



Quarterly Compliance Report:

National Electricity and Gas Laws

January – March 2013

Published April 2013

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Executive summary

The purpose of this Quarterly Compliance Report (**QCR**) is to outline the Australian Energy Regulator's (**AER**) compliance monitoring and enforcement activity under the National Electricity Law (**Electricity Law**) and National Gas Law (**Gas Law**)—including the rules and regulations which sit under those Laws. This QCR covers the period 1 January to 31 March 2013 (**the March 2013 quarter**).¹

The first chapter relates to our 'strategic compliance projects'. These projects (which we previously called 'special projects') are designed to identify or address particular harms, risks or inefficiencies in wholesale energy markets. The projects generally have a metric to measure the success in addressing the issue. These projects are not targeted at individual parties and have a medium to long term focus.

We outline four new strategic compliance projects which will commence in 2013. The four new projects focus on:

- *The performance of ancillary services for regulation* – Frequency Control Ancillary Services (**FCAS**) have been developed in order to maintain the power system frequency within the frequency standards set by the Reliability Panel. These services alter the output of generation or demand side players to ensure supply and demand are always in balance. Our new strategic compliance project will assess whether providers of regulation FCAS actually deliver the services they are paid to provide.
- *Electricity metering (data quality and upgrades to metering installations)* – The electricity metering project follows on from the Australian Energy Market Commission's (**AEMC**) Power of Choice review,² which noted the crucial role metering arrangements play in the current and future operation of the National Electricity Market (**NEM**). We will continue to monitor the quality of metering data provided to the Australian Energy Market Operator (**AEMO**). We will also work with AEMO to ensure that customers have appropriate metering installations. We understand that some participants are failing to upgrade their customers' metering installations from accumulation to interval when required by the National Electricity Rules (**Electricity Rules**).
- *Trends in Power System Operating Incidents* – AEMO's Power System Operating Incident reports assess the response of network businesses and market participant facilities following a power system event. Currently we collate information from each power system incident report and pursue any compliance/enforcement matters that have arisen. The purpose of this project is to analyse trends in the reports over the longer term (for example, to analyse whether a particular participant had repeated problems in an area over many years). This analysis will assist us in identifying compliance areas that may warrant further focus and potentially enforcement action.
- *MT PASA data accuracy* – The Medium Term Projected Assessment of System Adequacy (**MT PASA**) provides the medium term power system supply/demand balance prospects for the next 24 months. We will monitor MT PASA data throughout 2013 and compare projected

¹ Previous QCRs are available on [our website](#).

² Available on the [AEMC website](#).

and actual generator availability per generation portfolio. Accurate MT PASA data is a critical input for futures trading and for AEMO's ability to ensure security of supply.

This QCR also provides an update on our ongoing strategic compliance projects which have carried over from 2012. These projects focus on:

- the process for connecting to the transmission network
- the ability of generators to follow dispatch instructions from AEMO
- the accuracy of demand forecasting in the short term trading market (**STTM**).

This QCR also provides an update on our other compliance and enforcement work under the National Electricity and Gas Laws (see Chapters 2 and 3). Of note, we update on some STTM data errors, an AEMO system failure in the Victorian gas market, our work on rebidding in electricity and our audits.

Note for Network Service Providers

We recently renamed this report to be *Quarterly Compliance Report: National Electricity and Gas Laws* to emphasise that it covers all compliance matters that fall under those two pieces of legislation. This includes obligations placed on Network Service Providers (**NSPs**).

In this report, sections of particular interest to readers from NSPs include discussions of:

- metering data quality and upgrades to metering installations (see section 1.2)
- protection and control systems (see section 1.3)
- transmission connections (see section 1.5).

Invitation for stakeholder feedback

In addition to the mechanisms that form part of our broader stakeholder engagement program, we invite all stakeholders to provide feedback on the QCR and our approach to compliance more generally. In particular, we seek your views on areas that you think the AER should focus on, and your thoughts on current strategic compliance projects.

Feedback can be sent to the AER inbox at AERInquiry@aer.gov.au (with the words 'Attention GM Wholesale Markets' in the title of the email).

Background

The AER is responsible for monitoring compliance and enforcement under legislation and rules governing Australia's wholesale energy markets, including those applying to Network Service Providers. Section 15 of the Electricity Law and section 27 of the Gas Law set out our functions and powers, which include:

- monitoring compliance by energy industry participants³ and other persons
- investigating breaches, or possible breaches, of provisions of the legislative instruments under our jurisdiction.

Consistent with our [statement of approach](#), we aim to promote high levels of compliance, and seek to build a culture of compliance in the energy industry. A culture of compliance will:

- reduce the risk of industry participants breaching their regulatory obligations
- ensure industry participants can engage confidently in commercial decisions and negotiations.

As part of this process, we undertake a continuous compliance risk assessment of the Electricity and Gas Rules to identify appropriate focus areas and monitoring/compliance mechanisms. These mechanisms include our strategic compliance projects, audits, the imposition of reporting requirements, market monitoring, and targeted compliance reviews.⁴

In selecting the areas for review, we adopt the following principles:

- consideration of risk (the greater the risk, the higher the priority)
- a commitment to ensuring that both systemic issues and those with the potential for isolated but significant impact are addressed.

In carrying out our monitoring functions, we aim for:

- cost effectiveness for energy industry participants and the AER
- transparency (subject to confidentiality requirements).

While most obligations under the Electricity and Gas Rules do not require registered participants to establish specific compliance programs, we take into account a participant's compliance framework when determining our response to breaches. In assessing compliance culture, we consider whether compliance programs and processes are effectively applied, up-to-date and tested regularly.

³ Entities registered by AEMO under Chapter 2 of the Electricity Rules or in accordance with Part 15A of the Gas Rules.

⁴ Provisions of the Gas Rules and Electricity Rules that have been targeted for review in previous quarters are listed in Appendix B.

1 Strategic compliance projects

Since 2011, the QCR has reported on a stream of strategic compliance projects (previously called 'special projects'). These projects involve identifying a particular problem, inefficiency, harm or potential harm within the energy wholesale markets and working toward solving the issue or reducing its severity. Most projects have had a tailored metric in order to measure the AER's and industry's success. All current strategic compliance projects are listed below, starting with the four new projects for 2013.

1.1 Performance of ancillary services for regulation

Frequency Control Ancillary Services (**FCAS**) are used to maintain the power system frequency within the frequency standards set by the Reliability Panel. These services alter the output of generation or demand side players to ensure supply and demand are always in balance.

One frequency control service is called 'regulation'. There are two types of regulation services—'raise' and 'lower'. Regulation services have been designed to manage small frequency imbalances.

AEMO continually monitors the power system frequency and sends control signals to generators providing regulation services in order to maintain the frequency within the normal operating band of 49.85Hz to 50.15Hz. The regulation services are provided by generators via a centrally managed generator control system and FCAS market. Because of this, providers of regulation services often receive signals related to regulation services simultaneously with dispatch instructions for the energy market. Providers of regulation services are paid based on the clearing price for the service and the amount of service enabled.

