



Australian Energy Market Commission

RULE DETERMINATION

National Gas Amendment (DWGM Operating Schedules) Rule 2015

Rule Proponent
AEMO

22 October 2015

**RULE
CHANGE**

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About the AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

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Summary

The Australian Energy Market Commission has made a final rule to support continuing market operations in the Declared Wholesale Gas Market (DWGM) through the production and publication of feasible operating schedules by the Australian Energy Market Operator (AEMO).

Operating schedules set out each Market Participant's physically achievable hourly gas injections and withdrawals at each injection and withdrawal point, taking account of transmission pipeline constraints, linepack distribution, system limits on pressure and gas flows.

The final rule is consistent with AEMO's proposed rule, in that it provides AEMO with greater flexibility in terms of the modelling approach that it is required to utilise to produce operating schedules, while emphasising the objective of rule 215(2) that operating schedules should be produced in a way that minimises the cost of satisfying expected demand for gas over the gas day. The rule also clarifies the process that AEMO must follow to produce feasible operating schedules for all circumstances. The final rule also includes a consequential amendment for the purpose of standardising the language in the rule provisions for producing operating schedules and pricing schedules. Minor augmentations have been incorporated in the final rule to reflect stakeholder feedback received as part of the AEMC's consultation on the rule change.

The final rule has been made by the Commission under the expedited (faster) rule making process. As part of the public consultation process on the rule change request, stakeholders did not object to the request being considered as a request for a non-controversial rule by the Commission. The Commission received two submissions to the consultation paper, which both supported the proposed rule change being made.

The Commission is satisfied that the final rule will, or is likely to, contribute to the achievement of the National Gas Objective by promoting regulatory certainty and transparency by clarifying the process AEMO must follow in order to produce and publish DWGM operating schedules. In doing so, the rule is expected to benefit consumers in the long term by promoting the efficient operation of natural gas services.

The final rule will commence on 5 November 2015.

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1 AEMO's Rule Change Request

1.1 The rule change request

On 27 April 2015, the Australian Energy Market Operator (AEMO) submitted a request to the Australian Energy Market Commission (AEMC or Commission) relating to AEMO's obligations under the National Gas Rules (NGR or Rules) to produce and publish operating schedules for the Declared Wholesale Gas Market (DWGM).

AEMO requested the Commission consider the rule change request under the expedited (faster) rule change process on the basis of it being a request for the making of a non-controversial rule.¹

The rule change request, which included a proposed rule, is available from the AEMC's website.²

1.1.1 DWGM scheduling instructions

The DWGM is a wholesale market for the supply and purchase of gas in Victoria and some parts of New South Wales. It is compulsory for any Market Participant wanting to either supply gas into Victoria, or export gas via the Declared Transmission System (DTS), to use the DWGM. As operator of both the DWGM and DTS, AEMO balances gas supply and demand and transportation through a centrally co-ordinated scheduling process.

AEMO produces and publishes scheduling instructions to DWGM Market Participants for each gas day in the form of:

- pricing schedules – which determine the ex ante market price using Market Participants' bids for the gas supply and gas demand forecasts, using a bid stack to achieve the lowest price; and
- operating schedules – which determine the physically achievable (ie, feasible) hourly gas injections and withdrawals at each injection and withdrawal point for each Market Participant over the gas day, taking into account transmission pipeline constraints, linepack distribution, system limits on pressure and gas flows.

¹ Under section 290 of the NGL, a non-controversial rule means a rule that is unlikely to have a significant effect on a market for gas or the regulation of pipeline services. Under section 304 of the NGL, a rule change request that the AEMC considers to be a request for a non-controversial rule may be processed under an expedited (faster) process under which there is only one round of consultation and the AEMC must publish its final rule determination within six weeks of commencing the rule change process.

² AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

1.1.2 Producing and publishing DWGM operating schedules (rule 215)

There are three key components to rule 215 of the NGR:

- rule 215(1) specifies the inputs and assumptions that AEMO must use to produce the operating schedules;³
- rule 215(2) requires AEMO to apply the inputs and assumptions specified in rule 215(1) in an *optimisation program*⁴ (ie, a software application), in which a representation of the DTS and valid demand forecasts and bids submitted by Market Participants, are used to produce the operating schedules which specify gas injections and withdrawals for each hour of the gas day in a way that minimises the cost of satisfying expected gas demand for that gas day; and
- rule 215(3) requires AEMO to publish the operating schedules (and pricing schedules) by certain times throughout the gas day and for the next two gas days.

