



Inter Regional Planning Committee

Determination and Report: Guidelines to assist Registered Participants to determine when an Inter-network Test may be required

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Executive Summary

Several types of test are permitted by Rules 5.7 and 5.8. Rule 5.7.7 defines the procedures for the conduct of *inter-network tests* by *Transmission Network Service Providers (TNSPs)* and *NEMMCO*. Some aspects of these procedures require the involvement of the *Inter-regional Planning Committee (IRPC)*.

An *inter-network test* is defined in Chapter 10 as being:

A test conducted for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network* in accordance with clause 5.7.7.

Rule 5.7.7(k) provides that:

The *Inter-regional Planning Committee* may develop, *publish* and amend from time to time, in accordance with the *Rules consultation procedures*, a set of guidelines to assist *Registered Participants* to determine when an *inter-network test* may be required.

The *IRPC* has completed its consultation under Rule 8.9. No submissions were received in response during either stage of the Consultation and no meetings were requested.

The *IRPC* now determines the Inter-Network Test Initiation Guidelines in the form contained in **Attachment 1**.

1. Matter under Consultation

As required by Rule 5.7.7(k), the *IRPC* has completed consultation on the development of Inter-Network Test Initiation Guidelines (**Guidelines**). Rule 5.7.7(k) provides that:

The Inter-Regional Planning Committee may develop, publish and amend from time to time, in accordance with the Rules consultation procedures, a set of guidelines to assist Registered Participants to determine when an inter-network test may be required.

The objectives of the consultation were to:

- Provide *Consulted Persons* with the opportunity to be involved in the development of the Inter-Network Test Guidelines; and
- Ensure *Consulted Persons* are properly informed about the proposed and final outcome of the consultation.

2. The Consultation Process

The *IRPC* undertook the following process:

- On 13 September 2007 the *IRPC* commenced consultation under Rule 8.9. On that date *NEMMCO* published, at the *IRPC*'s request, an Issues Paper that sought submissions on matters that will need to be addressed when developing the proposed guidelines.
- Stage one of the consultation closed on 22 October 2007. No submissions were received, and no meetings were requested.
- On 23 November 2007 *NEMMCO* published, at the *IRPC*'s request a draft Determination and Report and invited submissions on this document.
- Submissions closed on 21 December 2007. No submissions were received and no meetings were requested.

The *IRPC* has made a determination on the Guidelines in the form of Attachment 1 to this Determination and Report. The Guidelines become effective following the publication by *NEMMCO* of this report, on 7 February 2008.

The Guidelines differ from the draft published on 23 November 2007 only in that the Examples contained in Appendix D have been revised to improve their clarity.

3. Background

Rule 5.7.7 specifies requirements applicable to an “*inter-network test*”. In Chapter 10 of the *Rules* an *inter-network test* is defined as:

A test conducted for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network* in accordance with clause 5.7.7.

The key components of this definition are:

Verification: This implies that there is a preliminary assessment of the *power transfer capability* that has been developed through analysis, but that there is uncertainty about this assessed capability. This uncertainty can be removed, or at least lessened, by the conduct of one or more tests.

Magnitude of *power transfer capability*: The test is associated with verification of the maximum permitted *power transfer* through a *transmission network*.

More than one *transmission network*: The capability of the *transmission network* assets managed by at least two *TNSPs* (possibly including an *interconnection* between them) must be involved.

Recent *inter-network tests* include those carried out as part of the commissioning of the:

- Queensland-New South Wales *interconnector* (“**QNI**”);
- Augmentation of the Snowy to Victoria *interconnection* capability;
- Murraylink market network service interconnector¹; and
- Basslink market network service interconnector.

The aim of the Guidelines is to provide guidance as to when an *inter-network test* may be required.

The *technical envelope* that defines the limits within which the *power system* can be operated securely is determined using a *power system* model. The network constraint equations that are included in the NEM Dispatch Engine (**NEMDE**) and that maintain *power system* operation within the *technical envelope* are determined using this *power system* model. Constraint equations that are too conservative may reduce the efficiency of dispatch. The integrity of this model is therefore critical to both the security and efficiency of *power system* operation.

