators prove that technology exists to control and manage output of semi-scheduled generators in response to real-time price signals; that is, semi-scheduled generators can operate as a scheduled generator.

Given the increasing number⁵ and size of semi-scheduled generators, we urge the Commission to consider making a preferred rule that not only addresses semi-scheduled actions, but one that also recognises the current and future landscape of the NEM. The first issue can be solved by requiring all semi-scheduled generators to re-bid and wait for an updated dispatch instruction prior to moving output, no matter what the interval is or the price. The second point should be addressed by expanding the cadence of accountability to support a secure and reliable power system, by transitioning capable semi-scheduled generators to the scheduled category.

Throughout our submission Stanwell seeks clarification from the Commission on a number of points, most notably how changes in resources will be measured and how compliance with dispatch targets will be assessed from a change in resource (**input**) against the **output** of a semi-scheduled generator (refer to section 4.3). Section 5 provides several, relatively simple recommendations about how to enhance the Draft Rule.

Stanwell welcomes the opportunity to further discuss this submission. Please contact Jennifer Nielsen, Jennifer.Nielsen@stanwell.com.

2. Context

Stanwell does not dispute the context in which the semi-scheduled rules were originally made. At that time “*approximately 550 MW of wind*

⁵ AEMO, Renewable Integration Study: Stage 1 report, April 2020, p 5. Figure 5 highlights significant forecast growth in the maximum potential instantaneous penetration of wind and solar, from just under 50% in 2019 to well over 75% at times under the 2025 Central generation build and up to 100% under the Step Change generation build.

capacity was connected in the NEM of which 386 MW was installed in South Australia”⁶. Semi-scheduled generators “*were not practically able to comply with rule requirements such as following dispatch targets due to the intermittency of their natural energy resource*”⁷. Nor would their total output at any time have had much effect on the overall stability of the NEM.

As depicted in Figure 1, semi-scheduled generators made up less than 1 per cent of the NEM’s generation capacity (excluding non-scheduled) in 2005. Therefore, rules that essentially gave semi-scheduled generators the optionality of following dispatch targets⁸, while there was more than enough scheduled generation available to adjust load to maintain frequency, was acceptable. This was noted by AEMO in its submission to the AER on the proposed rule change, “*(t)here is no doubt that the semi-scheduled framework, at that time, was designed with a very different set of technological, network and market conditions in mind from those we see in the NEM today and into the future*”⁹.

⁶ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 6 footnote.

⁷ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 6.

⁸ AEMO, AEMO submission on proposed semi scheduled generator rule changes, 22 July 2020, p 2.

⁹ AEMO, AEMO submission on proposed semi scheduled generator rule changes, 22 July 2020, p 2.

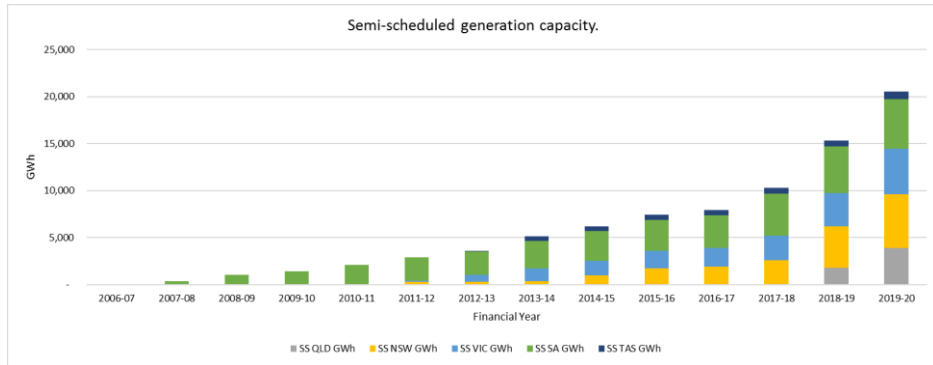


Figure 1 Semi-scheduled generation capacity.