1.2 Rationale for the rule change request

In its rule change request, AEMO sought to resolve two issues with rule 215 relating to the production of operating schedules, as described below.⁵ AEMO suggested that a strict interpretation of rule 215 in its current form would require it to suspend the DWGM on "a fairly regular basis" as a result of these issues.

1.2.1 Uncertainty regarding which modelling tools can be used by AEMO in representing the DTS to produce operating schedules

While rule 215(2) requires AEMO to apply the inputs and assumptions set out in rule 215(1) in an *optimisation program*, situations can arise where the pipeline representation in the *optimisation program* lacks sufficient accuracy to produce a feasible operating schedule. These situations include occurrences of severe transients, such as unanticipated peaks of uncontrollable demand (eg, peaks in household demand which typically occur in extreme cold weather).

AEMO considers the NGR is ambiguous about whether it may draw on additional tools, such as a real-time engineering model that may more accurately simulate DTS

³ Rule 215(1) of the NGR sets out the inputs and assumptions to be used by AEMO, including: the demand forecasts and bids submitted by Market Participants for the gas day; any conditions or constraints applicable to the bids of Market Participants and the delivery or receipt of gas; AEMO's demand forecast override; the linepack target for the end of the gas day; and any equations of constraints relating to the flow of gas in the DTS. Refer to rule 215(1) for the comprehensive list of inputs and assumptions.

⁴ The *optimisation program* that is used by AEMO is known as the Market Clearing Engine and determines the daily operating and pricing schedules. The model combines non-linear pressure/flow equations, equations related to pipeline infrastructure (such as compressors and pressure regulation stations), and participant bids for gas deliveries and receipts, within an optimisation framework to determine optimal hourly receipts and deliveries of gas at least cost using the bids and physical constraints within the system (AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, p. 8. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules).

⁵ AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

constraints,⁶ to validate and, where necessary, modify the *optimisation program's* inputs so that DTS constraints are accurately reflected in the operating schedule.

AEMO considers that in the event that all constraints are not applied or accurately reflected, the operating schedule may be infeasible and, in extreme circumstances, may pose risks to system security (eg, where uncontrolled withdrawals are higher than forecast injections).

1.2.2 NGR do not specify what AEMO is to do if it is unable to produce operating schedules in accordance with rules 215(1)-(2) by the times specified in rule 215(3)

While rule 215(3) requires AEMO to publish operating schedules by specified times throughout the gas day and for the next two gas days, AEMO considers that the NGR do not specify the course of action that AEMO should take in the event that the production and publication of operating schedules do not meet the specified times.⁷

AEMO suggested that in the absence of clarity in the Rules on this issue, it may be implied that AEMO is required to suspend the DWGM under rule 347(d)(1) as it cannot operate the Market in accordance with rule 215.⁸

In practice, AEMO follows the processes set out under clause 5.4 of the Wholesale Market Gas Scheduling Procedures (Victoria)⁹ (or DWGM Procedures) in the event that it cannot produce or publish operating schedules in accordance with rule 215. However, AEMO notes:¹⁰

“As the processes prescribed in the [DWGM Procedures] are not contemplated by the NGR and the [DWGM Procedures] cannot override the NGR, AEMO's use of such processes may be seen as inconsistent with the NGR.”

⁶ AEMO's engineering model (the Gregg Model) is a purpose-built pipeline simulation model of the DTS, which is used in real-time to determine constraints and confirm the operating strategies required to maintain system security. The model is used to determine pipeline capacity constraints, compression requirements and how much peak shaving gas is required to maintain minimum system pressures. The Gregg Model is used as the "Common Model," shared between APA Group (the owner of the DTS) and AEMO to agree on the capacity of transmission pipelines and compressors in the DTS. The agreed pipeline capacities are published in the Victorian Gas Planning Report which provides Market Participants with information on the pipeline capacities used when determining constraints in the operating schedule. The Gregg Model is not an optimisation model. (AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, p. 8. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules).

⁷ Delays can be caused by failures of IT hardware or software, data error or human error.

⁸ Rule 347 of the NGR describes conditions for suspension of the DWGM. Under rule 347(d)(1), AEMO may declare the Market to be suspended when it determines that it is necessary to suspend the Market because it has become impossible to operate the Market in accordance with the provisions of Part 19 (DWGM) of the NGR.

⁹ AEMO, Wholesale Market Gas Scheduling Procedures (Victoria) v 2.0, 4 May 2015, pp. 29-41. Available from: www.aemo.com.au.

