

Electricity Industry Participation Code Amendment (Transmission Pricing) 2015

Under section 38 of the Electricity Industry Act 2010, and having complied with section 39 of that Act, I make the following amendment to the Electricity Industry Participation Code 2010.

At Wellington on the 24th day of August 2015



Dr Thomas Brent Layton
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Certified in order for signature:



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21 August 2015

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Amendment

- 1 Title**
This is the Electricity Industry Participation Code Amendment (Transmission Pricing) 2015.

2 Commencement

This amendment comes into force on 1 April 2017.

3 Code amended

This amendment amends the Electricity Industry Participation Code 2010.

4 Schedule 12.4, clause 2 amended

In Schedule 12.4, clause 2(2)(c), replace "Clauses 31 to 33" with "Clauses 31 to 33D".

5 Schedule 12.4, clause 3 amended

(1) In Schedule 12.4, clause 3, replace definitions as follows:

(a) **capacity measurement period** with:

"**capacity measurement period** means, for a **pricing year**—

"(a) for every purpose other than determining **regional peak demand periods** for the Lower South Island, Lower North Island and Upper North Island, the 12 month period commencing 1 September and ending with the close of 31 August, immediately before the commencement of the **pricing year**:

"(b) for the purpose of determining **regional peak demand periods** for the Lower South Island, Lower North Island, and Upper North Island, the period specified in paragraph (a), excluding within that period the period commencing 1 November and ending with the close of 30 April":

(b) **historical anytime maximum injection** or **HAMI** with:

"**historical anytime maximum injection** or **HAMI** is the value calculated under clauses 33D and 34":

(c) **regional peak demand period** with:

"**regional peak demand period** means, for each **region**, a **half hour** in which any of the 100 highest **regional demands** occur in the **region** during a **capacity measurement period** for the relevant **pricing year**. This definition is subject to clause 34 of this **transmission pricing methodology** and any prudent discount agreement".

(2) In Schedule 12.4, clause 3, insert in their appropriate alphabetical order:

"**GXP tie** means a situation in which **GXPs** are simultaneously **connected** to the **grid** at more than 1 **point of connection**

"**reverse flow** means **electricity** exiting the **grid** at a **GXP** and entering the **grid** at another **GXP** as a result of a **GXP tie**

"**South Island mean injection** or **SIMI** is the value calculated under clauses 33B and 34".

(3) In Schedule 12.4, clause 3, definition of **region**, replace "identified" with "described".

(4) In Schedule 12.4, clause 3, definition of **South Island generation**, after "**capacity measurement period** for", insert "all or any of".

6 Schedule 12.4, clause 8 amended

In Schedule 12.4, clause 8(2), replace "clause 25(2)(d)" with "clause 25(3)".

7 Schedule 12.4, clause 32 revoked

Revoke Schedule 12.4, clause 32.

8 Schedule 12.4, clause 33 replaced

Replace Schedule 12.4, clause 33 with:

"33 Calculating the HVDC charge

The **annual HVDC charge** is calculated for each **HVDC customer** at each **South Island generation connection location** as follows:

$$\text{HVDC charge} = (\text{DCR}_{\text{SIMI}} \times \text{SIMI}) + (\text{DCR}_{\text{HAMI}} \times \text{HAMI})$$

where

DCR_{SIMI} is the **SIMI-based rate** calculated in accordance with clause 33A, in \$/MWh

SIMI is the **South Island mean injection** for the **HVDC customer** at the **South Island generation connection location** calculated in accordance with clause 33B, in MWh

DCR_{HAMI} is the **HAMI-based rate** calculated in accordance with clause 33C, in \$/kW

HAMI is the **historical anytime maximum injection** for the **HVDC customer** at the **South Island generation connection location** as calculated in accordance with clause 33D, in kW.