We have commenced a strategic compliance project to assess whether providers of regulation services actually deliver the services they are paid to provide. The project has come about as a result of some of our separate work investigating the extent to which generators follow dispatch instructions in the energy market. An outcome of that project saw participants claim that deviations away from dispatch instructions are warranted if the participant is also enabled to provide regulation services. For example, some participants argued that if it is providing 20MW of raise and lower regulation in addition to energy, the participant has a range of 40MW around its energy target within which it is always complying.

While variations from the energy target will sometimes occur as regulation services are utilised, without assessing the generators' performance in delivering regulation services in more detail it is difficult to validate those claims.

As a first step, we have asked AEMO to review the performance of providers of regulation services to identify whether participants are delivering these services in a way that is consistent with the FCAS specification and AEMO's expectations.

On receiving the results of this initial performance review, we will assess whether additional steps are required to ensure that participants deliver the appropriate amount of regulation services at the appropriate time in addition to dispatch in the energy market. The results of this initial review and any further work by the AER will be reported in future QCRs.

1.2 Electricity metering – data quality and metering upgrades

As highlighted by the AEMC’s Power of Choice review,⁵ metering arrangements play a crucial role in the current and future operation of the NEM. It is important to ensure participants comply with their metering obligations under the Electricity Rules in order to facilitate effective and efficient metering processes in the NEM.

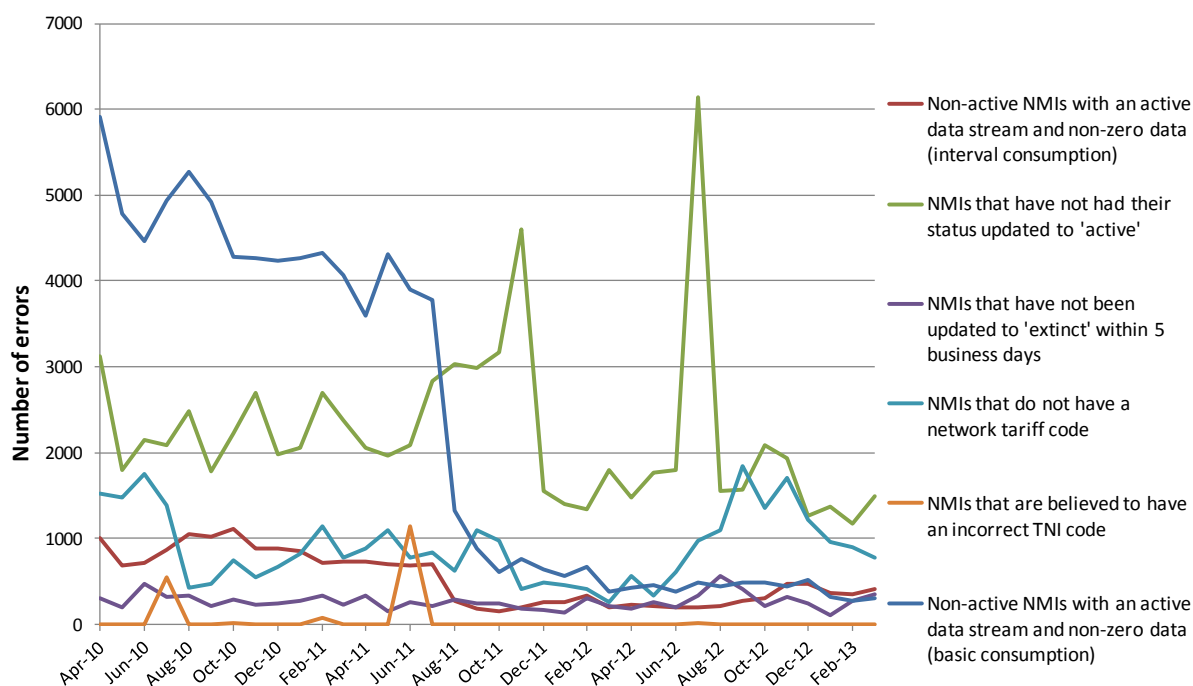
This project will focus on two areas including metering data quality and the upgrade of metering installations. These are discussed in more detail below.

Metering data quality

In consultation with AEMO, we will continue to monitor the quality of metering data provided to AEMO’s market settlement and transfer solution (**MSATS**) system. The MSATS system captures important connection point information, such as the customer’s relevant distribution loss factor and retailer of last resort. It also captures actual and aggregated metering data. In 2013, we will work with AEMO to develop new reporting metrics and improve the performance of MSATS participants via targeted compliance activities and participant engagement.

Figure 1.1 below shows the number of MSATS errors made by each Local Network Service Provider (**LNSP**) in the last week of each month since April 2010. We will seek an explanation from any LNSPs that have a significant number of errors.

Figure 1.1 Total MSATS errors across all LNSPs



⁵ Available on the [AEMC website](#).

Upgrade of metering installations

We will also work with AEMO to ensure customers have appropriate metering installations. As identified by the Power of Choice review, interval meters play an important role in facilitating demand side participation. The metering rules and metrology procedures establish a series of volume limits and accuracy thresholds for various types of meters.⁶ When the amount of energy through the meter exceeds that threshold, the responsible person is obliged to upgrade the meter. However, it appears some participants are failing to upgrade their customers' metering installations from accumulation to interval when required. We will engage with these parties over the coming months to ensure metering upgrades occur as required by section 7.2 the Electricity Rules.

1.3 Trends in Power System Operating Incident reports

We rely on various information sources for our compliance monitoring activities. One source of information is AEMO's Power System Operating Incident reports, which are published in accordance with clause 4.8.15 of the Electricity Rules. These reports assess the response of network businesses and market participant facilities following a power system event. AEMO depends on industry complying with a variety of obligations in order to maintain power system security.

Currently we collate information from each Power System Operating Incident report and assess whether any compliance/enforcement response is required. We will now implement a more detailed longer-term analysis to detect and review related performance and compliance trends. Specifically, the aim of this project is to gain insights into:

- the correlation between participants' compliance performance and power system events
- the extent of any non-compliance
- improvements and/or systemic issues of an operational nature over time.

This analysis will assist us in identifying issues that may warrant further focus by participants and will help to refine the areas targeted through our compliance monitoring activities. Furthermore, the project will feed into our technical compliance audit framework, which focuses on the compliance programs associated with TNSPs' protection and control systems and generators' registered performance standards that are mandated under clauses 5.7.4 and 4.15 of the Electricity Rules, respectively.

We will report the findings of this project in early 2014.

1.4 MT PASA data accuracy

The Medium Term Projected Assessment of System Adequacy (**MT PASA**) provides the medium term power system supply/demand balance prospects for the next 24 months. With the introduction of the carbon price and subsequent increased likelihood of generators' operating modes becoming much more dynamic, it is important that electricity generators provide timely and accurate information, such as availability, to the market across all time horizons. If information in MT PASA is not accurate, participants may make ill-informed decisions and in the extreme can impact on reserve levels and the reliability of the power system.