The *power system* model is established through the aggregation of individual *plant* models. There are *Rules* obligations on *Registered Participants* to provide model information to NEMMCO (such as Rule s5.2.4(b) for *Generators* and 3.13.3(f) for *Network Service Providers*). In some cases, tests are required to be carried out on *plant* to reduce *plant* model uncertainties and confirm *plant* performance (such as Rules 5.7.3(f), 5.7.6 and s5.2.4(d) for *Generators*). Where *power system* model uncertainties exist that are caused by the effect of *plant* model uncertainties, or extrapolation of the use of the existing *power system* model for new developments, *inter-network tests* may be required to reduce some of these uncertainties.

¹ Murraylink became a regulated interconnector in October 2003

The Guidelines particularly address model uncertainties that arise in the circumstances contemplated by Rule 5.7.7(a).

4. Resolution of issues previously identified

4.1 Issue: Guideline Audience

4.1.1 IRPC's considerations

Although the *Rules* are clear as to those parties that must consider any Guidelines that might be published in accordance with clause 5.7.7(k) of the *Rules*, it is not clear whether those Guidelines should be limited to those parties.

Chart 1 in clause 5.7.7(a)² lists the six kinds of development or activity that may give rise to a decision to conduct an *inter-network test*. The *Proponent* identified in column 2 and the *Relevant Transmission Network Service Provider* ("**Relevant TNSP**") identified in column 3 have the responsibilities allocated to them by clause 5.7.7

Four possible audiences have been identified for the Guidelines, namely:

1. A *Relevant TNSP* and *NEMMCO*, as *decision-makers* for Items 1-4 in Chart 1;
2. *NEMMCO* as the *decision-maker* for Items 5 and 6 in the Chart 1;
3. *Registered Participants* that are *Proponents* for Items 1-4 of chart 1, and who have to determine whether they must notify *NEMMCO* under clause 5.7.7(e); and
4. Other *Registered Participants* that may be affected by the decision to conduct an *inter-network test*.

It is clear that the guidelines must suit the purposes of the *Relevant TNSP*, as both a *Registered Participant* and a *decision-maker*. Although *NEMMCO* is not a *Registered Participant* it is required to consider any *published* Guidelines. It seems reasonable, therefore, that the Guidelines should also suit *NEMMCO*'s purposes as a *decision-maker*.

The entities listed in column 2 of Chart 1 for items 1 to 4 are not required by the *Rules* to apply the Guidelines in their capacity as *Proponent*, however it is possible that a *Proponent* may have other reasons to apply these guidelines, such as to ensure transparency of the decision to conduct an *inter-network test*.

Other *Registered Participants* may be affected by an *inter-network test*. They might only become aware of the need for an *inter-network test* when *NEMMCO* publishes a draft *test program* and invites *Registered Participants* to make submissions under clause 5.7.7(p), but they might also have an interest in the process followed by a *decision-maker* in deciding that an *inter-network test* was required.

The *IRPC* sought submissions on the following questions:

- Should the proposed guidelines address the needs of all *decision-makers*, namely *Relevant TNSPs* and *NEMMCO*, having regard for *NEMMCO* not being a *Registered Participant*, and if not, why not?

² A copy of which has been inserted as Appendix A to the Guidelines.

- Should the guidelines also be applicable by all the *Proponents* listed in chart 1, when they have no obligation under the *Rules* to apply them and, if so, for what purpose?
- Should all other *Registered Participants* be able to apply the guidelines and, if so, for what purpose?

4.1.2 IRPC's decision on this issue

The *IRPC* has decided that the Guidelines should address the needs of all *decision-makers*, namely *Relevant TNSPs* and *NEMMCO*.

