



## **Draft National Electricity Amendment (Abolition of Snowy Region) Rule 2007**

*(Note: Previously referred to as the proposed Snowy Region Boundary Rule)*

under the National Electricity Law as applied by:

- (a) the National Electricity (South Australia) Act 1996;
- (b) the Electricity (National Scheme) Act 1997 of the Australian Capital Territory;
- (c) the National Electricity (New South Wales) Act 1997 of New South Wales;
- (d) the Electricity - National Scheme (Queensland) Act 1997 of Queensland;
- (e) the Electricity - National Scheme (Tasmania) Act 1999 of Tasmania;
- (f) the National Electricity (Victoria) Act 2005 of Victoria; and
- (g) the Australian Energy Market Act 2004 of the Commonwealth.

The Australian Energy Market Commission makes the following Rule under the National Electricity Law.

John Tamblyn  
Chairman  
Australian Energy Market Commission

## **Draft National Electricity Amendment (Abolition of Snowy Region) Rule 2007**

### **1. Title of Rule**

This Rule is the *Draft National Electricity Amendment (Abolition of Snowy Region) Rule 2007*.

### **2. Commencement**

This Rule commences operation on [date of making of Final Rule Determination].

### **3. Interpretation**

Notes do not form part of this Rule.

### **4. Amendment of Chapter 3 of the National Electricity Rules**

Chapter 3 of the National Electricity Rules is amended as set out in Schedule 1.

### **5. Amendment of Chapter 8A of the National Electricity Rules**

Chapter 8A of the National Electricity Rules is amended as set out in Schedule 2.

### **6. Amendment of Chapter 10 of the National Electricity Rules**

Chapter 10 of the National Electricity Rules is amended as set out in Schedule 3.

### **7. Savings and Transitional Amendments to the National Electricity Rules**

Chapter 11 of the National Electricity Rules is amended as set out in Schedule 4.

## **Explanatory Note**

This note explains the amendments contained in the Draft National Electricity Amendment (Abolition of Snowy Region) Rule 2007.

### **Schedule 1**

Schedule 1 sets out the amendments to Chapter 3 of the Rules which amend rule 3.5 relating to regions by:

- (1) providing a stand alone power for NEMMCO to publish the information relating to the current regions;
- (2) abolishing the Snowy region,

and flags consequential amendments to clause 3.18.2(h) relating to the restrictions on Snowy generators acquiring units of settlements residue.

### **Schedule 2**

Schedule 2 sets out the amendments to Chapter 8A that separate the original NEMMCO network constraints formulation derogation (Part 4) and the specific pricing arrangements for the Snowy region (Part 8), the expiry of which is linked to the implementation of the abolition of the Snowy region.

The amendments make no change to the substance of these derogations, but continue the original NEMMCO derogation with a framework for an expiry date of [30 June 2008] or an earlier date determined by the AEMC (this date being linked to the outcomes of the Congestion Management Review). The Snowy region derogation ceases at 00:00 hours EST 4 November 2007 to coincide with the abolition of the Snowy region.

### **Schedule 3**

Schedule 3 inserts new definitions in the Glossary in Chapter 10 as a result of the amendments made to the Rules.

### **Schedule 4**

Schedule 4 sets out savings and transitional provisions that preserve and transition regions that are not affected by the abolition of the Snowy region, enable NEMMCO to do all that is necessary to implement the abolition of the Snowy region prior to the abolition date of 4 November 2007, and support the smooth transition to the new regions modified as a result of the abolition of the Snowy region.

## Schedule 1 Amendment of Chapter 3 of the National Electricity Rules

(Clause 4)

### [1] Clause 3.5.3 Alteration and notification of regions

Omit clause 3.5.3(c).

### [2] New Clause 3.5.5

After clause 3.5.4 insert:

#### 3.5.5 Publication of regions by NEMMCO

*NEMMCO* must establish, maintain, review and, by 1 April each year, *publish* a list of all *regions*, *regional reference nodes* and the *region* to which each *market connection point* is assigned as determined, or approved by the *AEMC* for alteration, under rule 3.5 and rule 3.6 ('the *Regions Publication*').

### [3] New Clause 3.5.6

After clause 3.5.5 insert:

#### 3.5.6 Abolition of Snowy region

(a) In this clause 3.5.6:

**New South Wales region** comprises the *region* as at 00:00 hours *EST* on 4 November 2007:

- (1) determined as the New South Wales *region* by *NEMMCO* in accordance with clause 3.5.1 of the *National Electricity Code*, continued under rule 3.5 of the *Rules*; and
- (2) identified as the New South Wales *region* in the current *Regions Publication*.

