



Australian Energy Market Commission

Draft Rule Determination

Rule Proposal: *System Restart Ancillary Services and pricing under market suspension*

Proponent: *NEMMCO*

Date: *December 2005*

Commissioners:
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Summary

NEMMCO have proposed that changes be made to the National Electricity Rules concerning the standards for, procurement of and use of System Restart Ancillary Services (SRAS) and the provisions concerning pricing under market suspension.

SRAS is required to restart the power system following a black system condition. Most generating units require a source of electrical power for their auxiliary plant so they can be restarted. SRAS provides this restart capability.

NEMMCO's proposal was originally lodged with the National Electricity Code Administrator (NECA), and the Australian Energy Market Commission (Commission) became responsible on 1 July 2005 to take the proposal forward. This Rule Determination contains the Commission's assessment of the proposal, carried out in accordance with the requirements of the National Electricity Law.

A number of submissions in response to the Commission's initial consultation raised serious concerns with NEMMCO's proposed approach to the procurement of SRAS. In summary, concerns were raised that NEMMCO's approach was interventionist considering the potential competitiveness of the market.

To assess the validity of these concerns, the Commission engaged Firecone to provide an assessment of the potential competitiveness of the market for SRAS and appropriate market design for the procurement of SRAS.

Taking into account Firecone's report and comments from both NEMMCO and submissions, in determining the draft Rule the Commission has determined to make a number of changes to the Rule proposed by NEMMCO.

In summary, the Commission considered that the inefficiencies in the current tendering process did not justify NEMMCO's proposed interventionist approach, and that a competitive tendering process for SRAS procurement was more appropriate. The Commission also enhanced the role of the Reliability Panel in determining the system restart standard and determined that a 'smeared' NEM-wide approach to cost recovery for SRAS was most appropriate. The Commission determined that NEMMCO's proposed changes for pricing under market suspension were appropriate.

The Commission is satisfied that the draft Rule is likely to contribute to the National Electricity Market (NEM) objective, and that it therefore satisfies the Rule Making Test, by improving the procurement of system restart and therefore the ability to respond to a black system condition.

Accordingly, the Commission has determined that, subject to comments from persons as part of the second round consultation, it intends to make a Rule to address the issue raised in the proposal. This Draft Rule Determination sets out the reasons of the Commission in accordance with the requirements of the National Electricity Law.

1. The Proponent's Rule Proposal

Infrastructure and services that facilitate restoration of the power system following a major supply disruption play a fundamentally important role in the NEM, in that they help to reduce the substantial economic costs from a major disruption by ensuring that the power system failed to be restored to full functionality in a timely manner.

If a black system condition were to occur, most generating units would be expected to shut down. These generating units need to be restarted so the power system can be restored. However, most generating units need a source of electrical power for their auxiliary plant so they can be restored.

Black start capability is commonly provided in the following ways:

- inherent black start sources – generating units that can start without being connected to external power supplies such as hydro generating units;
- combination system restart sources – large generating units which can be started from a nearby small power station such as thermal power stations with adjacent black start gas turbine generating units; and
- trip to house load schemes (or islanding schemes) – large generating units that can disconnect from the transmission network and continue to supply their own auxiliaries or an isolated segment of system load.

Under clause 3.1.4(a1) of the National Electricity Code, NEMMCO was required to conduct a review of a long term strategy for the provision of system restart services. Under the Code (and now Rules) NEMMCO was required to consider:

- the need to ensure sufficient system restart services to restore normal power system operation within a reasonable time period;
- the desirability of acquiring supplementary system restart capability on a competitive basis to reduce the time required to resupply loads where benefits outweigh the costs; and
- options, including embedded generation, that could be developed over a 3 year period to provide system restart capability;

This review was completed in July 2004 and became the basis of the Rule proposal that NEMMCO submitted to NECA on 11 April 2005. A summary of the conclusions of the review is reproduced in Appendix 2 of this draft Determination.

NEMMCO noted that its Rule proposal seeks to implement the following conclusions of the review:

- the adoption of an outcomes-based standard – the proposed Rule changes would require the standard to be determined as soon as practicable by the Reliability Panel;
- the specification of assumed levels of infrastructure damage as a basis for testing whether the standard has been met;
- the development of the concepts of primary and secondary restart services that differ in terms of availability and reliability;

- the potential for contracting additional services over and above the number required to meet the outcome-based standard;
- an ability to specifically incorporate private ‘off-market’ or customer specific energy support arrangements into the NEM restart plan; and
- adoption of principles to enhance the prospects that contracting outcomes are aligned with reasonable terms and conditions in at least most circumstances.

NEMMCO has also suggested changes to the processes for pricing under market suspension. According to NEMMCO, these changes are intended to address an anomaly in the Rules whereby it could be interpreted that when the market is suspended NEMMCO would be required to assess on a trading interval by trading interval basis, what method of pricing should be adopted.

NEMMCO provided detailed drafting of its proposal to implement these proposals in the Rules.

2. The draft Rule determination

The Commission has determined, in accordance with section 99 of the National Electricity Law (NEL), to make the draft Rule set out at Attachment 1 of this draft Rule determination. The wording of the draft Rule amends aspects of the proposed Rule as put forward by NEMMCO, for the reasons set out at section 5 of this determination.

In coming to its decision, the Commission has considered:

- The Rule proposal and the proposed Rule put forward by NEMMCO (see section 1 of this determination);
- submissions received (see section 5 of this determination);
- the requirements under the NEL (see section 3 of this determination)

The Commission has applied the statutory Rule making test and for the reasons set out in section 6 of this draft Rule determination, is satisfied that the draft Rule is likely to contribute to the achievement of the NEM objective.

3. Requirements under the NEL

3.1 The Rule Making Test

The NEL requires the Commission to apply the Rule making test in its analysis and assessment of a Rule proposal at the draft determination phase of the Rule making process. The Rule making test states:

“(1) The AEMC may only make a Rule if it is satisfied that the Rule will or is likely to contribute to the achievement of the national electricity market objective.

“(2) For the purposes of subsection (1), the AEMC may give such weight to any aspect of the national electricity market objective as it considers appropriate in all the circumstances, having regard to any relevant MCE statement of policy principles.” (s.88 NEL)

The NEM objective is at the centre of the Rule making test, and is set out in section 7 of the NEL:

“The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.”

The Second Reading Speech for the NEL also provides guidance as to the way in which the NEM objective is to be understood:

“The market objective is an economic concept and should be interpreted as such. For example, investment in and use of, electricity services will be efficient when services are supplied in the long run at least cost, resources including infrastructure are used to deliver the greatest possible benefit and there is innovation and investment in response to changes in consumer needs and productive opportunities.

The long term interests of consumers of electricity requires the economic welfare of consumers, over the long term, to be maximised. If the NEM is efficient in an economic sense the long term interests of consumers in respect of price, quality, reliability, safety and security of electricity services will be maximised.” (Hon. P.F. Conlon (Minister for Energy), National Electricity (South Australia) (New National Electricity Law) Amendment Act (NEL), second reading speech, 9 February 2005 – emphasis added)

In summary, the Rule making test imposes the following requirements on the Commission in preparing a draft Rule determination:

- The Commission must be satisfied that a Rule that is to be made will or is likely to contribute to the achievement of the NEM objective;
- The NEM objective is to be understood and interpreted as an economic objective;
- The Commission may *only* make a Rule if it is satisfied in accordance with the Rule making test;

- The Commission is empowered to give weight to any aspect of the NEM objective as it considers appropriate in the factual circumstances presented by particular Rule proposals;
- In weighting aspects of the NEM objective, the Commission must have regard to any relevant MCE statement of policy principles; and
- The Commission must set out the reasons as to whether it is satisfied as to the Rule making test in its draft determination in relation to a proposal for a Rule.

3.2 Content of a Draft Rule Determination

A draft Rule determination must contain a statement of reasons of the Commission as to whether or not it should make the proposed Rule or another Rule.

The statement of reasons must (at least) include:

1. reasons as to whether the Commission is satisfied the proposed Rule or the other Rule (if any) will or is likely to contribute to the achievement of the NEM objective;
2. reasons having regard to any relevant MCE statement of policy principle
3. in the case where the proposed Rule or other Rule is a proposed jurisdictional derogation, the reasons having regard to the matters specified in s.89 of the NEL.

If the Commission determines to make a Rule, the draft Rule determination must contain a draft of the Rule to be made. The draft Rule determination must also contain any other matters prescribed by the Regulations.

3.3 The head of power for the draft Rule

The Commission is satisfied that the draft Rule falls within the subject matters for which the Commission may make Rules as set out in s.34 of the NEL and in Schedule 1 to the NEL.

The draft Rule relates to the operation of the national electricity market and the operation of the national electricity system for the purposes of the safety, security and reliability of that system. Accordingly s.34(1) enables the Commission to make Rules relating to the procurement and operation of system restart ancillary services.

3.4 Other relevant statutory matters

The NEL also requires the Commission to have regard to any MCE statements of policy principle in applying the Rule making test. The Commission notes that currently, there are no relevant MCE statements of policy principle.

The Commission also notes that there are currently no prescribed requirements in the NEL Regulations as to the content of a draft Rule determination as referred to in s.99(2)(c).

4. Consultation Process

In February 2003, NEMMCO published a scoping paper for its review of system restart ancillary services arrangements, which formally commenced on 30 May 2003. NEMMCO published a final report of this review on 8 July 2004. NEMMCO received a number of submissions at each stage of this review process, which informed its conclusions in its final report.

On 11 April 2005, NEMMCO submitted to NECA a proposal to change the National Electricity Code, as described in section 1 of this report. The Code Change Panel did not begin consultation on the proposal before responsibility for assessing the proposal was transferred to the Commission.

Under the transitional provisions of the NEL, current Code change proposals that had not been finalised as at the date of commencement of the Commission on 1 July 2005 are to be treated as Rule making requests under the newly amended NEL, and to be progressed by the Commission.

The Commission made an assessment that the (now) Rule proposal met the content requirements for a proposal under the new NEL.

Accordingly, on 2 September 2005, under s.94 of the NEL, the Commission determined to commence initial consultation by publishing a notice under s.95 of the NEL, including an extended consultation period due to the length and complexity of the proposed Rules.

The Commission held a public hearing on the SRAS proposal in Melbourne on 15 September. Submissions on the proposal closed on 14 October.

The Commission received seven submissions on the proposed Rule, from:

- NEMMCO;
- Macquarie Generation;
- The National Generators Forum (NGF);
- The Energy Retailers Association of Australia (ERAA);
- Powerlink Queensland;
- CS Energy; and
- Snowy Hydro

After the closing date for submissions, the Commission also received submissions from:

- Frontier Economics;
- An additional submission from NEMMCO;
- A revised version of Macquarie Generation's submission including only minor amendments.

The submissions raised a number of concerns with NEMMCO's proposal. These issues are considered in section 5 of this draft Determination.

The Commission invites submissions on the matters raised in the draft Rule determination. Under the NEL, the Commission must allow a period of at least 6 weeks for the making of

submissions, and has determined that submissions on this draft Rule determination must be received by 20 January 2006.

After the Commission has received and considered any submissions will proceed to making a final Rule determination.

5. Matters raised in Analysis and Consultation

5.1 SRAS objectives and description of services

Objectives

What the proponent said

Regarding the objectives for SRAS procurement, the proposed Rules state:

Each of the guidelines developed and published pursuant to clause 3.11.4A(c) must be consistent with the objectives of the SRAS procurement process, which are as follows:

- (1) the system restart service standard is to be satisfied;*
- (2) each restart service is to be assigned to at least one electrical sub-network;*
- (3) the requirement for restart services in each electrical sub-network is to be met, to the extent that it is practicable and reasonable to do so, by contracting primary restart services with maximum geographical diversity while ensuring restart services are strategically located with respect to generation centres; and*
- (4) achievement of economically efficient outcomes, wherever practicable and reasonable, through NEMMCO procuring the combination of services that minimise the overall cost of restart services, taking into account the need to meet the system restart service standard¹.*

In its Rule proposal, NEMMCO noted:

In specifying objectives of the SRAS procurement process the objective is to limit the discretion NEMMCO is able to exercise in its establishment of procurement guidelines.

What the submissions said

No submission directly addressed the issue of an objective for SRAS.

The Commission's consideration and reasoning

Defining an objective of the SRAS service will provide guidance to assist parties in making decisions regarding SRAS, such as how much to procure, what services to procure, and for what purpose. Without defining an objective, it is difficult to make any assessment on whether the SRAS procurement process, or the service itself, is achieving its aims.