4.2 Issue: Scope of the Guidelines

4.2.1 IRPC's considerations

The *Rules* do not provide guidance as to the required scope of the Guidelines.

The decision as to whether an *inter-network test* is required is to be made by either the *Relevant TNSP* or *NEMMCO*. To be fit for this purpose, the Guidelines will need to address all matters that are relevant to arriving at such a decision.

The requirement for analytical studies may form a part of the Guidelines. Where this is the case some *Proponents* will not necessarily have access to *confidential information* that would be available to the *Relevant TNSP* or *NEMMCO*. Under Rule s5.2.4(f), all information provided by *Generators* under Rule s5.2.4 is confidential, and may only be released as allowed under the *Rules* (see Rule 5.3.8 for those conditions where *confidential information* may be disclosed). In general, this *confidential information* includes *generating system* design and setting data provided in accordance with Schedule 5.5 of the *Rules* and *generating system* dynamic model information.

The *IRPC* requested submissions on the following questions:

- Should the guidelines be sufficiently detailed to enable *Proponents* to appreciate the considerations of a *TNSP* or *NEMMCO* in reaching a decision that an *inter-network test* is required?
- What are the implications of information availability for the scope and applicability of the guidelines and how should they be addressed?

4.2.2 IRPC's decision on this issue

The *IRPC* has decided to assume that the *decision-maker* has access to all information needed to apply the process defined in the Guidelines.

4.3 Issue: Initiation of an application of the Guideline

4.3.1 IRPC's considerations

For developments described by items 1, 2 and 3 of Chart 1 in clause 5.7.7(a) of the *Rules* the development must be assessed as having a *material inter-network impact* before notification to *NEMMCO* under Rule 5.7.7(e) is required.

A *material inter-network impact* is defined in Chapter 10 as:

A material impact on another *Transmission Network Service Provider's network*, which impact may include (without limitation):

- (a) the imposition of *power transfer constraints* within another *Transmission Network Service Provider's network*; or
- (b) an adverse impact on the quality of *supply* in another *Transmission Network Service Provider's network*.

This is a broad definition, but it is not exhaustive, because the impacts listed under paragraphs (a) and (b) apply "without limitation". It could, therefore, extend to other impacts on another *Transmission Network Service Provider's network* that are reasonably considered to be material.

New or augmented transmission lines or network developments

Objective criteria relating to *material inter-network impacts* (***MINI Criteria***) that apply only to *transmission network* developments, as described by items 1 and 2 and a subset of item 3 of Chart 1, have been *published* previously by the *IRPC*³. These criteria set materiality thresholds for the types of impact that are listed under paragraphs (a) and (b) in the definition of *material inter-network impact*, and do not address other types of impact.

The *MINI Criteria* were developed to address the requirements of Rule 5.6 that affect a *Transmission Network Service Provider* in respect of:

- Preparation of *Annual Planning Reports* for proposed *network* assets in Rule 5.6.2A(b)(4)(v);
- *New small transmission network assets* in Rule 5.6.2A(b)(5)(ii);
- *New large transmission network assets* in Rule 5.6.6(c)(5)(i); and
- *Funded augmentations* in Rule 5.6.6B(b)(3).

The *IRPC* concludes that for all *network* developments the affected *TNSP* will already carry out the calculations needed to determine the materiality of the *inter-network* impact in accordance with the *MINI Criteria*.

However the *MINI Criteria* do not address the specific requirements of Rule 5.7.7, and the *IRPC* has identified two issues that relate to the scope of the *MINI Criteria* that may need to be addressed in the Guidelines. These are:

1. The *MINI Criteria* recognise that *transmission network* developments may have either a positive or negative impact on *network capability* and specify threshold criteria for both of these. However the criteria only specify a threshold value for a reduction in damping of *power system* oscillations, and not for the more likely impact of an improvement in damping due to a stronger *network*. The identification of an improvement in damping may lead to reassessment of *network* limits other than those that are materially impacted by the development. This may trigger the need for a test that is either

³ "Criteria for Assessing Material Inter-Network Impact of Transmission Augmentations" published on behalf of the *IRPC* and dated 21st October 2004. Available at: http://www.nemmco.com.au/transmission_distribution/170-0024.htm

associated with the specific development, or conducted under item 5 or 6 of chart 1.