Today, semi-scheduled generators make up approximately 11 per cent of the NEM’s generation capacity (excluding non-scheduled generators). With decreasing numbers of scheduled generation available to adjust load to maintain frequency, and an increased in similarly programmed automated bidding systems the risk of frequency disturbances is increasing.

Furthermore, today, many semi-scheduled generators’ ability to store energy and control the **output** from intermittent resources (resource being the fuel or **input**), has improved markedly and is evidenced by semi-scheduled plant regularly responding to price variations.

As shown in Table 1 below, semi-scheduled generators with intermittent fuel sources make up ~66 per cent of the committed projects in the NEM and ~69 per cent of the proposed projects. Additionally, Figure 2

illustrates the maximum potential instantaneous penetration of wind and solar could be over 75 per cent by 2025¹⁰.

| ESOO 2020 | Fuel - Technology Category | | | | | | | Total |
|---------------------------------|----------------------------|-----|--------------|--------------|-------|-----------------|-------|--------------|
| | Coal | Gas | Solar | Wind | Water | Battery Storage | Other | |
| Committed Summary Status | | | | | | | | |
| Scheduled | | | | | 2,040 | 20 | | 2,060 |
| Semi-Scheduled | | | 1,896 | 2,177 | | | | 4,074 |
| Non-Scheduled | | | | | | 13 | 24 | 38 |
| Total | | | 1,897 | 2,177 | 2,040 | 33 | 24 | 6,171 |

| Proposed Summary Status | Coal | Gas | Solar | Wind | Water | Battery Storage | Other | Total |
|-------------------------|-----------|-------|---------------|---------------|-------|-----------------|-------|---------------|
| | Scheduled | 151 | 3,197 | | | 5,595 | 5,875 | 40 |
| Semi-Scheduled | | | 20,116 | 15,632 | | 112 | | 35,860 |
| Non-Scheduled | | 60 | 732 | 58 | 34 | 5 | 86 | 975 |
| Total | 151 | 3,257 | 20,848 | 15,691 | 5,629 | 5,992 | 126 | 51,693 |

Table 1 NEM Generation Information. Source: AEMO November 2020, modified by Stanwell.

¹⁰ AEMO, Renewable Integration Study: Stage 1 report, April 2020, p 6.

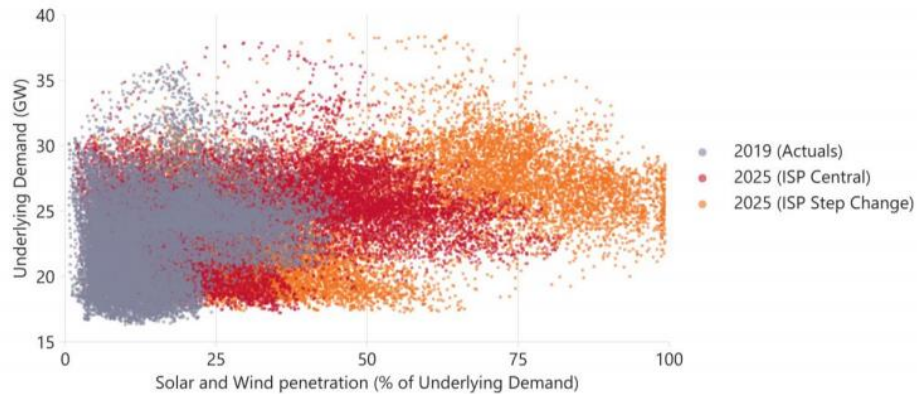


Figure 2 Instantaneous penetration of wind and solar generation. Source: AEMO RIS Stage 1 Report.

Despite there being very clear evidence that the ability, number and size of semi-scheduled generators has changed since the semi-scheduled generator category was first formed, the Draft Rule fails to acknowledge the importance of this category of generation in the NEM today, and in the foreseeable future.

To make a rule that is, “*formalising the assumption made in 2005 when the category was created, that semi-scheduled generators would operate to the full availability of the resource when permitted by the power system*”¹¹, is absurd when faced with clear evidence that semi-scheduled category will be the dominant generation type in the near future.