NEMMCO has proposed an objective for the SRAS procurement process, but the Commission is of the view that, more broadly, the Rules should specify an objective for system restart services as a whole, which may guide both NEMMCO in its procurement of SRAS and the Reliability Panel in determining the system restart service standard.

NEMMCO's proposed definition suggests some of the broad characteristics of SRAS:

- Necessity – At a minimum, some level of restart service must be provided to ensure that the power system may be able to restart following a black system condition.
- Robustness – System restart must be robust enough to be able to respond to a large number of potential system emergencies due to a wide number of causes. A requirement for geographical diversity would be one way to achieve a robust system restart service.

¹ NEMMCO proposed Rule, clause 3.11.4A(d)

- Reliability – The overall system restart service must be likely to work as intended and respond to a black system condition, even though the likelihood of such an event occurring is very low.
- Timeliness – the service is likely to be more valuable, the faster it is able to restart the system.

Firecone noted their report to the Commission that:

An agent procuring SRAS needs to have a clear objective to determine the appropriate level of SRAS to be purchased. System blacks are rare events, but have high costs when they occur. SRAS services reduce those costs by ensuring restoration of supply in the event of a system black. The issue is what level of SRAS payments to incur in response to reasonable expectations as to the likelihood and impact of a system black.

Therefore Firecone proposed “*the objective when purchasing SRAS should be to minimise the combined cost of system outages and of SRAS services. This will occur when the marginal cost of a change in the level of SRAS being bought is equal to the change in the expected value of outage costs resulting from that change in SRAS procurement.*”

Any objective in the Rules should also be consistent with the NEM objective, which states:

The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.

The Commission considers that high level principles based upon the objectives and characteristics above and the NEM objective would be appropriate to guide both the Reliability Panel and NEMMCO. These high level principles are not intended to inappropriately limit the discretion of the Reliability Panel in determining an appropriate standard or NEMMCO in implementing the standard and procuring the services, but provide some guidance as to outcomes and ensure a level of consistency between the system restart standards and the procurement process.

The Commission considers that the objective for SRAS should be:

The objective for system restart ancillary services is to minimise the expected economic costs of a major supply disruption, taking into account the cost of supplying SRAS, consistent with the NEM objective.

This SRAS objective is more outcome-focused than the objectives proposed by NEMMCO and less prescriptive. Additionally, the objective recognises that the economic aim of providing the services is not that they should be provided in such a way as to minimise the cost of provision but to be delivered in an economically efficient manner that minimises the overall economic cost of a major supply disruption.

NEMMCO’s concerns about having appropriate limits on their discretion in SRAS procurement are addressed later in this draft Determination under section 5.2.

The Commission’s finding in relation to this issue

That the objective for SRAS will be modified and broadened, to reflect an overall objective for system restart rather than just an objective for procurement.

Definition of Restart Services

What the proponent said

NEMMCO's proposed Rule states:

NEMMCO must, in accordance with Code consultation procedures, develop and publish, and may from time to time amend, a detailed description of each type of restart service being either a primary restart service or a secondary restart service. The description must include without limitation the technical and availability requirements of each type of restart service.

and

the requirement for restart services in each electrical sub-network is to be met, to the extent that it is practicable and reasonable to do so, by contracting primary restart services with maximum geographical diversity while ensuring restart services are strategically located with respect to generation centres; and

NEMMCO have proposed definitions of primary and secondary restart services as:

primary restart service

A restart service that is highly likely to perform in the manner intended if and when called upon to do so, and that meets the technical and availability requirements of a primary restart service specified by NEMMCO pursuant to clause 3.11.4A(b).

secondary restart service

A restart service that is more likely than not to perform in the manner intended, if and when called upon to do so, and that meets the technical and availability requirements of a secondary restart service specified by NEMMCO pursuant to clause 3.11.4A(b).

What the submissions said

Macquarie Generation noted:

Although these documents themselves are not (yet) the subject of consultation, Macquarie Generation seeks to highlight that the requirements for their development and publication may lead NEMMCO to an excessively narrow specification of the types of services that may be suitable for providing SRAS. In our view, NEMMCO should keep as open a mind as possible to facilitate tradeoffs between offered services with different capabilities and costs.

For example, if an offered service has technical characteristics that fall just outside those specified in NEMMCO's guidelines under 3.11.4A(b) but it is being offered at a much lower price than another service that is fully within the required characteristics, it may be inefficient for NEMMCO to exclude the non-compliant service from consideration for contracting.

Macquarie Generation also noted:

The definitions of "primary restart service" and "secondary restart services" include references to performance as "highly likely" and "more likely than not" which are vague and uncertain. It is not clear whether these references will be defined further by the guidelines to be issued by NEMMCO pursuant to clause 3.11.4A(b).

The NGF stated:

It is not appropriate to use words like "highly likely" and "more likely than not" in a definition as they are vague and subject to interpretation. As the contents of the contracts will be confidential, market participants in general would not be able to determine the reliability of the system restart services NEMMCO has procured. Also, this will give NEMMCO an unlimited flexibility in determining the categories of primary and secondary.

Therefore, NGF recommends that the terms must be clearly defined.

On primary and secondary restart services, Snowy Hydro said:

Throughout the 2004 SRAS Review, NEMMCO have not accepted participants concern that the definition of the Primary Restart Service and Secondary Restart Service were vague and lacked definition... Snowy Hydro believes the lack of recognition and the importance of reliability of a SRAS source is encapsulated in these definitions. This view is incorrect as the value of system restart sources decreases exponentially with decreasing start reliability... Since the number of SRAS required to meet a 99% reliability target dramatically increases with decreasing source reliability, the analysis demonstrates that the Reliability Panel needs to consider amongst other considerations the affect of different SRAS source reliability in deriving an output standard.

The Commission's consideration and reasoning

Tendered offers for the provision of system restart services will vary due to their reliability, availability, location on the network, and potentially other factors. All other things being equal, it is in the interests of the market for NEMMCO to procure the most reliable services. However, additional reliability is likely to have additional costs, and NEMMCO will have to make a determination on the trade-off between reliability and tendered price.

However, NEMMCO have advised that it is limited in its practical ability to test and measure some aspects of plant performance, particularly reliability. Therefore NEMMCO proposed to divide restart services into three categories: primary restart services, secondary restart services and implicitly, non-conforming restart services.

NEMMCO's proposed categorisation of restart services suggests that it will not procure services which have an expected reliability of less than 50% (services which are not "more likely than not to perform in the manner intended"), and that it will preference primary restart services, defined as "highly likely" to perform in the manner intended. The detailed description of what constitutes a primary and secondary restart service is proposed to be determined by NEMMCO, "in accordance with Code (Rules) consultation procedures".

The definition of primary and secondary restart services serves a number of purposes in the SRAS procurement process:

- It effectively sets a benchmark for the overall reliability of the SRAS service, by setting a standard for the expected reliability of primary restart services, which are to be preferred in the tendering process. In the view of the Commission, the expected reliability of the system restart service is a critical dimension in the definition of the system restart standard. Accordingly, the reliability benchmark should be set as part of the overall process of setting the system restart standard. This should ensure that there is consistency between the different requirements for SRAS.
- It provides guidance for NEMMCO in the procurement process, in assessing the trade-off between additional cost and reliability. For example, there would be justification for NEMMCO to pay the additional cost of procuring a primary service over a secondary service, but less justification to pay more to procure a more reliable primary restart service over a less reliable primary restart service.
- It provides an economic incentive. As well as defining required reliability, status as a primary service provider opens the door to preferential treatment as part of the tendering process – primary restart services will, appropriately, be preferred to

secondary restart services. As such, access to status as a primary restart provider could be potentially valuable to a tenderer, as it is more likely that their service will be successful in the tendering process, and the tenderer may be able to gain a higher price for their service.

Considering the issues above, the Commission considers that guidelines on the required reliability of primary and secondary restart services should be set as part of the system restart standard. However, subject to those guidelines, NEMMCO would retain the role of defining the technical and availability requirements of primary and secondary restart services.

The guidelines would provide guidance for NEMMCO on what level of service reliability should be considered “*highly likely to perform in the manner intended*” and “*more likely than not to perform in the manner intended*”. The guidelines may also potentially consider what factors should be taken into account in making that determination.

The Commission’s finding in relation to this issue

The Commission has determined that the Reliability Panel is to determine guidelines for the definition of primary and secondary restart services, as part of its definition of the system restart standard. NEMMCO can then publish detailed descriptions of primary and secondary restart services.

5.2 Determination of the correct amount of SRAS to procure

System restart service standard

What the proponent said

NEMMCO’s Rule proposal defines the purpose of the system restart standard as:

The purpose of the system restart service standard is to provide a benchmark against which the adequacy of procurement options for restart services can be assessed. The system restart service standard must at least:

- (1) be such that it can be used to guide the procurement of restart services;*
- (2) be capable of being applied to electrical sub-networks, being electrical sub-networks as determined by NEMMCO pursuant to clause 3.11.4B; and*
- (3) require restoration outcomes in terms of restoring a certain percentage of the supply capability of an affected electrical sub-network’s peak demand from the transmission network within a specified number of hours of a major supply disruption occurring, the percentage and number of hours to be determined by the Reliability Panel on the advice of NEMMCO.*

What the submissions said

The NGF stated:

The NGF believes that the Reliability Panel should be given complete independence to decide a national and consistent service standard for SRAS. This is a complex issue involving detailed modeling and it would be premature for NEMMCO to assume the form of the standard before the analysis is undertaken. For instance, it may be concluded by the Reliability Panel that a standard based on the percentage of restored load is more appropriate than a standard based in terms of a certain percentage of supply capability.

Snowy Hydro noted “*The Reliability Panel should be given complete independence to derive a national and consistent service standard for SRAS.*”

The Commission’s consideration and reasoning

The Commission agrees with the general thrust of NEMMCO's proposal that SRAS should be procured to meet an outcome based standard, and the setting of that standard should be done independently of the process of procuring the service.

The setting of the standard is essentially a process of determining *what* service NEMMCO is required to procure. In the Commission's view, there are several decisions to be made on the requirements for SRAS – not only the how much power should be restored within what time period, but the required reliability of the service, its robustness and the electrical sub-networks the standard should be applied to.

NEMMCO has proposed that the Reliability Panel should determine only the first of these matters, with the other matters determined by NEMMCO. In the view of the Commission, there is a risk of inconsistent outcomes if one party determines one aspect of the system restart standard, while another party determines the other elements of the standard. The Commission considers there is a strong case for one party defining all dimensions of system restart standard, to ensure consistency and clarity in service definition.

Macquarie Generation made a similar point, noting *“the fact that the technical standards will be set out in several different documents developed by different entities may result in uncertainty for service providers if the standards do not complement each other and address any inconsistencies between the various documents.”*

The issues that the Commission considers should be part of the standard are:

- Amount of time required to restore service to a particular level. As noted by the NGF's submission, the Rules should not be prescriptive to the form that this standard should take and how it should be measured. These are matters best determined by the Reliability Panel. The Commission would expect one of the factors that the Reliability Panel would take into account in defining this standard would be the ability for NEMMCO to practically apply the standard as part of the procurement process and the costs associated with differing standards on the time to restoration.
- Guidelines on the required reliability of primary and secondary restart services. As noted earlier in this determination, the guidelines would provide guidance on what level of expected reliability is required for a service to be defined as primary or secondary restart services, or to be non-conforming as a restart service.
- Guidelines on the required robustness of service. As noted below, these guidelines should provide NEMMCO with guidance on what level of geographical diversity, strategic location and/or other factors affecting the robustness of the service should be taken into account when procuring the service.
- Guidelines for the determination of electrical sub-networks. These guidelines are discussed in greater detail later in this draft determination.

One critical dimension of the standard for restart services will be the required robustness of the restart service. As NEMMCO noted in its Final Report of its review of SRAS:

The need to restore the power system within a reasonable time leads NEMMCO to conclude that there is a requirement for 'dependable' and 'diverse/strategically located' restart services:

- *'dependable' (technically capable of doing the job, highly available, highly reliable and comprehensively tested) because stakeholders need to be confident that the restart service will work if and when called upon; and*

- *‘diverse/strategically located’ because stakeholders want the comfort of restart plans being robust to a range of contingencies.*

The issue of robustness or ‘diverse/strategically located’ restart services is critical to the definition of what services should or should not be contracted as a restart service. For example, if two restart services have a single point of failure, such as being connected to the same transmission line, there may be a case that these services should not both be contracted. However, this may require an assessment of the likelihood of the failure of the transmission line.