2. The *MINI Criteria* only address paragraphs (a) and (b) of the definition of *material inter-network impact*, and are silent on other potential matters that could have a *material inter-network impact*.

Because an *inter-network test* is “a test conducted for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network* in accordance with clause 5.7.7” any impact that results in a material change in *power transfer capability* may be relevant to the decision that such a test is required.

A new generating unit or facility of a Customer

The *Rules* do not specify criteria for determining whether the *connection* of a new *generating unit* or *facility* of a *Customer* would be anticipated to have a *material inter-network impact*, or require that these criteria be developed.

However clause 5.3.5(d)(4) requires that the *Network Service Provider* may assess the *application to connect* and determine “any possible material effect of this new *connection* on the *network power transfer capability* including that of other *networks*”.

In essence, the *TNSP* is required to determine the *inter-network impact*, and this will be required to be classified as either material or immaterial through the application of a criterion.

Setting changes or system events

Items 4 to 6 of Chart 1 do not require that a *material inter-network impact* be present for an *inter-network test* to be considered.

The *IRPC* sought submissions on the following questions:

- Is there an adequate framework to identify *material inter-network impacts* for *transmission network* developments, and if not what aspects need to be addressed in the guidelines?
- Is there an adequate framework to identify *material inter-network impacts* for new *generating units* or *facilities* of a *Customer* and, if not, what changes are needed?
- Are the responsibilities for identifying that there is a *material inter-network impact* appropriate, and if not what changes are needed to make the responsibilities clearer?
- For the purpose of the proposed guidelines should the thresholds within the *IRPC*'s “Criteria for Assessing *Material inter-network impact* of Transmission Augmentations” be applied to a new *generating unit* or facilities of a *Customer* and, if not, what alternative approach should be used?
- What other considerations should apply for the initiation of the application of the guidelines for Items 4 to 6 of Chart 1?

4.3.2 *IRPC's decision on this issue*

The *IRPC* has decided that the existing framework for identifying *material inter-network impacts* for *transmission network* developments is not entirely suited for

the purpose of Rule 5.7.7. Specifically, it must be limited to apply to developments that alter the *power transfer capability* of more than one *transmission network*. Hence, some parts of the existing framework are irrelevant to the consideration of the need for *inter-network tests*.

The *IRPC* has therefore decided that the Guidelines should include criteria to determine *material inter-network impact* that are suited to the specific purpose of Rule 5.7.7, and that the criteria to assess the impacts of new *generating units* or *Customer facilities* should be consistent with those applied to *transmission network* developments.

4.4 Issue: Classification of an activity as an *inter-network test*

4.4.1 *IRPC's* considerations

Under Rule 5.7.7, the *decision-maker* must decide if it considers that an *inter-network test* is required, where an *inter-network test* is “a test conducted for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network*”. It would be inappropriate to classify any activity as an *inter-network test* solely on the basis that it achieves the purpose of an *inter-network test*⁴.

It would be reasonable for an *inter-network test* to be required only under unusual circumstances, e.g. where a particular activity would not be permitted or where *Registered Participants* would not be required to participate in those activities if Rule 5.7.7 did not exist. If this is the case, and if the Guidelines were to provide this guidance, *inter-network tests* could be limited to those activities that:

- are “conducted for the purpose of verifying the magnitude of the power transfer capability of more than one transmission network”;
- would cause a Registered Participant to incur a cost through either direct or indirect participation in the test; and
- could not be achieved under any other Rules requirement.

