



Compliance bulletin

**Providing and updating market participant  
availability**

February 2010

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### **Amendment record**

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# Summary

The Australian Energy Regulator (AER) has published this bulletin to clarify its interpretation of the provisions of the National Electricity Rules (Electricity Rules) that govern communication of the availability of market generators and scheduled network service providers.

This bulletin attempts to mirror the chronological order of the Electricity Rules and covers the four broad timeframes that availability information must be provided under chapter three of the Electricity Rules:

- medium term projected assessments of system adequacy (MT PASA)
- short term projected assessments of system adequacy (ST PASA)
- daily bids
- pre-dispatch

Participants must regularly review and update the information they provide to the Australian Energy Market Operator (AEMO) as part of the MT PASA, ST PASA and pre-dispatch processes. Participants must also regularly review their daily bids to ensure that they can comply with offers and dispatch instructions at all times. Participants must immediately notify AEMO of any situation that may alter their availability.

This bulletin specifically explains the obligations on participants under clauses 3.7.2(d) and (e), 3.7.3(e) and (g), 3.8.6 and 3.8.20 of the Electricity Rules. These include providing MT PASA availability data based on extreme seasonal temperature conditions and ST PASA availability based on the latest available local weather forecasts. This bulletin also covers information requirements under chapter four of the Electricity Rules. Specifically, it addresses the bidding obligations on participants under clauses 4.9.8, 4.9.9, 4.9.9A and 4.9.9B.

The AER considers that the provision of accurate information to AEMO by market participants is essential for managing system security and reliability. It will closely monitor the information provided to ensure that market participants are meeting their obligations under the Electricity Rules.

# 1 Role and functions of the Australian Energy Regulator

The AER's core functions and powers in relation to monitoring, investigation and enforcement of the national energy framework are set out in section 15 of the National Electricity Law and section 27 of the National Gas Law. These sections give the AER functions and powers to:

- monitor compliance with the national energy framework
- investigate breaches or possible breaches of the framework
- institute and conduct proceedings in relation to breaches, and appeals from decisions in those proceedings.

In undertaking these functions and exercising these powers, we work to ensure that:

- our approach is consistent over time
- our processes are cost effective for the AER and participants
- our activities are appropriately transparent.

The AER has detailed its methods for compliance and enforcement in the *AER enforcement and compliance - statement of approach*, available on the AER website. The statement of approach explains our approach to monitoring compliance, how we respond to potential breaches, and the criteria we use in deciding whether to take enforcement action.

We aim to work co-operatively with participants to help them understand their obligations under the national energy framework and to help them achieve high levels of compliance. This compliance bulletin has been produced to assist participants to understand and meet their obligations relating to the provision of information on participant availability.

## **2 Purpose of this compliance bulletin**

The AER has recently completed investigations into the compliance of a participant with the requirement to follow dispatch instructions and the requirement to notify AEMO of changes in available capacity. In addition, the AER has also reviewed the circumstances of the load shedding in Victoria and South Australia during January 2009.

Following these processes, the AER committed to producing a compliance bulletin on the information requirements with respect to the availability of market generators and scheduled network service providers. The bulletin is designed to assist market participants to meet their reporting obligations and to encourage a culture of voluntary compliance.

The AER has released this compliance bulletin as it considers the information reporting obligations essential to system security. The AER believes that the information reporting provisions have great importance in allowing the market and AEMO to respond to changes in supply conditions, especially during the summer period when high temperatures may reduce generation or network capability at times of high demand. To effectively manage electricity supply, there needs to be clear and timely communications between market participants and AEMO. As described below, this is particularly important in the context of the decision to intervene in the market through the use of the Reliability and Emergency Reserve Trader (RERT).

We encourage participants to review their compliance programs to ensure that they reflect the expectations of the AER as identified in this compliance bulletin. The AER is open to discussing any concerns that market participants may have relating to this compliance bulletin or compliance with energy market obligations more generally.

### **2.1 Coverage**

This bulletin covers the main reporting requirements contained in chapters three and four of the Electricity Rules. Chapter three broadly covers the procedures that govern the wholesale trading of electricity and the provision of frequency control ancillary services in the National Electricity Market (NEM). Among these requirements are provisions relating to bidding and dispatch and market information reporting requirements.