⁶ Clauses 7.2.1, 7.3.4 and schedule 7.2 of the Electricity Rules.

In the [previous QCR](#), we reported that a Queensland generator had submitted incorrect MT PASA data and AEMO had failed to promptly notify the market of this error. In response, we have decided to closely monitor MT PASA data throughout 2013. In particular, we will compare projected and actual generator availability per generation portfolio. While fluctuations in the data are to be expected, this project will seek to identify any significant systemic discrepancies.

1.5 Electricity transmission connections

This project commenced in December 2011 in response to concerns raised by connection applicants about the Transmission Network Service Provider (**TNSP**) connection process. The project involves a survey of parties that have sought to connect to the National Electricity Market transmission network. The survey will focus on the TNSPs' performances in terms of timeliness, provision of information, cost, design, availability of competitive procurement and responsiveness to connection applicants' commercial requirements. Parties who have submitted a connection inquiry to a TNSP since 16 November 2006 (the date when the current connections regime came into effect) will have the opportunity to take part in the survey. Further details on this project are available in the [previous QCR](#).

The survey will be finalised and distributed to relevant stakeholders in the June quarter of 2013. A broad summary of the responses will be published in a future QCR, at which time we will consider how to deal with any compliance issues that are discovered in the survey process.

1.6 NEM participants not following dispatch instructions

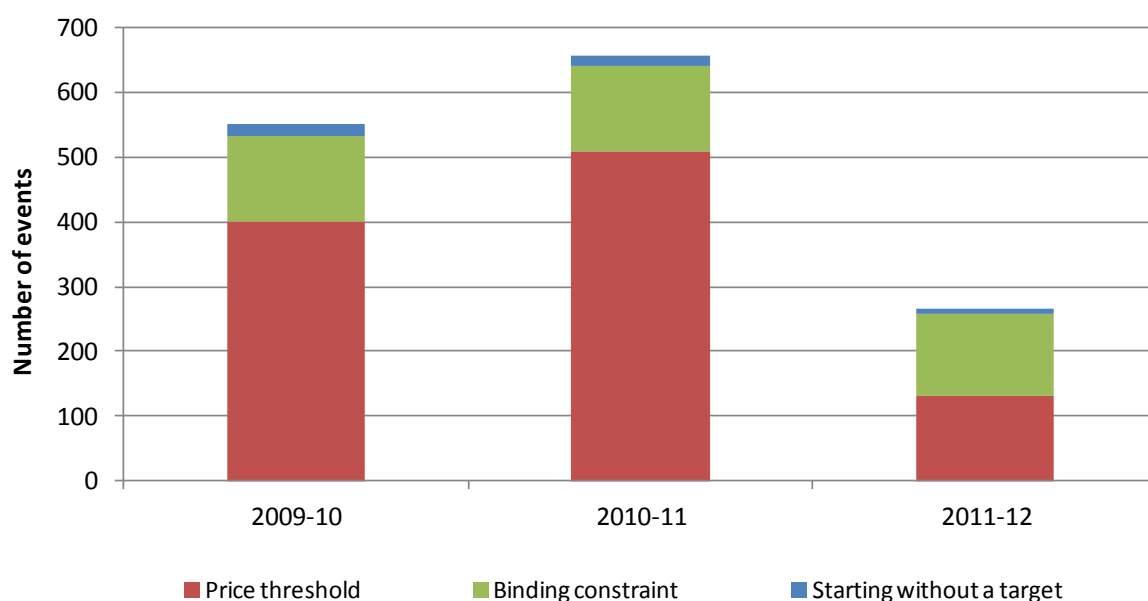
In December 2011, we announced a strategic compliance project to examine the ability of generators to follow the dispatch instructions given to them by AEMO. Clause 4.9.8(a) of the Electricity Rules requires a Registered Participant (namely, a generating unit) to comply with dispatch instructions given to it by AEMO unless doing so would, in the Registered Participant's reasonable opinion, 'be a hazard to public safety or materially risk damaging equipment'.

AEMO must be assured that, other than in the limited circumstances allowed by the Electricity Rules, generating units will follow dispatch instructions at all times. This enables AEMO to assess its security management options based on accurate information and where necessary, issue directions to participants to maintain power system security.

When generators do not follow dispatch instructions, electricity system security may be put at risk. There may also be market inefficiencies and higher costs through greater reliance on FCAS (and potentially lower network utilisation through higher safety margins in network limit calculations). Not following dispatch instructions may also be a method by which generators attempt to manipulate market outcomes. We released a [compliance bulletin](#) outlining our expectations for generators following dispatch instructions in December 2006. The bulletin draws a distinction between following dispatch instructions and AEMO's non-conformance procedures which are established under clause 3.8.23 of the Electricity Rules.

As part of this strategic compliance project, we examined generation data for the past three financial years and identified all dispatch intervals (**DI**) where the actual generation for a unit differed from its generation target. We then isolated those instances which had the greatest potential impact on market outcomes or system security by applying combinations of materiality thresholds (as set out below). These instances are shown in Figure 1.2, which shows the number of events for each of the materiality thresholds for the past three financial years.

Figure 1.2 The number of events for each of the materiality thresholds



Our analysis identified 24 Registered Participants in 2011–12 which, on various occasions, triggered the thresholds. We contacted the Registered Participants who we considered to have the worst performance against the measures and sought an explanation and the actions that will be taken to ensure that the Electricity Rules requirements are met going forward.

A detailed description of each of the combinations of thresholds is set out below.

1. Dispatch price was less than \$0/MWh or greater than \$100/MWh

For each generating unit over the last three financial years, we conducted a count of instances where:

- the dispatch price was less than \$0/MWh or greater than \$100/MWh; and
- the unit was missing its target by greater than 5MW or 5 per cent of its bid availability for more than two consecutive DIs.

At times of particularly low or high dispatch prices, a generator may intentionally not follow dispatch instructions for commercial gain. To isolate the incidents which may have the greatest effect on the market, a threshold was also placed on the extent of the divergence from target. The results for 2011-12 highlighted 130 instances where this combination of factors was not met. We contacted the worst two Registered Participants in relation to not following dispatch instructions under this combination of factors.

2. Constraint directly affecting the generating unit was binding

For each generating unit over the last three financial years, we conducted a count of instances where:

- the left hand side of a constraint affecting the generating unit is binding; and
- the dispatch price was less than \$0/MWh or greater than \$100/MWh; and

- the unit was missing its target by greater than 5MW or 5 per cent of its bid availability for more than two consecutive DIs.

Diverging from a dispatch target may be particularly harmful to the market where a constraint is binding on the diverging unit as there is already some restriction in the power system. To maintain system security at times of binding constraints, it is particularly important that generating units follow dispatch instructions. To isolate the incidents which may have the greatest effect on the market, we also placed thresholds on the dispatch price at the time of non-compliance and the extent of the divergence from target.