In describing activities that might cause one or more *Registered Participants* to incur a cost, this would require the *decision-maker* to make a preliminary assessment of the methodology for conduct of the test and might consider at least one of:

- the application of network power transfer constraints;
- a variation of the central dispatch outcome;
- a requirement for procurement of test facilitation services;
- the changing of a plant operating condition (e.g. plant switching or changing the mode of operation of the plant); or
- a requirement for a Registered Participant to incur a cost through its participation in the inter-network test.

This approach would require the *decision-maker* to anticipate the conduct of the test, but is intended to avoid unnecessary classification of some activities as *inter-*

⁴ An *inter-network test* must have this purpose, but a test that has this purpose is not necessarily an *inter-network test*.

network tests and the need for any consequent consultation to develop a *test program* under Rule 5.7.7(p).

The *IRPC* requested submissions on the following questions:

- Should the Guidelines give guidance as to what constitutes a test under the Rules definition of *inter-network test*, or should this be established by the *decision-maker* according to the circumstances at the time?
- If the guidelines were to provide guidance in this regard, how should this guidance be framed and what specific criteria, if any, should be applied?

4.4.2 *IRPC's* decision on this issue

A key part of the definition of an "*inter-network test*" is that it is "in accordance with clause 5.7.7". Rule 5.7.7(k) allows the *IRPC* to publish the guidelines "to assist *Registered Participants* to determine when an *inter-network test* may be required". This Rule thereby assigns to the Guidelines the task of assisting to determine the conditions required for a test to be determined to be an "*inter-network test*".

The Guidelines will advise that a test should be classified as an *inter-network test* only under circumstances where:

- The test is for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network*; and
- A test activity would not be permitted if Rule 5.7.7 did not exist, for example where:
 - The *Proponent* needs to enter into an agreement with other *Registered Participants* to provide test facilitation services; or
 - The normal *central dispatch* outcomes need to be varied to achieve particular operational conditions for the test; or
 - *Registered Participants* would be required to participate in proposed test activities.

4.5 Issue: Significance of the power system model

4.5.1 *IRPC's* considerations

The *IRPC* considers that *Inter-network tests* are required primarily to resolve potential and actual uncertainties about the mathematical models of the *power system* that are used as data when carrying out system studies.

The *power system* model comprises representations of all *generating units*, the *networks* and the *loads*, as well as many of their *control systems*.

The *power system* model serves many purposes, but in this context it is the basis for the definition of the *technical envelope of network power transfer capability* within which the *power system* must be operated. This *technical envelope* forms the basis of most of the *network constraint* equations that are modeled in NEMDE. It is important that these *constraint* equations be defined as accurately as possible so as to maximise the potential for *unconstrained dispatch* while avoiding the possible severe consequences of a *power system* failure caused through operating in an insecure state that had not been adequately defined.

The prime outcome of an *inter-network test* is that measured real *power system* or *plant* performance is compared with analysis using the *power system* model, so that future analytic predictions can be interpreted with reasonable confidence to define *network constraint* equations accurately.

The *IRPC* sought submissions on the following questions:

- Is the resolution of model uncertainties the only reason for conducting an *inter-network test* or are there other reasons?
- What other justifications for conducting an *inter-network test* should be addressed in the guidelines?

4.5.2 *IRPC's* decision on this issue

An *inter-network test* is a test that is only permitted to be conducted for the purpose of verifying the *power transfer capability* of more than one *transmission network*.

Verification of a *power transfer capability* means proving that the *power system* can be operated securely at a target transfer level, despite the uncertainties of the *power system* model.

It does not necessarily mean that the *inter-network test* will resolve uncertainties related to a particular *plant* model.

The *IRPC* has decided that the reason for conducting an *inter-network test* is the resolution of any model uncertainties that affect *power transfer capability*, encompassing both calibration of the *power system* model as a whole, and verification of components of this model.