**Snowy region** comprises the *region* as at 00:00 hours *EST* on 4 November 2007:

- (1) determined as the Snowy *region* by *NEMMCO* in accordance with clause 3.5.1 of the *National Electricity Code*, continued under rule 3.5 of the *Rules*; and

(2) identified as the Snowy *region* in the current *Regions Publication*.

**Victoria region** comprises the *region* as at 00:00 hours *EST* on 4 November 2007:

- (1) determined as the Victoria *region* by *NEMMCO* in accordance with clause 3.5.1 of the *National Electricity Code*, continued under rule 3.5 of the *Rules*; and
- (2) identified as the Victoria *region* in the current *Regions Publication*.

**Note:** The regions determined by *NEMMCO* under the National Electricity Code were saved and continued by clause 18 of Schedule 2 to the National Electricity (South Australia) Regulations during the transition from the Code to the National Electricity Rules.

(b) Despite any other provision of the *Rules*, at 00:00 hours *EST* on 4 November 2007:

- (1) the Snowy *region* is abolished;
- (2) the *regional reference node* known as the Murray 330kV node is abolished;
- (3) the New South Wales *region* and the Victoria *region* are modified by the allocation of the *loads* and *generators* to each *region* as set out in schedule 3.2.

**Note:** The *Regions Publication* issued by *NEMMCO* for the 2006/07 financial year specifies in section 3 of Appendix A, the transmission nodes currently allocated to the Snowy region, and their respective *intra-regional loss factors*. In abolishing the Snowy region, the Commission has determined the allocation of transmission nodes to the NSW or Victoria regions is as set out in schedule 3.2.

(c) For the avoidance of doubt:

- (1) the *regional reference node* (known as the Sydney West 330kV node) for the New South Wales *region*; and
- (2) the *regional reference node* (known as the Thomastown 66kV node) for the Victoria *region*,

are not affected by the abolition of the *regional reference node* known as the Murray 330kV node for the Snowy *region*.

***Discussion Note:***

*In relation to the physical metering points identified between NSW and Snowy regions and between Snowy and Victoria regions (Appendix F (page 63) of the 2006/07 Regions*

*Publication), these will need to be replaced by new metering points between NSW region and Victoria region.*

*This issue is discussed in Chapter 7 of the Draft Rule Determination.*

#### **[4] Clause 3.18.2 Auctions and eligible persons**

In clause 3.18.2(h) insert:

***Discussion Note:** Paragraph (h) of this clause places restrictions on the acquiring of units of settlements residue by the Snowy generators.*

*Consequential amendments are necessary to this clause as it refers to the New South Wales to Snowy directional interconnector and the Victoria to Snowy directional interconnector which will have no continuing meaning upon abolition of the Snowy region.*

*This issue is discussed in Chapter 7 of the Draft Rule Determination.*

#### **[5] Schedule 3.2 [Deleted]**

In the heading of schedule 3.2, omit the word “[Deleted]” and substitute:

#### **Schedule 3.2 Allocation of abolished Snowy region transmission connection points**

##### **Loads**

Location	Voltage kV	TNI code	Modified Region
Khancoban	330	NKHN	Victoria

##### **Generators**

Location	Voltage kV	Connection point ID	TNI code	Modified Region
Jindabyne pump at Guthega	11	NGJP	NGJP	Victoria*
Guthega	132	NGUT	NGUT	NSW*
Guthega Ancillary Services 2	132	NGUT2	NGUT	NSW*
Guthega	132	NGUT8	NGUT	NSW*

Location	Voltage kV	Connection point ID	TNI code	Modified Region
Lower Tumut	330	NLTS	NLTS	NSW
Lower Tumut Ancillary Services 2 (pumps)	330	NLTS3	NLTS	NSW
Lower Tumut Ancillary Services 3	330	NLTS5	NLTS	NSW
Lower Tumut	330	NLTS8	NLTS	NSW
Murray Ancillary Services 1	330	NMUR11	NMUR	Victoria
Murray Ancillary Services 2	330	NMUR13	NMUR	Victoria
Murray Ancillary Services 3	330	NMUR5	NMUR	Victoria
Murray Ancillary Services 4	330	NMUR7	NMUR	Victoria
Murray	330	NMUR8	NMUR	Victoria
Murray Ancillary Services 5	330	NMUR9	NMUR	Victoria
Upper Tumut	330	NUTS	NUTS	NSW
Upper Tumut Ancillary Services 2	330	NUTS3	NUTS	NSW
Upper Tumut Ancillary Services 3	330	NUTS5	NUTS	NSW
Upper Tumut Ancillary Services 4	330	NUTS7	NUTS	NSW
Upper Tumut	330	NUTS8	NUTS	NSW

**Discussion Note:**

\* Region allocations discussed in Chapter 7 of the Draft Rule Determination.