Based on 129 instances in 2011-12 where this threshold was breached, we contacted four Registered Participants in relation to not following dispatch instructions under this combination of factors.

3. Generating unit started generating while it had a zero target from AEMO

For each generating unit over the last three financial years, we conducted a count of instances where:

- the dispatch price was less than \$0/MWh or greater than \$100/MWh; and
- the generating unit's target was zero but its metered generation is greater than 20MW for more than two consecutive DIs.

It may be harmful to system security when a unit starts generating without a target from AEMO. To isolate the incidents which may have the greatest effect on the market, thresholds were placed on the dispatch price at the time of non-compliance. In 2011-12 there were 7 instances flagged using this scenario resulting in us contacting one Registered Participant.

Key issues identified in Registered Participant responses

We sent a total of seven inquiries to five Registered Participants (two Registered Participants each received two inquiries). Registered Participants outlined that human error, systems failures and communications breakdowns were common contributors to their ability to follow dispatch instructions. In addition, the following key issues were identified in their responses:

- AEMO's non-conformance procedures
- technical plant limitations
- fluctuating stop and start signals
- the use of Automatic Generator Control (**AGC**)
- the provision of regulation FCAS services.

A summary of each key issue, as raised by participants, and an outline of our expectations in relation to each of them is below.

AEMO's non-conformance procedures

Participants agreed with our data which outlined when their generating units failed to follow dispatch instructions. A number of them, however, noted that the units were declared as non-conforming by AEMO in only a few of the instances identified by us.

As noted above, we released a Compliance Bulletin outlining our expectations for generators following dispatch instructions in December 2006, distinguishing between following dispatch instructions under Electricity Rules clause 4.9.8(a) and AEMO's non-conformance procedures which are established under clause 3.8.23.

The requirement for participants to comply with dispatch instructions, as specified in chapter 4 of the Electricity Rules, is fundamental to the secure operation of the power system. The non-conformance procedures of chapter 3 are designed to serve a different function, ensuring that AEMO realigns the pricing and dispatch outcomes when participants fail to respond to a dispatch instruction within a tolerable time and accuracy. AEMO has developed, and amends from time to time, procedures for managing the failure to conform to dispatch instructions under clause 3.8.23 of the Rules.

Participants should not interpret the chapter 3 provisions to mean that if a generator is not flagged as non-conforming by the procedures established by AEMO under clause 3.8.23 of the Rules, then the obligation to follow dispatch instructions under clause 4.9.8(a) is automatically satisfied. We consider the obligations established under clause 4.9.8(a) are clear and apply irrespective of AEMO's non-conformance procedures. AEMO agrees with this interpretation.

We are concerned that participants are not tracking all instances where their units are failing to follow dispatch instructions. The obligation to follow dispatch instructions under clause 4.9.8(a) applies to all dispatch intervals. For all divergences, participants should have a system in place that identifies, and where appropriate addresses all instances of divergence from target.

Technical plant limitations

Participants flagged technical plant limitations which can affect their ability to follow dispatch instructions. Common limitations identified were: slower than expected ramping, unexpected changes in plant conditions, ambient issues and evaporative cooler trips.

Participants stated that they have put several processes in place to better account for technical plant limitations. These include:

- investigating the possibility of an increased ramp rate
- a review and refinement of ramp rates and fast start inflexibility profile to ensure they accurately reflect the unit's capabilities
- control system modification to inform the trader of unit limitations as they arise, allowing a quicker response when the unit is unable to reach its target
- developing 'derate curves' showing the relationship between ambient conditions and plant output to project a unit's maximum output under various conditions
- enhanced alarming system to warn of changed technical parameters.

These are appropriate processes to manage technical plant limitations. We encourage all participants to consider implementing them. Participants should ensure that these processes are reviewed periodically.

Many participants outlined technical plant limitations which are difficult to convey to AEMO when making offers. For example, one participant outlined that its turbines are fitted with additional 'modes' which allow the plant to generate at levels above its usual operating range. Switching between modes within a short period poses risks for the unit such as a turbine trip and wear and tear on the plant. The

participant stated that these risks cannot be conveyed to AEMO through offers such that they would be included in AEMO's determination of dispatch instructions. As a result, its traders manage the risks of changing between modes while still seeking to comply with its dispatch instructions, but this is not always successful.

We are concerned by this approach. A participant must take technical plant limitations into account when making offers to AEMO. In particular, where there are known technical limitations on a plant, there is an even greater onus on the participant to put in place processes to manage those limitations as effectively and in a way that ensure compliance.

Fluctuating stop and start signals

Participants noted that at times they will receive fluctuating stop and start signals from AEMO. For some participants this was particularly an issue during January 2013. Some divergences from dispatch occurred when a generator had been generating and received instructions to ramp down and stop, with later instructions to ramp up generation again. Rather than following the dispatch instructions and ramping down to stop generation, the units continued generating at or near the original level, anticipating a future instruction to return to that level.

This is inconsistent with the Electricity Rules. While it understands that fluctuating signals can be inefficient for plant, it reminds generators that their offers to AEMO must be honoured and within their technical capability limits for ramping up and down, including through the inflexibility profile submitted to AEMO. The instances of non-compliance outlined in our letters to participants applied over periods of at least three DIs. We expect a unit should have shut down in this timeframe if it has indicated it is capable of doing so.

The use of Automatic Generator Control

AGC is the remote operation of a unit where the control system of the unit receives dispatch instructions directly from AEMO. AGC is available for most generating units and many participants stated that they engage AGC whenever possible as it removes the potential for human error when operating to meet dispatch instructions. Two responses noted that AGC may not be engaged while various unit 'modes' are being used to improve a unit's performance.

A number of participants noted issues around the use of AGC as reasons for failing to follow their dispatch instructions. The first issue was when the AGC control system for a unit fails to load the unit to meet dispatch instructions. When this occurs, the trader will instruct the unit operator to switch the unit to local control and ramp it manually to meet its dispatch instruction.

The second issue is where the AGC status for a unit is not known by the trader. This may be when a unit trips off AGC but the unit operator has not realised this, or where the AGC status has been changed without the trader's knowledge. One participant noted that following our inquiries, the AGC status for each unit is now displayed on its traders' home screens to reduce uncertainty around AGC status and to allow a faster identification of AGC trips.

We consider that participants should be aware of the AGC status for units at all times. Including the status of AGC on traders' screens or setting up an alert when AGC trips appear to be effective practices to keep traders informed of AGC status.

The provision of regulation FCAS services

One participant stated that our approach did not consider the effect of regulation raise/lower FCAS being enabled. They noted that when a regulation service is enabled, a dispatch instruction is the combination of energy dispatch instruction and a regulation dispatch instruction. It argued that the unit could be operating above the dispatch instruction if providing raise regulation services (or below by that amount if providing lower regulation services) and still be considered to be fully complying with its dispatch targets.