¹¹ Australian Energy Regulator, Semi scheduled rule change – Proposal Update, August 2020, p 3.

Stanwell also questions the consistency of the Draft Rule with the Commission’s Final Rule Determination in ERC0187¹², that sought to change the compliance with dispatch obligations from a strict obligation, to a participant’s reasonable endeavours.

In the final determination the Commission noted, “*that dispatch instructions are fundamental to this process [dispatch process] and the current strict obligation to comply with dispatch instructions is critical*”¹³.

And, “*qualifying the strict obligation to comply with dispatch instructions, to be based on the use of reasonable endeavours, is not appropriate. It is inconsistent with the nature of the obligations imposed on participants for other obligations that are critical to market integrity elsewhere in the NEM*”¹⁴.

In our response to ERC0187 Stanwell noted that “*strict compliance with every dispatch instruction has been widely acknowledged to be a physical impossibility; however, it is crucial to a functioning market that participants make a genuine attempt to meet their dispatch targets where possible*”¹⁵. We further noted that generators with Automatic Governor Control (AGC) control systems provide the best practicable compliance with dispatch targets and “*alternative approaches would be to include guidance in the rules as to what must be considered when*

¹² AEMC, Compliance with Dispatch Instructions: Final Determination, 5 May 2016. <https://www.aemc.gov.au/rule-changes/compliance-with-dispatch-instructions>

¹³ AEMC, Compliance with Dispatch Instructions: Final Determination, 5 May 2016, p v.

¹⁴ AEMC, Compliance with Dispatch Instructions: Final Determination, 5 May 2016, p iv.

¹⁵ Stanwell, Compliance with Dispatch Instructions, 15 October 2015, p 1.

<https://www.aemc.gov.au/sites/default/files/content/118d94e7-bfde-42aa-88f6-7d90e8f1527d/Stanwell.pdf>

determining compliance, or what must be contained in AER guidelines”¹⁶.

A more preferred rule change that recognises the importance of meeting dispatch targets and the increase in size and number of intermittent energy sources¹⁷, is required.

3. Existing mechanisms cater for variances in resources.

We strongly argue that special provisions made to advantage specific technology and resource types as unacceptable and anti-competitive. All resources are variable to some degree and existing regulation sufficiently allows for responses to changes in a generators environment to be made in a transparent manner. As noted by the Commission in the Draft Rule¹⁸.

All generators are faced with forecast and un-forecast changes on a daily basis and must respond to them in accordance with specific procedures and the NER. Scheduled generators have the flexibility to respond to resources and other changes through existing rebidding provisions, and there is no logical reason why semi-scheduled

¹⁶ Stanwell, Compliance with Dispatch Instructions, 11 February 2016, p 1-2. <https://www.aemc.gov.au/sites/default/files/content/4f8c7106-aad3-4f2b-8e10-4db03ae334ee/Stanwell.pdf>

¹⁷ AEMO, Renewable Integration Study: Stage 1 report, April 2020, p 5. Figure 5 highlights significant forecast growth in the maximum potential instantaneous penetration of wind and solar, from just under 50% in 2019 to well over 75% at times under the 2025 Central generation build and up to 100% under the Step Change generation build.

¹⁸ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 42-43.

generators that can operationalise and control their output should be given special dispensations not to follow dispatch targets.

4. Assessment Framework.

4.1. Promoting a secure power system at lower cost

The extent to which the rule change is the lowest cost option to enhance AEMO’s ability to maintain the system in a secure state¹⁹.

Two reasons have been provided regarding how the Draft Rule promotes a secure power system at lower costs:

- i. Increasing AEMO’s visibility of changes in semi-scheduled generation levels, thereby improving their ability to maintain the power system in a secure state for the set of all credible contingency events; and
- ii. Retaining contingency frequency control ancillary services (FCAS) as available to manage contingency events rather than using it to respond to deviations in frequency due to the negative price curtailment behaviour by semi-scheduled generation²⁰.

Stanwell supports (ii) the retention of contingency FCAS but seeks clarification from the Commission about how the Draft Rule meets the first point (i).

¹⁹ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 14.