## Schedule 2 Amendment of Chapter 8A of the National Electricity Rules

(Clause 5)

### [1] Chapter 8A Part 4 –Time Varying Loss Factor Derogation Granted to NEMMCO

Omit the heading and substitute:

#### Part 4 – Network Constraint Formulation derogation granted to NEMMCO

- (a) Despite any other provision of the *Rules* to the contrary, including without limitation clauses 3.6.4(a), 3.6.4(a1), 3.6.4(b), 3.7.2(c)(3), 3.7.3(d)(3), 3.8.1(b)(5), 3.8.1(b)(6), 3.13.4(o) and 3.13.8(a)(5), *network* limitations may occur which impact on both *intra-regional* and *inter-regional* power flows.
- (b) *NEMMCO* must determine and represent *network constraints* in *dispatch* which may result from limitations on both *intra-regional* and *inter-regional* power flows.
- (c) If the use of a *network constraint* in *dispatch* developed under clause (b) substantially creates, in *NEMMCO*'s reasonable opinion, a significant *inter-regional* power flow from a *region* with a *dispatch price* that is greater than the *dispatch price* of the importing *region* (a **significant counter price power flow**), *NEMMCO* must, without prejudicing its obligations to maintain *power system security*, use reasonable endeavours to apply an alternative formulation for that *network constraint* for the expected duration of the significant counter price power flow. That alternative form of the *network constraint* must apply for the expected period of the significant counter price power flow if the original formulation of the *network constraint* were used.
- (d) *NEMMCO* must develop and *publish* a procedure for determining when an *inter-regional* power flow referred to in clause (c) is considered to be significant for the purposes of that clause.
- (e) This *participant derogation* will cease to apply on the earlier of:
  - (1) [30 June 2008]; or
  - (2) as otherwise determined by the *AEMC*.

*Discussion Note: The above wording (except for para.(e)) reflects the original wording of the NEMMCO derogation as approved by the ACCC.*

*Discussion as to the policy rationale for this amendment is set out in Chapter 7 of the Draft Rule Determination.*

## **[2] Chapter 8A, Part 8 – Network Constraint Formulation**

Omit the heading for Part 8 and substitute:

### **Part 8 – Specific pricing arrangements for Snowy region**

#### **[3] Chapter 8A Part 8 – Network constraint arrangements for Snowy region**

Delete paragraphs (c) and (d) and substitute for each paragraph:

[Deleted]

#### **[4] Chapter 8A Part 8**

Omit paragraph (c1).

#### **[5] Chapter 8A Part 8**

Omit paragraph (e) and substitute.

- (e) This *participant derogation* will cease to apply at 00:00 hours *EST* on 4 November 2007.

*Discussion Note: A marked up version of Part 8 as amended (including the expiry date of 4 November 2007) is set out as Attachment 1 to this Draft Rule and is discussed in Chapter 7 of the Draft Rule Determination.*

## **Schedule 3 Amendments to Chapter 10 of the National Electricity Rules**

(Clause 6)

### **[1] Chapter 10 Glossary**

In Chapter 10, insert in alphabetical order, the following new definitions:

#### **Co-ordinated Universal Time (UTC)**

The time as determined by the International Bureau of Weights and Measures and maintained under section 8AA of the *National Measurement Act*.

#### **Eastern Standard Time (EST)**

The time which is set at 10 hours in advance of *Co-ordinated Universal Time*.

*Discussion Note: The current definition of ‘time’ in Chapter 10 of the Rules currently continues to refer to Greenwich Mean Time, which is no longer the recognised time scale in Australia. The implementation of the abolition of the Snowy region at precisely 00:00 hours EST on 4 November 2007 has highlighted this issue.*

*The above definition would, if made, replace the current definition of “time” in Chapter 10, and each reference in the Rules to that defined term (eg clauses 3.4.2(b), 3.14.4, 7.6.1(d)(2) and 7.6.3(d)) would be referenced to EST, the intended meaning. The Commission considers this amendment to be consequential and non-substantive but nevertheless, clarifies the matter, and invites comments from interested parties.*

#### **National Electricity Code**

Has the same meaning as in the *National Electricity Law*.