In the view of the Commission, guidance on these issues can be usefully provided as part of the definition of a system restart standard. Like other elements of the standard, robustness guidelines should provide guidance to NEMMCO in its process of procurement, but leave NEMMCO with appropriate discretion to apply those guidelines to the practical circumstances it faces.

There is a balance between providing high-level guidance on the service to be procured and leaving appropriate discretion for NEMMCO in procuring appropriate services. An over-specification by the Reliability Panel of the system restart standard would run two risks – firstly it would inappropriately constrain NEMMCO from exercising the reasonable discretion required in conducting an effective tender process. Secondly, over-specifying the required service may reduce the number of potential tenderers. Not only will this reduce competition in the market, it could potentially restrict innovation in delivery of system restart services.

Therefore, the draft Rule requires the Panel to produce meaningful, outcome based guidelines, but allowing discretion to NEMMCO in applying that standard to the process of procurement.

The Commission’s finding in relation to this issue

- System restart standard should be outcome based and include:
 - Amount of time required to restore service to a particular level.
 - Guidelines on the required reliability of primary and secondary restart services.
 - Guidelines on the required robustness of service.
 - Guidelines for the determination of electrical sub-networks

A single national standard or jurisdictional variations to the standard?

What the proponent said

NEMMCO noted in its additional submission that *“even with judicious application of agreed guidelines, variations in power system topology and technology – as well as jurisdictional policies – make it impossible to guarantee equitable implantation of a single standard, and (potentially substantial) variations in actual capability and cost will inevitably arise. Variations of this nature should be acknowledged and catered for.”*

What the submissions said

The ERAA noted:

The ERAA does not understand why it is deemed necessary to facilitate localised variations from the national standard. In setting the standard, the Panel will inherently take into account variations in physical

electrical networks through their also determining sub-networks. In the unlikely event a jurisdiction feels sufficiently aggrieved that an agreed national standard is insufficient for their own societal demands, then the NER cannot prevent them installing additional facilities at their own budgetary cost.

The Commission's consideration and reasoning

In essence, the system restart standard represents the Reliability Panel's analysis of the minimum level of system restart that should be procured to satisfy overall market expectations and efficiently minimise expected economic cost of a major supply disruption. This will necessarily involve both an analysis of the value that participants place on the service, the willingness to pay for the service and the expected costs of the service.

Firecone noted in their report:

The need for SRAS will vary by location. In some parts of the network, the risk of outage will be higher than in others. Similarly, in some parts of the network, an outage would lead to a larger loss of load than in others....

The characteristics of SRAS – including its reliability, speed of restoration, scale, and location – will determine what impact it has on the expected duration of an outage. However, SRAS is efficiently supplied as a by-product of energy generation... This means that the nature of the generation industry will determine the feasible nature of a SRAS service... The cost of SRAS also varies significantly depending on the type of generation.

It follows that the application of a single outcome-based standard for SRAS is likely to result in significant variation in procurement of SRAS within each sub-network. The requirement for SRAS will vary, as will the performance characteristics and cost of SRAS services. A single specification of SRAS standards on a narrower basis (such as a time to restoration of a defined proportion of load) would be inefficient in minimising costs.

Firecone concluded:

It may be desirable for the AEMC to establish the single NEM-wide objective; the Reliability Panel to determine the optimum procurement of SRAS within sub-networks; and NEMMCO to lead the analysis, and the interaction with the market, to inform that decision.

In the Commission's view, there are legitimate economic and technical reasons for the standard to have some level of variation in the standard between sub-networks. As the ERAA noted, "in setting the standard, the Panel will inherently take into account variations in physical electrical networks through their also determining sub-networks." The Commission considers it appropriate that the Reliability Panel should be able to make variations to the standard to take account of these issues.

However, the Commission is of the view that variation in the standard to cater for the social policy objectives of jurisdictions is not necessary. As noted later in this paper, jurisdictions or groups of customers are able to contract for services above the restart standard, should they feel that they require a higher standard of restart service.

The Commission's finding in relation to this issue

The Reliability Panel will be able to vary the system restart standard between sub-networks for economic or technical reasons.

Role of Reliability Panel

What the proponent said

NEMMCO proposed to amend clause 8.8.1 of the Rules to require the Reliability Panel to *“on the advice of NEMMCO, determine the system restart service standard”*

In their additional submission, NEMMCO noted *“in respect of broad standards, the Reliability Panel is best placed to determine outcomes, but as with existing power system security and reliability standards, NEMMCO is well placed to provide technical advice. The Reliability Panel would be able to consult widely in its determination of a standard notwithstanding any advice provided to it by NEMMCO.”*

What the submissions said

The ERAA stated:

The ERAA is concerned where SRAS standards are created by non-national bodies and those that may not be in a position to consider cost implications. We prefer that the level of SRAS to be procured be set NEM-wide by a technically expert body including participant representation. The ERAA therefore welcomes explicit recognition of the Reliability Panel’s role in specifying a national standard in procuring SRAS within sub-networks. The Panel’s expertise and membership allows it to strike a balance between the need to secure the network and minimise cost.

The ERAA was also concerned regarding the *“requirement for the Reliability Panel to act “on the advice of NEMMCO” in 8.8.1 and 8.8.3(aa)(3), which is unnecessary, puts the Panel’s authority in doubt and should be removed”*

The Commission’s consideration and reasoning

The Commission agrees that a body independent of NEMMCO should be required to set the system restart standard. There is a strong case to separate the determination of standards from the implementation of those standards. Not only are these separate skills, separation of the roles removes the potential for conflict of interest and will give tenderers greater confidence in the tendering process.

The Commission has considered whether the Reliability Panel is the appropriate body to undertake this task. Given the Panel’s status as a body with representation from the various groups of participants in the NEM and relevant technical expertise, the Commission considers that the Reliability Panel is appropriate to undertake this task.

The Commission also notes that the determination of a system restart standard is consistent with a number of the Panel’s existing roles, such as setting the system reliability standards and reviewing the level of VOLL.

The Commission considers that it is appropriate that the determination of the system restart standard should be consistent with the other reviews that the Panel undertakes as part of the Reliability Review process under clause 8.8.3, including full and open public consultation.

The Commission noted the ERAA’s concern regarding NEMMCO’s role in providing advice to the Panel on the restart standard as it was *“unnecessary [and] puts the Panel’s authority in doubt.”* However, the Commission considers that this role is appropriate given the expertise NEMMCO has regarding system restart and the information it will hold on the likely costs of providing different levels of service. This expertise and information will be relevant to the Panel’s determination, and the Commission notes that the Panel will not be bound by NEMMCO’s advice.

The Commission's finding in relation to this issue

That the Reliability Panel will determine the system restart standard, in accordance with the procedures set out in clause 8.8.3 of the Rules.

Electrical sub networks and determination of electrical sub network boundaries

What the proponent said

NEMMCO has proposed that it, with advice from jurisdictional co-ordinators and TNSPs, should determine electrical sub network boundaries. NEMMCO's proposed Rule provides some guidance as to what NEMMCO should take into account in determining boundaries. NEMMCO's Rule proposal states:

In making this determination NEMMCO must take account of, but is not limited by, the following:

- a. the number and strength of transmission corridors, where strength is determined by thermal or stability (transient, voltage, oscillatory) limits, connecting one part of the power system to the remainder of the power system;*
- b. the electrical distance (length of transmission lines) between groups of generation;*
- c. the amount of generation in each part of the power system; and*
- d. the amount of load in each part of the power system.*

Additionally, NEMMCO noted that “*consultation on electrical sub-network boundaries – a fundamental system security issue – is to be limited to parties without any commercial interest in the outcome*”

What the submissions said

The ERAA stated:

It seems impractical to set these boundaries outside of the process of setting the System Restart Service Standard itself, as the size of the sub-networks would be relevant. It leaves open the prospect of these parties effectively altering the Standard by setting sub-networks of a smaller size than was intended, resulting in a greater number of providers. 3.11.4B should therefore vest this power only in the Reliability Panel.

The Commission's consideration and reasoning

The determination of a boundary for an electrical sub-network is necessarily a complex process that will need to take the particular characteristics of the network and other technical factors into account. The Commission considers that NEMMCO is the party best placed to make this determination of the location of the boundaries.

However, the process of determining electrical sub-networks is more than a process of determining where boundaries will lie. As noted by the ERAA, the determination of electrical sub-networks will have a significant impact on the number and quality of restart services required, and the overall costs of procurement.

The process of determining sub networks will involve a consideration of how many sub-networks there should be, and what the desired characteristics of the sub-networks are. The Commission notes that the criteria for determining electrical sub-network boundaries, as proposed by NEMMCO, provide little guidance in addressing these issues. They indicate factors that NEMMCO may take account of, rather than providing guidance to NEMMCO on, for example, how much generation or load is appropriate for an electrical sub-network, and at what point the electrical distance between groups of generation is too far. The Commission further notes that as drafted, NEMMCO must take account of the criteria, but is not limited by them.

NEMMCO noted in their Rule proposal that “*codified criteria ensure compatibility of sub-networks with the broader SRAS procurement process, including the system restart service standard.*” The Commission agrees that compatibility between determination of electrical sub-network determination and the broader system restart standard is important. Given that the system restart standard will have to be applied to the electrical sub-networks, the Commission considers that the objectives and criteria in setting the other elements of the standard and the sub-networks should be compatible.

Accordingly, the Commission had determined that, as part of setting the system restart standard, the Reliability Panel should set guidelines for the determination of electrical sub-networks. The guidelines should provide enough detail to give NEMMCO guidance on the appropriate number of sub networks, and desired characteristics within a sub network, such as amount of generation or load or electrical distance between groups of generation.

NEMMCO could then determine the electrical sub-network boundaries in accordance with the guidelines determined by the Reliability Panel. The criteria proposed by NEMMCO would reasonably form the basis for the Reliability Panel’s consideration of the guidelines.

The Commission has also considered NEMMCO’s proposal that the determination of sub-network boundaries should not be subject to the Rules consultation process, on the basis that consultation should be limited to parties without a commercial interest in the outcome.

The Commission notes that a commercial interest in the outcome of a decision is often considered a reason to allow, rather than remove, the availability of consultation. In the Commission’s view, the existence of a commercial interest in the outcome of the electrical sub-network boundary determination is not a sufficient reason to disallow consultation on the determination.

The Commission notes that NEMMCO will remain the ultimate decision maker on sub-network boundary locations, and should be able to assess the reasonableness of any submission on the location of a boundary from any party.

The Commission’s finding in relation to this issue

The Commission has determined that:

- The Reliability Panel will be required to publish guidelines for the determination of electrical sub-networks as part of the system restart standard.
- NEMMCO will be required to determine boundaries for electrical sub-networks, in accordance with the guidelines published by the Reliability Panel.
- NEMMCO’s determination will be subject to the Rules consultation procedure.

Additional restart services above the system restart standard

What the proponent said

Three elements of NEMMCO’s proposal relate to this issue:

- Customer specific energy support arrangements – NEMMCO’s proposal allows for these arrangements, defined as “a contractual arrangement whereby facilities not subject to an ancillary services agreement for provision of restart services are used to assist supply to a customer during a major supply disruption affecting that customer.”

- Variations in the system restart standard – According to NEMMCO’s proposal, “provision should be made for variation in restoration standards between regions as jurisdictional governments can, for social policy reasons, make representations to the Reliability Panel for a more or less onerous restoration standard in specific areas of the power system.”
- Additional secondary service allowance – NEMMCO’s proposal requires the AEMC to determine an additional secondary service allowance, that may be used by NEMMCO “for the acquisition of secondary restart services over and above the number of restart services required to meet the system restart service standard”, taking account of the value to the community of having the additional security and certainty provided by the procurement of additional secondary restart services

What the submissions said

The NGF stated:

The NGF is concerned about the level of discretion proposed by NEMMCO, TNSP’s and Jurisdictional Planning Bodies to procure additional services beyond that set by the Reliability Panel. By definition, a SRAS output standard set by the Reliability Panel should meet certain requirements within a set of stated assumptions. It then follows that if NEMMCO were to procure services that meet this standard, additional services would not be warranted. Hence NEMMCO’s discretion to purchase additional services beyond the required service standard cannot be justified.

The ERAA noted:

In the unlikely event a jurisdiction feels sufficiently aggrieved that an agreed national standard is insufficient for their own societal demands, then the NER cannot prevent them installing additional facilities at their own budgetary cost.

