

Impact and Implementation Report (IIR) – GBB Procedures changes for hydrogen



Impacted jurisdiction(s)	All states except WA		
Proponent	Luke Stevens	Company	AEMO
Affected Gas Market(s)	Gas Bulletin Board (GBB)	Consultation process (Ordinary or Expedited)	Ordinary
Industry Consultative forum(s) used	Gas Wholesale Consultative Forum (GWCF)	Date Industry Consultative forum(s) consultation concluded	1 July 2024
Short Description of change(s)	Implementation of the AEMC's Hydrogen review in the GBB Procedures		
Procedure(s) or Documentation impacted	GBB Procedures		
IIR Prepared By	Luke Stevens	Approved By	Violette Mouchaileh
Date IIR published	26 August 2024	Date Consultation under 135EE or 135EF concludes	31 October 2024
Email Address for Responses	GWCF_Correspondence@aemo.com.au		

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Australian Energy Market Operator Ltd ABN 94 072 010 327

Impact and Implementation Report – Detailed Report Section

Critical Examination of Proposal

1. Description of issue

1.1. Background

In August 2021, Energy Ministers agreed that the national gas regulatory framework be reviewed and extended to accommodate hydrogen, biomethane and other renewable gases. This agreement meant that changes would need to be made to documents that underpin the framework so that they recognise and facilitate natural gas equivalents. This also meant that:

- (a) Jurisdictional officials would review the National Gas Law (NGL), National Energy Retail Law and National Energy Retail Regulations;
- (b) AEMC would review the arrangements in the National Gas Rules (NGR) for hydrogen and renewable gases; and
- (c) AEMO would review its Procedures, including for the Gas Bulletin Board (GBB).

Those reviews concluded in September 2022 whereby AEMC and AEMO published final recommended changes to their respective regulatory instruments.

[AEMO's final recommendation report](#) recognised that changes to the scope of the GBB Procedures would be required to ensure that covered gases are appropriately captured. Section 3 of this Impact and Implementation Report (IIR) provides a summary of these proposed amendments.

In October 2022 the Energy Ministers agreed to amendments to extend the NGL and NERL to hydrogen and other renewable gases. AEMO is undertaking a consultation on the GBB Procedures required as a result of the AEMC's [review into extending the regulatory frameworks to hydrogen and renewable gases](#) rule change.

The National Gas Amendment (Other Gases) Rule 2024 commenced 12 March 2024 and were gazetted with the publication of the South Australian Government Gazette dated 21 March 2024¹. The amendments to Part 18 of the National Gas Rules that apply to the Gas Bulletin Board that incorporate renewable gas changes are scheduled to come into effect on 3 March 2025.

¹ See [No. 19 - Thursday, 21 March 2024 \(pp. 473–501\) \(governmentgazette.sa.gov.au\)](#), South Australian Government Gazette no 19, page 495, accessed 22/03/2024.

1.2. How to make a submission

Anyone wanting to make a submission for this IIR consultation stage are requested to use the response template provided in Attachment C. Submissions are due **5:00 PM 3 October 2024** and should be emailed to GWCF_Correspondence@aemo.com.au.

2. Reference documentation

The documents being changed in this consultation are provided in Attachment A.

3. Overview of changes

The following changes were made in response to participant submissions to the PPC. The participant responses are summarised in Attachment D. The changes implemented since the PPC are summarised in this section.

3.1. General BB Procedure changes

AEMO has provided the IIR response template for participants to make their submissions in response to this consultation.

AEMO received no comments in response to the PPC in relation to the following amendments:

- (a) an updated template;
- (b) editorial amendments to reflect the terminology of the renewable gas rule changes;
- (c) inclusion of the new BB blend processing facilities and BB blended gas distribution system into the reporting framework.
- (d) removal of clause 6.1(b) of the BB Procedures as it was inconsistent with Rule 168(3).

AEMO received participant submissions in response to the new gas blend and gas blend curtailment report. These participant comments and AEMO's responses are discussed in Attachment D.4.

Participant responses to AEMO's specific questions are summarised in attachment D.2 and D.3 of this document. AEMO has provided a summary of the outcome of this assessment in section 3.3 of this IIR.