¹⁰ AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, p. 3. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

1.3 Solution proposed in the rule change request

To resolve the issues referred to above, AEMO proposed a rule change to:¹¹

- amend rule 215(2) to remove the requirement for AEMO to use an *optimisation program* to produce the operating schedules, and instead require AEMO to produce the operating schedules in a way that minimises the cost of satisfying demand for gas on that gas day, taking account of any transmission constraints in the DTS; and
- insert a new rule 215A to define the process that AEMO would be required to follow to produce and publish a feasible operating schedule in circumstances where it has been unable to do so in accordance with rule 215.

1.4 The Commission's rule making process to date

On 10 September 2015, the Commission published a notice under sections 301 and 304 of the National Gas Law (NGL) advising of its intention to commence the rule making process and to expedite the proposed rule as a non-controversial rule (subject to any written requests not to do so). A consultation paper identifying specific issues or questions for consultation was also published at this time. Submissions closed on 8 October 2015.

In response, the Commission received two supporting submissions from GDF Suez Australian Energy (GDFSAE) and APA Group (APA) which are available on the AEMC's website.¹² A summary of the issues raised in the submissions and the Commission's response to each issue is contained in Appendix B.

No stakeholders objected to the proposed rule being considered as a request for a non-controversial rule under the expedited (faster) rule making process.

¹¹ www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

¹² www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

2 Final Rule Determination

2.1 Commission's determination

The Commission's final rule determination is to make the rule as proposed by AEMO, augmented by minor clarifications to the proposed rule and the inclusion of a consequential amendment to standardise the language between related rule provisions. The augmentations were identified to, and reflect feedback received from, stakeholders as part of the AEMC's consultation on the rule change request.¹³

The final rule, which is published with this final rule determination, commences on 5 November 2015. The key features of the final rule are outlined below.

The final rule:

- amends rule 215(2) to:
 - clarify and retain the original objective of the rule, which is that AEMO must produce operating schedules in a way that minimises the cost of satisfying expected gas demand over the gas day; and
 - remove the requirement for AEMO to utilise an *optimisation program* to produce operating schedules and in doing so, provides AEMO with greater flexibility to utilise a more accurate modelling approach to produce feasible operating schedules.
- inserts rule 215A to:
 - clarify the process AEMO must follow to produce a feasible operating schedule in circumstances where it has been unable to produce one in accordance with rule 215; and
 - retain the level of information that AEMO currently provides to Market Participants about how DWGM operating schedules have been produced.
- amends rule 221(4) as a desirable consequential amendment to standardise the language in the rule provisions for producing operating schedules and pricing schedules.

2.2 Rule making test

Under the NGL, the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the National Gas Objective (NGO).¹⁴

The NGO states:¹⁵

“The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of

¹³ See AEMC alternative rule drafting for consultation purposes, as published in Appendix B of the AEMC consultation paper, DWGM Operating Schedules, 10 September 2015. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

¹⁴ See section 291(1) of the NGL.

¹⁵ See section 23 of the NGL.

consumers of natural gas with respect to price, safety, reliability and security of supply of natural gas.”

For this rule change request, the Commission considers that the relevant aspect of the NGO is the efficient operation of natural gas services for the long term interests of consumers of natural gas with respect to price, safety, reliability and security of supply of natural gas.¹⁶ This is because the rule change proposal seeks to clarify the process that AEMO is required to follow, in its role as the operator of the DWGM, to produce and publish the operating schedules. By clarifying and retaining the original objective for AEMO to produce operating schedules in a way that minimises the cost of satisfying expected gas demand over the gas day, this is likely to support efficient and continuing DWGM operations which, in turn, promotes a safe, reliable and secure supply of natural gas services to consumers in the long term.

2.3 Assessment approach

To support its assessment of the rule change proposal, the Commission focussed on the following issues:

- **Regulatory certainty:** Market and regulatory frameworks should be flexible and provide Market Participants with a clear and consistent set of rules that allow them to independently develop business strategies/ models and to adjust to changes in the market. Frameworks should be resilient to changing supply and demand conditions, and patterns of flow, over the long-term.
- **Transparency:** Information that has the potential to impact on the decision making of Market Participants should be publicly disclosed to all interested parties at the same time. Information should be published in a consistent format that allows ease of interpretation by others.

The rule change has been assessed against the relevant counterfactual arrangements. That is, in the absence of making the proposed rule change, there is a risk that AEMO may either:

- unnecessarily suspend the DWGM in strict adherence to rule 347(d)(1) if it is unable to produce a feasible operating schedule in accordance with rule 215; or
- breach the NGR by producing a feasible operating schedule in a manner that is inconsistent with rule 215, but consistent with the process set out in the DWGM Procedures.