#### **Regions Publication**

The document *published* by NEMMCO under clause 3.5.5 that provides a list of all *regions*, *regional reference nodes* and the *region* to which each *transmission connection point* is allocated.

## Schedule 4 Savings and Transitional Rules

(Clause 7)

### [1] Chapter 11 Savings and Transitional Rules

After rule 11.X, insert:

#### **11.X Rules consequent on making the National Electricity Amendment (Abolition of Snowy region) Rule 2007**

##### **11.X.1 Definitions**

Subject to this rule 11.X, in this rule 11.X:

**Amending Rule 2007** means the National Electricity Amendment (Abolition of Snowy region) Rule 2007.

**current Regions Publication** means the document *published* by NEMMCO from time to time under clause 3.5.5 that provides a list of all *regions*, *regional reference nodes* and the *region* to which each *transmission connection point* is allocated, that is entitled “List of Regional Boundaries and Marginal Loss Factors for the Financial Year”.

**Draft Determination date** means the date of publication of the notice under s.99(1) of the *National Electricity Law* relating to the draft Amending Rule 2007.

**implementation period** means the period specified in clause 11.X.4.

**implementation plan** means the plan referred to in clause 11.X.5.

**implementation function** means a function referred to in clause 11.X.6.

**Loss Factors Publication** means the document *published* by NEMMCO from time to time under clauses 3.6.1(f) and 3.6.2(f1) that sets out *marginal loss factors*, that is entitled “List of Regional Boundaries and Marginal Loss Factors for the Financial Year”.

**modified regions** means the *regions* identified as the New South Wales *region* and the Victoria *region* in the current Regions Publication immediately prior to 00:00 hours *EST* on 4 November 2007, modified as a result of clause 3.5.6 taking effect.

**new regions** means the unmodified *regions* and the modified *regions*.

**New South Wales region, Snowy region and Victoria region** each has the same meaning as in clause 3.5.6.

**old clause 3.5.3(c)** means clause 3.5.3(c) of the *Rules* immediately prior to the Rule commencement date.

**old regions** means the *regions* identified in the current Regions Publication immediately prior to 00:00 hours *EST* on 4 November 2007.

**Rule commencement date** means the date on which the *Amending Rule 2007* commences operation.

**unmodified regions** means the *regions* known as the Queensland *region*, the South Australia *region* and the Tasmania *region* as identified in the current Regions Publication, that are not affected by the abolition of the Snowy *region* under the *Amending Rule 2007*.

#### **11.X.2 Purpose of rule 11.X**

The purpose of this rule 11.X is to enable the efficient and effective implementation of a change of *region* boundaries as a result of the abolition of the Snowy *region* during the implementation period, prior to the start of the new *regions*, and to support a smooth market transition from the old *regions* to the new *regions*.

#### **11.X.3 Application of rule 11.X**

This rule 11.X applies despite any other provision of the *Rules*, (including any guideline or procedure made under the *Rules*) and to the extent of any inconsistency, this rule 11.X prevails until the end of the implementation period.

#### **11.X.4 Implementation period**

- (a) The implementation period starts on the Rule commencement date and ends at 00:00 hours *EST* on 4 November 2007.
- (b) Any decision made or action taken by *NEMMCO* for the purpose of implementing the abolition of the Snowy *region* between the Draft Determination date and the Rule commencement date, has continuing effect as if the decision had been made or the action had been taken under the *Amending Rule 2007*.

#### ***Discussion Note:***

*Comment is sought on whether or not there are likely to be residual operational matters to be completed after the abolition date by NEMMCO that require the extension of the implementation period beyond 4 November 2007.*

#### **11.X.5 Publishing of implementation plan by NEMMCO**

- (a) *NEMMCO* must develop and *publish* by [date to be inserted] an implementation plan that identifies the key implementation steps to be taken during the implementation period, including the proposed exercise by *NEMMCO* of its implementation functions.

- (b) *NEMMCO* may, during the implementation period, amend the implementation plan as necessary, and must *publish* the amended plan.