AEMO considers the changes to the Procedure are consistent with the AEMC's Rules for extending the regulatory frameworks to hydrogen and renewable gases.

3.2. Technical document changes

AEMO has made one amendment to the BB Data Submission Guide, as discussed in attachment D.6, to correct the Nomination and Forecast report submission cut-off time. No other changes have been made to the Technical Documents.

AEMO has updated the website location of the Technical Specification for the Gas Data Model as outlined in Attachment B.

3.3. Specific questions for consultation

3.3.1. How should the nameplate capacity of distribution networks be determined?

AEMO proposed that the nameplate capacity for the distribution system be determined as the sum of the gate stations nameplate capacities supplying the distribution system during normal operating conditions.

As per Attachment D.2, this proposal was supported in the responses by AGIG and Jemena. No other participant responded to this consultation question. AEMO has therefore proceeded with this proposal.

3.3.2. How should the blend level be calculated?

AEMO has proposed that %vol terms be used for the measurement of primary gas blends.

As per Attachment D.3, this proposal was supported in the responses by AGIG and Jemena. No other participant responded to this consultation question. AEMO has therefore proceeded with this proposal.

3.4. Gas Blend and Gas Blend Curtailment report

3.4.1. General comments on the Gas Blend and Gas Blend Curtailment report

As per Attachment D.4, AEMO received several comments on the Gas Blend and Gas Blend Curtailment data submissions and reporting requirements. AEMO has responded to these comments.

3.4.2. Optional fields in the Gas Blend and Gas Blend Curtailment report

AEMO proposed the additional optional fields be included in the gas blend and gas blend curtailment report that is required by Rule 190G:

- (a) gas type;
- (b) gas blend limit;
- (c) max gas day (gas day date on which the gas blend high event occurred); and
- (d) min gas day (gas day date on which the gas blend low event occurred).

No other participants provided a response concerning these additional options reporting fields. AEMO will therefore proceed with the proposal to include these fields.

3.4.3. Gas Blend and Gas Blend Curtailment for part of a BB facility

AEMO notes that Jemena has sought clarification of how ‘part of a BB facility’ should be determined for a distribution sub-network for the purposes of Rule 190G(2), as discussed in response D.4.3. AEMO has added the following note below clause 10.5 of the BB Procedures:

Note 2: For the purposes of reporting gas blend and gas blend curtailment information under Rule 190G(2), changes in the gas quality specifications (in particular heating values) should be used by BB pipelines and BB

blended gas distribution system operators to inform whether parts of the BB facility (e.g. a pipeline section or sub-network boundary) should be used.

AEMO seeks the views of Participants on whether this note should specifically require a BB facility to report Gas Blend and Gas Blend Curtailment information on the basis of heating value zones.

Question 1: Should the BB Procedures require BB pipeline and BB blended gas distribution system operators that report Gas Blend and Gas Blend Curtailment information for part of a BB facility, to provide that data on the basis of impacted heating value zones?

3.5. Transitional requirements for new BB facility types

As discussed in the PPC, the new Part 18 Rules and GBB Procedures apply from gas day 3 March 2025. The transitional rule requires:

.... must apply to AEMO to register under new Part 18 as the BB reporting entity for the relevant new Part 18 facility or new facility development project no later than 20 business days after the Part 18 amendments effective date.

AEMO expects all new Part 18 facilities (i.e. blended gas distribution systems and BB blend processing facilities) and new facility development projects (i.e. a facility development project for a blended gas distribution system or a blend processing facility) as at 3 March 2025 to submit a registration to AEMO as BB reporting entities or a new BB facility type (if already a BB reporting entity) within the period starting from 3 March 2025 and ending at close of business on 31 March 2025.

AEMO has received no comments on the proposed transitional requirements. AEMO has therefore proceeded with this proposal.

4. Likely implementation requirements and effects

This Procedure change extends the coverage of the GBB to include covered gas (e.g., hydrogen and biomethane) as required by the National Gas Amendment (Other Gases) Rule 2024.