¹⁶ Under section 291(12) of the NGL, for the purposes of section 291(1) the AEMC may give such weight to any aspect of the NGO as it considers appropriate in all the circumstances, having regard to any relevant Ministerial Council on Energy Statement of Policy Principles.

2.4 Summary of reasons

Having regard to the issues raised in the rule change request (discussed in section 1.2), the Commission is satisfied that the final rule will, or is likely to, contribute to the achievement of the NGO for the following reasons:

- **Regulatory certainty:** The final rule:
 - Retains the original cost minimisation objective of rule 215(2).¹⁷ This, in turn, has the effect of clarifying the process that AEMO must follow to produce and publish feasible operating schedules in order to meet this objective, and promotes consistency between the related provisions of the NGR and the DWGM Procedures. Clarifying these processes is likely to contribute to a more productively efficient¹⁸ operation of the DTS, particularly with respect to the safe, reliable and secure supply of natural gas to consumers.
 - Reduces the risk of AEMO unnecessarily suspending the DWGM due to potential uncertainty regarding the process for addressing infeasible operating schedules.¹⁹ A consequence of market suspension is that it would trigger an administered pricing period²⁰ that may cause disruption to the normal operation of the DWGM.²¹ As such, reducing the risk of unnecessary market suspension for Market Participants is expected to be in the long term interests of consumers.
 - Promotes regulatory certainty for AEMO and Market Participants by standardising the language that is used to describe DTS constraints in the rule provisions that apply to producing operating schedules (rule 215(2)) and pricing schedules (rule 221(4)).
- **Transparency:** The final rule:
 - Promotes transparency in market operations by clarifying the process in the NGR (rule 215A) that AEMO must follow to produce feasible operating schedules in all circumstances; and

¹⁷ The objective of amended rule 215(2) of the NGR is that operating schedules should be produced in a way that "minimises the cost of satisfying expected demand for gas over the gas day."

¹⁸ Productive efficiency means goods and services should be provided at the lowest possible costs to consumers.

¹⁹ Under rule 347(1)(d) of the NGR, AEMO may declare the Market to be suspended when it determines that it is necessary to suspend the Market because it has become impossible to operate the Market in accordance with the provisions of Part 19 (DWGM) of the NGR.

²⁰ Under rule 224 of the NGR, AEMO must determine an administered price cap and make Procedures that specify that cap. The administered price cap of \$40/GJ is set out in Chapter 2 of AEMO's Wholesale Market Administered Pricing Procedures (4 May 2015, p. 7).

²¹ Market suspension can limit a Market Participant's flexibility to adjust their position (forecast injections and withdrawals) over the gas day and could result in imbalance and deviation charges.

- Retains the level of information that AEMO currently provides to Market Participants under the DWGM Procedures²² about how operating schedules have been produced.

The Commission, therefore, considers that the rule as made will, or is likely to, benefit consumers in the long term by promoting the efficient operation of natural gas services.

The Commission's conclusions and assessment for making this final rule and determination are set out in Chapter 3.

Appendix A sets out further detail regarding the legal requirements for the making of this final rule determination.²³

2.5 Strategic priority

This final rule determination relates to the AEMC's strategic priority of promoting the development of efficient gas markets. The final rule promotes the development of efficient gas markets by supporting regulatory certainty and transparency in regard to the production and publication of operating schedules by AEMO.

²² AEMO, Wholesale Market Gas Scheduling Procedures (Victoria) v 2.0, 4 May 2015, clause 5.4, pp. 29-40. Available from: www.aemo.com.au.

²³ Including the Commission's powers under the NGL to make the rule (NGL. s. 74), Ministerial Council on Energy Statements of Policy Principles (NGL. s. 225) and AEMO's declared system functions (NGL. s. 295).

3 Commission's Conclusions and Assessment

This chapter provides the Commission's conclusions, stakeholder views and the Commission's analysis for this rule change request.

3.1 Regulatory certainty

3.1.1 Commission's conclusion

The final rule clarifies and retains the original objective of rule 215(2), which is to minimise the cost of satisfying expected gas demand over the gas day. In doing so, AEMO has greater flexibility to utilise a more accurate modelling approach to produce a feasible operating schedule.

The final rule 215A also clarifies the process AEMO must follow to produce a feasible operating schedule in circumstances where it has been unable to produce one in accordance with rule 215.

Given the above, the Commission considers that the final rule promotes regulatory certainty by reducing the risk of AEMO unnecessarily suspending the DWGM with consequent disruption to price. Continuing DWGM operations contribute to the NGO by promoting a safe, reliable and secure supply of natural gas services to consumers, which is in their long term interests. The final rule also includes a consequential change to rule 221(4) to standardise the language used to describe the DTS in the provisions for producing operating and pricing schedules.