²⁰ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 14.

It is Stanwell’s understanding that the Draft Rule does not increase AEMO’s visibility of changes in semi-scheduled generation levels because it does not require semi-scheduled generators to provide any additional information to AEMO. Rather, the intent of the Draft Rule is to improve the level of confidence that AEMO (and other participants) have that semi-scheduled generators will honour their bids. If this was achieved, AEMO’s ability to maintain the power system in a secure state and for other participants to make more information operating decisions, would be improved.

Stanwell further questions whether the lowest cost option should be relied upon in this rule change process as opposed to developing the most cost-efficient outcome. It is well recognised that the NEM will be increasingly reliant on intermittent energy sources. As noted by the Clean Energy Council, *“improving confidence in semi-scheduled generators meeting their dispatch instructions is important to support a future NEM that comprises significantly higher levels of semi-scheduled generation”*²¹.

Stanwell considers that the Commission could make a more preferred rule change that not only addresses the immediate problem of semi-scheduled generators not following dispatch targets, but also sets a clear path to transition semi-scheduled generators to the scheduled generator category.

We acknowledge dedicating resources to understand the long-term implications the existing semi-scheduled generator category in comparison to the scheduled generator category may not be the lowest

²¹ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 34.

cost option in the short term, but we consider it would be the most cost-efficient and effective option over the longer-term.

Stanwell acknowledges the Commission is aware of the increased use of automated bidding systems. Stanwell has witnessed repetitive late rebidding occurring within the middle of the dispatch interval, prior to dispatch. If there are only a handful of automated bidding systems available to market participants, the same program could be used by a growing number of participants. This means that the “unders and overs” of intermittent generators that may have “netted out” frequency deviations, cannot be relied upon. Stanwell foresees that larger swings and deviations will occur if several participants are using similar programmed automated bidding technology.

4.2. Market efficiency

The extent to which the rule change enhances market efficiency and improves the accuracy of information available to stakeholders to optimise their participation in the market²².

It is unclear how the Draft Rule will improve the accuracy of information available to stakeholders to optimise their participation in the market.

All scheduled generators must disclose to the market their availability including energy constrained availability, through reports such as Medium-Term Projected Assessment of System Adequacy (MTPASA), Short Term Projected Assessment of System Adequacy (STPASA), bids and rebids. In effect, the rules require scheduled generators to

²² AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 34.

continually make statements to the market about their intention to operate that are true, accurate and can be substantiated.

Scheduled generators must honour those statements through bidding and rebidding provisions whilst complying with dispatch targets.

Semi-scheduled generators must provide similar information through unconstrained intermittent generation forecast (UGIF) process. But, because “*dispatch targets for semi-scheduled generators are essentially regarded as optional*”²³ and there does not appear to be any case of holding semi-scheduled generators accountable for providing false or misleading information, the UGIF information cannot be relied upon. Thus, the quality of data and information used for planning and the central dispatch process is jeopardised.

Stanwell considers that one of the most important characteristics of an efficient market is the ability for participants to compete on a level playing field. From this perspective we are unsure why the Commission does not directly address the anti-competitive nature of the current rules that do not require semi-scheduled generators to:

- Follow dispatch targets; or
- Prohibition against making false or misleading offers.

If semi-scheduled generators do not want to operate at particular price points, they should structure their bids accordingly, or if a resource change occurs, they should rebid and wait for the dispatch target. Failure to consistently apply these obligations across semi-scheduled

²³ AEMO, AEMO submission on proposed semi scheduled generator rule changes, 22 July 2020, p 2.

and scheduled generators is detrimental to the promotion of competition within the NEM.

Stanwell seeks clarification from the Commission if the competitive advantages provided for in the semi-scheduled generator rules are in fact anti-competitive as defined under section 45 of the Competition and Consumer Act (CCA).

Under the CCA, anti-competitive has been described as “*contracts, arrangements, understandings or concerted practices that have the purpose, effect or likely effect of substantially lessening competition in a market*”²⁴.