#### **11.X.6 NEMMCO implementation functions**

- (a) Subject to this rule 11.X, *NEMMCO* has, during the implementation period, the following functions and powers ('the **implementation functions**'):
  - (1) the power to make a decision or take any action (including the power to refrain from making a decision or taking action) that is necessary for the implementation of the *Amending Rule 2007*; and
  - (2) the other functions and powers specified under this rule 11.X.
- (b) The exercise of the implementation functions by *NEMMCO* must be referable to and consistent with, the key implementation steps set out in the implementation plan as *published*, as referred to in clause 11.X.5.

#### **11.X.7 Software modifications to implement abolition of Snowy region**

Despite clause 3.17.1 and subject to this clause 11.X.7, *NEMMCO*:

- (1) may, as an implementation function, alter, reconfigure, reprogram or otherwise modify or enhance any computer software required for the operation of the *market*; and
- (2) must, to the extent practicable, adhere to the procedures for change management under the document entitled "NEM Systems IT Procedure Manual: Change Management" and the *AER* is not required to authorise changes made under paragraph (1) even if *NEMMCO* does not fully adhere to that document.

#### **11.X.8 Amendment of current Regions Publication**

*NEMMCO* must, as an implementation function:

- (1) amend the current *Regions Publication* in accordance with the *Amending Rule 2007* including but not limited to, amendments necessary for the implementation of clause 3.5.6 (the transitional *Regions Publication*); and
- (2) *publish*, no later than [date to be determined] the transitional *Regions Publication* to apply for the period from 00:00 hours *EST* 4 November 2007 to 1 April 2008.

#### **11.X.9 Continuation of previous Regions Publications**

- (a) Documents established, maintained, reviewed and *published* under old clause 3.5.3(c) are taken to be documents maintained, reviewed and *published* under clause 3.5.5.

- (b) Documents prepared but not *published* at the Rule commencement date under old clause 3.5.3(c) are taken to be documents prepared for the purposes of clause 3.5.5.

#### **11.X.10 Reserve margin calculations**

*NEMMCO* may, as an implementation function, determine estimates of the minimum reserve levels to be applied to the modified *regions* provided that the process used to determine the estimates is *published*.

#### **11.X.11 Re-calculation of network constraints and transmission loss factors**

- (a) A *Transmission Network Service Provider* must, to the extent practicable, provide to *NEMMCO* on request, information for or with respect to the re-calculation of *network constraints* and *transmission loss factors* including but not limited to:
  - (1) advice on the re-calculation of *network* limits, including stability limits; and
  - (2) information relating to the determination of *network losses* and *loss factors*.
- (b) Where a *Transmission Network Service Provider* advises *NEMMCO* that it is not practicable to provide information relating to the re-calculation of *network* stability limits within the time period specified in the request, *NEMMCO* may:
  - (1) request the *Transmission Network Service Provider* to provide the information to *NEMMCO* in stages as it becomes available to the provider;
  - (2) determine *inter-regional loss factors* on the basis of estimates;
  - (3) apportion losses for the purpose of *settlements residue payments* using estimates; or
  - (4) re-formulate existing *network constraints* to apply to the new *regions* using estimates.
- (c) Where *NEMMCO* uses estimates under paragraph (b), the process used for determining those estimates must be *published*.

#### **11.X.12 Amendment of current Loss Factors Publication**

*NEMMCO* must, as an implementation function:

- (1) amend the current Loss Factors Publication in accordance with the *Amending Rule 2007* as necessary for the effective implementation of the abolition of the Snowy *region* (the **transitional Loss Factors Publication**); and

- (2) *publish*, no later than [date to be determined] the transitional Loss Factors Publication to apply for the period from 00:00 hours *EST* 4 November 2007 to 1 April 2008.

#### **11.X.13 Transition of settlements residue auction arrangements**

- (a) Terms used in this clause 11.X.13 that are used in the *auction rules* have the same meaning as in those rules.
- (b) Despite anything in rule 3.18, *NEMMCO*
- (1) may, as an implementation function:
    - (i) amend the *auction rules*;
    - (ii) remove or modify Unit Categories affected by the abolition of the Snowy *region* and the consequential modification of the New South Wales *region* and the Victoria *region*;
    - (iii) re-set *auction expense fees* as required to align with any new Unit Categories;
    - (iv) conduct *auctions* in relation to new Unit Categories; and
    - (v) take any other action in relation to *auctions* that is necessary or consequential on the abolition of the Snowy *region*.
  - (2) must consult with the *Settlements Residue Committee* in amending the *auction rules* under paragraph (a) and is only required to comply with the *Rules consultation procedures* to the extent practicable in the circumstances of the implementation of the abolition of the Snowy *region*.