3.1.2 Stakeholder views

In its rule change request, AEMO considered that its proposed changes to rule 215 would address the uncertainty about the process and modelling tools that it may use to produce and publish the operating schedules. In particular, the proposed amendment to rule 215(2):²⁴

“...would deliver operational and market outcomes consistent with the intended outcomes of rule 215 and the NGO... [as] the essential requirements of the existing rule 215(2) would remain.”

AEMO also advised that it had raised the issue and proposed solution at its Gas Wholesale Consultative Forum meeting on 10 February 2015, and that meeting participants did not object to a rule change being proposed to the AEMC.

The AEMC also notes that the Australian Energy Regulator (AER) had commented on this matter in a recent Quarterly Compliance Report:²⁵

“Given that AEMO's current method appears not to be having any adverse market impacts and it has lodged a rule change proposal with the AEMC to clarify the issues, we propose not taking any action at this stage.”

²⁴ AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, pp. 1- 2. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

²⁵ Australian Energy Regulator, Quarterly Compliance Report, Quarter 1, 2015. Available from: www.aer.gov.au

In its rule change request, AEMO considered there would be minor administrative costs as a result of making the proposed rule, which AEMO expects to be absorbed into ongoing operational costs with no impact on market fees. Conversely, AEMO considered the benefits of making the proposed rule include certainty that the physical characteristics of the DTS have been accurately reflected in the derived operating schedules and, as a result of clarity of NGR and AEMO processes, operational and administrative costs arising from possible market suspension resulting from the production and publication of infeasible operating schedules can be avoided.

The Commission received two stakeholder submissions on the rule change request. A summary of the issues raised by APA Group (APA) and GDF Suez Australian Energy (GDFSAE), and the Commission's response to each issue, is contained in Appendix B.

Both APA and GDFSAE supported the proposed rule change proposal.²⁶

GDFSAE noted that there may be alternative methods for overcoming the issues that AEMO seek to resolve, although these may require a more detailed consideration than an expedited consultation would allow. GDFSAE also indicated that it would like to see the processes used by AEMO to produce and publish DWGM operating schedules improved so that AEMO is able to accommodate any unusual situations that can cause delays in the schedule preparation.²⁷

During the consultation on this rule change proposal, the AEMC sought feedback on indicative alternative drafting of AEMO's proposed rule.²⁸ Both APA and GDFSAE offered views on the AEMC's alternative drafting, as summarised below.

APA considered AEMO's proposed rule to be preferable to the AEMC's alternative drafting of rule 215(2). In APA's view, the AEMC's alternative drafting alters the obligation on AEMO to "use" valid demand forecasts and bids to produce the operating schedule and instead require AEMO to produce operating schedules that are "based on" valid demand forecasts and bids. In doing so, APA considered the nature of the obligation of AEMO has been changed in an unintended way.²⁹ The Commission accepts this view and the final rule requires AEMO to "produce operating schedules...using valid demand forecasts and bids."³⁰

GDFSAE recommended that the AEMC consider further changes to the alternative drafting to remove the reference to *optimisation program* from rule 221(4). GDFSAE also suggested opportunities to enhance the consistency between the provisions for gas

²⁶ In its submission, GDFSAE noted that it does not oppose the rule change proposal being progressed under the expedited consultation process and agreed that the proposed rule change would likely overcome the issue identified by AEMO in its rule change request. GDFSAE, Submission to Consultation Paper, 24 September 2015, p. 1. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

²⁷ GDFSAE, Submission to Consultation Paper, 24 September 2015, p. 1. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

²⁸ AEMC, DWGM Operating Schedules, 10 September 2015, Appendix B. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

²⁹ APA Group, Submission to Consultation Paper, 8 October, p. 1. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

³⁰ Amended rule 215(2).

scheduling and electricity dispatch in the NGR and National Electricity Rules (NER).³¹ The AEMC considers that these recommendations extend beyond the scope of this rule change request, however the AEMC has addressed these matters in Appendix B.