While we consider this scenario to be true at times when a participant is enabled for a regulation service and is providing to the limit of the enablement, it will not apply when the participant is enabled but not actually providing the regulation services. Being enabled for regulation services does not automatically allow a participant to operate outside its target by an amount equal to the enablement.

As noted in section 1.1, we have commenced a project into transparency issues around the provision of regulation FCAS services. We will monitor how participants follow dispatch instructions when enabled for raise services under that project.

Conclusion

We have not reached a final conclusion on our response to some of the instances of failure to follow dispatch instructions. In part, our response may depend on whether certain behaviour continues into the future. We will continue to monitor the performance of all participants in following their dispatch instructions by tracking the number of instances of non-compliance and engage with participants when concerns arise. Further, we note that in their responses, participants summarised a number of initiatives which will be implemented in response to our inquiries. We consider that many of these initiatives are good ideas and could be applied across the industry.

1.7 STTM demand forecasting

In 2012, we commenced this project in response to ongoing occurrences of poor demand forecasting from a number of gas STTM participants. Demand forecasts are a primary input for scheduling and are used to calculate the ex ante price. Poor demand forecasting leads to inefficiencies in dispatch whereby the ex ante price is set on the basis of a higher or lower quantity of gas than is required. It can also lead to wealth transfers in the STTM, for example where large amount of MOS (balancing gas which is parked on or loaned from pipelines) is required as a result of poor forecasts.

We have monitored STTM demand data since market start and contacted participants when there were large differences between the forecasts and actual demand on particular gas days. We also examined demand data focussing on two metrics:

- monthly mean percentage error as a proportion of total demand
- actual monthly error

We contacted Trading Participants which we considered had a problematic demand forecasting performance. The participants included Incitec Pivot, Adelaide Brighton Cement Limited, Origin Energy and AGL Energy.

The key aspects of the responses are summarised in the [previous QCR](#). Figures 1.3 and 1.4 illustrate the forecasting performance of Origin and AGL in the Adelaide hub from market start. The figures show monthly mean percentage error as a proportion of total demand and actual monthly error, with

negative errors representing under forecast demand. There has been an improvement in demand forecasting accuracy for both Origin and AGL.

Figure 1.3 Origin demand forecasting in the Adelaide hub

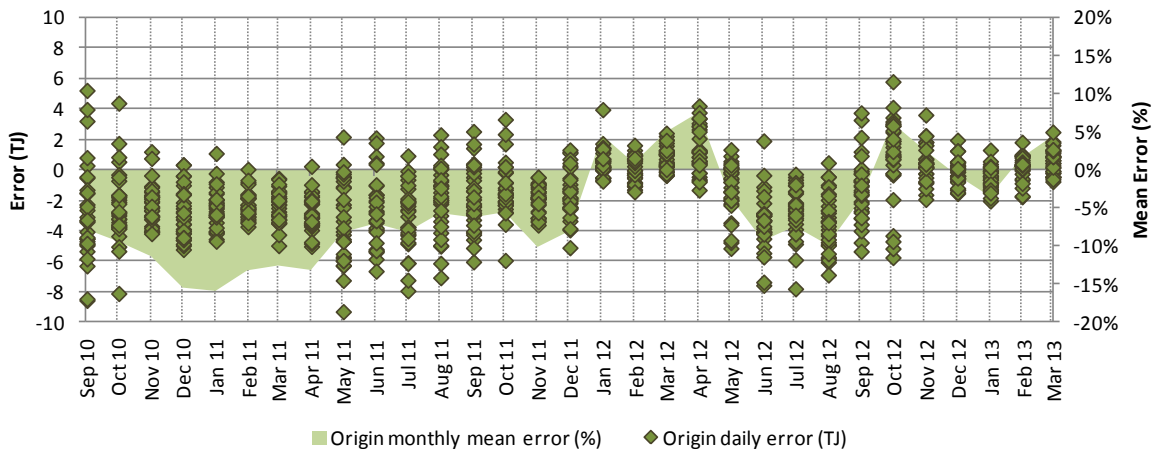
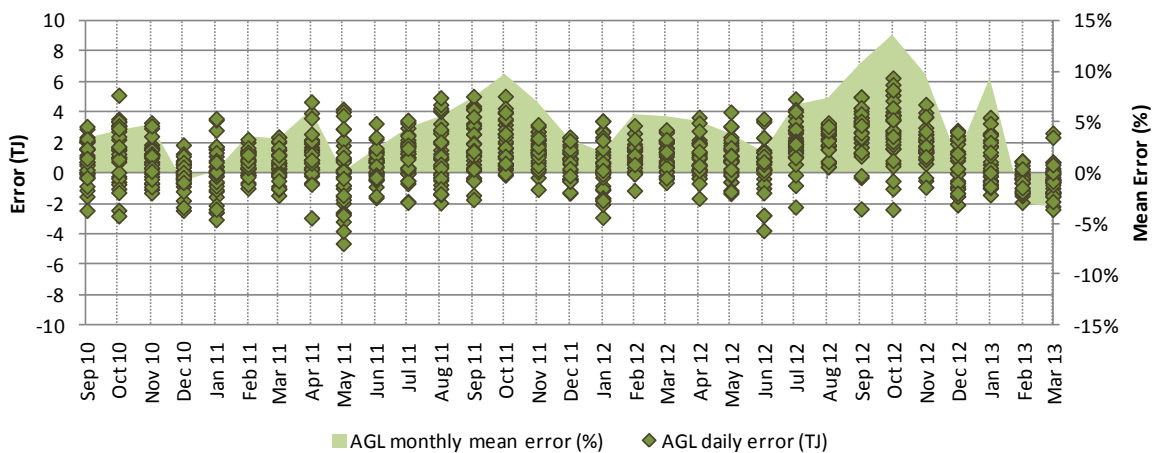


Figure 1.4 AGL demand forecasting in the Adelaide hub



We will continue this project in 2013, and will consider the effect demand forecasting accuracy has on MOS outcomes.

2 Gas

We are responsible for monitoring, investigating and enforcing compliance with the Gas Law and Rules, including but not limited to, the STTM, the Victorian gas market and the Bulletin Board.

This part of the report provides an update on reviews, investigations and compliance matters in the gas markets.

Short Term Trading Market

Part 20 of the Gas Rules sets out participants' responsibilities within the STTM, which encompasses three gas trading hubs: Adelaide, Sydney and Brisbane. The rules outline how wholesale gas is traded and include requirements for pipeline operators to submit pipeline capacity and allocation (gas flow) data.

2.1 Camden capacity error – AGL

AGL incorrectly submitted its Camden facility's capacity information to AEMO for the 1 April 2013 gas day. AGL intended to advise the capacity was 16.2TJ, however due to a system issue only submitted 0.9TJ.