5. Overall cost and benefits

AEMO considers that the AEMC's [review into extending the regulatory frameworks to hydrogen and renewable gases](#) provides the assessment of cost and benefits of the rule changes.

Participant's submissions have not identified concerns with the overall cost and benefits of this proposal as detailed in AEMO's Proposed Procedure Change.

6. Magnitude of the changes

AEMO is making this Procedure under the ordinary process for making Procedures under rule 135EE of the NGR as material changes are required to the GBB Procedures.

7. Consistency with National Gas Rules and National Gas Objective

Regarding these changes, AEMO’s preliminary assessment of the proposal’s consistency with the NGR and NGO is:

Requirement	AEMO’s Preliminary Assessment
Consistency with National Gas Law (NGL) and NGR	AEMO’s view is that the proposed procedure change is consistent with the NGL as required by the Energy Ministers and NGR as amended in the AEMC’s rule changes.
National Gas Objective	It is AEMO’s view that the changes are expected to contribute to the achievement of the NGO by promoting efficient investment in, and efficient operation and use of covered gas services for the long term interests of consumers of covered gas with respect to: <ul style="list-style-type: none"> a. price, quality, safety, reliability and security of supply of covered gas; and b. the achievement of targets set by a participating jurisdiction: <ul style="list-style-type: none"> i. for reducing Australia’s greenhouse gas emissions; or ii. that are likely to contribute to reducing Australia’s greenhouse gas emissions.

No participant submitted any opposing views in relation to AEMO’s assessment during the first-round consultation. AEMO therefore maintains its original assessment as described above.

8. Consultation outcomes

AEMO published the proposed procedure change on 1 July 2024 with participant submissions requested by 29 July 2024. AEMO received 3 submissions that are published on the consultation webpage, and issues raised in these submissions are summarised in Attachment D.

9. Supporting documentation

The documents can be found in:

- Attachment A – GBB Procedures and technical document changes
- Attachment B – GBB Technical Specifications
- Attachment C – Request for IIR response
- Attachment D – Summary of PPC submissions and AEMO’s responses

10. Impact and Implementation Report – Recommendations

10.1. Should the proposed Procedures be made?

AEMO recommends that the Procedures should be published as set out in the draft Procedures published in Attachment A of this IIR.

10.2. Proposed timelines

The Procedure consultation dates are as follows:

- PPC published: 1 July 2024
- PPC consultation submissions due: 29 July 2024
- IIR publication date: 26 August 2024
- IIR consultation submissions due: 3 October 2024
- Decision published: 31 October 2024
- Effective Date of Procedures: 3 March 2025

Attachment A. GBB Procedures and technical document changes

The following consultation documents are provided in track change format:

- GBB Procedures v13.0 (IIR) (track changes)
- BB Data Submission Guide v2.1 (IIR) (track changes)

The following consultation documents have not been amended since the PPC was published and are published on the website in track change format:

- BB Aggregation Methodology v1.3 (PPC) (track changes)
- Guide to Bulletin Board Reports v2.3 (PPC) (track changes)

Attachment B. GBB Technical Specifications

AEMO will be publishing a GBB Technical Specifications periodically as part of the project implementation to detail changes to the Gas Data Model. The GBB Technical Specification will be published in parallel to the rules required consultation on the GBB Technical Documents in Attachment A.

The GBB Technical Specification will be published on AEMO's [Technical Specification Portal](#) under the Gas > GBB heading.

This is the primary communication forum for GBB IT releases. These changes notifications are sent to Gas Wholesale Consultative Forum contacts along with Gas IT Development Forum contacts.

Attachment C. Request for IIR response

The “GBB IIR response template” has been attached separately to this document. The following sections are included in the template:

- Section 1 seeks general feedback on AEMO’s examination of the proposal and each Procedure.
- Section 2 seeks feedback on specific questions posed in the IIR.
- Section 3 seeks specific drafting proposals for the Procedure change.

The process for making submissions is outlined in section 1.2.

Attachment D. Summary of PPC submissions and AEMO’s responses

The following responses were received from participants in response to the Proposed Procedure Change.