The market information reporting requirements in chapter three cover the MT PASA and ST PASA, through to the pre-dispatch process. These information requirements obligate market participants to provide information on the availability of generation and scheduled network services up to two years ahead of the relevant dispatch period.

Clauses 3.7.2 (d) and (e) and 3.7.3(e) and (g) set out the information required from market participants for the MT PASA and ST PASA, while clauses 3.8.6 and 3.8.20 describe the information that must be provided for daily bids and pre-dispatch.

Chapter four of the Electricity Rules complements chapter three by establishing the framework for the dispatch process and system security. AEMO, in managing system security, requires market participants to report when there is a change in their plant that prevents them from following dispatch instructions.

Clauses 4.9.9 and 4.9.9A require scheduled generators and scheduled network service providers to inform AEMO of any event that will change or is likely to change the availability of the scheduled generating units or network services. Clause 4.9.9B places the same obligation on all market participants that provide frequency control ancillary services.

Clause 4.9.8 requires market participants to comply with dispatch instructions from AEMO and ensure that they can comply with their latest dispatch offer.

## 3 Chapter three of the Electricity Rules

### 3.1 MT PASA

The MT PASA forecasts demand and reserves (that is, the excess of available supply from generators/imports above demand) for each region on a daily basis over a two year period. The availability figures for participants in MT PASA should reflect the physical capability of scheduled generating units, loads and network service providers, including any capability that can be made available within 24 hours.

AEMO monitors the MT PASA to identify periods where reserves are projected to be less than the specified minimum reserve level (MRL) for a region. It then uses this information to communicate medium term reliability in the NEM and, in the absence of a sufficient market response, determines whether to contract for additional reserves under the RERT mechanism. Therefore, the provision of accurate availability information is essential to enable AEMO and market participants to effectively schedule maintenance outages and other events that may impact system security.

Over the medium to longer term, accurate MT PASA forecasts are essential to provide AEMO with the opportunity to procure appropriate reserve options to maintain system security and minimise the cost of interventions in the market.

Clause 3.7.2 (d) of the Electricity Rules requires relevant scheduled generators or market participants to provide the following MT PASA inputs:

- the PASA availability of each scheduled generating unit, load or scheduled network service for each day; and
- weekly energy constraints applying to each scheduled generating unit or scheduled load.

Clause 3.7.2 (e) also requires network service providers to provide AEMO with an outline of planned network outages and any other information on planned network outages that is reasonably requested by AEMO.

When producing MT PASA availability data, market participants must consider the capability of equipment under extreme temperature conditions for their location according to the season. For example, thermal plant is often unable to produce at its maximum nameplate rating on very high temperature days. Therefore, a 500 megawatt (MW) nameplate rated coal fired plant should be offered at what it could reasonably be expected to produce on an extreme temperature day during the summer period. This figure is then published in aggregate to inform market participants and is used by AEMO to assess whether market intervention is required. Closer to dispatch, this figure should be updated in the ST PASA and via market offers, as described below.

AEMO provides information on the assumptions for extreme temperature conditions in its request to participants in the Electricity Statement of Opportunities (ESOO) process. These 'generation capacity reference temperatures' for each region are published in the ESOO. AEMO's reference temperatures are based on a 10 per cent probability of exceedence (that is, actual temperatures are expected to exceed the

stated level once every ten years). Consequently, there are likely to be times where MT PASA availability data indicates sufficient generation and network capacity despite the likelihood of actual shortages in the market. These events are managed through processes that are implemented closer to dispatch, including the ST PASA, that rely on more accurate forecast data.

To comply with the provisions of clause 3.7.2, the AER considers that market participants should submit figures that represent the seasonal availability of their equipment. These figures should be reviewed regularly so that they accurately reflect the generation capacity reference temperatures as established by AEMO.