"33A SIMI-based rate

The **SIMI-based rate** is calculated for each **pricing year** by dividing **HVDC revenue** by the sum of the **SIMI** of all **HVDC customers** at all **South Island generation connection locations**, as follows:

$$\text{DCR}_{\text{SIMI}} = \left(\frac{i}{4} \right) \frac{R_{\text{HVDC}}}{\sum \text{SIMI}}$$

where

DCR_{SIMI} is the **SIMI-based rate** for the relevant **pricing year**, in \$/MWh

i	for the pricing year 2017/18	$i=1$
	for the pricing year 2018/19	$i=2$
	for the pricing year 2019/20	$i=3$
	for each subsequent pricing year	$i=4$

R_{HVDC} is **HVDC revenue** for the relevant **pricing year**, in dollars

$\sum \text{SIMI}$ is the sum of the **SIMI** of all **HVDC customers** at all **South Island generation connection locations** for the relevant **pricing year**, in MWh.

"33B Calculation of South Island mean injection

South Island mean injection or **SIMI** is calculated for each **HVDC customer** at each **South Island generation connection location** for a **pricing year**, and is the

average of the total **injection** from the **HVDC customer's assets** at the **South Island generation connection location** in the **capacity measurement period** for the **pricing year** and the **capacity measurement periods** for previous **pricing years**, as follows:

$$SIMI = \frac{\sum \text{injection}}{1 + p}$$

where

SIMI is the **HVDC customer's South Island mean injection** for the relevant **pricing year**, in **MWh**

$\sum \text{injection}$ is the total **injection** from the **HVDC customer's assets** at the **South Island generation connection location** in the **capacity measurement period** for the **pricing year** for which **SIMI** is being calculated and the **capacity measurement periods** for the p immediately preceding **pricing years**, in **MWh**

p	for the pricing year 2017/18	$p=0$
	for the pricing year 2018/19	$p=1$
	for the pricing year 2019/20	$p=2$
	for the pricing year 2020/21	$p=3$
	for each subsequent pricing year	$p=4$.

"33C HAMI-based rate

The **HAMI-based rate** is calculated for each **pricing year** by dividing **HVDC revenue** by the sum of the **HAMI** for all **HVDC customers** at all **South Island generation connection locations** for the relevant **pricing year**, as follows:

$$DCR_{HAMI} = \left(\frac{4-i}{4} \right) \frac{R_{HVDC}}{\sum HAMI}$$

where

DCR_{HAMI} is the **HAMI-based rate** for the relevant **pricing year**, in **\$/kW**

i	for the pricing year 2017/18	$i=1$
	for the pricing year 2018/19	$i=2$
	for the pricing year 2019/20	$i=3$
	for each subsequent pricing year	$i=4$

R_{HVDC} is **HVDC revenue** for the relevant **pricing year**, in **dollars**

$\sum HAMI$ is the sum of the **HAMI** of all **HVDC customers** at all **South Island generation connection locations** for the relevant **pricing year**, in **kW**.

"33D Calculation of historical anytime maximum injection

Historical anytime maximum injection or HAMI is calculated for each **HVDC customer** at each **South Island generation connection location** for a **pricing year**, and is—

- "(a) for the **pricing year** 2017/18, the greater of the following:
 - "(i) the average of the **customer's** 12 highest **injections** at the **connection location** during the **pricing year** 2013/14:
 - "(ii) the average of the **customer's** 12 highest **injections** at the **connection location** during the **pricing year** 2014/15:
 - "(iii) the average of the **customer's** 12 highest **injections** at the **connection location** during the period commencing on 1 April 2015 and ending with the close of 31 August 2015:
 - "(iv) the average of the **customer's** 12 highest **injections** at the **connection location** during the **capacity measurement period** for the **pricing year** 2016/17; and
- "(b) for the **pricing year** 2018/19, the greater of the following:
 - "(i) the average of the **customer's** 12 highest **injections** at the **connection location** during the **pricing year** 2014/15:
 - "(ii) the average of the **customer's** 12 highest **injections** at the **connection location** during the period commencing on 1 April 2015 and ending with the close of 31 August 2015:
 - "(iii) the average of the **customer's** 12 highest **injections** at the **connection location** during the **capacity measurement period** for the **pricing year** 2016/17; and
- "(c) for the **pricing year** 2019/20, the greater of the following:
 - "(i) the average of the **customer's** 12 highest **injections** at the **connection location** during the period commencing on 1 April 2015 and ending with the close of 31 August 2015:
 - "(ii) the average of the **customer's** 12 highest **injections** at the **connection location** during the **capacity measurement period** for the **pricing year** 2016/17."