D.1 General comments

Reference	Submitter	Submission details	AEMO response
Does your organisation support AEMO’s assessment of the proposal?			
D.1.1		AEMO did not receive a response to this item.	

D.2 Specific Question 1

Reference	Submitter	Submission details	AEMO response
Question 1: How should the nameplate capacity of distribution systems, required by Rule 144A, be determined?			
D.2.1	Jemena Limited	Jemena supports option (a), i.e. using the sum of the gate stations nameplate capacities.	Noted.
D.2.2	AGIG	The capacity of a distribution network is determined by downstream network demand and is constantly changing with many variables. A nameplate capacity number is therefore very subjective and of little value in itself. However, whilst the idea of a nameplate capacity for a distribution network is only an artificial construct, the proposed aggregation of the nameplate capacities of all of the gate stations that feed the network is a reasonable and straightforward proxy measure for AEMO to set thresholds for the establishment of BB reporting obligations.	Noted.

D.3 Specific Question 2

Reference	Submitter	Submission details	AEMO response
Question 2: How should the blend level, required by Rule 190G, be measured? AEMO is currently advocating the use of a %vol reporting requirement which is consistent with AS/NZS 4645.			

Reference	Submitter	Submission details	AEMO response
D.3.1	Jemena Limited	<p>Jemena supports using %vol reporting.</p> <p>Jemena is unable to understand the linkage to AS/NZS 4645, in that this standard only uses the 15% volume hydrogen blend as a reference. Note there is currently a proposal under draft to amend this Standard, with an aim to increase the coverage to include distribution systems with 100%. The Standard does not provide any mechanism for reporting or measuring on H2 blend levels.</p> <p>Jemena also understands that AS 4564 is currently being updated.</p>	<p>AEMO notes Jemena supports using %vol terms for reporting.</p> <p>AEMO further notes it is important to have a consistent data collection mechanism for the gas industry. AEMO recommends the data collection mechanism developed to derive the gas blend level needs to be consistent with a published Australia Standard.</p> <p>AEMO acknowledges the reported gas blend level data may be adjusted to suit the Gas Bulletin Board reporting purpose and the reported figure on Gas Bulletin Board may not be suitable to be used directly or without consultation for any other compliance purpose.</p>
D.3.2	AGIG	AGIG agrees with AEMO's position.	Noted.

D.4 GBB Procedures

Reference	Submitter	Submission details	AEMO response
D.4.1	Jemena Limited	<p>Clause 10.5</p> <p>Rule 190G requires a BB reporting entity for a BB pipeline that meets the criteria set out in rule 190G(1)(b) to report information relating to gas blend levels. Jemena is concerned that the operator of a BB pipeline may be unable to determine when the reporting threshold is satisfied if it cannot discern whether the gas it receives from another pipeline is, in fact, a gas blend or not. It is possible that biomethane or synthetic methane could be injected directly into another operator's pipeline which then connects with (and delivers a co-mingled stream of gas into) a Jemena pipeline. However, the existing connection agreements with Jemena's pipelines contain no obligations for the interconnecting pipeline operator to notify Jemena of the composition of gas it injects into a Jemena transmission pipeline so long the gas meets the applicable gas specification. For example, where the applicable gas specification is met, it is impossible for Jemena to distinguish biomethane and synthetic methane from natural gas chemically. To avoid uncertainty about the application of this reporting, Jemena requests that section 10.5 of the Procedures clarify that reporting by a BB pipeline is only required in circumstances where either of the following are directly connected to the BB pipeline:</p>	<p>AEMO notes that the 'blend level' definition in Rule 190G is critical to understanding when reporting will be required. The definition of blending level is:</p> <p><i>Blending level means, on any gas day, the BB reporting entity's reasonable estimate of the quantity of primary gas, other than natural gas, transported through the facility, expressed as a percentage of the total quantity of gas transported;</i></p> <p>Therefore, it is only a primary gas, other than natural gas, that is subject to a blending level that needs to be reported. AEMO understands the only primary gas, other than natural gas, that is expected to be subject to a blending level is hydrogen.</p> <p>The Rules require the BB Procedures to account for <u>any</u> BB facility that produces a primary gas, other than natural gas, that is subject to a blending level will need to be reported.</p> <p>AEMO considers that Rule 190G(2) requires that the BB Pipeline and BB blended gas distribution system are required</p>

