IMPACT & IMPLEMENTATION REPORT (IIR)

Summary Section

Under NGR 327B, AEMO is required to consult in accordance with the capacity certificates auction procedures to determine the allocation of system injection points and system withdrawal points (as the case may be) in the declared transmission system to capacity certificates zones. While the capacity certificates auction procedures is not effective yet (will go in prior to go live as required by the transitional rules), we will be following it as per the version in our final decision in respect of both this consultation and the transitional auctions[1].

Impacted jurisdiction(s)	Victoria		
Proponent	Yvonne Tan	**Company**	AEMO
Affected gas market(s)	DWGM	**Consultation process (ordinary or expedited)**	Ordinary
Industry consultative forum(s) used	GWCF	**Date industry consultative forum(s) consultation concluded**	Wednesday, 22 December 2021
Short description of change(s)	Allocation of system injection points and system withdrawal points (as the case may be) in the declared transmission system to capacity certificates zones in the new capacity certificate zone register.		
Procedure(s) or documentation impacted	Capacity certificate zone register		
IIR prepared by	Yvonne Tan	**Approved by**	Matthew Clemow
Date IIR published	Wednesday, 12 January 2022	**Date consultation concludes**	Friday, 11 February 2022
Email address for responses	Yvonne.tan@aemo.com.au		
Other key contact information	gwcf_correspondence@aemo.com.au		

[1] https://www.aemo.com.au/consultations/current-and-closed-consultations/implementation-of-2020-dwgm-enhancement-rule-changes

IMPACT & IMPLEMENTATION REPORT – DETAILED REPORT SECTION

CRITICAL EXAMINATION OF PROPOSAL

1. DESCRIPTION OF ISSUE

In 2020, the AEMC made the following rule change in respect of the DWGM:

1. DWGM simpler wholesale price[2]; and
2. DWGM improvement to AMDQ regime[3].

Under NGR 327B(1) of the DWGM improvement to AMDQ regime rule change, AEMO must determine and may amend the allocation of system injection points or system withdrawal points (as the case may be) in the declared transmission system to capacity certificates zones. Before making or amending a determination under subrule (1), AEMO must consult in accordance with the capacity certificates auction procedures.

2. REFERENCE DOCUMENTATION

Publication of new capacity certificate zone register as required under the NGR.

3. OVERVIEW OF CHANGES

Publication of a new capacity certificates zone register. The capacity certificates zone register will set out:

a) The location of the capacity certificates zones in the declared transmission system; and

b) The system injection points or system withdrawal points associated with each capacity certificates zone.

4. LIKELY IMPLEMENTATION EFFECTS AND REQUIREMENTS

Updates to market systems:

- Add Capacity Certificate zones and system injection points or system withdrawal points associated with each Capacity Certificate zone register.

5. OVERALL COST AND BENEFITS

The AEMC has assessed the cost/benefit of the rule changes against the NGO[4]. It is AEMO's view that this IIR implements those rules in a way that delivers the greatest benefit. These changes represent a major rework of the DWGM functional design and AEMO's systems.

6. MAGNITUDE OF THE CHANGES

The creation of capacity certificate zones are required for the Capacity Certificate Auctions. The allocation of system injection points and system withdrawal points to capacity certificate zones will allow Market Participants with entry and exit capacity certificates to access tie-breaking rights for system injection points and system withdrawal points.

[2] https://www.aemc.gov.au/rule-changes/dwgm-simpler-wholesale-price
[3] https://www.aemc.gov.au/rule-changes/dwgm-improvement-amdq-regime
[4] https://www.aemc.gov.au/sites/default/files/documents/grc0051_improvement_to_amdq_regime_final_determination_12_march_2020_final.pdf

7. AEMO'S PRELIMINARY ASSESSMENT OF THE PROPOSAL'S COMPLIANCE WITH SECTION 135EB:

The new capacity certificate zone register described in the IIR is required for AEMO to implement the 2020 DWGM Enhancement. AEMO considers that the NGO is met for the reasons set forth in section 2.4 of the AEMC's rule determinations[5].

8. CONSULTATION FORUM OUTCOMES

Preliminary feedback from participants was that the capacity certificate zones should be as large as possible to:

- Reduce the likelihood of interactions between different zones.
- Reduce the number of different certificates Market Participants will need to purchase.
- Reduce complexity.

AEMO issued a proposed procedure change by email to the Gas Wholesale Consultative Forum on 1 December 2021. The proposed procedure change was then presented at the Gas Wholesale Consultative Forum on 9 December 2021. The procedure change included two options for the Gippsland Entry Zone:

- Option 1: a single Gippsland Entry Zone incorporating Dandenong LNG (in line with initial feedback); or
- Option 2: a Gippsland Entry Zone and a Melbourne Entry Zone; with Dandenong LNG allocated to the Melbourne Entry Zone.