#### **11.X.14 Continuity of regions**

Subject to this rule 11.X and clause 3.5.6, on and from 00:00 hours *EST* on 4 November 2007:

- (1) the unmodified *regions* continue and are taken to be *regions* specified under clause 3.5.1 for all purposes under the *Rules*; and
- (2) the New South Wales *region* and the Victoria *region* as modified by the *Amending Rule 2007* continue and are taken to be *regions* specified under clause 3.5.1 for all purposes under the *Rules*.

**Note:** Clause 33 of Schedule 2 to the NEL saves the operation and effect of the regions in place as at the Rule commencement date. This draft clause continues and transitions the old regions (excluding the Snowy region) as the new regions after 4 November 2007 comprising the modifications made to the NSW and Victoria regions by the Amending Rule 2007, as well as the unmodified regions of Queensland, South Australia and Tasmania.

**11.X.15 Transitioning of pending transactions**

A *transaction* commenced but not completed before 00:00 hours *EST* on 4 November 2007 is to be completed as if the new *regions* had not commenced.

***Discussion Note:***

*Comment is sought from stakeholders as to other transitional Rules that may be required by different categories of Registered Participants to support the smooth transition from the old regions to the new regions.*

END OF DRAFT RULE

## Attachment 1

### Part 8 – Specific pricing arrangements for Snowy region

- (a) Despite any other provision of the *Rules* to the contrary, including without limitation clauses 3.6.4(a), 3.6.4(a1), 3.6.4(b), 3.7.2(c)(3), 3.7.3(d)(3), 3.8.1(b)(5), 3.8.1(b)(6), 3.13.4(o) and 3.13.8(a)(5), *network* limitations may occur which impact on both *intra-regional* and *inter-regional* power flows.
- (b) *NEMMCO* must determine and represent *network constraints* in *dispatch* which may result from limitations on both *intra-regional* and *inter-regional* power flows.
- (c) ~~If the use of a *network constraint* in *dispatch* developed under clause (b) substantially creates, in *NEMMCO*'s reasonable opinion, a significant *inter-regional* power flow from a *region* with a *dispatch price* that is greater than the *dispatch price* of the importing *region* (a 'significant counter price power flow'), *NEMMCO* must, without prejudicing its obligations to maintain *power system security*, use reasonable endeavours to apply an alternative formulation for that *network constraint* for the expected duration of the significant counter price power flow. That alternative form of the *network constraint* must apply for the expected period of the significant counter price power flow if the original formulation of the *network constraint* were used.~~**[Deleted]**
- ~~(e1) Paragraph (c) does not apply to the use of a *network constraint* referred to in the 'Murray/Tumut constraint list' developed pursuant to paragraph (f).~~
- (d) ~~*NEMMCO* must develop and *publish* a procedure for determining when an *inter-regional* power flow referred to in clause (c) is considered to be significant for the purposes of that clause.~~**[Deleted]**
- (e) This *participant derogation* will cease to apply at 00:00 hours *EST* on 4 November 2007.
- (1) 31 July 2007;
  - (2) the implementation of the first regional boundary review by the *AEMC*; or
  - (3) as otherwise determined by the *AEMC*.
- (f) *NEMMCO* must determine and *publish* a list of *network constraints* (the 'Murray/Tumut constraint list') developed pursuant to clause (b) that relate directly to managing power flows in either a northward or southward direction between the *network* nodes to which the following *power stations* are directly connected:
- (1) Lower Tumut;
  - (2) Upper Tumut;
  - (3) Murray; and
  - (4) Guthega.
- (g) For the purpose of clauses (f) to (p), constraint "k" in the Murray/Tumut constraint list must be expressed in the following generic form:

$$\alpha_k \times LT + \beta_k \times UT + \delta_k \times MURR + \lambda_k \times GUTH + \gamma_k \times V-Sn + \eta_k \times Sn-NSW \leq RHS_k$$

Where:

LT is the *dispatch* target for MW from Lower Tumut *power station*;  
 UT is the *dispatch* target for MW from Upper Tumut *power station*;  
 MURR is the *dispatch* target for MW from Murray *power station*;  
 GUTH is the *dispatch* target for MW from Guthega *power station*;  
 Sn-NSW is the *dispatch* target for MW flow on the Snowy to NSW *interconnector*;  
 V-Sn is the *dispatch* target for MW flow on the Victoria to Snowy *interconnector*; and  
 RHS includes a line rating term with an effective coefficient of 1.