Reference	Submitter	Submission details	AEMO response
		<ul style="list-style-type: none"> • a BB blend processing facility; or • a BB production facility capable of injecting a primary gas other than natural gas. <p>Alternatively, a reference in section 10.5 to the BB reporting entity ‘knowingly transporting a gas blend’ may help pipeline operators determine whether the reporting obligations apply to them.</p>	<p>to report any primary gas subject to a gas blend from a BB facility.</p> <p>A BB facility means a BB production facility, a BB pipeline, a BB blended gas distribution system, a BB blend processing facility, a BB storage facility, a BB compression facility, a BB large user facility or an LNG processing facility.</p> <p>AEMO’s BB Procedures cannot limit the reporting requirement defined in Rule 190G(2) in the manner proposed by Jemena.</p>
D.4.2	Jemena Limited	<p>Clause 10.5(a)(ii)</p> <p>While Jemena can report on the number of gas blend curtailment events, it is not in a position to report on the aggregate quantity of gas curtailed (TJ) as it doesn’t have visibility of quantity of gas not delivered nor is it in a position to estimate that volume.</p>	<p>AEMO notes the aggregate quantity of gas curtailed is required by Rule 190G(3)(c)(ii). As such, AEMO is required to collect this information under the Rules from the BB Pipeline or BB blended gas distribution system operator.</p> <p>AEMO has discussed these concerns with Jemena and has provided feedback to Jemena on its proposed methodology to determine the quantity of gas curtailed.</p>
D.4.3	Jemena Limited	<p>Clause 10.5(b)</p> <p>Jemena has concerns as to how this requirement will be interpreted. Currently primary gases could be blended upstream of city gates or downstream of city gates. If a gas blend is injected downstream of a city gate in a mesh distribution system in small quantities, the overall percentage will be a very small number. If the blending into a downstream part of the distribution system is at (say) 2%, but that stream is only 1% of the total flow through the mesh distribution system, does this mean the percentage to be reported is actually 0.02% (1% x 2%)? (Note this concern could also relate to the blended gas from a very small city gate into a mesh distribution system).</p> <p>Jemena requests that AEMO provides further clarification on what is required here.</p>	<p>AEMO considers the Rule 190G(2) provides for a BB facility (which includes a BB blended gas distribution system) must be provided separately for each part of the BB facility in which a gas blend is transported.</p> <p>AEMO would interpret this to mean sub-distribution networks receiving the gas blend would need to account for the gas. Therefore, as the gas blend reaches certain threshold values against the gas quality specifications (particularly the impact to the heating value), AEMO considers it would be appropriate to have a subnetwork established for reporting purposes.</p> <p><i>Note 2: In regard to Rule 190G(2) AEMO considers that the change in the gas quality specifications (in particular heating values) should be used to inform how BB pipelines and BB blended gas distribution system operators determine the part of the BB facility (e.g. sub-network boundaries) that should be used for reporting gas blend and gas blend curtailment by pipeline as required by Rule 190G. This approach would allow sub networks to be defined based on the impact of hydrogen to end use customers.</i></p>