3.1.3 Commission's analysis

Clause 5.4 of the DWGM Procedures specifies the process that AEMO must follow to produce and publish operating schedules in the event of (eight) abnormal conditions (ie, when AEMO cannot produce or publish feasible operating schedules in accordance with rule 215).^{32, 33}

From discussions with AEMO, the AEMC understands that under the most regularly occurring abnormal condition (ie, Condition 3, where the *optimisation program* has failed to produce a feasible operating schedule by the required time), AEMO will most commonly use the pricing schedule to create the operating schedule (if the pricing schedule is achievable within the system operating limits). Alternatively, if the pricing schedule is not physically achievable, AEMO will re-approve the most recently approved operating schedule and pricing schedule as the updated schedules and declare an administered pricing period.³⁴

To address AEMO's concern that the current Rules may not provide AEMO with clear authority to take either of the above actions, the Commission has determined to make a final rule that:

- Removes the requirement in rule 215(2) for AEMO to use an *optimisation program* to produce operating schedules. As a result, this enables AEMO to draw on other modelling tools to accurately represent "transmission constraints affecting the transportation of gas in the DTS,"³⁵ while emphasising the objective of rule 215(2) that operating schedules should be produced in a way that minimises the cost of satisfying expected gas demand for gas over the gas day, using valid demand forecasts and bids submitted by Market Participants.³⁶
- Inserts a new rule 215A such that, in the event that AEMO is unable to produce an operating schedule in accordance with rule 215, AEMO must nevertheless determine the operating schedule by:³⁷

³¹ GDFSAE, Submission to Consultation Paper, 24 September 2015, p. 1. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules

³² AEMO, Wholesale Gas Market Scheduling Procedures (Victoria) v 2.0, 4 May 2015, clause 5.4, pp. 29-40. Available from: www.aemo.com.au.

³³ The process for amending these Procedures is established under rule 135EE of the NGR, which requires AEMO to give notice of the intention to make Procedures, provide an impact and implementation report, and give interested parties at least 20 business days to submit written comments to AEMO on the proposed DWGM Procedures.

³⁴ Under rule 224 of the NGR, AEMO must determine an administered price cap and make Procedures that specify that cap. The administered price cap of \$40/GJ (AEMO, Wholesale Market Administered Pricing Procedures (Victoria) v 2.1, 4 May 2015, p. 7. Available from: www.aemo.com.au).

³⁵ Amended rule 215(2).

³⁶ Amended rule 215(2).

³⁷ New rule 215A.

- acting in accordance with rule 215 to the extent AEMO considers it reasonably possible to do so; and
- to the extent that it is not possible to act in accordance with rule 215, act on the basis of knowledge and information AEMO considers to be relevant and reasonable.

In addition, the Commission considers that amending rule 221(4) (pricing schedule) is a desirable consequential change to incorporate as part of the final rule as it promotes consistency in language between the rule provisions relating to operating and pricing schedules.

However, the AEMC has determined to retain reference to the *optimisation program* in rule 221(4), as AEMO produces the pricing schedule by optimising gas injections and withdrawals using daily bids and offers, without reference to constraints within the DTS. In contrast, in order to maintain system security, the operating schedule must necessarily take into account constraints within the DTS which are not always represented accurately in the *optimisation program*.

The inclusion of rule 215A is also consistent with a similar pricing schedule provision (ie, rule 221(1)) which provides direction to AEMO in the event that it cannot determine a market price or pricing schedule in accordance with the Rules.³⁸

For the reasons outlined above, the Commission is satisfied that the final rule provides AEMO and Market Participants with greater regulatory certainty in respect of producing and publishing DWGM operating schedules.

3.2 Transparency

3.2.1 Commission's conclusion

The final rule promotes transparency in market operations by clarifying the process in the NGR (rule 215A) that AEMO must follow to produce feasible operating schedules in all circumstances.

At the same time, the final rule retains the level of information that AEMO currently provides to Market Participants about how DWGM operating schedules have been produced by AEMO in the event of abnormal conditions,³⁹ as this information is made available to Market Participants under clause 5.4 of the DWGM Procedures.

Further, under existing rule 215(10), AEMO is required to maintain records of the scheduling process for each gas day and make those records available to Market Participants on request, subject to reasonable costs being met.

³⁸ Rule 222 specifies that: "(1) Subject to rule (3), if AEMO is unable to determine a market price or a pricing schedule in accordance with rule 221 as a result of a failure of software or systems, AEMO must nevertheless determine the market prices and pricing schedule. (2) In determining market prices and a pricing schedule under this rule, AEMO must: (a) act in accordance with rule 221 to the extent AEMO considers it reasonably possible to do so; and (b) to the extent it is not possible to act in accordance with rule 221 – act on the basis of knowledge and information that AEMO considers to be relevant and reasonable. (3) A price determined under this rule must not exceed the administered price cap."

³⁹ An abnormal scheduling condition arises when AEMO cannot produce or publish feasible operating schedules in accordance with rule 215.