We are investigating this issue further and will provide an update in the next QCR. However, we refer to our [Compliance Bulletin No. 7](#), which noted our concerns about STTM facility data errors.

2.2 Linepack capacity adequacy flag event – Eastern Gas Pipeline

On 22 March 2013, an Amber linepack capacity adequacy (**LCA**) flag was raised for the Eastern Gas Pipeline (**EGP**). The EGP transports natural gas from the Gippsland Basin in Victoria to markets in Sydney and a number of regional centres including Wollongong and Canberra. The flag reflected a capacity issue on the EGP. The reason submitted to accompany the flag was 'ongoing compressor maintenance at Mila'.

Through previous inquiries into similar matters, we have advised that it is best practice for participants to include additional information in the free text field on the Bulletin Board, such as the expected completion time/date of maintenance.

Following our request, Jemena noted that it will advise Bulletin Board participants of the estimated completion time should such changes in flag status occur again.

2.3 Late submission of offers/bids – Adelaide Brighton Cement

Adelaide Brighton Cement Limited (**ABL**) failed to submit ex ante offers in time for the provisional schedules in the Adelaide hub on a number of gas days in October and November 2012.

In response to our enquiry, ABL identified steps it will take to ensure it submits ex ante offers for the provisional schedules correctly.

ABL provided an update in March, which included:

- a copy of a new daily work instruction for its duty trader

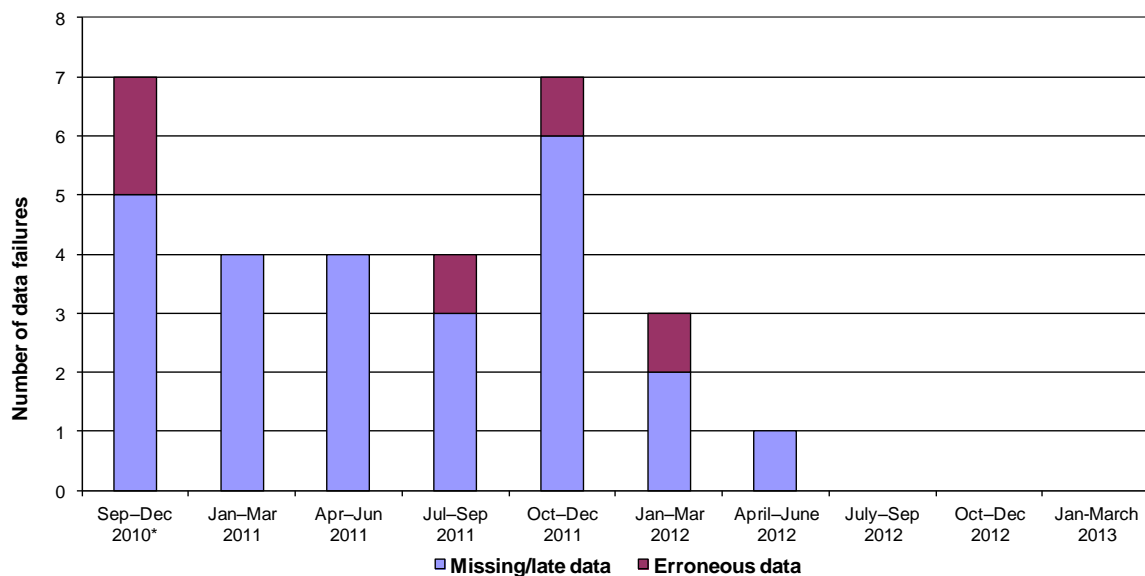
- a sample of a new report which has been developed following our identification of ABL's errors
- a letter detailing the changes to work procedures, training, reporting, and the effectiveness of these actions.

We will continue to monitor the submission of ex ante offers by all participants in the STTM.

2.4 STTM capacity and allocation data quality

In 2011, we began examining the quality of STTM data with the aim of reducing the amount of missing, late, and erroneous capacity and allocation data submitted by STTM facility operators or participants. Figure 2.1 below illustrates the performance of STTM participants in submitting capacity and allocation data from the start of the STTM to the end of March 2013. Data failures are categorised as relating to either 'missing/late' or 'erroneous' data.

Figure 2.1 Data failures since STTM commencement



* September 2010 has been grouped with the December 2010 quarter. Therefore, this data point represents four months. The AGL Camden Capacity error occurred on the first day of the second quarter of 2013 and therefore does not feature in this chart.

A failure to provide accurate and timely data can lead to inefficient pricing signals and market outcomes, resulting in inappropriate wealth transfers between participants. It may also undermine the integrity and reliability of the STTM, discouraging potential entrants or even causing participants to exit the market.

We will continue to monitor pipeline data through our regular compliance work to ensure future compliance, however, this project is now closed. The complimentary process of auditing STTM facility operators will continue throughout 2013.

2.5 STTM facility operator audits

Our audits of STTM participants continued during the quarter. These audits assess an STTM facility operator's processes to achieve compliance with information and data requirements under Part 20 of the Gas Rules, and whether these processes would be considered 'Good Energy Industry Practice'.⁷

While all of the facility operators had extensive experience in providing natural gas services in a general sense prior to STTM commencement, none of them had experience in providing data critical to the operation of a market. It is in the context of a market such as the STTM that the good industry practice threshold should be applied.

We use the acronym GEIP, standing for 'Good Energy Industry Practice', as a practical guide to the steps a business should take to enable us to assess performance against the threshold.

The next audit will be of the Jemena Eastern Gas Pipeline.

Victorian gas market

Part 19 of the Gas Rules sets out participants' responsibilities in the Victorian Gas Market. The rules outline how wholesale gas is traded within the market and AEMO's obligations to operate the physical system.

A number of errors by AEMO are reported on below.

2.6 AEMO pricing and notification issues using backup systems

AEMO was unable to use bids and other scheduling inputs to determine the 10am price on 4 February 2013 for the Victorian wholesale gas market due to issues experienced with transferring to a backup data site.

As a result, AEMO did not calculate a market price in accordance with bids and other inputs specified in rule 221 of the Gas Rules. However, it did calculate an administered price in accordance with the Gas Scheduling Procedures and Administered Pricing Procedure. The administered price was set at the 6am price of \$4.80/GJ.

A report published by AEMO on 22 February 2013 indicates that had input data been used to calculate the price, the price would have been \$4.35/GJ. As a result there was a small market payment impact which AEMO calculates did not exceed \$2000.

In its February report, AEMO identified that the root cause of the inability to calculate a 10am price was an inconsistency between the scheduling database and the production database at the production and backup sites. AEMO also identified that a backup system for sending System Wide Notices (**SWNs**) failed because of non-alignment of contacts in the scheduling system with the backup SMS system. As a result, about half of the people on the contact list did not receive an SWN as to the administration of the price.

⁷ 'Good Gas Industry Practice' is defined under the Gas Rules and 'Good Electricity Industry Practice' is defined under the Electricity Rules. The AER uses the phrase 'Good Energy Industry Practice' to cover both sectors. The components the AER considers to comprise GEIP are contained in the [March 2012 QCR](#).