Stanwell considers the ‘substantiality’ as a very important aspect for the Commission to consider. As the NEM transitions to a higher reliance on semi-scheduled generators, the ability of semi-scheduled generators (individually or combined) to substantially benefit against scheduled generators from not following dispatch targets, bidding in good faith or being held accountable for non-compliance, will only continue to increase.

Another aspect that the Commission should consider is inequitable treatment of compliance between scheduled and semi-scheduled generators. As per AEMO’s Dispatch²⁵ and compliance calculations, “*a semi-scheduled generating unit only needs to comply with its dispatch cap (as a maximum generation limit) for dispatch intervals where the*

²⁴ Australian Competition & Consumer Commission

<https://www.accc.gov.au/business/anti-competitive-behaviour/anti-competitive-conduct>

²⁵ Australian Energy Market Operator, Dispatch SO_OP3705 v85, 11 February 2019, p 31.

*semi-dispatch compliance requirement flag for the dispatch interval is also set*²⁶.

If the semi-dispatch compliance flags are set to “TRUE” semi-scheduled generators are capped at the dispatch level set by AEMO, and when set to “FALSE”, they are free to generate at any level. For the purpose of non-compliance calculations, where the semi-scheduled flag is set to “FALSE” any small or large errors are reset to zero. In addition, in any circumstance that the actual generation (MW) of the unit is below the UIGF for a semi-scheduled generation unit (in effect every movement under its limit), the small or large errors are reset to zero.

The only point where a semi-scheduled generator will receive non-compliance errors, will be if the cap is set to “TRUE” and it is generating at or above its dispatch level. Therefore, the semi-generator category has a significant advantage over scheduled generators. This also demonstrates that semi-scheduled generators are able to respond to market or other signals to vary their output.

4.3. Technology neutrality

Whether the rule change promotes a level playing field between scheduled and semi-scheduled generators to the extent possible given technology characteristics.

²⁶ Australian Energy Market Operator, Dispatch SO_OP3705 v85, 11 February 2019, p 10.

The Draft Rule is not technology neutral. It has been drafted specifically around certain resources or/and technologies, effectively creating competitive advantages for some, and potentially disadvantaging others.

Stanwell seeks clarification from the Commission what technology neutral drafting means in the context of the NEM. Stanwell has found Winston Maxwell’s explanation in his article titled “*Technology neutrality in Internet, telecoms and data protection regulation*”²⁷ useful in understanding a range of applications of the term. In the context of this rule change, Maxwell’s third definition is most applicable; “*technology neutrality means that regulators should refrain from using regulations as a means to push the market toward a particular structure that the regulators consider optimal. In a highly dynamic market, regulators should not try to pick technological winners*”.

If the Commission progresses with the intention of making the semi-scheduled generation category “technology neutral” Stanwell considers that the drafting of *resource* must be reconsidered, and that the existing definition of *intermittent* would also have to be amended.

Examples of “technology neutral” drafting for the definitions of *resource* and *intermittent* are:

Resource: The intermittent energy source (such as wind or solar radiation) that is converted by a semi-scheduled generating unit into energy.

²⁷ Maxwell, W. Technology neutrality in Internet, telecoms and data protection regulation, 17 November 2014. [Technology neutrality in Internet, telecoms and data protection regulation | Global Media and Communications Watch \(hlmediacomms.com\)](https://www.hlmediacomms.com/technology-neutrality-in-internet-telecoms-and-data-protection-regulation/)

*Intermittent: A description of a generating unit whose output is not readily predictable (insert) within 12 dispatch intervals prior to the dispatch period and does not including, without limitation, solar generators, wave turbine generators, wind turbine generators and hydro-generators and without any have any material storage capability*²⁸.

Stanwell considers that the closer to the dispatch period, the higher degree of certainty a generator will have with regards to its availability and that the 12 dispatch interval requirement will align with AEMO's intention to only provide five (5) minute pre-dispatch 1 hour in advance of the dispatch interval when the five minute settlement (5MS) rule comes into effect.