4.6 Issue: Assessment of the level of power system model uncertainty

4.6.1 *IRPC's* considerations

To require consideration of *inter-network testing* at the time of its commissioning, a new development or setting change under items 1 to 5 of chart 1 in Rule 5.7.7(a) would need to:

- result in the establishment of new *network* limits, where the mechanisms underlying those new limits are not well understood (e.g. interactions between *control systems* for some stability limits);
- result in the establishment of new or updated *network constraint* equations that are particularly sensitive to certain model parameters; or
- increase uncertainty in existing *network constraint* equations to the extent that a significant (and additional) safety margin would need to be applied to a *network constraint* equation.

Tests under item 6 of chart 1 will also address model uncertainties, and may be directed at specific *plant*, but not necessarily. They may be directed at the model for part of the *power system*, or that for the *power system* as a whole.

It is expected that many of the uncertainties about specific *plant* will be addressed through local testing to determine models at the time of commissioning, and that

inter-network testing will not be required. However, there will be circumstances sometimes where *plant tests* are insufficient and *inter-network tests* are needed. The Guidelines should aim to identify these circumstances.

It is tentatively proposed that the primary source of estimates of additional model uncertainty will be sensitivity studies on the *power system* model that represents the new development. These studies should ignore pre-existing uncertainty for the purpose of this assessment.

Model uncertainty for any new development would be determined by sensitivity studies in which selected parameters would be varied over a feasible range and the effect on *power transfer capability* observed.

It might also be important to examine uncertainty that is revealed by a development. An example of this is where it becomes important to improve a *power system* model that was previously adequate, because of the changed configuration of the *network* or the magnitude of changes in *power transfers* caused by the development.

The *IRPC* is considering two options for the appropriate size of the threshold, but many others are possible:

Option 1: Set the uncertainty threshold at the level of the *MINI Criteria*.

Option 2: Set the uncertainty threshold as a fraction of the size of the assessed base-case impact of the development. A fraction of one-third is being considered.

A consideration relevant to this issue is whether *power system* performance can be measured as accurately as implied by these figures using the types of *inter-network tests* that would not put the *power system* at unnecessary risk.

Normal variation in *interconnector* flow due to *dispatch* accuracy could be greater than the threshold set in the *MINI Criteria*.

The *IRPC* sought submissions on the following question:

- Are either of the options described above for the threshold size of model uncertainty that should trigger the need for a test acceptable, or is there a better alternative?

4.6.2 *IRPC's* decision on this issue

The ability to measure *power system* performance accurately while not putting the *power system* at unnecessary risk is a significant issue. The Guidelines should not, therefore, promote the conduct of a test to resolve an uncertainty that is below the minimum MW measurement resolution that is achievable.

Referring to the maximum amount of uncertainty that should be permitted to remain, the application of Option 1 would allow a level of uncertainty of up to 50 MW to remain unresolved on parts of the *transmission network* where the *power transfer capability* is high, because an *inter-network test* would not be determined to be necessary.

The application of Option 2 would link the uncertainty to the expected change in *power transfer capability*, but a fraction of one-third of the base case impact could

also result in an unacceptably high level of unresolved uncertainty if the development has a high impact.

The *IRPC* has decided to set the uncertainty threshold at the same level as the *material inter-network impact* criterion that will be specified in the Guidelines, but limited to be:

- No lower than the minimum measurement resolution; and
- No higher than 50 MW, which is considered to be the highest level of acceptable uncertainty.

4.7 Issue: Guideline content – inclusion of practical examples

4.7.1 *IRPC's* considerations

The *IRPC* considers that it may be of value to *Registered Participants* to include some practical, but hypothetical, examples of the application of the Guidelines. This could assist *Registered Participants* that do not want to become involved in the detail of the assessment calculations to gain an appreciation of how the Guidelines will be applied.

The following are some examples that could be included:

1. An *interconnector* augmentation;
2. A *network* augmentation is commissioned that has a risk of causing sub-synchronous resonance (**SSR**); and
3. *Connection* of a large *generating unit* or *Customer facility* whose characteristics may affect an existing transient stability limit.

The *IRPC* sought submissions on the following questions:

- Is there value in including examples in the proposed guidelines?
- Are there other examples that should be added, or replace the above examples?