The Commission’s consideration and reasoning

The existence of a restart service benefits all participants in the NEM. However, some participants will place a greater value on this service than others. Some participants may also value a higher quality restart service than others.

Given the nature of system restart as a public good, provision of SRAS by NEMMCO ensures that at least a minimum level of service is provided. As a public good, there is a risk that parties may seek to free-ride on the investments of others. Without intervention by NEMMCO, there is a risk that, due to the free rider problem, system restart services may be underprovided, or not provided at all.

However, the nature of SRAS as a public good does not exclude the possibility that the marginal benefit gained by particular participants of a higher quality restart service will exceed the marginal cost of provision. In those circumstances, individuals may invest in higher standards of system restart. In each case, despite the fact that the benefits of the additional services will be shared with others (due to the non-excludable nature of system restart), the marginal benefit gained by the individual provides sufficient incentive for additional services to be procured. The same case could be made for groups of customers or jurisdictions.

NEMMCO sought to provide for the demand by these parties for higher quality services in three ways:

- For jurisdictions, by allowing variation to the system restart standard and through the additional secondary service allowance,
- For individual customers through customer specific energy support arrangements.

In the Commission’s view, variation of the system restart standard for social policy reasons, and the additional secondary service allowance, are unnecessary. In the case of the additional secondary service allowance, the ERAA noted, *“upon achieving the minimum standard, there should be no discretion for NEMMCO to purchase additional services just because they are relatively low cost. This questions the validity of the standard itself.”*

In both cases NEMMCO would be required to act as an agent for jurisdictions in procuring additional services. However, in undertaking that role, NEMMCO would have less information than the jurisdiction regarding its willingness to pay, or preparedness to trade off between cost and service quality. Jurisdictions would be better placed to negotiate any higher quality services they may wish to procure themselves.

NEMMCO would then only be required to procure services to meet the system restart standard. If a particular jurisdiction, customer or group of customers wished to purchase a higher level of service than is provided under the system restart standard, they would be free to contract with any party to provide that service.

In the Commission’s view, an outcome based standard for system restart will make the risks faced by participants following a black system condition more transparent, in the sense that participants can more accurately consider the benefits of procuring additional restart services, above what is required in the standard. More purchasers for system restart services may also reduce the risk for investors in investing in SRAS equipment, who are currently faced with only one buyer of their services in NEMMCO.

The Commission’s finding in relation to this issue

That provision for additional secondary services allowances should be removed.

5.3 SRAS Procurement Process

Assessment of competitiveness of the SRAS market

Following the close of submissions on the initial consultation on the proposed Rule, the Commission engaged Firecone Ventures Pty Ltd to provide economic advice on aspects of NEMMCO’s Rule change proposal. The Commission noted that the proponent and submissions differed on a number of issues regarding the appropriate procurement process that NEMMCO should undertake, and considered that economic advice on these issues was appropriate.

The Commission requested that Firecone provide advice on the following issues:

- To what extent the market for SRAS is competitive or has the potential to be competitive.
- Based on the analysis on the issue above, what would be an appropriate design for a market for SRAS?

A number of submission commented on these issues. CS energy noted:

There is no technical barrier to a new entrant deciding to purchase and connect plant suitable for use as a black start service, or to upgrade existing plant to have this capability. Despite this we are not seeing an increase in the depth of providers. The reasons for this can all be remedied by NEMMCO.

The NGF stated:

System restart should be a very competitive service. All existing and new non-wind power stations can be equipped to provide this service by installing auxiliary generation. For hydro and gas-turbines the installation cost and timeframes tend to be modest. Steam plant and cogeneration can retrofit auxiliary generation, in the same manner but can also explore lower cost alternatives such as shared restart. Clearly NEMMCO could potentially receive tenders from providers far in excess of requirements.

Snowy Hydro said:

NEMMCO should be asked the question of how they can improve the competition for these services. For instance,

- *Is the tendering process itself deterring new suppliers;*
- *The expression of interest process to address any technical issues that may prevent new entrants should improve supply;*
- *Are the prices accepted by NEMMCO simply do not cover a risk adjusted return for supplying these services, hence deterring supply offers.*

On the other hand, NEMMCO argued:

NEMMCO's experience of SRAS tender processes is that the number of conforming tenders is often not sufficient to deem the process "competitive" in accordance with the existing definition in clause 3.11.5(d1) of the Rules.

Firecone's report to the Commission is attached to this draft determination. In summary, Firecone concluded:

- The market is limited, but may not be as limited as indicated by recent experience in procurement. There are also steps which could be taken to increase the depth of competition.
- Whilst NEMMCO considers that it may be paying too high a price for restart services in certain situations, this does not in itself justify the adoption of a cost based pricing regime. In competitive markets, providers tend to price at opportunity cost (that is the price of the next best provider). This does not necessarily create any loss in economic efficiency. It may create some transfers between consumers and providers of services, but the does not show that their magnitude is sufficient to justify a regulatory response.
- The market based approach to the procurement of SRAS services is most likely to work towards the objective of the national electricity market
- Competitive procurement should result in the SRAS being procured from the most efficient provider for the service as specified. Whilst this may lead to some over-pricing, an adequate case has not been made that the extent of the over-pricing is sufficient to justify the imposition of a cost based pricing requirement.. Moreover, no consideration has been given to the likelihood of error when effectively regulating prices in such a small market, to the direct transaction costs of the proposed approach, and to the wider impacts of introducing what will in practice be regulatory powers into what is otherwise a competitive market.
- The new lead time of up to 17 months between tender close and contracting for the restart service will remove a current disincentive to new providers of restart services tendering for NEMMCO contracts.

- There may also be potential to minimise the cost of restart services by negotiating with new entrants into the generation market. Relatively small investments may enable SRAS services to be provided at low cost. As these would be specific investments, made to supply a service to only one potential purchaser, the most appropriate commercial arrangement would be a long term contract, sufficient to enable recovery of the costs of the investment.

Procurement process

What the proponent said

NEMMCO have proposed a number of improvements to the tendering process. They noted in their additional submission that *“the objective of NEMMCO in recommending extension of lead times in the tendering process is to reduce barriers to entry to the SRAS market and encourage additional tenderers, although there can be no guarantees that truly competitive outcomes will necessarily follow.”*

What the submissions said

CS Energy noted:

The method NEMMCO proposes for recruiting SRAS is predicated on a non-competitive environment and insufficient depth of providers. Treating the process as proposed discourages new competitive entries. The SRAS recruitment process should be set up to encourage the submission of competitive offers.

Powerlink noted:

There is no reference in the proposed Rules to the impact of the proposed restart services upon system reliability and security. For instance a generator equipped with the facility to trip to house load could exacerbate a serious system incident if it were to mal-operate, i.e. trip to house load too early during a system frequency or voltage disturbance. Also, there must be appropriate safeguards taken by NEMMCO and by the proponents to ensure system reliability during the test of such facilities.

The Commission’s consideration and reasoning

NEMMCO have proposed detailed procurement guidelines for SRAS and NCAS be incorporated into the Rules.

The Commission has considered the detailed SRAS tendering process proposed by NEMMCO and is of the view that the process is appropriate. It has been recognised that the relatively short tendering process under the current arrangements may have unnecessarily limited the number of potential tenders for the service.

The proposal to undertake a longer tendering process, where successful tenderers are selected well in advance of when the service needs to be supplied, may reduce barriers to entry for new service providers. CS Energy noted, *“if market forces set the return on an investment and the lead-time is sufficient to allow construction of new plant or upgrading existing plant then there will be adequate competition in the SRAS market.”* The NGF also endorsed a longer tendering process.

The Commission also considers that longer contracts for primary restart services, as proposed by NEMMCO, may also assist in reducing risks to tenderers and encourage more competition.

The Commission does note however, that NEMMCO’s proposed Rules will entrench a high degree of specificity as to the tendering process in the Rules. This will limit NEMMCO’s flexibility to adapt the tendering process to changing circumstances over time. The Commission considers that it is more appropriate for the Rules to contain some minimum

requirements for the tendering process, with NEMMCO able to determine specific aspects of the process in accordance with the Rules consultation procedures.

NEMMCO's proposed Rules suggested separate tendering processes for NCAS and SRAS. Given the Commission's intention to allow NEMMCO appropriate discretion in defining aspects of the tendering process, the Commission considers that a more concise combined set of requirements in the Rules can be used for both SRAS and NCAS. While these requirements will still maintain necessary differences in the requirements of the tendering process, the Commission considers that two separate sets of similar requirements would have added unnecessary duplication to the Rules.

The Commission considers that the contracting requirements proposed by NEMMCO are appropriate in specifying minimum requirements for an ancillary services agreement for SRAS. However, the Commission questions the benefits of including some of these requirements in the Rules. There may be benefits in clearly specifying the minimum requirements of an SRAS contract, such as meeting testing requirements and, potentially, a requirement for a liquidated damages clause. However, the Commission considers it inappropriate for the Rules to specify details such as the form that the remuneration under the contract should take. The Commission has amended the Rules accordingly.

Regarding Powerlink's concerns on the impact that the procurement of restart services could have on power system reliability and security, the Commission recognises that maintaining system reliability and security is fundamental to the operation of the NEM. However, system restart in itself will be critical to power system reliability and security in ensuring that the system can recover after a black system condition. As such there may be appropriate trade-offs between these two issues.

In the Commission's view, NEMMCO's responsibility under the Rules to maintain and improve power system security is sufficient to ensure that the procurement, testing and use of system restart services does not affect the maintenance of power system reliability and security.

The Commission's finding in relation to this issue

The Commission has determined to simplify the tendering requirements for SRAS in the Rules.

Assessment of reasonable terms and conditions

What the proponent said

In their additional submission NEMMCO noted *"where competitive disciplines are absent from a market, there is a likelihood that prices to deliver services to that market will fail to reflect the reasonable opportunity costs of delivery of such a service. It is only when prices reflect true opportunity costs that allocatively efficient outcomes are likely to be achieved. 'Efficient prices' would mitigate any tendency to either under or over-invest in facilities and promote efficient use of and efficient investment in such facilities."*

NEMMCO's Rules proposed the following guiding principles for assessing reasonable terms and conditions:

- (1) *remuneration reflects efficiently incurred long run incremental costs of providing the services;*
- (2) *remuneration (excluding any primary service premium, if applicable) is sufficient (but need not be more than sufficient) to encourage efficient investment in the services and innovation in the provision of those services;*

- (3) *remuneration (excluding any primary service premium, if applicable) for providers of the services provides a normal return on capital, adjusted for risk. This return should be equal to, or close to equal to, the opportunity cost of the capital employed; and*
- (4) *the terms and conditions of the agreement to be entered into as regards the allocation of risk, should not be inconsistent with the terms and conditions of the ancillary services agreement annexed to the invitation to tender.*

What the submissions said

The NGF argued that *“the competitive process will be subsumed by an adversarial regulated price setting such as occurs for network businesses, with its overheads, perverse incentives and informational disputes.”*

The NGF also recommended the retention of the ‘competition test’, but stated that the *“process of the competitive acquisition of SRAS should also be reviewed and modified to encourage new entrants.”*

Macquarie generation argued that:

a cost-based remuneration approach may deter potential SRAS providers from submitting tenders to NEMMCO, to the detriment of the long term interests of consumers and the market overall.

Regarding the NMAS notice of clarification, Macquarie Generation stated that *“this suggests a very ‘heavy handed’ approach to establishing costs and remuneration, which is likely to be costly for NEMMCO to undertake. As market and system operator, NEMMCO is not equipped to analyse this information and would either need to retain or contract appropriate expertise. Such costs will be ultimately borne by the market.”* Macquarie Generation argued that the primary service premium was *“a contrivance designed to overcome the over-zealous quasi-regulatory approach in the Rule change to determining SRAS contract remuneration.”*

On the NMAS notice of clarification, Snowy Hydro stated:

- *first it might be difficult to get the information together in 5 business days, and*
- *secondly Service Providers may not want to provide this information to NEMMCO since it may be commercially sensitive.*

The Commission’s consideration and reasoning

The most disputed element of NEMMCO’s proposed SRAS Rule changes relate to how NEMMCO proposed to assess whether the tendering process produced tenders that included “reasonable terms and conditions”.

The current Rules include a “competitiveness test” to assess whether the tendering process is competitive. The test is:

A tender will be deemed to be a competitive tender for a particular non-market ancillary service if the required quantity of that non-market ancillary service determined in accordance with clause 3.11.3 can be supplied from the conforming offers received by NEMMCO with any one conforming offer discarded or all conforming offers from any one party discarded.