However, despite our drafting recommendations Stanwell considers that the introduction of a *resource* based definition is technically inconsistent with the terminology used to describe the semi-scheduled generation category²⁹ in section 2.2.7 of the NER and should be reconsidered.

The existing description of what constitutes as a semi-scheduled generator is largely determined by the *intermittent* definition, "A description of a generating unit whose output is not readily predictable including, without limitation, solar generators, wave turbine generators, wind turbine generators and hydro-generators and without any material storage capability"³⁰. The definition of *intermittent* is fundamental to gain an understanding what type of generators fall under the semi-scheduled

²⁸ NER, Chapter 10, p 1291.

²⁹ National Electricity Rules, Chapter 2, Section 2.2.7, p 18-19.

³⁰ NER, Chapter 10, p 1291.

generator category³¹, and to understand the intent of the original drafting.

A material term within the definition of *intermittent* is **output**; the semi-scheduled generator category relates to the **output** of a generator, not the **input**.

And this makes sense because it is the output of a generating unit that affects the market, not the resource input.

Stanwell considers that the Commission should avoid introducing regulation around a generator resources and focus on how the generator engages with market, the output. A more preferred rule change should be investigated that moves capable semi-scheduled generators that can store and/or control their output to the scheduled generator category.

Stanwell would also like to highlight that the current rules and Draft Rule fails to incentivise generators reliant on intermittent resources to invest in technologies that control, store and operationalise **output**. In effect, discouraging generators from becoming more reliable, predictable, controllable and secure. Which would be detrimental to the advancement of the power system, especially as intermittent resources will need to take over the role currently filled by thermal generators in providing secure and reliable energy.

Stanwell requests the Commission clarify how the semi-scheduled category should be applied to generating units output that is readily predictable, and whether the Commission believes semi-scheduled

³¹ National Electricity Rules, Chapter 2, Section 2.2.7, p 18-19.

generating units without the ability to control output will be better or worse off under the Draft Rule? How does the Draft Rule apply to:

- Intermittent generation with firming or storage technology, such as batteries;
- Concentrated solar thermal (CST): As defined by the Australian Renewable Energy Agency (ARENA)³², this technology “*concentrate(s) a large area of sunlight into a targeted location, producing high temperatures. This heat is captured using a fluid, such as oil or molten sodium, which can then be used to heat water to create steam to power a turbine and produce electricity (also referred to as concentrated solar power or CSP). One of the benefits of CST is that the captured heat can be stored cost-effectively for long periods with little loss of energy. This means that CST can be used to generate electricity or provide heat when the sun isn’t shining*”;
- Tidal and wave resources: ARENA states that “*Australia is home to some of the largest tides in the world, and with tidal energy systems considered to have the highest technical maturity in the ocean renewable sector, it has the capacity to make a significant contribution to Australia’s future energy mix*”³³. Water can be stored naturally in natural rivers, lakes or oceans, or in manmade systems (i.e. dams); and

³² <https://arena.gov.au/renewable-energy/concentrated-solar-thermal/>

³³ <https://arena.gov.au/projects/tidal-energy-australia-assessing-resource-feasibility-australias-future-energy-mix/>

- Geothermal energy: This technology uses the earth's natural internal heat to generate electricity and heating. Geothermal energy may be stored in granite rocks (often called ‘hot rocks’) or trapped in liquids such as water and brine (hydrothermal process)³⁴.

We urge the Commission to reconsider how the semi-scheduled generation category definition can achieve technology neutrality and to propose a more preferred rule change that transitions capable semi-scheduled generators who can readily control their output to the scheduled generator category.

4.4. Regulatory certainty/clarity

Regulatory intent should be clearly articulated in the rules and provide a clear basis for the assessment of compliance.

Stanwell seeks clarification from the Commission about how compliance with the Draft Rule will be assessed, noting that the AER proposal did not provide examples about how this would be achieved. Rather, the AER noted that, “it anticipates working with AEMO to develop appropriate metrics to inform that monitoring function”³⁵.