AEMO advised that it will review and improve its systems, processes and procedures to ensure that transfer between primary and backup sites is seamless and to improve communication during market events. We will follow up with AEMO as to the measures it adopts and report back in a future QCR.

2.7 AEMO Supply Demand Point Constraint errors

On 28 October, a non material breach occurred when a Supply Demand Point Constraint (**SDPC**) at Bass Gas was not applied correctly to the relevant scheduling interval. The request was not processed within the required time due to human error and resulted in a small effect on market prices.

A report on the 28 October incident at Bass Gas is expected to be published soon by AEMO.

Bulletin Board

Part 18 of the Gas Rules sets out participants' responsibilities regarding the Bulletin Board. These obligations aim to facilitate greater transparency in gas production and gas pipeline flows to assist gas trading. The obligations also require participants to identify and report any potential conditions where curtailment of gas use might be necessary.

The provisions referred to in section 2.8 and 2.9 below are not civil penalty provisions. This narrows our enforcement options. We will continue to monitor compliance with Bulletin Board requirements and, where appropriate, seek commitments from participants to improve their performance.

2.8 Firm nomination data

Participants submit daily pipeline nominated and forecast delivery data as required by rule 173 of the Gas Rules. During the quarter, two facility operators failed on a total of three occasions to submit firm nomination Bulletin Board data to AEMO on the relevant gas day.

2.9 Actual daily production and pipeline flow data

Participants submit daily production and pipeline flow data as required by rules 166 and 174 of the Gas Rules.

During the quarter, one facility operator failed on two occasions to submit daily flow Bulletin Board data to AEMO for two of its production facilities. This was an improvement on the previous quarter when three facility operators failed to provide this data on a total of eight occasions.

3 Electricity

We are responsible for monitoring, investigating and enforcing compliance under the Electricity Law and Rules.

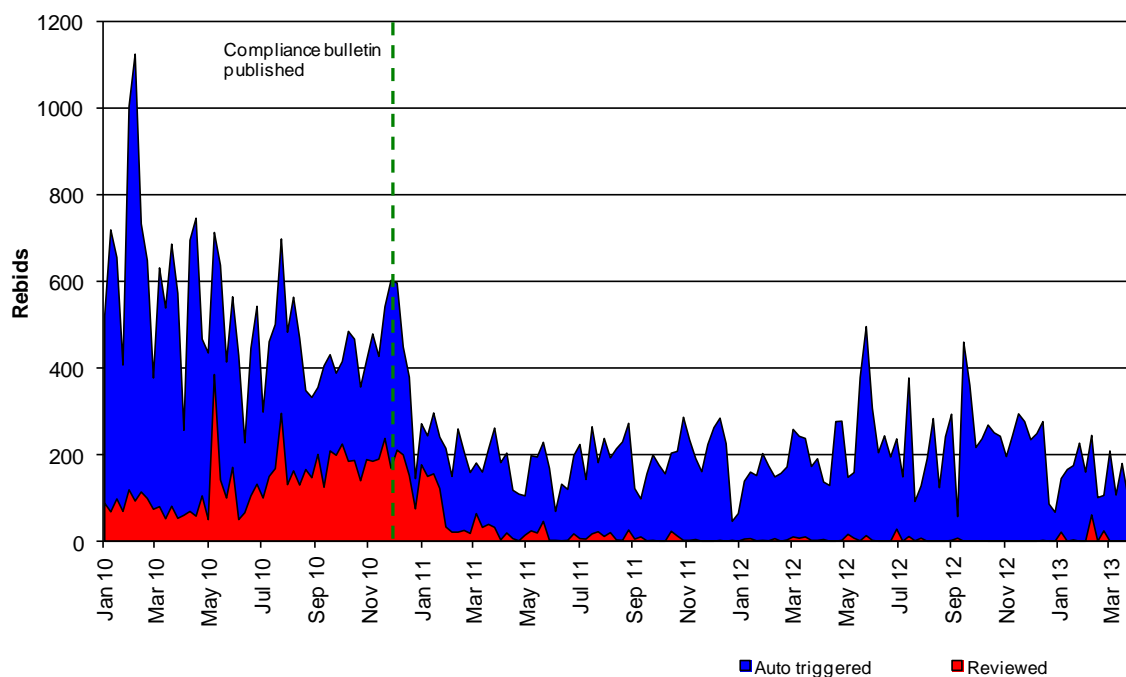
3.1 Rebidding

Scheduled generators and market participants operating in the National Electricity Market (**NEM**) submit electricity offers and bids for each half hour trading interval. The offers and bids include available capacity for up to 10 price bands, and can be varied through rebidding.⁸

We adopted a new strategy in relation to enforcing generator rebidding reason requirements in 2010.⁹ Generators that submit offer, bid and/or rebid information that does not meet the requirements of the Electricity Rules will receive two warnings. On the third warning within six months, we will consider issuing an infringement notice. Where there is no third warning within six months of the first warning, we will reset a participant's warning count to zero.

Figure 3.1 shows that since 2010 the number of rebids detected by our internal compliance system has fallen markedly. The number of rebids which required further review has also fallen significantly.

Figure 3.1 Rebids auto-triggered and reviewed per week



⁸ Market participants must provide to AEMO, at the same time as a rebid is made, a brief, verifiable and specific reason for the rebid, plus the time at which the reason for the rebid occurred. Equivalent requirements apply where AEMO is advised, under clause 3.8.19 of the Electricity Rules, that a unit, service or load is inflexible. Clause 3.8.22A of the Electricity Rules requires that dispatch offers, dispatch bids and rebids are made in 'good faith'.

⁹ In June 2012 the AER published an updated Compliance Bulletin No. 3, to make it clear that, for the purposes of administering the three stage process and issuing warnings, the AER will rely on the cumulative count of non-compliant bids for all generating units under the same portfolio. In other words, where a parent company employs a common trading team for the bidding of multiple generating units in its portfolio, irrespective of whether these generators are different registered participants, the AER will count any non-compliant bids by that trading team together. The Compliance Bulletin is available on the [AER website](#).

During the March quarter, we issued only one warning. It was an initial warning with respect to a rebid which reduced a unit's ramp rate to below the allowed minimum of 3MW/minute without a technical reason.

3.2 Technical audits

Auditing is one mechanism we use to verify and assess compliance by registered participants with their obligations. The audits aim to ensure participants have robust and effective compliance programs in place that are consistent with Good Energy Industry Practice.

We conduct regular technical compliance audits in the electricity sector of generators and network service providers on a rotating basis. These audits generally focus on the Electricity Rules clauses 4.15 and 5.7.4, particularly the requirement on electricity generators and network service providers to institute and maintain a compliance program in accordance with prescribed requirements.