If the tendering process fails this competitiveness test, the following procedure is triggered: NEMMCO and those Registered Participants that submitted conforming and non-conforming tenders selected by NEMMCO, must negotiate in good faith to agree reasonable terms and conditions for the supply of the relevant kind of non-market ancillary service, taking into account the need to:

- (1) *subject to clause 3.11.5(d1)(2), so far as practicable minimise the overall cost of supply of that non-market ancillary service; and*

(2) appropriately remunerate the providers of the relevant non-market ancillary service for that service.

If NEMMCO and the Registered Participants selected by NEMMCO cannot agree on the terms and conditions for the supply of a non-market ancillary service after 21 business days from delivery to the Registered Participant of a written notice to negotiate, then either NEMMCO or the Registered Participant may refer the matter to an Adviser for the determination of a dispute as to those terms and conditions in accordance with clause 8.2.

NEMMCO's proposed Rule seeks to address the issue of what is considered "appropriate remuneration" and limit the ability of tenders to the SRAS to earn a return in excess of NEMMCO's defined appropriate level of remuneration.

In addressing this issue, NEMMCO have proposed what could be described as a "regulatory threat" model. Under NEMMCO's proposal, the tendering process would take place under the threat that if tenderers failed to bid at levels that reflected appropriate remuneration and reasonable terms and conditions, NEMMCO could refer the issue to the dispute resolution adviser to determine a price that reflected "appropriate remuneration".

Backing up the operation of the regulatory threat model would be powerful information disclosure provisions. Under a "NMAS notice of clarification" NEMMCO could require tenderers to provide "sufficiently detailed information to enable NEMMCO to establish the reasonableness or otherwise of the terms and conditions".

The NGF noted that there would be a number of practical issues in determining a fair and reasonable risk adjusted return against NEMMCO's proposed criteria. These would include:

- *What equipment in a provider's power station can be considered a part of the system restart equipment? A few auxiliary generators, or an entire power station that actually restarts the system?*
- *Over what timeframe should the provider recover its capital costs: the life of the contract, or the life of the plant?*
- *What levels of risk return should be accommodated in the reward? For example, should the provider recover a risk return to recognize that the process itself might force it to supply below its own costs?*
- *What operational risks are to be managed by the provider and how are these to be assessed by NEMMCO in appropriately remunerating the provider given the potential application of liquidated damages.*

The Commission considers that the decision on the most appropriate market design for SRAS market, either competitive, regulatory, quasi-regulatory or other model, is best determined through reference to the characteristics of the market.

As the Firecone report noted, while the number of current and potential tenderers for SRAS is limited, the market is not a natural monopoly. Tenderers are unlikely to be able to sustain a large difference between price and costs over the long term.

Improved tendering processes, including a longer tender process and longer term contracts should provide some improvement in the competitive characteristics of the market. However, the limited amount of competition will mean that tenderers are likely to price at the second best price, and the process is likely to continue to include some transfer payments to providers of the service due to this limited competition.

It is relevant to consider the scale of these efficiency losses as a proportion of the wider energy market and energy costs of consumers. In 2004/05, the total value of energy sent out in the NEM was \$6,062 million². The total cost of provision of SRAS in 2004/05 was \$10.1 million or was 0.16 % of this amount. Accounting for expected increased costs for 2005/06, this percentage rises to 0.21% of the value of energy sent out. In terms of cost per MWh, the total cost of provision of SRAS equalled 5.7c per MWh in 2004/05, rising to 7.4c per MWh in 2005/06. Any efficiency losses will be only a proportion of this amount.

Given this analysis, the Commission has considered the appropriate model on the spectrum of market design options, from a competitive spot market to highly regulated provision.

The Commission notes that there are trade-offs in all options. Market based provision, whether through spot markets or a tendering process may allow agents with market power to extract prices above the long term cost of supply. However, regulated provision runs the risk of limiting investment, as returns are capped, the risk of regulatory error in determining prices, and imposes costs in itself, both in operating the regulatory regime and compliance costs for participants.

After considering the advice from Firecone, the Commission considers that the efficiency losses faced by the market are not sufficient to justify a regulatory-type market design. On balance, it is the Commission's view that the efficiency losses imposed by the regulatory regime would be greater than the efficiency losses imposed through more competitive provision.

In coming to this decision the Commission has noted the likely effect that NEMMCO's proposed quasi-regulatory approach could have on the willingness of tenderers to offer services, and invest in system restart services in future years. The Commission has also considered the risk that regulatory error could have on the level of service offered, particularly if the efficient cost of provision of the service is underestimated.

The Commission notes that the long term costs of underpaying for the service would be underinvestment and likely inadequate provision of restart services. Given the high economic impact of a black system condition, the costs of inadequate provision of the service could be very large. The costs of overpaying for restart services are limited to the difference between the agreed price and efficient costs. Given that the service is critical to the operation of the National Electricity Market, the Commission considers it is more prudent to run the risk of overpaying for the service, than underpaying for the service.

Given the analysis above, the Commission is of the view that a process for assessment of reasonable terms and conditions and appropriate remuneration are unnecessary in the Rules. The Commission considers that the Rules should specify that NEMMCO should undertake a competitive tendering process for the procurement of SRAS and accept the results of the tendering process. The Rules will maintain the ability for NEMMCO and tenderers to negotiate on tenders.

NEMMCO should make every effort to procure the least cost combination of services that will meet the system restart standard. The Commission would expect this would include a number of the measures outlined by NEMMCO to enhance the potential for competition in the tendering process.

² NEMMCO 2005 Annual Report, p14

Accordingly, the Commission considers that the proposed Rules regarding the NMAS notice of clarification are unnecessary. NEMMCO will have no requirement for information from tenderers on the reasonableness of their proposal, as they will not be required to make an assessment of whether the tenders reflect appropriate remuneration or not.

The Commission also considers the concept of the primary service premium unnecessary. The primary service premium would only be necessary where NEMMCO required services to be provided at prices reflecting the cost of production. As the value the market placed on additional reliability would not be reflected by an additional return for a more reliable service, the premium was required to estimate this benefit.

The Commission would expect that the premium for a more reliable service would now be built into tendered prices offered by SRAS tenderers. NEMMCO will still be required to preference primary over secondary restart services, which will provide an incentive for tenderers to provide more reliable primary restart services. As the ERAA noted, *“The competitive advantages of a primary source of itself should be an incentive for providers to invest in equipment needed to achieve the higher technical reliability.”*

NEMMCO’s proposal also included a clause to ‘lock in’ tenderers after a notice of intention to contract was issued. NEMMCO noted in its additional submission that *“there comes a point in the SRAS tendering process at which NEMMCO (on behalf of the market) cannot afford to have remaining tenderers ‘walk away’, an outcome that may create unacceptable levels of uncertainty in, and potentially undermine, the procurement process at the cost of significant time and expenditure.”* CS Energy argued that *“The risk of being compelled to provide a service and outlay capital without knowing the return is not a fair bargain between consenting parties. A tenderer must be permitted to withdraw at any point up to an agreement being executed, just as NEMMCO would be able to withdraw. Tenderers must be able to choose if they wish to proceed or not dependant on their view of the price and risk”*

Given that the Commission has determined not to include NEMMCO’s proposed “regulatory threat” model in the proposed Rules, the Commission considers that tenderers would have little incentive to back out of the tendering process, and therefore the ‘lock in’ provision would seem unnecessary in the Rules. The Commission does note that NEMMCO would be within its rights in establishing the details of the tendering process to request that offers submitted by tenderers would be binding.

The Commission considered NEMMCO’s proposed restricted dispute resolution mechanism. Under the proposed Rule, disputes could only be initiated by NEMMCO, and the dispute resolution adviser would be required to determine appropriate remuneration against a series of criteria established in the Rules.

The NGF noted that *“the change appears oppressive and involves a clear loss of participant rights, leading to further discouragement of prospective service providers,”* and argued for an equitable approach to dispute resolution to provide a more fair and even handed process.

Given the Commission’s amendments to the Rule proposal, the Commission considers that these restricted dispute resolution provisions are not necessary. The Commission considers that should a dispute arise during the tendering process, all parties would have access to the standard dispute resolution procedures under Chapter 8 of the Rules.

Consistent with the Commission's determination on the tendering process, the Commission considers that the Rules should specify that unreasonable terms and conditions should not be grounds for dispute resolution under Chapter 8.

The Commission's finding in relation to this issue

The Commission has determined that there should be the following changes to the draft Rule:

- The requirement on NEMMCO to assess reasonable terms and conditions should be removed.
- The proposed Rules relating to the primary service premium should be removed
- The tenderer 'lock in' provisions should be removed.
- The standard dispute resolution procedure should apply, subject to a provision that unreasonable terms and conditions in tenders should not be grounds for dispute.

Long term bilateral contracts

What the proponent said.

NEMMCO's proposal included the following provision:

If, after completion of the tender process for system restart ancillary services, NEMMCO has not been able to contract sufficient restart services to meet the system restart service standard, NEMMCO may, following consultation with relevant Ministers, determine to conduct call for SRAS expressions of interest and invitation to tender process for the installation, at a suitable location, of facilities to provide a suitable restart service. The process to do this shall replicate the process followed in the procurement of SRAS pursuant to clauses 3.11.4A, 3.11.5A, 3.11.5B, 3.11.5C, 3.11.5D, 3.11.5E and 3.11.5F.

In its additional submission, NEMMCO noted:

NEMMCO would not own any facility subsequently constructed as a result of invoking the provisions of clause 3.11.5H. NEMMCO would merely have a contractual arrangement with the facility owner to provide the restart services. Such facilities would only be sought after NEMMCO has consulted with relevant Ministers to make them aware of the consequences of not being able to meet the system restart service standard.

What the submissions said

Macquarie Generation argued that the provision to allow NEMMCO to directly tender for SRAS facilities "has real potential for creating economic inefficiency....Clause 3.11.5H could lead to the market funding additional new plant to meet NEMMCO's requirements. This expenditure would represent an efficiency loss to the market as a whole, because investment costs that could have been avoided by contracts in relation to existing facilities would be incurred. The market as a whole would be better off if NEMMCO simply paid a SRAS price that induced (existing) potential SRAS providers to tender."

The Commission's consideration and reasoning

The Commission considers NEMMCO's proposal to conduct a tender for the installation of facilities inappropriate, and inconsistent with NEMMCO's role as a market operator.

However, in Firecone's report to the Commission they noted that over the long term it may be efficient for NEMMCO to enter into long term bilateral contracts for the provision of SRAS with investors in new generating equipment.

Firecone noted:

There may also be potential to minimise the cost of restart services by negotiating with new entrants into the generation market. Relatively small investments may enable SRAS services to be provided at low cost. As these would be specific investments, made to supply a service to only one potential purchaser, the most appropriate commercial arrangement would be a long term contract, sufficient to enable recovery of the costs of the investment.

Longer terms contracts are a feature of the approach to the procurement of SRAS in the United Kingdom market. The approach adopted by National Grid is that it enters into long term system restart contracts which are typically 12-15 years in duration but can also be “evergreen” contracts that exist for the lifetime of the power station.

The Commission considers that this additional option should be open to NEMMCO to negotiate for the provision of SRAS. The Commission considers that the Rules should contain two restrictions on NEMMCO’s opportunity to procure SRAS in this way:

- Firstly, NEMMCO should only be permitted to enter into a negotiated bilateral contract for SRAS where the contract represent superior value for money as compared to the likely outcomes of the competitive tender process
- Secondly, NEMMCO should only be permitted to enter into negotiated bilateral contracts where the term of those contracts exceeds the contract terms offered through the competitive tender process. This is intended to ensure that the process of bilaterally negotiated contracts does not undermine the competitive tender process.

The Commission notes the NGF’s reference in their submission to the market design principles in the Rules, which state:

(a) (6) “ancillary services should, to the extent that it is efficient, be acquired through competitive market arrangements and as far as practicable determined on a dynamic basis. Where dynamic determination is not practicable, competitive commercial contracts between NEMMCO and service providers should be used in preference to bilaterally negotiated arrangements”

In the Commission’s view, the proposed bilateral negotiation on SRAS would not replace the competitive tender process, but would operate in addition to the tender process. The limitation on the circumstances under which bilateral negotiation could be used are intended to ensure that the bilateral negotiation process does not subsume the competitive tendering process, and can only operate where it offers superior value for money to the expected outcomes of the tender process.