- (h) (1) Subject to clause (h)(3), if in any *dispatch interval* of a *trading interval* any of the *constraints* in the Murray/Tumut constraint list have bound, then congestion fund payments must be determined for Lower Tumut and Upper Tumut *power stations* pursuant to clauses (i) to (o).
- (2) If in any *trading interval* clause (h)(1) does not apply, then no congestion fund payments need be determined pursuant to clauses (i) to (o) for that *trading interval*.
- (3) If in any *trading interval* an *administered price period* is declared pursuant to clause 3.14.2, in any one of the Victorian, Snowy or NSW *regions*, no congestion fund payments are to be determined for that *trading interval* pursuant to this *participant derogation*.
- (i) If congestion fund payments must be determined for Lower Tumut and Upper Tumut *power stations* pursuant to clause (h)(1) then, for each relevant *trading interval*, NEMMCO must determine power flows between Murray and Tumut as either northwards or southwards as follows.

Let:

X be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Tumut to Murray; and  
 Y be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Murray to Tumut.

If:

$X < Y$  then power flows for the *trading interval* between Murray and Tumut must be determined as northwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power stations* pursuant to clause (n); and  
 $X \geq Y$  then power flows for the *trading interval* between Murray and Tumut must be determined as southwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power stations* pursuant to clause (o).

- (j) In any *trading interval* where any of the *constraints* in the Murray/Tumut constraint list have bound for one or more *dispatch intervals*, NEMMCO must perform the following calculation for every *dispatch interval* in the relevant *trading interval*:

$$SPd_p = \left[ DP_{\text{Snowy}} \times TLF_p \right] - \left[ \sum_k (CSPa_k \times \text{Coeff}_{p,k}) \right]$$

for p = Lower Tumut and Upper Tumut

Where:

- SP<sub>p</sub> is the substitute price for each *dispatch interval* for generation from power station “p”;
- DP<sub>Snowy</sub> is the *dispatch price* that applies to the Snowy region for the relevant *dispatch interval*;
- TLF<sub>p</sub> is the *transmission loss factor* for power station “p”;
- CSP<sub>a<sub>k</sub></sub> is the *constraint marginal value* (\$/MWh) as determined by the *dispatch engine* for each *dispatch interval* of relieving binding *constraint* “k” by a marginal amount; and
- Coeff<sub>p,k</sub> is the coefficient (α, β, δ, λ, γ or η) assigned to element “p” in *constraint* “k” from the Murray/Tumut constraint list developed pursuant to clause (g),

and subject to the following:

- (1) if the SP<sub>p</sub> determined pursuant to this clause is calculated as an amount less than the *market floor price* it must be deemed to be equal to the *market floor price*; and
  - (2) if the SP<sub>p</sub> determined pursuant to this clause is calculated as an amount greater than *VoLL* it must be deemed to be equal to *VoLL*.
- (k) A substitute price (SP) for each *trading interval* must be determined by NEMMCO for generation from power station “p” as follows:
- SP<sub>p</sub> is the substitute price being the arithmetic average for a *trading interval* of each relevant *dispatch interval* of SP<sub>p</sub>; and
- SP<sub>p</sub> is as determined pursuant to clause (j).
- (l) NEMMCO must determine for each relevant *trading interval* an *energy value differential* (EVD) as follows:
- $$EVD_p = SP_p - (TLF_p \times RRP_{\text{Snowy}})$$
- for p = Lower Tumut and Upper Tumut

Where:

- EVD<sub>p</sub> is the per unit *energy value differential* for a *trading interval* for power station “p”;
- TLF<sub>p</sub> is the *transmission loss factor* for power station “p”;
- SP<sub>p</sub> is the substitute price determined pursuant to clause (k); and
- RRP<sub>Snowy</sub> is the *regional reference price* for a *trading interval* that applies to the Snowy region.

- (m) A CSC allocation factor is determined as follows:
- $$\text{CSC allocation factor} = (A - B) / A$$
- Where:

- A is nominal *transmission* limit between Murray and Tumut which is to be taken as 1350 MW for the purpose of this *participant derogation*; and
- B is nominal *interconnector* capacity from the NSW *region* to the Snowy *region* which is to be taken as 800 MW for the purpose of this *participant derogation*.