We have now commenced a technical audit of Macquarie Generation's Bayswater Power Station. During 2013 we also intend to conduct audits of a large wind farm and the South Australian transmission network service provider, ElectraNet.

After each audit is completed, we will publish a summary of our findings in the QCR.

3.3 Targeted compliance reviews

Targeted compliance reviews form an important part of our monitoring program. The reviews explore participants' compliance practices and aim to improve stakeholder understanding of obligations.

We have recently completed a review of generators' obligations to modify their compliance programs. Generators are required to maintain compliance programs which relate to registered performance standards in accordance with the Electricity rules. The obligations of generators are outlined below.

A list of the provisions targeted under this process since June 2011 is provided in appendix B of this report.

Generators' obligation to modify compliance programs relating to registered performance standards

Under clause 4.15(b) of the Electricity Rules, registered participants who engage in the activity of planning, owning, controlling or operating a plant to which a performance standard applies must institute and maintain a compliance program. This compliance program must be consistent with the template for generator compliance programs published by the AEMC Reliability Panel.

Under clause 4.15(c)(3), in the event that amendments are made to the template by the Reliability Panel under clause 8.8.3(ba), Registered Participants must ensure that their compliance programs are consistent with the amended template by modifying them as necessary, within six months of the publication date of the amended template.

The Reliability Panel last published an amended template on 27 June 2012. This means registered participants were required to review their compliance programs by December 2012. Generators were reminded of this obligation in our [September 2012 QCR](#).

As part of this review, we wrote to AGL, Origin Energy, EnergyAustralia, CS Energy, Intergen, Stanwell Corporation, Hydro Tasmania and International Power, who all operate electricity generation

plants. We sought to determine whether each had reviewed, and where necessary, modified their compliance programs.

All of the respondents advised that they have various criteria and internal processes in place to review their compliance programs. Further, the respondents noted that they had reviewed, or were in the process of reviewing, these instruments. Specific to our inquiry:

- AGL, Origin, Intergen and International Power (Hazelwood) have made consequential modifications of varying degrees
- Hydro Tasmania, CS Energy (Callide B and Kogan Creek), EnergyAustralia and Stanwell did not make modifications on the basis that the amended Reliability Panel template had no material effect on their programs
- International Power (for other than Hazelwood Power) and CS Energy (for Gladstone and Wivenhoe Power Stations) are reviewing each of their compliance programs, but expect that the amendments to the template will have minimal impact
- EnergyAustralia identified that its compliance program for one of its stations has not been updated to be consistent with the AEMC Reliability Panel template of 2009 and 2012. As a result, it is now undertaking a review of all of its portfolio's compliance programs for completion by August 2013.

A failure to meet this requirement is a breach of clause 4.15(b) of the Electricity Rules, which is a civil penalty provision. We will be seeking confirmation from all generators in the process of reviewing their compliance programs within their specified timeframes, to ensure compliance.

Compliance programs are the cornerstone of the generators' technical performance arrangements under the Electricity Rules. In the event that a generator does not satisfy any of these standards, we will focus our attention on the generator's compliance program and the extent and breadth of the testing arrangements in place. This is to ensure that, in considering appropriate enforcement action, we can determine and be satisfied that the generator has done everything reasonably possible to achieve the level of compliance assurance required by the Rules.

Generators are therefore encouraged to actively manage their compliance programs to ensure that:

- performance testing is comprehensive
- procedures with respect to testing are continually improving in accordance with Good Energy Industry Practice; and
- anomalies in the compliance program or underlying performance standard are identified and addressed.

The AEMC Reliability Panel's template for generator compliance programs is a valuable source of guidance on the latest thinking with respect to the type and frequency of testing of performance standards. Notwithstanding this, compliance by generators in this area should also be driven by active and continual improvement, in conjunction with their network service provider and AEMO as appropriate.

3.4 Jurisdictional derogations

Chapter 9 derogations exempt Victorian smelter traders, New South Wales power traders and Queensland nominated generators (for the purposes of exempted generator agreements) from complying with the Electricity Rules to the extent there exists:

- any inconsistency between the Rules and a contractual requirement under the relevant agreement between the government and other entities
- any other specified exemption in the jurisdictional derogations.¹⁰

The relevant participants must give us notice of any act or omission which partly or wholly constitutes non-compliance with the Electricity Rules. No instances of non-compliance were reported in this quarter.

¹⁰ Refer to Electricity Rules clauses 9.4.3 (smelter trader: Vicpower Trading), 9.12.3 (power traders: Delta Electricity and Macquarie Generation) and 9.34.6 (nominated generators: CS Energy and Stanwell Corporation).

Appendix A: Shortened forms

Shortened form	Full title
ACCC	Australian Competition & Consumer Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMI	Advanced Metering Infrastructure
CATS	Consumer Administration and Transfer Solution
Electricity Law	National Electricity Law (Schedule to the National Electricity Act)
Electricity Rules	The National Electricity Rules made under Part 7 of the Electricity Law
FCAS	Frequency Control Ancillary Service
Gas Law	National Gas Law (Schedule to the National Gas Act)
Gas Regulations	The National Gas (South Australia) Regulations made under the National Gas Act
Gas Rules	The National Gas Rules made under Part 9 of the Gas Law
GEIP	Good Energy Industry Practice
GJ	Gigajoule
LCA	Linepack capacity adequacy
MAP	Moomba to Adelaide pipeline
MOS	Market Operator Service
MSATS	Market Settlement and Transfer Solution
MT PASA	Medium Term Projected Assessment of System Adequacy
MW	Megawatt
MWh	Megawatt hour
National Electricity Act	National Electricity (South Australia) Act 1996 (South Australia)
National Gas Act	National Gas (South Australia) Act 2008 (South Australia)
NEM	National Electricity Market
NMI	National Meter Identifier
QCR	The AER's quarterly compliance report
RIT-T	Regulatory investment test for transmission
RP	Responsible Person
STTM	Short Term Trading Market
SWN	System Wide Notice
TJ	Terajoule

Appendix B: Previous targeted compliance reviews

This is a summary of the provisions under the Electricity Rules and Gas Rules most recently targeted by the AER.

Quarter ending	Industry	Rule	Description
June 2011	Gas	172	Provision of linepack capacity adequacy indicators for the Bulletin Board
		378	Obligation to update information registered with AEMO
		435	Requirement to provide good faith, best estimate contingency gas offers
September 2011	Gas	300	Obligation to protect metering installations from unauthorised interference
		403	Obligation to investigate the circumstances of a MOS shortfall
		410	Obligation to make good faith, best estimate price taker bids (demand forecasts)
December 2011	Gas	180	Obligation to publish peak demand day information
		219	Obligation to notify AEMO of injection and withdrawal quantities
		254	Obligation to provide and maintain security (prudential requirements)
March 2012	Gas	336	Emergency procedures awareness
September 2012	Gas	213(2)(b) and (c)	Injection and withdrawal bids in the Victorian gas market
March 2013	Electricity	4.15	Compliance with performance standards