The Commission considers that this may provide additional flexibility in meeting the system restart standard in the most efficient way. It recognises that the most effective time to negotiate for system restart services is likely to be before the plant is under construction, and long contract terms should allow sufficient certainty to investors to reduce any risk premium that may be associated with shorter term contracts.

The Commission’s finding in relation to this issue

That NEMMCO’s proposed Rule allowing it to tender for the installation of SRAS facilities be replaced with a provision to allow bi-lateral negotiation for long term contracts for the provision of SRAS in limited circumstances.

5.4 Payment for SRAS

Regional or national cost recovery?

What the proponent said

NEMMCO proposed a regional basis for SRAS cost recovery, noting:

A regional basis for recovery of SRAS costs reflects NEMMCO's amended view that:

- *provision should be made for variation in restoration standards between regions as jurisdictional governments can, for social policy reasons, make representations to the Reliability Panel for a more or less onerous restoration standard in specific areas of the power system – this is provided for in the process of setting standards and was discussed in Section 2.1 of the Final report;*
- *there is only a limited prospect that a restart service procured for duty in one electrical sub-network would be used on its own to assist with restoration of a sub-network to which it has not been specifically assigned, thereby diminishing the strength of the case for sharing the restart procurement costs across the whole market; and*
- *legitimate financial equity concerns can arise because, regardless of the care taken to be as consistent as possible in the application of sub-network criteria and procurement activities to meet a single system restart service standard:*
 - *the number of services required to meet the standard could differ from sub-network to sub-network depending on network topology;*
 - *achievable restoration outcomes in each sub-network are like to differ according to the location and technology of restart services actually procured;*
 - *the costs of maintaining and delivering restart services are likely to differ according to the nature of the technology applied to the task, with a result that the costs of delivering acceptable levels of restart service could differ substantially between sub-networks – inequities could be magnified should jurisdictions seek to have different standards applied for social policy reasons.*

What the submissions said

The ERAA noted:

If state-based bodies are vested with an ability to dictate their own variations to the national standard, it is necessary to isolate the resulting cost variance to that state. A smeared approach would result in seriously distorted incentives for those bodies. NEMMCO has attempted to avoid smearing through a regionalised recovery arrangement. However this in turn creates a number of problems:

- *The regionalised recovery process is necessarily complex, resulting in increased NEMMCO setup and audit costs and participant settlement verification costs.*
- *It will now result in SRAS costs varying between regions—a retailing overhead that had previously been nationally consistent.*
- *The regionalisation itself is imperfect in that it presumes energy regions align with a jurisdictional boundary. Where it doesn't, e.g. the snowy region, there is no linkage between the participants who pay for the additional services and the jurisdiction deciding upon the variance from standard.*
- *It will create winners and losers following energy regional boundary changes—an event that should be irrelevant to SRAS sub-networks.*

ERAA's clear preference is for a single NEM-wide levy. However this is only sensible and fair where there is a single national standard.

The NGF noted:

The energy based-levy upon generators will be reflected in their offers to the market. At the margin, having different levies upon generators located in different jurisdictions could result in inefficient market outcomes due to a distortion to the market's merit order.

At the same time, the NGF recognizes why NEMMCO suggested regionalizing the recovery. If it was to remain smeared, local jurisdictions could demand higher local standards-or smaller sub networks-without regard to costs. Therefore the NGF supports some regionalizing of the customer payments where jurisdictions are able to vary the level of procurement.

The flaws in the logic for energy region-based recovery are:

- *The criteria for the determination of region boundaries and sub-electrical networks are different. The extent of this difference may give rise to inefficient and distortionary recovery of SRAS costs.*
- *The pre-assumption that market regions will align with a jurisdictional boundary;*
- *The pre-assumption that sub-electrical networks will align with Jurisdiction boundaries; and*
- *For a region with predominantly generation, the cost recovery is distortionary.*

If, however all jurisdictional, TNSP and NEMMCO discretion were to be removed from setting the standard and size of electrical sub networks and transferred to the Reliability Panel, then the NGF would also recommend national smearing of SRAS costs.

The Commission's consideration and reasoning

Under the current Rules, cost recovery for SRAS is undertaken on a "smeared" approach whereby the total costs of SRAS across the NEM are recovered by a NEM-wide levy on consumed and generated energy.

As noted earlier in this draft determination, the Commission is of the view that the system restart standard should vary for technical or economic reasons, rather than for the social policy reasons of jurisdictions. In the absence of jurisdictional differences in standards, the case for regional recovery would seem to be twofold:

- firstly that prices should reflect costs incurred in each region, sending a price signal to customers and investors,
- secondly, given that tenderers for SRAS will also be customers of SRAS, regional pricing gives tenders an incentive not to tender at prices well above costs.

The first issue reflects the fact that there are legitimate reasons for costs to vary between regions – in some regions, due to the types of installed plant, the system restart standard may be able to be met at lower cost than in others - these regions will be more efficient at providing restart services.

Customers and generators in the efficient region should benefit from this efficiency as a reward for efficient location. It also would send a (minor) signal to investors by reducing costs and encouraging efficient location of investment. Customers in inefficient regions would be faced with higher prices for system restart which would encourage them to relocate to lower cost SRAS regions. A smeared approach would blunt these price signals.

The second advantage of regional pricing would be exposing SRAS tenderers to the costs resulting from their tendering strategies. It is likely that SRAS tenderers will be drawn from the limited number of generators in each sub-network, who are also required to pay 50% of

the costs of SRAS. In that case, it is likely that their actions as tenders will affect their costs as customers.

Consider a situation where there are 3 generators in a region, A, B and C, tendering for two required system restart services. If generators A and B win the tendering process at a price which includes substantial rents (revenue above the cost of supply), wealth (in the form of the rents) is transferred not only from market customers to generators A and B, but also from generator C to generators A and B.

In this case, Generator C has a strong incentive to ensure that he wins the tender, to avoid paying the rents, and also to ensure that the level of rents in total is low, to minimise his potential losses if he loses the tender. Generators A and B have the same incentives, which should encourage all tenderers to reduce their tendered prices to a level closer to their costs.

In a smeared system of recovery, costs incurred in the tendering process are de-linked from prices charged to consumers in that region. High costs in one region will be smeared across the NEM. In that case, the price charged to the losing tenderer in the tendering process will not reflect the rents extracted by the winning tenderers. In other words, the benefits for winning the tender in this case are not both the benefits of winning and an avoided punishment for losing, but only the benefits of winning. The incentives in the tendering process are therefore weaker.

Weighed against the case for regional recovery, there are a number of benefits of a smeared system of cost recovery:

- **Simplicity.** As a number of submissions noted, regional recovery of SRAS is more complex than smeared recovery. This complexity adds costs for NEMMCO, which are eventually passed onto market participants and adds costs for market participants directly in verifying the accuracy of the cost recovery.
- **Regional vs. sub-network boundaries.** While costs would be incurred on the basis of electrical sub-networks, NEMMCO have proposed recovery on the basis of regions. Electrical sub-network and regional boundaries do not necessarily have to match, and it is possible that one sub-network could be spread across a number regions.
- **Use of restart services from other sub-networks.** Following a black system condition, a sub-network may benefit from restart services located in other sub-networks. While NEMMCO considered this unlikely, Snowy Hydro argued that “on balance, the probability is that SRAS from another sub-network could and would assist in the restoration of a single electrical sub-network.” If this is the case, then a smeared cost recovery would take into account this factor, while regional recovery would not.

NEMMCO noted in its final report of its review of SRAS:

SRAS cost recovery should not be recovered on either a sub-network or regional basis, but costs should be allocated uniformly across the market. Given it is recommended that a uniform system restart service standard would apply across the whole NEM, the benefits to the market of restoring the system are unlikely to differ across sub-network or regions. Furthermore, in the case of a black system in a single electrical sub-network, it [is] likely that other sub-networks could assist in restoring supplies. This support may be available because adjacent sub-networks restart first, or are not in black system condition. It is contended that these arguments support a case for sharing the restart procurement costs across the whole market.

The Commission has considered whether the benefits of regional recovery of SRAS outweigh the costs – given the relatively very small cost of SRAS relative to energy prices, the locational investment signals offered by regional SRAS cost recovery would be limited. While regional recovery may also offer some benefit in stronger incentives on tenderers, on balance the Commission’s view is that these benefits are outweighed by the additional costs and complexity of regional cost recovery.

The Commission’s finding in relation to this issue

The Commission has determined that a NEM-wide “smeared” approach to cost recovery is most appropriate for SRAS.

Who pays- generators or customers?

What the proponent said

NEMMCO notes in its proposal:

These provisions seek to recover SRAS costs on a regional basis. Costs would continue to be equitably shared between generators and retailers in a region.

What the submissions said

The NGF stated:

The 50/50 generator/customer funding provision was originally justified by NECA on the basis that both generators and customers benefit from the prompt restoration of the market. However when assessing the relative benefits of a marginal increase in the number of providers, the NGF argues that customers are clearly the greater beneficiaries.

For customers, the benefit in prompt restoration is in the order of several tens of thousand’s of \$/MWh interrupted. However generators’ benefit from prompt restoration is in the order of typical market prices, i.e. around \$40/MWh. Hence, the benefit to customers is in the order of 1000 times more than generators. This would imply that customers should pay the full cost of SRAS, and certainly the incremental cost of any increase above a national standard.

...

Therefore, the NGF recommends:

- (a) That SRAS recovery revert to a 100% customer basis; and*
- (b) Customer recovery is achieved on a jurisdictional basis.*

Snowy Hydro said:

Any increase in the standard as specifically imposed by a Jurisdiction should be paid by customers on Jurisdictional boundary basis.

The Commission’s consideration and reasoning

The Commission notes that both generators and market customers benefit from the provision of a restart service. However, it is difficult to quantify the benefit that any individual party will gain from the provision of the service. Not only will this rely on the value that the participant places on the lost load avoided, but also the participant’s assessment of the likelihood of the system service needing to be used.

It is also relevant to note that procurement of SRAS against a single national standard, recovered on a smeared basis will mean that all generators will be faced with uniform costs

for the service. Therefore SRAS costs should have no impact on the merit order for dispatch.

Considering these issues, the Commission considers that the equal split between generators and market customers remains appropriate.

The Commission’s finding in relation to this issue

That SRAS costs be recovered equally from generators and market customers.

5.5 NEMMCO black start procedures

System restart plan and local black system procedures

What the proponent said

NEMMCO’s proposed Rule states:

4.8.12A System restart plan and local black system procedures

- (a) NEMMCO must prepare, and may from time to time amend, a system restart plan for the purpose of managing and coordinating system restoration activities during any major supply disruption.*
- (b) The system restart plan is confidential information.*
- (c) The system restart plan must be consistent with achievement of the system restart service standard.*

NEMMCO also stated:

- An explicit relationship between the system restart plan and the system restart service standard should be established.*
- As a result of system security considerations, the system restart plan cannot be a public document.*

NEMMCO noted:

There is merit in ensuring contracted restart services are available to assist in power system restoration regardless of whether or not the supply failure is sufficiently widespread for NEMMCO to declare a black system condition. Although a similar effect could probably be achieved via contractual arrangements, amending this provision in the Code removes any doubt that restart services could be used in this way.

Major supply disruption would be a new term for a supply failure that may or may not be sufficiently widespread for NEMMCO to declare a black system condition.

What the submissions said

Macquarie Generation noted:

Confidentiality - The reference to the system restart plan being confidential does not make it clear whether this plan will nevertheless be released to SRAS providers.

Powerlink noted that proposed clause 4.8.12A allows a system restart plan to be used during any major supply disruption. They stated “*this leads to a wide range of instances where NEMMCO may invoke system restart plans. Powerlink suggests adding clarification in the Rules by adding wording similar to “that leads to a black system to an entire electrical sub-network or region.” To the end of clause 4.8.12A(a).*”

Powerlink also noted that the definition of black system was not sufficiently specific, and should make reference to electrical sub-networks:

This definition relies on a subjective measure of determining what a “significant part” or “significant number of customers” is, which allows substantial discretion in NEMMCO’s judgement and use of restart services.

The Commission’s consideration and reasoning

The Commission has considered Macquarie Generation’s concern that the Rule is not clear regarding whether a system restart plan would be able to be released to SRAS providers. NEMMCO noted in their additional submission that there is no intention to release the system restart plan in its entirety to any party, but that elements of the plan would be made known to parties on an “as needs” basis to allow them to prepare local black system procedures.

The Commission accepts that the system restart plan is of a highly sensitive nature, and that the information contained within the plan should not be in the public domain. The Commission considers it appropriate that parties who require information on the system restart plan to prepare local black system procedures should be provided with that information, but that this should be done on a confidential basis.