**In clauses (n) and (o), the following conventions apply:**

**a “trading amount” (TA) is a payment to or from a *Market Participant* or inter-regional settlement residue fund;**

**if  $TA > 0$ , then this represents a payment to the *Market Participant* or inter-regional settlement residue fund as appropriate;**

**if  $TA < 0$ , then this represents a payment from the *Market Participant* or inter-regional settlement residue fund as appropriate.**

- (n) If power flows between Murray and Tumut for a *trading interval* have been determined as northwards pursuant to clause (i), *NEMMCO* must determine the following amounts:

- (1) An *energy* value adjustment determined as follows:

$$EVA_N = \sum_p ( AGE_p \times EVD_p ) \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

Where:

$EVA_N$  is the *energy* value adjustment for northward flows between Murray and Tumut that is to be applied to the determination of the trading amount pursuant to this clause (n);

$AGE_p$  is the adjusted gross *energy* for a *trading interval* for generation from power station “p”; and

$EVD_p$  is the *energy* value differential determined pursuant to clause (1) for generation from power station “p”;

- (2) *Trading amounts* determined as follows:

$$TA_1 = \text{Min} ( EVA_N, \text{IRSR}_{\text{Sn-NSW}} )$$

$$TA_7 = -1 \times \text{Min} ( 0, \text{IRSR}_{\text{Vic-Sn}} )$$

$$TA_2 = -1 \times TA_1 - TA_7$$

Where:

$TA_1$  is a *trading amount* for Snowy Hydro Limited;

$\text{IRSR}_{\text{Sn-NSW}}$  is the inter-regional settlement residue allocated to flows **from the Snowy region to the NSW region** for the relevant *trading interval*;

$\text{IRSR}_{\text{Vic-Sn}}$  is the inter-regional settlement residue allocated to flows **from the Victorian region to the Snowy region** for the relevant *trading interval*;

TA<sub>2</sub> is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy region to the NSW region**; and

TA<sub>7</sub> is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Victorian region to the Snowy region**.

- (o) If power flows between Murray and Tumut for a *trading interval* have been determined as southwards pursuant to clause (i), NEMMCO must determine the following amounts:

- (1) A *trading amount* determined as follows:

$$TA_3 = \sum_p (AGE_p \times EVD_p) \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

Where:

TA<sub>3</sub> is a *trading amount* for Snowy Hydro Limited;

AGE<sub>p</sub> is the adjusted gross energy for a *trading interval* for generation from power station “p”; and

EVD<sub>p</sub> is the energy value differential determined pursuant to clause (l) for generation from power station “p”;

- (2) A *settlements residue trading amount* determined as follows:

$$TA_4 = -1 \times IRSR_{Sn-NSW}$$

Where:

TA<sub>4</sub> is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy region to the NSW region**; and

IRSR<sub>Sn-NSW</sub> is the inter-regional settlement residue allocated to flows **from the Snowy region to the NSW region** for the relevant *trading interval*;

- (3) A *trading amount* to determined as follows:

$$TA_5 = (IRSR_{NSW-Sn} - TA_3 - TA_4) \times \text{CSC allocation factor}$$

Where:

TA<sub>5</sub> is a *trading amount* for Snowy Hydro Limited;

IRSR<sub>NSW-Sn</sub> is the inter-regional settlement residue allocated to flows **from the NSW region to the Snowy region** for the relevant *trading interval*; and

CSC allocation factor is the CSC allocation factor determined pursuant to clause (m).

- (4) A *settlements residue trading amount* determined as follows:

$$TA_8 = -1 \times \text{Min} ( 0, IRSR_{Sn-Vic} )$$

where:

$TA_8$  is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region**; and

$IRSR_{Sn-Vic}$  is the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region** for the relevant *trading interval*.

(5) A *settlements residue trading amount* determined as follows:

$$TA_6 = (-1 \times TA_3) - TA_4 - TA_5 - TA_8$$

where:

$TA_6$  is a *trading amount* for the inter-regional settlement residue allocated to flows **from the NSW region to the Snowy region**; and

$IRSR_{Sn-Vic}$  is the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region** for the relevant *trading interval*.

(p) *NEMMCO* must *publish* all *trading amounts* arising from application of this *participant derogation* (if any) using the current settlement cycle.

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