The new capacity certificate zone register incorporates feedback received from stakeholders.

Setting Precedence for New System Points

The majority of the concern from participants was the following statement in the PPC:

"AEMO will attempt to apply the approach Market Participants choose now to assigning any future system points to capacity certificates zones to maintain a consistent application of the capacity certificates."

Specifically, the concern is how AEMO would treat the South West Entry Zone if a new system point was introduced in the South West Zone. As per NGR 327B, AEMO is required to consult when AEMO determines or amends the allocation of system points in the declared transmission system to capacity certificates zones.

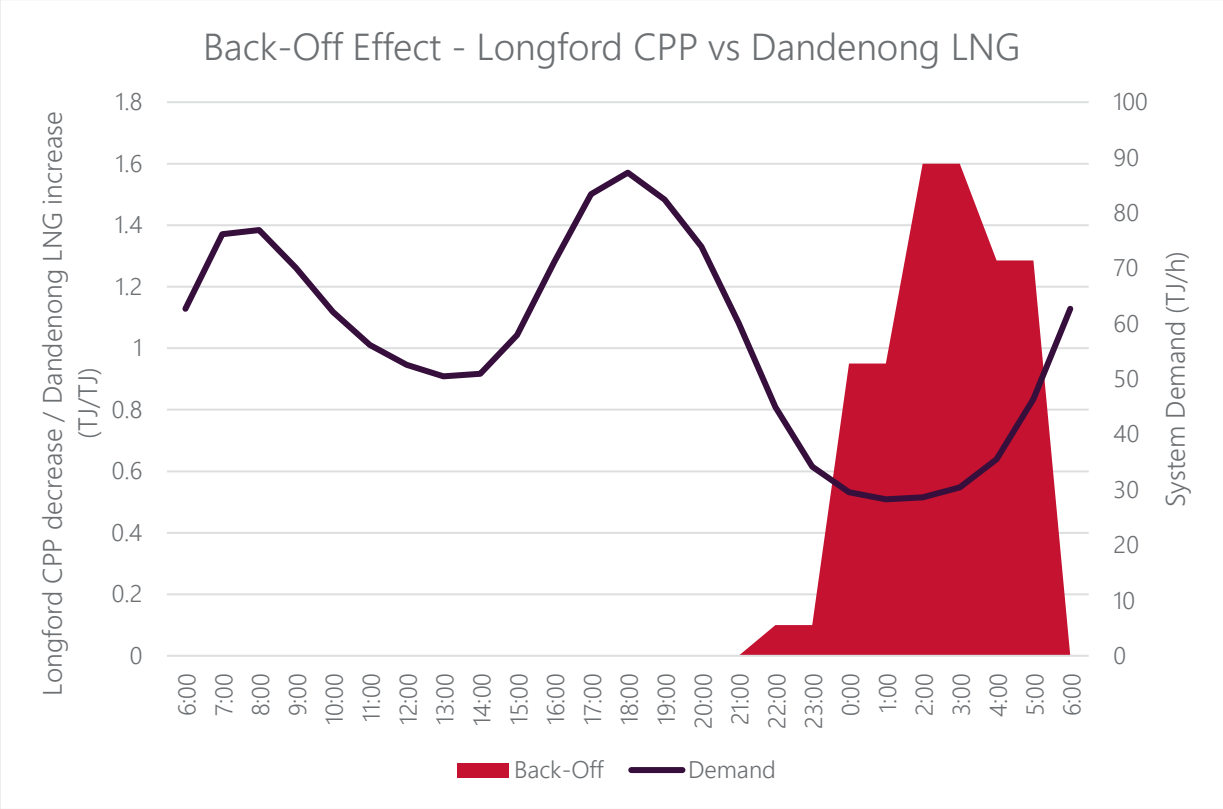
Back-Off Effect

A back-off effect occurs when an increased flow at one system point reduces the flow capability of another system point due to shared pipeline dynamics. Feedback provided from a stakeholder was that they required more information regarding the impact of the back-off effect between the Longford Close Proximity Point (CPP) and Dandenong LNG.

At lower demands the capacity is mass balance constrained so there is no back-off effect. At system demands higher than 800 TJ, when the system is not mass-balance constrained, a back-off effect occurs between the physically separate injection points. Figure 1 shows modelling results that indicate there is only a back-off effect between the Longford CPP and Dandenong LNG overnight during the 10pm scheduling horizon, when system demand is lowest. Dandenong LNG is able to inject at its nameplate maximum hourly quantity (MHQ) throughout the day without impacting the Longford CPP injection quantity.