For example, how will changes in resources be measured? Will the onus be on the participant to record resource inlets and make note of changes

³⁴

[https://www.cleanenergycouncil.org.au/resources/technologies/geothermal#:~:text=Geothermal%20energy%20uses%20the%20earth%27s,and%20brine%20\(hydrothermal%20process\).](https://www.cleanenergycouncil.org.au/resources/technologies/geothermal#:~:text=Geothermal%20energy%20uses%20the%20earth%27s,and%20brine%20(hydrothermal%20process).)

³⁵ AER, Proposed rule change - Semi scheduled generators and dispatch instructions, p 24.

in bidding logs? Or will it be measured by AEMO against deviations from the UGIF? As the AER alluded to, “actual performance against forecast will inform the compliance arrangements”³⁶. Or, is compliance assessed based on the output of a generator against the dispatch target as noted by the Commission³⁷?

Stanwell considers that the Draft Rule could present a loophole for semi-scheduled generators in that any change (large or small) in an intermittent resource, will allow semi-scheduled generators to deviate from a dispatch target (regardless of the price) and will not be taken to have failed to comply with a dispatch instruction. Please refer to our recommendation in section 5.2 that may go some way to addressing this issue.

If the Commission is aiming to promote regulatory certainty and clarity, all semi-scheduled generators should be required to re-bid and wait for an updated dispatch instruction prior to moving output. Those capable of controlling, operating and/or storing energy should be transferred to the scheduled generator category.

4.5. Proportionality

The rule change, and costs imposed on participants, should be proportionate to the issue being addressed.

As highlighted throughout our response Stanwell considers the Draft Rule to be anachronistic and fails to make a change that is proportionate

³⁶ AER, Proposed rule change - Semi scheduled generators and dispatch instructions, p 22.

³⁷ AEMC, Draft rule determination Semi-scheduled generator dispatch obligations, 19 November 2020, p 42.

to the issue at hand. The Draft Rule as proposed presents a high likelihood of consequences to the market (continued operational complexities and discouragement to invest in firming technology) whilst also burdening consumers with very expensive market intervention costs as noted by AEMO³⁸.

Stanwell is disappointed that the 2005 position of the market is being used as the less contentious pathway over the best way forward for the market. The Draft Rule is anachronistic.

As thermal generation retires, semi-scheduled generators need to become more responsible for contributing to a secure and reliable NEM. The Commission should expand the cadence of accountability to what is the largest growing portion of generators participating in central dispatch.

5. Recommendations

5.1. Clarification of drafting intent: output or input.

Stanwell seeks clarification from the Commission whether the intent of the rule change is to move away from semi-scheduled generators being classified by **output** (*intermittent*) to **input** (*resource*).

If it is the intent of the Commission, then the definition of intermittent will need to remove the reference to output.

³⁸ AEMO, AEMO submission on proposed semi scheduled generator rule changes, 22 July 2020, p 2.

If it is not the intent of the Commission, then the requirement to make a definition pivoting around the inputs of a generator (*resource*) is not required.

5.2. Clarification of drafting intent: materiality of resource change.

Currently, any change in resource (small or large) will allow semi-scheduled generator to not follow dispatch targets. The narrow focused Draft Rule could be enhanced by requiring the change in resource to be *material*.

The importance of *material* changes has been acknowledged for a number of years now and is a well-established concept used by the AER in the 2017 and 2019 Rebidding and Technical Parameters Guidelines³⁹.

5.3. Revision and clarification of semi-scheduled definitions.

Existing (*intermittent*) and draft (*resource*) definitions pertaining to the semi-scheduled generator category are not technology neutral.

Stanwell's offers alternative drafting but maintains that the introduction of an **input** based definition through *resource* creates regulatory confusion being inconsistent with the remainder of the semi-scheduled generator category description in Chapter 2 of the NER which pertains to the **output** of a generator.

³⁹ [Rebidding and Technical Parameters Guideline \(2019\) | Australian Energy Regulator \(aer.gov.au\)](https://www.aer.gov.au)

Intermittent: A description of a generating unit whose output is not readily predictable (insert) within 12 dispatch intervals prior to the dispatch period and does not including, without limitation, solar generators, wave turbine generators, wind turbine generators and hydro-generators and without any have any material storage capability.