Regarding the other proposed Rule changes on the system restart plan and local black system procedures, the Commission considers it appropriate that NEMMCO have the power it requires to restart the power system during a black system condition. Under those circumstances, NEMMCO will be in the best position to manage the restart process, and it is therefore appropriate that it has a power of direction over generators and NSPs in that situation.

NEMMCO have also proposed to increase the number of situations in which SRAS services can be called upon. This would rely on granting NEMMCO additional discretion to determine the correct situations in which to utilise SRAS.

In the Commission’s view, this additional discretion is appropriate. There could be a diverse number of situations where the use of system restart services could be of benefit to the market. In the Commission’s view, NEMMCO are in the best position to make the judgement as to whether the use of contracted system restart services is warranted in any particular situation.

The Commission’s finding in relation to this issue

The Commission approves NEMMCO’s proposed approach to the system restart plan and local black system procedures.

5.6 Other issues

Tender process for NCAS

What the proponent said

NEMMCO’s Rule proposal stated that the amended NCAS clauses “*maintains the effect of the current Code for NCAS*” however some clauses reflect “*similar requirements inserted for optimal preparation for SRAS tenders.*”

What the submissions said

None of the submissions raised issues with the impact of proposed code changes on NCAS.

The Commission’s consideration and reasoning

System Restart Ancillary Service and Network Control Ancillary Service are currently treated similarly under the current Rules, as non-market ancillary services. Under NEMMCO's proposed Rules, a number of changes are made to the process for procuring NCAS, and a number of changes to the provision of SRAS also affect the provision of NCAS.

Among this second category, tenderers for NCAS services would also be subject to a tendering process including a "regulatory threat" – if tenders do not meet NEMMCO's proposed criteria for reasonable terms and conditions, the dispute resolution can determine appropriate remuneration based on those criteria. NCAS tenderers would also be subject to the NEMMCO notice of clarification provisions.

As the Commission has noted in its analysis of SRAS, the Commission considers these provisions an inappropriate solution to inefficiencies in the procurement of non-market ancillary services. Accordingly the Commission has determined not to approve these provisions of NEMMCO's proposal.

The Commission considers that NCAS is best procured through a competitive tendering process. In the view of the Commission, NEMMCO have not made the case for major changes to the current process for procuring NCAS. Accordingly the draft Rule reflects only minor changes to the NCAS tendering process.

The changes that the Commission has made are intended to ensure consistency where possible in the Rules on the tendering requirement for NCAS and SRAS. As the Commission noted in its discussion on SRAS, the Commission does not consider that it is necessary for the Rules to include detailed guidelines on the tendering process, but rather considers that the Rules should set minimum requirements for the tendering process and allow NEMMCO appropriate discretion in determining an effective tender process.

The Commission's finding in relation to this issue

That procurement of NCAS through a competitive tendering process should be maintained, and NEMMCO's proposals for assessing reasonable terms and conditions should be removed.

Requirements on NSPs

What the proponent said

NEMMCO's proposed Rule states:

- (b) Prior to responding to any call for SRAS expressions of interest for the provision of restart services, prospective respondents should engage in discussions with relevant Network Service Providers and other relevant parties to identify and resolve, where possible, issues that would prevent the delivery of effective restart services by the prospective service provider.*
- (c) Network Service Providers must negotiate in good faith with prospective service providers to resolve, and must resolve where it is reasonable and practicable to do so, any issues raised by a prospective restart service provider through 3.11.5A(b).*
- (d) Network Service Providers must negotiate in good faith with prospective SRAS providers to resolve, where it is reasonable and practicable to do so, any issues associated with the conduct of testing as pre-defined by NEMMCO pursuant to clause 3.11.4A(c)(1)(ii). Network Service Providers must agree to participate in or facilitate testing of a restart service where it is reasonable and practicable to do so.*

NEMMCO noted “NSPs would be expected to assist prospective restart service providers where it is reasonable to do so in the development of EOIs and required restart service testing programs.”

What the submissions said

Powerlink stated:

Such obligations could lead to significant additional work for a Network Service Provider, such as detailed system analysis o operational measures to facilitate testing, and have significant costs. The proposed Rules make no specific reference to recovery of such costs by the Network Service Provider or the basis of contractual relationships between the prospective restart service provider and the relevant Network Service Provider.

Powerlink proposes that the services provided under this clause be clearly identified as excluded services, either in the glossary or within this clause and as such be covered by the framework included in clause 6.5.9 of the Rules.

The Commission’s consideration and reasoning

The Commission recognises that the proposed Rules impose requirements on network service providers, and that the NSPs may incur costs in complying with these requirements. As such the Commission considers it reasonable that NSPs have the right to receive compensation for these costs.

The proposal by Powerlink appears to be a reasonable method of for addressing this issue, and as such the Commission will include a relevant provision in the draft Rule.

The Commission’s finding in relation to this issue

That the draft Rule includes provisions to ensure that NSPs are able to receive compensation for meeting their obligations in the SRAS procurement process.

Transitional provisions

What the proponent said

NEMMCO’s proposed Rule states:

3.11.4C Transitional provision for acquisition of non-market ancillary services

On the date this clause takes effect ("the commencement date"), any action taken by NEMMCO prior to the commencement date that directly or indirectly relates to the purpose of procuring and securing the provision of non-market ancillary services for a period ending after the commencement date is taken to have been taken by NEMMCO after the commencement date.

NEMMCO also proposed an additional transitional amendment in a submission in response to the Commission’s initial consultation. NEMMCO’s additional transitional provision states:

Amend clause 8.8.3 by adding new paragraphs (ab) and (ac):

- (ab) When determining a system restart service standard in accordance with clause 8.8.3(a), the Reliability Panel will, after consultation with NEMMCO, nominate the commencement date from which that system restart service standard will apply.*
- (ac) Until the Reliability Panel determines a system restart service standard in accordance with clause 8.8.3(a) the following will be the system restart service standard:*

NEMMCO will contract at least 2 restart services for each electrical sub-network, at least one of which will be a primary restart service, with remaining contracts being allocated to secondary restart services.

Amend definition of system restart service standard to:

System restart service standard

The standard for the acquisition of system restart ancillary services set by clause 8.8.3(ac) until replaced by the Reliability Panel's determination under clause 8.8.3(a)(1a)

What the submissions said

Submissions did not raise this issue.

The Commission's consideration and reasoning

The Commission recognises that savings and transitional provisions may be required to maintain the effect of decision made under the previous Rules relating to SRAS.

Additionally, the Commission recognises that it may take some time for the Reliability Panel to publish a system restart standard, as required under the draft Rule. While the Reliability Panel is undertaking the process of setting the standard, NEMMCO may be required to act to ensure that SRAS continues to be provided.

The Commission considers that both of these issues are relevant and should be incorporated into the Rules. The Commission has made some improvements to the drafting of the proposed transitional provisions, however, they maintain the same policy intent and operation.

The Commission's finding in relation to this issue

That the draft Rule should include appropriate savings and transitional provisions.

5.7 Pricing during market suspension

What the proponent said

NEMMCO noted in its proposal:

As currently worded Code clause 3.14.5 can be interpreted to require NEMMCO to assess, on a trading interval by trading interval basis, what method of pricing should be adopted during a market suspension. Such an analysis would be inherently difficult in that it is not only an assessment of whether the current method of pricing remains practical, but also requires a "what-if" analysis as to whether a possible alternative might now be practical, the latter being an inherently a more difficult decision. Under extreme conditions such as a system shutdown or major IT failure that might lead to market suspension, it would be very doubtful that NEMMCO would be able to conduct such an analysis on a continuous basis.

The proposed changes to Code clause 3.14.5 as outlined in Attachment 3 would address this issue by making it clear that, once a method of suspension pricing is adopted it should not be changed unless the situation deteriorates further such that the chosen method is no longer practical. Thus, if pricing according to the fixed pricing schedule is decided upon, then suspension pricing would continue on that basis until the market suspension ceased.

What the submissions said

Powerlink stated that it was "supportive of the general concepts proposed by NEMMCO".

The Commission's consideration and reasoning

Circumstances surrounding market suspension will inherently be a stressful time, likely to follow a major event in the market. The Rules currently specify a hierarchy of methods for setting prices during market suspension, reflecting the circumstances that may exist when the market is suspended.

The Commission considers this hierarchy appropriate, with the aim of trying to ensure that to the extent possible, prices are set with reference to an operating market. The Commission notes that this Rule proposal does not alter the hierarchy. Instead, it modifies the process for determining which form of pricing under market suspension is appropriate.

In these circumstances, the Commission agrees with NEMMCO that it would be impractical for NEMMCO to conduct an assessment at each dispatch interval on the most appropriate method of setting prices. The Commission is of the view that once an assessment has been made to move to the next stage of pricing under market suspension, the Rules should be clear that NEMMCO does not have the additional burden of reviewing that decision at every 5 minute dispatch interval.

The proposed Rules specify that NEMMCO may decide to move up the hierarchy of methods for setting prices but not down it. For example, NEMMCO cannot decide under the proposed Rules to move from setting prices from a price schedule to forecast pre-dispatch prices. Once it has been determined that prices will be set by the price schedule, they must continue to be set by the schedule until the market is no longer suspended.

Commission considers this approach appropriate. Once it has been determined that the situation has deteriorated to a point where a particular method of pricing can no longer be used, it is unlikely that there would be justification to move back to that method of pricing.

An additional issue raised by the pricing under market suspension proposed Rules are the 'price capping' requirements of proposed clause 3.14.5(g2). The clause states:

*If a spot price is set pursuant to clause 3.14.5(f2) or clause 3.14.5(g) at a regional reference node ("suspension node") then spot prices at all other regional reference nodes connected by a regulated interconnector or regulated interconnectors that have an actual flow toward the suspension node must not exceed the spot price in the suspended region multiplied by the average loss factor between that regional reference node and the suspension node for that trading interval. **NEMMCO must use reasonable endeavours to ensure that the price capping process under this clause 3.14.5(g2) is undertaken no later than one business day following the day on which the spot market resumed.** (emphasis added)*

NEMMCO noted in their Rule proposal that *"This new clause also reflects that the reality that in some causes of suspension (eg SCADA or IT failure) NEMMCO would need to undertake such a capping process through post event manual calculations."*

The Commission accepts that there may be circumstances where it may be difficult to undertake the calculations for the price cap in real time and may have to make the calculation after the event. However, the Commission is of the view that there are benefits in these calculations being done as soon as possible, to minimise uncertainty to participants.

Accordingly, the Commission is of the view that the clause should be amended to require NEMMCO to ensure that the process is undertaken as soon as reasonably possible, but in any event no later than one business day following the day on which the spot market resumed.

The Commission's finding in relation to this issue

The Commission has determined to approve the proposed Rule changes, with a minor amendment to the price capping requirements, requiring NEMMCO to act as soon as reasonably possible, but in any event no later than one business day following the day on which the spot market resumed.

5.8 Summary of differences between the proposed Rule and the draft Rule

Arising from the above considerations, the Commission has determined to make the following changes to NEMMCO's original proposed Rule in formulating the draft Rule that is considered in light of the statutory Rule making test:

1. That the objective for SRAS will be modified and broadened, to reflect an overall objective for system restart rather than just an objective for procurement.
2. System restart standard should be outcome based and include:
 - a. Amount of time required to restore service to a particular level.
 - b. Guidelines on the required reliability of primary and secondary restart services.
 - c. Guidelines on the required robustness of service.
 - d. Guidelines for the determination of electrical sub-networks
3. The Reliability Panel will be able to vary the system restart standard between sub-networks for economic or technical reasons.
4. NEMMCO will be required to determine boundaries for electrical sub-networks, in accordance with the guidelines published by the Reliability Panel.
5. NEMMCO's determination will be subject to the Rules consultation procedure.
6. The Commission has determined to simplify the tendering requirements for SRAS in the Rules.
7. The additional secondary services allowance has been removed.
8. The requirement on NEMMCO to assess reasonable terms and conditions has been removed.
9. The primary service premium has been removed
10. The tenderer 'lock in' provisions have been removed.
11. The standard dispute resolution procedure should apply, subject to a provision that unreasonable terms and conditions in tenders should not be grounds for dispute.