## **3.2 ST PASA**

The ST PASA process requires two inputs on availability—PASA or 'technical' availability and 'market' availability. These inputs allow market participants to identify cost effective periods during which to take short term maintenance outages and to facilitate plant commitment decisions. They also provide a power system reserve capacity adequacy forecast that covers each trading interval for the coming week.

The ST PASA is updated every two hours based on AEMO forecasts of demand and information provided to AEMO by market participants. The capacity adequacy process is designed to enable AEMO to determine if intervention in the market is required to maintain system security and reliability. Such intervention may include calling on capacity contracted through the RERT process or issuing directions to market participants.

This guideline is primarily concerned with the PASA or 'technical' availability input, which is used by AEMO in assessing reserve adequacy. The other 'market' availability input is a commercial decision of the participant, which by definition must be no greater than the PASA availability.

Clause 3.7.3 (e) of the Electricity Rules requires relevant scheduled generators and market participants to submit the following ST PASA inputs:

- The availability of each scheduled generating unit, load or network service for each trading interval under expected market conditions;
- The PASA availability of each scheduled generating unit, load or network service for each trading interval (being the physical capability, including any capability that can be made available within 24 hours);
- The scheduled generating unit synchronisation and de-synchronisation times for slow start generating units; and
- The projected daily energy availability for energy constrained scheduled generating units and energy constrained scheduled loads.

The inputs must represent the scheduled generator's or market participant's current intentions and best estimates. This information should be based on the most recent



local weather forecasts, reflecting the effect that ambient temperature has on plant, and should indicate any scheduled maintenance.

#### Events of 29 and 30 January 2009

On 29 and 30 January 2009, there were multiple instances where market participants were unable to operate at the level indicated by the ST PASA availability inputs and reduced their availability at short notice. For both days, generation PASA availability rose over the preceding week despite the forecast of extreme weather conditions. Similarly, forecast scheduled network service provider availability for 30 January was high despite knowledge of ambient temperature related network limitations.

Had PASA (and market) availability numbers been accurately reflected in the ST PASA and in pre-dispatch, AEMO and market participants would have been better placed to manage the extreme conditions and the reserve shortfalls that occurred.

Following these events, AEMO has developed a new procedure for scheduled network service providers to ensure that network availability reflects the best available weather forecast data.

The AER considers that clause 3.7.3 (e) requires market participants to regularly review their inputs into the ST PASA process and provide updated data when they become aware of any change that will have a material impact on operating conditions.

### **3.3 Daily bids and pre-dispatch**

Market participants must provide daily bids and rebids as part of the pre-dispatch process. The Electricity Rules require generators to provide bids according to price and availability.

Clause 3.8.6 of the Electricity Rules provides the framework for bidding. Under this clause, the scheduled generator's dispatch bid must contain an energy offer for each price band specified in the dispatch bid. The maximum available capacity offered by a generator should reflect the expected weather conditions and should not exceed the relevant PASA availability.

Clause 3.8.20 of the Electricity Rules requires each scheduled generator, scheduled network service provider, market customer with a scheduled load or market participant to ensure that it is able to comply with the pre-dispatch schedule.

The pre-dispatch schedule is derived from the pre-dispatch bids and offers, forecast load and unconstrained intermittent generation forecast. This information is used by AEMO to produce scheduling data for the trading day. Should market participants become aware of circumstances that may require them to deviate from this schedule, they must inform AEMO through the central dispatch process—generally through a rebid. The requirements for rebidding are set out in clause 3.8.22. Please refer the AER's *Rebidding and technical parameters guideline* for further information.

The obligations described above are closely linked to the obligations in chapter 4 of the Electricity Rules, particularly the obligations to comply with dispatch offers and to follow dispatch instructions. These obligations are discussed further below.

## **4 Chapter four of the Electricity Rules**

### **4.1 Ability to comply with offer—generators**

Clause 4.9.8(b) obliges scheduled generators to ensure that each generating unit is able to comply with the latest dispatch offer made to AEMO under chapter three of the Electricity Rules. A generator should, therefore, inform AEMO if it cannot comply with its most recent offer without delay. This is a requirement of clause 4.9.9 discussed below.