3.2.2 Stakeholder views

In its rule change request, AEMO considered that the proposed changes to the Rules would provide greater flexibility to produce operationally feasible operating schedules under all circumstances, but still leave clear, and substantially unchanged, AEMO's obligation to follow the requirements of rule 215 and the DWGM Procedures in producing operating schedules.⁴⁰ AEMO also considered that there would be no change to market outcomes, as a result of making the proposed rule.⁴¹

In its submission, APA supported the inclusion of rule 215A.⁴²

3.2.3 Commission's analysis

The final rule clarifies the process in the NGR (rule 215A) that AEMO must follow to produce feasible operating schedules in all circumstances.

This rule is supported by clause 5.4 of the DWGM Procedures, which specifies that in the event that an abnormal condition arises, AEMO is required to issue a system-wide notice advising Market Participants of the action taken to produce and publish operating schedules.⁴³ In the event that other relevant abnormal conditions arise in future, a process for AEMO to consult on a proposal to amend the DWGM Procedures to account for such an event already exists under the NGR.⁴⁴

Transparency in market operations is further supported by existing NGR provisions. As noted earlier, under rule 215(10), AEMO is required to maintain records relating to the scheduling process for each gas day and make those records available to Market Participants on request, subject to reasonable costs being met. Additionally, under rule 218, AEMO must investigate, at the request of any Market Participant, whether an unintended scheduling result has occurred, or AEMO may initiate its own investigation.

For the reasons set out above, the Commission is satisfied that the final rule supports transparency in market operations in relation to the actions AEMO must take to produce and publish the operating schedules.

⁴⁰ AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, p. 4. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

⁴¹ AEMO, National Gas Rule Change Proposal - DWGM Operating Schedules, 27 March 2015, p. 5. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

⁴² APA Group, Submission to Consultation Paper, 8 October, p. 1. Available from: www.aemc.gov.au/Rule-Changes/DWGM-operating-schedules.

⁴³ Except under Condition 3, where the *optimisation program* has failed to produce a feasible operating schedule by the required time, AEMO will most commonly use the pricing schedule to create the operating schedule (if the pricing schedule is achievable within the system operating limits).

⁴⁴ The process for amending the DWGM Procedures is established under rule 135EE of the NGR, which requires AEMO to give notice of the intention to make Procedures, provide an impact and implementation report, and give interested parties at least 20 business days to submit written comments to AEMO on the proposed Procedures.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APA	APA Group
DTS	Declared Transmission System
DWGM	Declared Wholesale Gas Market
GDFSAE	GDF Suez Australian Energy
NER	National Electricity Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules

A Legal Requirements under the National Gas Law

This appendix sets out the relevant requirements under the National Gas Law (NGL) for the AEMC to make this final determination.

A.1 Final rule determination

In accordance with sections 311 and 313 of the NGL, the Commission has made the final rule determination and associated final rule in relation to the rule proposed by AEMO.

The Commission's reasons for making the final rule determination are set out in Chapter 3.

A copy of the final rule is published with this final rule determination.

A.2 Power to make the rule

The Commission is satisfied that the proposed rule falls within the subject matter about which the Commission may make Rules. The proposed rule falls within the matters set out in section 74 of the NGL as it relates to AEMO's declared system functions and the operation of a declared wholesale gas market.⁴⁵

A.3 Commission's considerations

In applying the Rule making tests in Chapter 9, Part 1 of the NGL, and assessing the rule change request the Commission has considered the following:

- the Commission's powers under the NGL to make the Rule;
- the rule change request;
- the fact that there are no relevant Ministerial Council on Energy (MCE) Statement of Policy Principles;^{46,47}
- submissions received during consultation; and
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the achievement of the National Gas Objective (NGO).

A.4 Other legal requirements

A.4.1 Compatibility with AEMO's declared system functions

Under section 295(4) of the NGL, the Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of AEMO's declared network functions. The Commission

⁴⁵ NGL s. 74(1)(a)(v).

⁴⁶ Under section 225 of the NGL the AEMC must have regard to any relevant MCE Statement of Policy Principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for Energy. On 1 July 2011 the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated Council is now called the COAG Energy Council.

⁴⁷ There are no MCE Statements of Policy Principles relevant to the proposed rule.

is satisfied that the rule as made is compatible with AEMO's declared network functions as the final rule will clarify the processes used by AEMO to produce and publish the DWGM operating schedules. In particular, the amendments will clarify AEMO's processes in relation to:

- its role as the operator of the DWGM;⁴⁸ and
- the operation and security of the declared transmission system.⁴⁹

A.4.2 Civil penalty and conduct provisions

The rule as made does not amend or omit any clauses that are currently classified as civil penalty provisions under the NGL or National Gas (South Australia) Regulations.