12. NEMMCO's proposal to tender for the installation of SRAS facilities has been removed.
13. A provision to allow bi-lateral negotiation for long term contracts for the provision of SRAS in limited circumstances has been included.
14. NEMMCO's proposals for assessing reasonable terms and conditions for NCAS have been removed.
15. The draft Rule includes provisions to ensure that NSPs are able to receive compensation for meeting their obligations in the SRAS procurement process.
16. A minor amendment to the pricing under market suspension proposed Rule on price capping requirements, requiring NEMMCO to act as soon as reasonably possible, but in any event no later than one business day following the day on which the spot market resumed.

In addition to these changes, as identified above, the Commission has modified the wording of parts of the following Rules and proposed Rules to improve their effectiveness as Rules, or the consistency of drafting.

6. Commission’s consideration and reasoning in relation to the Rule Making Test

The Rule making test is set out in detail in section 3 of this report and requires the Commission to be satisfied that a Rule that it proposes to make will contribute to the achievement of the NEM objective. The NEM objective is concerned with promoting the efficiency of the NEM in an economic sense for the long term interests of consumers of electricity.

“The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.”

In the view of the Commission, the System Restart Ancillary services, for the purposes of the NEM objective is both an electricity service in itself and effectively an insurance policy allowing the continuation of the provision of the service of electricity supply following a black system incident.

In that sense, the Commission must be concerned with both the efficient investment in, and efficient use of, the SRAS service itself, and the ability of the SRAS service to contribute to the efficient investment in and efficient use of electricity supply services.

This recognises that the efficient provision of SRAS is not an end in itself, but a means to allow the efficient and timely restarting of sections of the electricity system following black system condition.

SRAS

The Commission is of the view that the changes to the Rules relating to SRAS, as proposed by NEMMCO and modified by this draft determination, will contribute towards the achievement of the NEM objective.

The Commission made a number of changes to NEMMCO’s proposed Rules regarding the SRAS procurement process. The Commission accepted the view that in terms of the long term interests of consumers, the benefits of a quasi-regulatory approach in removing the potential efficiency loss faced through the current procurement process were outweighed by the risks of regulatory failure.

In coming to this decision, the Commission considered that the benefits of a competitive approach in terms of dynamic efficiency outweighed the possible allocative and productive efficiency gains of the proposed quasi-regulatory approach.

While paying a price above marginal costs in one tender process may reduce allocative efficiency, it is likely to encourage entrants into the tendering process in the next time period, competing away rents received by tenderers in the current time period.

A quasi-regulatory approach risks distorting investment decisions, removing incentives for participants to take part in future tender processes, and has significant costs. In the Commission’s view, while in theory a quasi-regulatory approach may offer the potential for productive and allocative efficiency, in practice such a process will involve significant risks

and costs and has the potential to impede entry investment and the development of competitive provision of SRAS

Intrusive regulation may be justified where the existence of sustained and substantial market power in the hands of some market participants is likely to result in large efficiency losses. On the evidence presented to the Commission, it is not convinced that the efficiency loss faced by consumers are sufficient to justify granting powers to NEMMCO and the dispute resolution adviser to apply an intrusive quasi-regulatory regime.

The Commission accepted that, considering the scale of energy trading in the NEM, the current costs in the provision of SRAS are relatively minor. While these costs may well include some rents gained by SRAS tenderers as part of the tendering process, these rents would be small relative to the total energy costs paid by consumers, who eventually pay for the provision of SRAS.

Given that the NEMMCO has committed to undertaking a number of initiatives that should improve the competitiveness of the tender process and reduce barriers to entry for new participants, the Commission considers that the proposed tendering process will be more economically efficient than the quasi-regulatory process that NEMMCO proposed, and contribute to the market objective.

The introduction of a single objective for the definition and procurement of system restart services should provide guidance for both the Reliability Panel and NEMMCO in their responsibilities regarding SRAS. The objective includes reference to the overall NEM objective, but is designed to recognise the economic outcomes required of system restart ancillary services. This objective should assist in ensuring that the outcomes of the SRAS process are in the long term interests of consumers.

The Commission's decision to separate the responsibilities of service definition from service procurement should lead to better and more efficient governance arrangements on the SRAS process. The Commission notes that the Reliability Panel, as a body representative of the market participants who will benefit from the service, is in a better position than NEMMCO to define the required characteristics of the service. The Commission also notes that the Panel includes consumer representation, and will be bound under the SRAS objective to act in the long term interests of consumers.

This separation of responsibilities should allow NEMMCO to focus on procuring the most efficient combination of services to meet the standard set by the Panel. The Commission considers that NEMMCO will retain appropriate discretion to undertake an effective tender process and procure necessary service to meet the system restart standard.

The proposed system restart standard should contribute to the NEM objective by ensuring that the required performance of system restart services is more transparent. The additional transparency should also contribute to efficient use of system restart services, as participants and jurisdictions can assess whether performance levels set by the standard meet their individual requirements, and can contract for additional services if they consider that necessary.

The Commission recognises that the overall cost of provision is an issue and noted the ERAA's comment that historic costs for SRAS were "reasonable and [the ERAA] would be concerned if the proposed Rule changes led to an increase." The long term interests of

consumers with respect to price is a component of the NEM objective, and the Commission considers that the proposed Rule should allow NEMMCO to extract better value for money in the provision of SRAS, through better tendering and long term contracts.

As part of its assessment of the Rule proposal, the Commission has considered how best to allocate payment for SRAS. After considering regional cost recovery, the Commission took the view that while regional cost recovery has the potential to result in a more efficient allocation of costs and provide additional incentives, which may result in more efficient tendering outcomes, these benefits are likely to be modest and to be outweighed by cost and complexity of the regional recovery. By approving a less complex system of cost recovery, costs to consumers from the process should be reduced, which will contribute to the long term interests of consumers with regard to price.

The Commission considers that the Rule will also make minor but significant contributions to the NEM objective by improving black start planning. By improving planning and clarifying responsibilities for system restart, there is an increased likelihood that in the event of a black system condition, the response is more likely to be effective and successful. This will contribute to increased reliability and security of electricity supply.

Pricing Under Market Suspension

The Commission considers that the changes to the pricing under market suspension Rules will provide a minor but incremental improvement to the Rules dealing with requirements in a situation where the market is suspended.

The Commission notes that NEMMCO was of the view that the two major benefits of the proposed Rule changes were:

- *to reduce risks by giving participants more certainty about likely pricing outcomes under extreme events.*
- *to reduce the workload of NEMMCO operations in ensuring correct pricing in extreme conditions thus allowing operations to concentrate more fully on addressing power system security during the extreme conditions themselves (eg restart of system following shutdown).³*

The Commission is of the view that the operation of the market and NEMMCO's decision making processes will be enhanced by removing the requirement on NEMMCO to reassess the appropriate pricing mechanism for each dispatch interval. In the long term, consumers will benefit but allowing NEMMCO to appropriately focus on restoring the suspended market, rather than re-assessing the most appropriate method of pricing when the market is suspended.

Equally, more transparent pricing under market suspension Rules will provide additional information to investors on the likely market price outcomes following a suspension of the spot market. This additional information will reduce investor uncertainty regarding this issue, and therefore contribute to more efficient investment in electricity services.

³ NEMMCO statement against NEM objective for pricing under market suspension Rule proposal

Appendix 1: Draft Rule

Appendix 2: Summary of conclusions of NEMMCO SRAS review

This summary was included in the final report of NEMMCO's review of SRAS.

	Recommended arrangements	Status quo
Restart service standard	<ul style="list-style-type: none"> • Codified requirement for an appropriate regulatory body to establish a <i>system restart service standard</i>. • Outcomes-based standard that defines parameters for restoration of customer supply capability assuming a specified level of system damage has been incurred in association with the shutdown. 	<ul style="list-style-type: none"> • No independently established standard – broad objectives outlined in ITT.
Procurement guidelines	<ul style="list-style-type: none"> • Minimum requirements re: type, number and independence of services. • Flexibility in the type of <i>restart service</i> needed to meet the standard – primary and secondary services differentiated in terms of availability and reliability. • Specification of criteria for procurement. 	<ul style="list-style-type: none"> • Procurement requirements – 2 services per <i>electrical sub-network</i>, one of which must be fast restart – specified in Invitation to Tender (ITT).
Risk mitigation and promotion of competition	<ul style="list-style-type: none"> • Facility to contract additional services over and above the number necessary to meet the standard – additional secondary services. 	<ul style="list-style-type: none"> • No specific measures.
Tendering and assessment process	<ul style="list-style-type: none"> • Assessment of service feasibility with opportunity to revise expressions of interest to correct technical oversights. 	<ul style="list-style-type: none"> • Assessment of service feasibility with no opportunity to revise tenders.
	<ul style="list-style-type: none"> • Detailed assessment and modelling of feasible (conforming) services with explicit requirement to modify NSP facilities where necessary to ensure effectiveness of <i>restart service</i>. 	<ul style="list-style-type: none"> • Limited modelling only.
	<ul style="list-style-type: none"> • Restart facility not required to be installed / commissioned until contract is offered. 	
	<ul style="list-style-type: none"> • Up to 17 months from tender close to contract start. 	<ul style="list-style-type: none"> • 6 weeks from tender close to contract start.

Testing	<ul style="list-style-type: none"> • Test of <i>black start capability</i> required for all contracted services prior to provision of services and payments under a SRAS contract. • Testing of facilities and ability to deliver the <i>restart service</i> is required for <i>primary restart services</i> prior to provision of services and payments under a SRAS contract. • Prospective service providers responsible for the arrangement of all testing. 	<ul style="list-style-type: none"> • Testing of <i>black start capability</i> required for all contracted services within 6months of commencement of contract. • Testing beyond <i>black start capability</i> conducted if it can be arranged by the service provider with NEMMCO's assistance.
Payments for service and contractual conditions	<ul style="list-style-type: none"> • Primary services contracted for 4 years with 2 x 1 year options exercisable at NEMMCO discretion. • Secondary services contracted for 1 year only. • Primary services remunerated for a) availability; b) each of 3 (Part A, B and C) test components as specified in the tender; and c) costs for necessary modifications to 3rd party facilities. <i>Primary service premium</i> paid in addition to other agreed prices. • Secondary services remunerated for a) availability; b) Part A and Part B test components as specified in the tender; and c) costs for necessary modifications to 3rd party facilities. • NEMMCO or appropriate regulatory body to set: <i>primary service premium</i>; and allowance for spending on additional <i>restart services</i>. 	<ul style="list-style-type: none"> • All services contracted for length of period specified in the ITT. • Payments for availability as specified in the tender.
Private 'off-market' MW support arrangements	<ul style="list-style-type: none"> • Clear mechanism for approving and coordinating 'off-market' MW support arrangements. 	<ul style="list-style-type: none"> • No mechanism for coordinating private MW support arrangements.
Electrical sub-networks	<ul style="list-style-type: none"> • Boundaries based on the physical characteristics of the system and system security imperatives. 	<ul style="list-style-type: none"> • Follows past jurisdictional practice.
Restart plans and procedures	<ul style="list-style-type: none"> • All generators, MNSPs, TNSPs and DNSPs required to develop procedures to explicitly dove-tail with overarching NEM restart plan. 	<ul style="list-style-type: none"> • Generators and MNSPs only required to develop <i>local black system procedures</i> – no specific links to NEM restart plan.

<p>Ensuring reasonable terms and conditions for contracted services</p>	<ul style="list-style-type: none"> • Any tender offering unreasonable terms and conditions may be required to participate in good faith negotiations with objective to agree reasonable terms and conditions. • Codified principles to be established to guide outcomes expected from good faith negotiations or subsequent dispute resolution. 	<ul style="list-style-type: none"> • Good faith negotiations only triggered on the basis of the number of conforming tenders. • No guidance available to guide outcomes expected from good faith negotiations or subsequent dispute resolution.
<p>Recovery and discovery of SRAS costs</p>	<ul style="list-style-type: none"> • Generators and market customers share costs 50:50. • Costs 'smeared' across the market – not allocated on sub-network or regional basis. 	<ul style="list-style-type: none"> • Generators and market customers share costs 50:50. • Costs 'smeared' across the market – not allocated on sub-network or regional basis.
<p>Use of SRAS</p>	<ul style="list-style-type: none"> • Can be used for management of power system emergency where there is otherwise no external power supply to a contracted <i>restart service</i>. 	<ul style="list-style-type: none"> • To be used only where <i>black system</i> has been declared.
<p>What if available service not sufficient to meet requirements</p>	<ul style="list-style-type: none"> • NEMMCO to issue specific tender with objective of getting specific facilities constructed – facility to be managed independently of NEMMCO. 	<ul style="list-style-type: none"> • Not clear.