4.7.2 *IRPC's* decision on this issue

The *IRPC* has decided to provide examples as an Appendix to the Guidelines. Four examples are included, comprising the situations originally suggested, plus a *control system* change that could be initiated as either item 4 or 5 of chart 1 of clause 5.7.7(a).

4.8 Issue: Form of the proposed guidelines

4.8.1 *IRPC's* considerations

The *IRPC* proposes that the Guidelines will be a short document that contains the following kinds of information:

- Appropriate background;
- A flowchart showing the decision-making process;

- References to the *Rules*;
- A summary of the steps and decision criteria appropriate for the identified audience(s);
- A summary of the types of analysis and data that would be required, analysis techniques to be used and who should be responsible for this analysis;
- An indicative timetable, placing the decision process in the context of the *Rule*;
- Guidance as to who would be best placed to make the assessments for each of the criteria; and
- Some practical examples of the application of the Guidelines as an appendix.

The *IRPC* considers that the Guidelines should not be prescriptive, considering that they will be applied to many situations with as yet unknown facts.

The *IRPC* sought submissions on the following questions:

- Is there alternative information or additional information that would be useful?
- What degree of prescription is appropriate?

4.8.2 *IRPC's* decision on this issue

The *IRPC* considers that the following two aspects need to be prescribed:

1. The magnitude of the change in *power transfer capability* between *transmission networks* or in another *TNSP's network* required to initiate assessment of whether an *inter-network test* is required; and
2. The magnitude of the threshold of uncertainty in *power transfer capability* that needs to be exceeded to warrant further consideration of tests.

4.9 Issue: Timing of the decision

4.9.1 *IRPC's* considerations

Formal notification in accordance with Rule 5.7.7(e) for items 1 to 4 of chart 1 starts a short process, which concludes with Rule 5.7.7(g) as follows:

NEMMCO or the Relevant TNSP in respect of a development or activity may notify the Proponent of the development or activity that NEMMCO or the Relevant TNSP believes that an inter-network test is required in relation to that development or activity.

This notification commences a process that includes a number of mandatory and optional activities that are specified in Rules 5.7.7(i) and 5.7.7(m) to (z). In some cases, *inter-network tests* must be conducted as an integral part of a commissioning program. An example of this was the *QNI interconnector*, where the actual performance of the *power system* could not be confirmed except by test, and the consequences of delaying the *inter-network tests* could result in operation of the *power system* in an insecure manner.

If *inter-network tests* must be conducted as part of a commissioning program for other new developments, the mandatory processes consequent to a decision that an *inter-network test* is required must be substantially completed within the time remaining of the 80 *business day* advance notification. The process includes a

mandated formal consultation on the proposed *test program* that includes a defined timetable.

If the minimum 80 *business day* advance notification is given by a *Registered Participant*, the tight timetable suggests that unless a decision by *NEMMCO* or the *Relevant TNSP* is made and advised within a few weeks of notification, the preparations for an *inter-network test* might not be complete by the planned commissioning date.

Having regard for the time and resources that might need to be applied to carry out the steps of the Guidelines, the time required to arrive at a considered decision may exceed that which may be inferred from the *Rules*.

Ways in which the time constraints could be addressed include:

- Assuming that a *Registered Participant* who is concerned about the timing will give more than the minimum notice before the commissioning date;
- Assuming that the *decision-maker* will have enough prior knowledge of the proposed development to commence the studies that will be required before the formal notification date; or
- Accepting that a less rigorous assessment process could be followed, with the implication that a decision that an inter-network test is required may be made unnecessarily.

The *IRPC* sought submissions on the following questions:

- Is timing of the decision an issue that should be addressed in the guidelines or in some other manner?
- What approaches are acceptable to *Registered Participants*?

4.9.2 IRPC's decision on this issue

The timetable relating to *inter-network tests* in the case of physical additions⁵ may be inferred from the *Rules*. The *IRPC* has decided that it is not necessary to describe the timing constraints on the decision-making process in the Guidelines.