[5] https://www.aemc.gov.au/sites/default/files/documents/grc0051_improvement_to_amdq_regime_final_determination_12_march_2020_final.pdf

Figure 1: Modelled Back-Off Effect on a 1-in-20 Demand Day



Dandenong LNG is primarily a peaking facility so it is unlikely to inject overnight. Current contracted quantities at Dandenong LNG and operator constraints at this injection point indicate injections at nameplate MHQ are also unlikely. The risk of Dandenong LNG injecting at nameplate MHQ at night is therefore highly unlikely and the risk of a back-off effect between the Longford CPP and Dandenong LNG is negligible.

APA has advised AEMO that the Western Outer Ring Main (WORM) project is expected to be completed by winter 2023. AEMO expects that with the WORM in service, the back-off effect between the Longford CPP and Dandenong LNG will be further reduced. If the zones are to be split on the basis that the back-off effect is minimal it is practical to do so now to avoid reconsidering the zones when the WORM is completed in 18 months' time.

Another feedback item was that system users require a degree of certainty that any supply or demand point, when used, will not have a back-off effect on their structured gas supply or withdrawal from the system. AEMO advises that it this is not possible. This is due to the relatively small size of the declared transmission system and the quantity of linepack in the system, compared to the relatively high system flows and shared assets between pipeline capacities. AEMO's operational experience is that there will always be a back-off effect between different system points. Limiting capacities to account for back-off effects in all scenarios would result in artificially reduced pipeline capacities.

The National Gas Rules do not prevent new system points from connecting in the declared transmission system. Once a system point is committed, AEMO will model the new system point, then the modelling results and the impact of the new system point is published in the Victorian Gas Planning Report to enable participants to make an informed decision. AEMO is not the system planner for the declared transmission system so it is not AEMO's role to determine what infrastructure is built in order to reduce or prevent a back-off effect.

Overallocation of Certificates

One market participant provided feedback that in Option 1, there is a potential overallocation of capacity certificates. This is accurate as the capacity certificate quantity can only be achieved if Dandenong LNG is injecting, therefore if Dandenong LNG is not injecting at nameplate capacity, the quantity available from the Longford CPP will be less.

Distribution Connected Facilities

It is likely to be necessary for any future distribution connected facilities connected to the Inner Ring Main to be included in a Melbourne Entry Zone. Irrespective of whether these facilities will be considered system points or not, their impact will be on the Melbourne Entry Zone capacity and not on the Gippsland Entry Zone capacity. Feedback was provided that it would be more straightforward to allow for a Melbourne Entry Zone now than to split this out from the Gippsland Entry Zone in the future.

Recommendation

Option 1, while the simplest and providing the most flexibility, has the downside where the capacity certificate quantity can only be achieved if Dandenong LNG is injecting at its nameplate rating. Option 1 would also need to be reconsidered when the WORM is completed or if a distribution connected facility connects to the Inner Ring Main.

In Option 2, while there is a back-off effect at higher system demands if all system injection points operate at nameplate capacity, the likelihood of Dandenong LNG operating at nameplate MHQ overnight is considered very low, so the back-off effect will be small.

While neither option satisfies all feedback, AEMO is proposing that Market Participants are capable of managing the risk of the back-off between the Melbourne Entry Zone and the Gippsland Entry Zone, and to therefore implement Option 2.

It should be noted that the rules require AEMO to review its determination of the zones if there is a change that could reasonably be expected to affect the allocation of system points to zone (e.g. extension or expansion of the DTS or changes to technical or operational characteristic), or if a proposal of a review is made in accordance with the capacity certificate auction procedures. Therefore, while AEMO is currently proposing Option 2 for the Gippsland Entry Zone, there are multiple instances where the determination of the zones can be reopened for review in the future.

IMPACT & IMPLEMENTATION REPORT – RECOMMENDATION(S)

9. SHOULD THE PROPOSED PROCEDURES BE MADE?

AEMO recommends that the allocation of system injection points and system withdrawal points (as the case may be) in the declared transmission system to capacity certificates zones as set out in the attached draft capacity certificates zone register (Attachment A).

10. PROPOSED TIMELINES

- IIR stage of consultation closed 11 February 2022.
- Final Decision published 8 March 2022.

ATTACHMENT A – DOCUMENTATION CHANGES (SEE SECTION 3)

Blue represents additions ~~Red~~ and strikeout represents deletions – Marked up changes.

Draft capacity certificate entry zones

Capacity Certificates Entry Zones	System points
Northern Entry Zone	Culcairn injection point
South West Entry Zone	Iona injection point SEA Gas injection point Otway injection point Mortlake injection point
Gippsland Entry Zone	Longford injection point VicHub injection point TasHub injection point BassGas injection point
Melbourne Entry Zone	Dandenong LNG injection point

Draft capacity certificate exit zones

Capacity Certificates Exit Zones	System points
Northern Exit Zone	Culcairn withdrawal point
South West Exit Zone	Iona withdrawal point SEA Gas withdrawal point Otway withdrawal point
Gippsland Exit Zone	VicHub withdrawal point TasHub withdrawal point