⁴⁸ NGL s.91BA(1)(f).

⁴⁹ NGL s.91BA(1)(b).

B Summary of Issues Raised in Submissions

Stakeholder	Issue	AEMC response
GDF Suez Australian Energy (GDFSAE), p. 1.	The processes used by AEMO to produce and publish DWGM operating schedules should be improved so that it is able to accommodate any unusual situations that can cause delays in the schedule preparation.	The AEMC understands that AEMO is reviewing the efficiency of its optimisation program (the Market Clearing Engine) and in July 2015 sought expressions of interest for support services for the optimisation program. The scope of support includes providing enhancements and modifications to the program. ⁵⁰ Further, the AEMC Review of the Victorian DWGM will consider opportunities to improve the efficient operation of the Market. More information on the Review of the Victorian DWGM is available from the www.aemc.gov.au .
GDFSAE, p. 1-2.	The rule change request seeks to remove the reference to optimisation program from rule 215(2), but not from 221(4). GDFSAE recommends consistent wording between these clauses.	The AEMC considers retaining the reference to the optimisation program in rule 221(4) (pricing schedule) to be desirable as the pricing schedule is generated to optimise gas injections and withdrawals using daily bids and offers, without reference to constraints within the DTS. In contrast, in order to maintain system security, the operating schedule must necessarily take into account constraints within the DTS which are not always represented accurately in the optimisation program.
GDFSAE, p. 2.	Consideration should be given to improving consistency between NGR clauses 215(2) and 221(4) and NER clause 3.8.1, for example: <ul style="list-style-type: none"> a) NER clause 3.8.1 does not specify that AEMO uses an optimisation program for the National Electricity Market, but requires AEMO to use a central dispatch process; b) NER clause 3.8.1 requires AEMO to maximise the value of “spot market trading.” Similar terminology 	While there may be merit in working towards consistency between the similar NGR and NER provisions, where feasible and appropriate, the AEMC is of the view that consideration of these matters is outside the scope of the rule change request as the proposed changes are not consequential to the proposed changes to rule 215. The AEMC makes the following observations in relation to the issues raised by GDFSAE: <ul style="list-style-type: none"> a) AEMO’s Market Clearing Engine, which is used to generate the DWGM pricing and operating schedules, is a linear programming

⁵⁰ AEMO, Request for EOI – MCE Support Services, July 2015, p. 11.

Stakeholder	Issue	AEMC response
	<p>could be used in the NGR, for example “minimises the cost of satisfying expected demand for gas over the gas day.”</p> <p>c) NER clause 3.8.1(c) requires AEMO to establish procedures to resolve infeasible dispatch solutions. The same approach could be adopted in the NGR to allow AEMO to develop procedures outside the rule change process.</p>	<p>optimisation program. While the NER does not specify that AEMO use an optimisation program, clause 3.8.1(c)(2)(d) nevertheless requires AEMO to develop and publish a dispatch algorithm for the purpose of central dispatch and pricing.</p> <p>b) The objective of rule 215(2) ensures that operating schedules are produced in a way that minimises the cost of satisfying expected demand for gas over the gas day, taking into consideration all the inputs listed in rule 215(1). Clause 3.8.1(b) requires AEMO to “aim to maximise the value of spot market trading” subject to the range of inputs and constraints listed in the clause.</p> <p>c) The process for amending the DWGM Procedures is clearly established under rule 135EE of the NGR, which requires AEMO to give notice of the intention to make Procedures, provide an impact and implementation report, and give interested parties at least 20 business days to submit written comments to AEMO on the proposed Procedures.</p>
<p>APA Group (APA), p. 1.</p>	<p>APA considers AEMO’s proposed drafting of rule 215 is preferable to the AEMC’s alternative drafting. APA considers the AEMC’s alternative drafting, which changes the AEMO obligation from one where AEMO is required to “use” valid demand forecasts and bids to set the operating schedule, to one where AEMO is required to prepare operating schedules that are “based on” valid demand forecasts and bids, changes the nature of the obligation of AEMO in an unintended way.</p>	<p>The Commission accepts this view. The final rule (rule 215) requires AEMO to “...produce operating schedules...using valid demand forecasts and bids...”</p>
<p>APA, p. 1.</p>	<p>APA supports the inclusion of rule 215A and the AEMC proposed consequential amendments to rule 221(4).</p>	<p>Noted.</p>