4.10 Issue: Consideration of the surrounding circumstances

4.10.1 IRPC's considerations

An obligation on the *decision-makers* for items 1 to 4 of Rule 5.7.7(a) is to have regard to the surrounding circumstances as well as the Guidelines. This obligation appears in Rule 5.7.7(h)(2), which states:

NEMMCO or the Relevant TNSP may only give a notice under clause 5.7.7(g) if NEMMCO or the Relevant TNSP considers that:

(1) ...

(2) *if the Inter-regional Planning Committee has published guidelines under clause 5.7.7(k), an inter-network test is required having regard to those guidelines and the surrounding circumstances.*

⁵ Items 1, 2, and 3 of chart 1.

The *decision-maker*, therefore, must consider the Guidelines and is only permitted to give the notice under clause 5.7.7(g) after it has had regard to the Guidelines and any “surrounding circumstances”. Thus, the consideration of “surrounding circumstances” is an additional factor to be taken into account in exercising the discretion to determine whether an *inter-network test* may be required.

The *IRPC* sought submissions on the questions:

- Should the guidelines include suggestions about what “surrounding circumstances” could be relevant?
- More generally, are there other process issues that could be accounted for within the guidelines?

4.10.2 *IRPC’s decision on this issue*

The *IRPC* has decided not to prescribe what the “surrounding circumstances” might entail.

4.11 Issue: Other issues on matters that are material to the guidelines

4.11.1 *IRPC’s considerations*

The *IRPC* sought submissions on any matters that might influence the preparation of Guidelines.

4.11.2 Submissions by Consulted Persons

No submissions were received at either the first or second stage of the consultation, and no other issues have been identified.

5. Guidelines

The *IRPC* determines the Inter-Network Test Guidelines in the form contained in **Attachment 1**.

6. Ongoing review of the guidelines

Clause 5.7.7(k) provides that:

The Inter-Regional Planning Committee may develop, publish and amend from time to time, in accordance with the Rules consultation procedures, a set of guidelines to assist Registered Participants to determine when an inter-network test may be required.

The *IRPC* intends to review the application of the Guidelines within five years of their *publication*, with a view to assessing any need for their amendment.

At that review the *IRPC* may also decide whether or not ongoing review is required.

The *IRPC* may undertake a review at any time to address changed circumstances, or as a result of experience.

7. Definitions and interpretation

- a) In this Report, a word or phrase *in this style*, has the meaning set out opposite that word or phrase in the Glossary.
- b) If a word or phrase *in this style* is not defined in the Glossary, the term has the same meaning as given to that term in the *Rules*.
- c) Unless the context otherwise requires, the Guidelines shall be interpreted in accordance with Schedule 2 of the *National Electricity Law*.

GLOSSARY

[Defined Term]	[Definition]
<i>IRPC</i>	<i>Inter-Regional Planning Committee</i> , established under clause 5.6.3(a) of the <i>Rules</i>
<i>TNSP</i>	<i>Transmission Network Service Provider</i>
<i>decision-maker</i>	The <i>Relevant TNSP</i> defined by column 4 in Chart 1 of clause 5.7.7(a) or <i>NEMMCO</i> when either of them undertakes their responsibilities to make a notification under clause 5.7.7(g), or <i>NEMMCO</i> when it makes a determination under clause 5.7.7(n)
<i>plant tests</i>	Tests that are not classified as <i>inter-network tests</i> that are undertaken in accordance with clauses other than 5.7.7.
<i>MINI Criteria</i>	The <i>material inter-network impact</i> criteria established under clause 5.6.3(i) and described in “Criteria for Assessing Material Inter-Network Impact of Transmission Augmentations”, dated 21st October 2004 and published on behalf of the <i>IRPC</i> on the <i>NEMMCO</i> website at http://www.nemmco.com.au/transmission_distribution/170-0024.htm