9 Schedule 12.4, clause 34 amended

- (1) In Schedule 12.4, heading to clause 34, after "**HAMI**", insert ", **SIMI**".
- (2) In Schedule 12.4, clause 34 (excluding subclauses (3) and (10)), after "**HAMI**", insert ", **SIMI**" in each place.
- (3) In Schedule 12.4, clause 34, subclauses (3) and (10), after "**HAMI**", insert "and **SIMI**" in each place.
- (4) In Schedule 12.4, clause 34(7)(e)(ii), replace "subclause 6(b)" with "subclause 6(e)".
- (5) In Schedule 12.4, after clause 34(11), insert:
 - "(12) **Transpower** must adjust a **customer's** **AMD**, **AMI**, **HAMI**, **SIMI**, or **RCPD** at a **connection location** to minimise the impact of **reverse flow** at the **connection location** if—
 - "(a) the **customer** has an agreement with the **system operator** under clause 6 of Technical Code A of Schedule 8.3; and
 - "(b) within 20 **business days** after the **reverse flow** commences at the **connection location**, the **customer** has notified **Transpower** that there is **reverse flow** at the **connection location**; and

- "(c) **Transpower** agrees that there is **reverse flow** at the **connection location**.
- "(13) If **Transpower** makes an adjustment under subclause (12), **Transpower** must, no later than 20 **business days** after making the adjustment, make available on its website the reasons for the adjustment, and how the adjustment was calculated.
- "(14) **Transpower** is not required to calculate **HAMI** quantities under this clause for any **pricing year** after the **pricing year 2019/20**."

10 Schedule 12.4, Appendix A amended

- (1) In Schedule 12.4, Appendix A, replace "**using N=12 in Upper North / Upper South and N = 100 in Lower North / Lower South**" with "**using N=100**".
- (2) In Schedule 12.4, Appendix A, replace "**Historical anytime maximum injection (HAMI)**" with "**HAMI and SIMI**".

11 Schedule 12.4, Appendix B replaced

In Schedule 12.4, replace Appendix B with:

**"Appendix B
"Regions**

"North Island

- "(a) Upper North Island (UNI): all **connection locations** on, or north and west of, a line—
- "(i) commencing at 38°02'S and 174°42'E; then
- "(ii) proceeding in a generally north-easterly direction directly to 37°36'S and 175°27'E; then
- "(iii) proceeding north along the 175°27'E line of longitude.
- "(b) Lower North Island (LNI): all **connection locations** south and east of the line described in paragraph (a).

"South Island

- "(a) Upper South Island (USI): all **connection locations** on, or north of, a line passing through 43°30'S and 169°30'E, and 44°40'S and 171°12'E.
- "(b) Lower South Island (LSI): all **connection locations** south of the line described in paragraph (a)."

Explanatory Note

This note is not part of the amendment, but is intended to indicate its general effect.

This amendment to the Electricity Industry Participation Code 2010 comes into force on 1 April 2017.

The amendment is the result of a review of the transmission pricing methodology in Schedule 12.4 of the Code. The review was initiated by Transpower under clause 12.85 of the Code.

The amendment changes the definition of regional peak demand periods so that the calculation of the periods for the Upper North Island and the Upper South Island regions is based on the 100 highest regional demands in the relevant capacity measurement period. This means that the

calculation of regional peak demand periods for all four regions will be based on the 100 highest regional demands. The description of each region has also been clarified.

The amendment changes the definition of capacity measurement period for the purpose of determining regional peak demand periods, so that summer trading periods are excluded for the Lower South Island, Lower North Island, and Upper North Island regions.

HVDC charges (charges for the HVDC link) will continue to be paid by South Island generators. The amendment provides for a transition from the current HAMI-based charge to a charge based on the total injection by each South Island generator at each South Island generation connection location, averaged over five years.

Finally, the amendment requires Transpower to make adjustments to minimise the effect on transmission charges of reverse flow that occurs as a result of a GXP tie.

Date of notification in the *Gazette*: 27 August 2015