A generator may risk breaching clause 4.9.8(b) if the information that it provides to AEMO does not reflect the capabilities of its plant—for example, if an offer is submitted that the participant can not physically honour.

The obligation to comply with dispatch instructions under clause 4.9.8(b) is closely linked to the obligation to be able to comply with an offer, contained in clause 4.9.8(a). For more detail on the AER's expectations for compliance with clause 4.9.8(a), please refer to the *Complying with dispatch instructions* compliance bulletin available on the AER website.

### **4.2 Ability to comply with offer—other participants**

Other market participants, including ancillary service providers, registered participants, scheduled network service providers and semi scheduled generators are also required to ensure that they can comply with their latest dispatch offer.

For example, if a market participant has an ancillary service load that is temporarily unavailable to the market, the participant must rebid the available load to zero.

### **4.3 Changes in generation unit availability**

Clause 4.9.9 of the Electricity Rules requires scheduled generators to inform AEMO as soon as they become aware of an event that has affected, or is likely to affect, their availability. Where this information is provided through a rebid, generators should ensure that it is consistent with the AER's *Rebidding and technical parameters guideline*. For issues that require urgent attention by AEMO, market participants should verbally advise the AEMO control centre as well as submitting a rebid.

The AER considers that scheduled generators must notify AEMO immediately when there is an event that has or is likely to change the availability of its plant. This includes any impact on plant availability resulting from changes in actual or forecast ambient temperature.

Generators should also inform AEMO where they make a decision that is likely to change plant availability. For example, the AER considers that a generator may be in breach of clause 4.9.9 if it decides to return equipment to service without notifying AEMO of the likely change to its availability. The requirement to inform AEMO applies even when the generator is unsure that the plant will successfully return to service.

#### Changes to availability

In 2009, a generator took a decision to return a unit to service, increasing the availability of the plant. AEMO was not notified of the change to the generators availability until a rebid was submitted ten minutes prior to the dispatch interval.

Clause 4.9.9 requires that AEMO be notified immediately after the decision is taken. This would generally be in the form of a rebid. On this occasion, there was a significant delay between the decision to return the unit to service and the rebid. The AER considers this delay to be a breach of clause 4.9.9 and the generator should have informed AEMO immediately.

### **4.4 Changes in scheduled network availability**

Clause 4.9.9A of the Electricity Rules requires scheduled network service providers to inform AEMO when there is an event that has or is likely to change the capacity of the network. This obligation is equivalent to the obligation on generators under clause 4.9.9 discussed above.

The AER considers that a scheduled network service provider should inform AEMO immediately following an event that may change the availability of its network. Relevant events may include a change in the weather forecast. In some instances this will mean contacting AEMO the day prior to the anticipated impact on network availability. This will allow AEMO time to make arrangements to ensure the security and reliability of the power system.

#### Events of 29 and 30 January 2009

During the events of 29 and 30 January, the prevailing extreme weather conditions led to the availability of a scheduled network service provider falling to zero at relatively short notice. The service provider did not reflect the likely impact of the thermal limitations of the network equipment in its bids until constraints were beginning to take effect.

The AER notes that the events of 29 and 30 January 2009 were driven by highly unusual temperatures that would only be expected once every hundred years. The AER understands that following this experience, AEMO and the scheduled network service provider have introduced a system that will allow forecast ambient temperature effects to be reflected in availability data, with subsequent updates based on real time ambient temperatures.

The AER expects scheduled network service providers to provide timely information to AEMO about likely changes to availability of its network in the same way that generators must update their availability.

### **4.5 Changes in market ancillary service availability**

Clause 4.9.9B of the Electricity Rules requires market participants that have an ancillary services generating unit or load to inform AEMO when there is a change or

likely change to availability. This clause is integral to system security and it is essential that AEMO is immediately informed of any changes to availability.

## 5 Glossary

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ESOO	Electricity Statement of Opportunities
MRL	minimum reserve level
MT PASA	Medium Term Projected Assessment of System Adequacy
NEM	National Electricity Market
POE	probability of exceedence
RERT	Reliability and Emergency Reserve Trader
ST PASA	Short Term Projected Assessment of System Adequacy