Reference	Submitter	Submission details	AEMO response
D.4.4	Jemena Limited	<p>Clause 10.5(b)(ii)</p> <p>Rule 190G (3)(d)(ii) requires information on the average daily blend level across all days in the month. This is covered in 10.5(b)(iii) of the BB Procedures as the BB reporting entity providing information on the average daily blend level. It is unclear if this is intended to be the average of the daily blend level or the total blend level averaged across the month.</p> <p>Jemena requests that AEMO provides further clarification on what is required here.</p>	<p>AEMO notes this requirement comes from Rule 190G(3)(d)(iii) which states: <i>average daily blend level across all days in the month</i></p> <p>AEMO has amended the BB procedure clause 10.5(b) to reflect the exact text in Rule 190G(3)(d).</p> <p>AEMO considers that the Rule requires the BB facility to calculate a blend level for each gas day. These daily blend levels are to be used to determine for the calendar month the highest value, lowest value and average daily value.</p>
D.4.5	APA	<p>Thank you for the opportunity to comment on AEMO’s PPC on the GBB Procedure changes to accommodate renewable gases rule change.</p> <p>Whilst APA is supportive of accommodating hydrogen and renewable gases into the National Gas Framework, we do advocate that these obligations apply and be active on BB facilities only when the facility operator has taken a deliberate step to accommodate hydrogen or other renewable gases.</p> <p>APA requests that AEMO provides clarity in section 10.5 Reporting Gas Blend and Gas Blend Curtailment Information that 10.5 of the BB Procedures only comes into effect or is triggered for reporting if or when the BB Pipeline changes to accept or transport a gas blend. This could occur when the respective BB pipeline accepts the connection of:</p> <ul style="list-style-type: none"> • BB blend processing facility; or • BB production facility capable of injecting a primary gas other than natural gas to the BB Pipeline. <p>The inclusion of this would clarify that the AEMO BB Procedures section 10.5 does not apply for a BB pipeline that is transporting natural gas as a primary gas.</p> <p>This then aligns with APA’s interpretation of the National Gas Law where:</p> <ul style="list-style-type: none"> • Gas blend is defined as gas blend means primary gases that have been blended together • Primary gases is defined as primary gas means the following: <ul style="list-style-type: none"> – Natural gas; – Hydrogen; – Biomethane; – Synthetic methane; <p>A substance prescribed by the Regulations for the purpose of this definition;</p> <p>A substance prescribed as a primary gas in a participating jurisdiction by a local regulation of the participating jurisdiction.</p> <p>National Gas Rules 190G (1) states that 190G applies to a BB reporting entity for:</p> <ul style="list-style-type: none"> • a BB blended gas distribution system; or 	<p>Please see AEMO’s response in D.4.1. Section 10.5 also applies to the receipt of blended gas from a BB pipeline.</p> <p>AEMO has added the following note to the BB procedures under clause 10.5:</p> <p><i>Note 1: This reporting obligation applies to BB blended gas distribution systems and BB pipelines that receipt a gas blend from another BB facility (that may a BB pipeline, BB production facility, BB blend processing provider) that injects a primary gas other than natural gas that is subject to a blending level.</i></p>

Reference	Submitter	Submission details	AEMO response
		<ul style="list-style-type: none"> A BB pipeline that transports a gas blend and is subject to or applies a blending limit. <p>On this basis, APA’s transmission pipelines that are BB Pipelines accommodate natural gas as a primary gas, do not currently accommodate gas blends, nor do they apply a blending limit and therefore should not be captured by this requirement until such time as APA has completed technical assessments, determined a blending limit and directly connected a BB blend processing facility or BB production facility capable of injecting a primary gas other than natural gas into the BB pipeline. This is consistent with National Gas Rules Part 10, 101B(2)(h)(v and vi) which requires a transmission pipeline operator to report via the entity’s website if a service provider has received approval to change the type of gas transported and the gas transported through the pipeline is going to change on an on-going basis.</p>	
D.4.6	AEMO	AEMO proposed to amend the term “field limitation” to be “primary gas supply limitation” in clause 6.1(d)(iv) of the BB Procedures in relation to nameplate rating information of a BB blend processing facility. AEMO considers this amendment better reflects the potential for limitations on a BB blend processing facility’s nameplate rating.	AEMO has amended the Procedure.

D.5 BB Aggregation Methodology

Reference	Submitter	Submission details	AEMO response
D.5.1		No comments were received on this document.	

D.6 BB Data Submission Guide

Reference	Submitter	Submission details	AEMO response
D.6.1	AEMO	AEMO has amended an error in the Nomination and Forecast report submission cut-off time (previously “9:00pm on gas day D”) to reflect the actual submission cut-off time (“9:00pm on gas day D-1”).	This change has been implemented.

D.7 Guide to Gas Bulletin Board Reports

Reference	Submitter	Submission details	AEMO response
D.7.1		No comments were received on this document.	