Resource: The intermittent energy source (such as wind or solar radiation) that is converted by a semi-scheduled generating unit into energy.

5.4. Make a preferred rule that sets a clear path to transition capable semi-scheduled generators to scheduled generator classification.

Market bodies have an important role to play in delivering clear consistent messages to energy stakeholders through their words and actions.

If the NEM is expected to rely upon a higher proportion of intermittent energy sources, there needs to be a clear pathway established in regulation that is fit to govern and facilitate semi-scheduled generators taking on greater responsibility in delivering secure and reliable energy.

As noted by AEMO, “with the increase in variable renewable energy (VRE) generation expected in the coming years, it is likely that the level of involvement from this generator class will account for a higher proportion of AEMO’s revenue requirements for core NEM activities (compared with other generators) as a result of increased operational

and planning complexities associated with the impact of their penetration levels in the NEM⁴⁰.

Stanwell contends that failing to consult on the broader and long-term implications of this Draft Rule, is a step backward for the Commission.

5.5. Delay the final determination.

Stanwell strongly recommends that the Commission delay the final determination to consider how to this rule change can be strengthened.

Six weeks between receiving the draft determination submissions and making the final determination does not provide enough time for the Commission to critically reassess the longevity of the Draft Rule, given its inconsistency within the NEM landscape, and the Draft Rule against the assessment criteria with a forward-looking perspective. As noted by AEMO:

“Under every ISP scenario, the NEM’s least-cost future features large increases in renewable generation. In summary, this Stage 1 RIS analysis finds that, in the next five years: The NEM power system will continue its significant transformation to world-leading levels of renewable generation. This will test the boundaries of system security and current operational experience. If the recommended actions are taken to address the regional and NEM-wide challenges identified, the NEM could be operated securely with up to 75% instantaneous penetration of wind and solar. If, however, the recommended actions are not taken, the identified

⁴⁰ AEMO, Electricity Fee Structures: Draft Report and Determination, November 2020, p 18.

operational limits will constrain the maximum instantaneous penetration of wind and solar to between 50% and 60% in the NEM⁴¹.

5.6. Implementation.

Stanwell supports the 30-day implementation timeframe if the narrow focus of the Draft Rule is maintained, or if all semi-scheduled generators are required to re-bid and wait for an updated dispatch instruction prior to moving output.

If the Commission adopts a broader approach requiring capable semi-scheduled generators to transition to the scheduled generator category, Stanwell considers a case-by-case exemption approach would be suitable. Case-by-case exemptions would allow the market body responsible for determining who should transition, to consider criteria such as:

- Does the generator have control of output? The AER could test this against technology standards, past performance and/or a statement of future intent.
- Does the generator own one or more generating units or systems? If yes, the owners core business and intention to invest in and derive benefit from the power system is potentially more likely. Furthermore, the cost of updating technology and resources will be lower, as it is distributed across more than one asset.

⁴¹ AEMO, Renewable Integration Study, 30 April 2020, p 4.

- Does the generator, owner or operator control other scheduled or semi-scheduled generators? If yes, the technological and organizational capability to participate in central dispatch already exists and therefore this generator should not be exempt.

To ensure guidelines have been applied fairly Stanwell considers all exemptions should be published on AEMO's website. Please see our submission to ERC0256 Generator Registration and Connections⁴², highlighting the importance of establishing transparent processes and recommending that AEMO adopts a similar public disclosure process for registrations and exemptions to that undertaken by Australian Energy Regulator (AER) during retail exemption and retail authorisation.

Stanwell considers that 12 months between the final determination and the commencement of the proposed rule change would provide sufficient time for market bodies and participants to prepare and assess exemptions and implement changes.

⁴² Stanwell submission, Generator Registrations and Connections, p 3.
<https://yhejitl3sl24wn203q4vn14z-wpengine.netdna-ssl.com/wp-content/uploads/Stanwell-submission-to-AEMC-Generator-Registrations-and-Connections-Consultation-Paper.pdf>

