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| Gas Transmission Access Code |

(Proposed new Schedule Seven, Schedule Eight and Associated Provisions)

**Associated Provisions in relation to new Schedule Seven and Schedule Eight**

Proposed changes to section 1.1, section 5.9 and section 8.10 of the Code:

1. Insert new definitions as follows:

*Transitional Arrangements Schedule*means Schedule Seven of this Code;

*Wash-up Schedule means Schedule Eight of this Code;*

1. Amend the definition of Wash-up in section 1.1 of the Code, as follows:

*Wash-up* means, as the context requires:

* + 1. any adjustments to previously determined Daily Delivery Quantities:
			1. determined by an Allocation Agent, including adjustments arising from “interim allocations”, “final allocations” and “special allocations” (as those terms are defined in the DRR); and
			2. to correct for Metering errors or the miscalculation of energy quantities; or
		2. any adjustment to a previously determined Receipt Quantity,

where the effect of such adjustments shall be as set out in the Wash-up Schedule;

1. Delete the definition of Wash-up Agreement in section 1.1of the Code as follows:

1. Amend section 5.9 of the Code as follows:

## Corrections for Inaccurate Metering

* 1. Where Metering is found to be Inaccurate, First Gas will as soon as reasonably practicable following discovery:
		1. correct previously calculated energy quantities in accordance with the Metering Requirements;
		2. publish corrected HDRs and DDRs on OATIS;
		3. notify all Shippers and the relevant Interconnected Party on OATIS; and
		4. apply the necessary Wash-ups in accordance with the Wash-up Schedule.
1. Amend section 8.10 of the Code as follows:

8.10 First Gas’ determination of Balancing Gas Charges and/or Balancing Gas Credits, and of transfers of title to the corresponding quantities of Gas, are subject to the effect of any Wash-up of Running Mismatches. First Gas will apply any changes to Balancing Gas Charges and/or Balancing Gas Credits, and to transfers of title to the corresponding quantities of Gas, as prior Month adjustments on its next invoice under *section 11.17* following receipt of any Wash-up. The Wash-up Schedule applies in respect of Wash-ups in relation to the period on and from the date of this Code. The provisions of the Transitional Arrangements Schedule apply in respect of wash-ups in relation to any period prior to the date of this Code and also determine First Gas’, each Shipper’s and each OBA Party’s opening Running Mismatch (if applicable) as at the date of this Code.

# Schedule SEVEN: TRANSITIONAL aRRANGEMENTS

1. **General**
	1. As set out in *section 8.10* of the Code, this Schedule Seven applies in respect of wash-ups in relation to any period prior to the date of this Code. Schedule Eight applies in respect of Wash-ups in relation to the period on and from the date of this Code.
	2. In this Schedule Seven:

*D+1 Pilot* means the D+1 Pilot referred to in the MBB Agreement;

*MBB Agreement* means the MBB D+1 Pilot Agreement dated 1 December 2015 originally between Vector Gas Limited, Contact Energy Limited, Mighty River Power Limited, Genesis Energy Limited, Trustpower Limited, Nova Gas Limited, Greymouth Gas New Zealand Limited and Vector Gas Trading Limited;

*MPOC* means the Maui Pipeline Operating Code dated 4 January 2018 (including as changed, amended or varied);

*Running Operational Imbalance* has the meaning given in the MPOC;

*Running Operational Imbalance Limit* has the meaning given in the MPOC;

*Welded Point* has the meaning given in the MPOC;

*VTC* means the Vector Transmission Code posted on OATIS on 2 October 2015 and effective as at 1 October 2015 (including as changed, amended or varied);

*VTC Running Imbalance* means Vector’s Running Imbalance as defined in the MBB Agreement; and

*VTC Running Mismatch* means Running Mismatch as defined in the MBB Agreement.

1. **Obligations prior to the date of this Code**
	1. Each Shipper, Interconnected Party and First Gas will (as applicable) use their reasonable endeavours to manage the flow of Gas so that each of their:
		1. VTC Running Mismatch or VTC Running Imbalance (as applicable); and/or
		2. aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC,

are or tend towards zero by 2400 hours on 30 September 2019.

* 1. An Interconnected Party must notify First Gas (where it is entitled to give such notification under the Code and its ICA) in writing no later than 40 Business Days (or such lesser period as accepted by First Gas, acting reasonably) prior to the date of this Code if it wishes to become an OBA Party under this Code.
1. **Balancing position as at the date of this Code**
	1. If and to the extent there are any imbalance positions under the MPOC above the Running Operational Imbalance Limit as at 2400 hours on 30 September 2019, such imbalance position will be cashed out in accordance with sections 12.10 to 12.12 of the MPOC as at 30 September 2019.
	2. For the purposes of this Code:
		1. if an Interconnected Party who is a Welded Party under the MPOC prior to 2400 hours on 30 September 2019 does not notify First Gas in writing that it wishes to become an OBA Party under this Code in accordance with paragraph 2.2 of this Schedule Seven then:
			1. its aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019 will be cashed out in accordance with the MPOC and/or Schedule 2 of the MBB Agreement (as applicable); and
			2. it will not have an opening Running Mismatch position under this Code as at 0000 hours on 1 October 2019;
		2. if an Interconnected Party who is a Welded Party under the MPOC prior to 2400 hours on 30 September 2019 notifies First Gas in writing that it wishes to become an OBA Party under this Code in accordance with paragraph 2.2 of this Schedule Seven then subject to clause 3.1 of this Schedule Seven, its aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019 will become its opening Running Mismatch position under the Code as at 0000 hours on 1 October 2019;
		3. in respect of First Gas:
			1. Schedule 1 of the MBB Agreement will apply to First Gas in its capacity as the TP Welded Party under the MPOC prior to 2400 hours on 30 September 2019 and First Gas will be cashed out in accordance with the MPOC and Schedules 1 and 2 of the MBB Agreement (as applicable) in respect of the TP Welded Party’s Running Operational Imbalance for all relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019; and
			2. First Gas’:

(A) VTC Running Imbalance as at 2400 hours on 30 September 2019 as adjusted (if applicable) in accordance with the MPOC and the MBB Agreement following the cash-out process pursuant to paragraph 3.2(c)(i) of this Schedule Seven; plus

(B) aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019 (but excluding any Welded Points in respect of which it is the TP Welded Party),

will become its opening Running Mismatch under the Code as at 0000 hours on 1 October 2019; and

* + 1. notwithstanding clause 5.4(b)(iii) of the MBB Agreement, each Shipper’s VTC Running Mismatch as at 2400 hours on 30 September 2019 (as adjusted (if applicable) in accordance with the MPOC and the MBB Agreement following the cash-out process pursuant to paragraph 3.2(c)(i) of this Schedule Seven) will become its opening Running Mismatch under the Code as at 0000 hours on 1 October 2019.
1. **MBB Agreement**
	1. The MBB Agreement will terminate at 2400 hours on 30 September 2019, provided that (by virtue of this Code and the MBB Agreement itself) all provisions of the MBB Agreement will continue to apply and bind the parties to the MBB Agreement in respect of wash-ups in relation to any period prior to 2400 hours on 30 September 2019 for so long as is necessary to give effect to the parties’ respective rights and obligations under each of the MBB Agreement, the VTC and the MPOC in respect of wash-ups in relation to any such period prior to 2400 hours on 30 September 2019 (including, in particular, Schedule 3 of the MBB Agreement), except to the extent expressly varied by this Schedule Seven.
	2. Notwithstanding clause 5.4(b)(i) of the MBB Agreement, First Gas will, in relation to any period prior to 2400 hours on 30 September 2019, continue wash-up calculations for “interim allocations”, “final allocations” and “special allocations” (each as defined in the DDR) issued during the 26 months (rather than the four months) following 2400 hours on 30 September 2019 in accordance with Schedule 3 of the MBB Agreement.
	3. The invoicing and payment provisions under *section 11* of this Code will apply to give effect to any adjustments as a consequence of the wash-up calculations under paragraph 4.2 of this Schedule Seven (including for the purposes of invoicing and payment), rather than the relevant invoicing and payment provisions of the VTC and the MPOC.
	4. Notwithstanding clause 5.2(c) of the MBB Agreement, the D+1 Pilot continues to apply if and to the extent necessary in respect of this Schedule Seven and associated wash-ups and will not come to an immediate end as at 2400 hours on 30 September 2019.
	5. As contemplated by clause 5.4(b)(ii) of the MBB Agreement, First Gas and each Shipper’s Residual Imbalance (as defined in the MBB Agreement) calculated during September 2019 will be spread evenly over October 2019.
	6. Without limiting paragraph 4.1 of this Schedule Seven, the termination of the MBB Agreement:
		1. will be without prejudice to the accrued interests, rights, obligations or claims of any party to the MBB Agreement in relation to any act or omission of such party prior to 30 September 2019 (which are to survive such termination); and
		2. will not (except to the extent expressly varied by this Schedule Seven):
			1. relieve any party to the MBB Agreement of its obligation to pay any money outstanding under the MBB Agreement or the VTC as at 30 September 2019;
			2. relieve any Shipper of its obligation to settle a Running Mismatch in accordance with the MBB Agreement in relation to any period prior to 30 September 2019; or
			3. relieve any Shipper of any obligation to settle a Running Mismatch in accordance with the VTC in relation to the period prior to 30 September 2019.
2. **Industry Agreement**
	1. First Gas is to use its reasonable endeavours to agree with the GIC amendments to any applicable industry agreement to enable “D+1 allocations” to continue in accordance with the Code (including this Schedule Seven and Schedule Eight).
3. **Acknowledgements**
	1. Each Shipper, Interconnected Party and First Gas acknowledges and agrees that:
		1. if and to the extent this Schedule Seven constitutes an amendment to the VTC or change to the MPOC, then the requirements of section 25 of the VTC and section 29 of the MPOC are hereby agreed to be satisfied;
		2. First Gas may raise a Change Request Notification or Change Request under the VTC or MPOC (respectively) to give a more proper or fulsome effect to the provisions of this Schedule Seven if and to the extent it is considered necessary or desirable to do so;
		3. if and to the extent it is not possible for any reason whatsoever for:
			1. in respect of paragraph 3.2(b) of this Schedule Seven, a relevant Interconnected Party’s aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019 to become its opening Running Mismatch position under the Code as at 0000 hours on 1 October 2019;
			2. in respect of paragraph 3.2(c)(ii) of this Schedule Seven, First Gas’ VTC Running Imbalance plus First Gas’ aggregated Running Operational Imbalance for the relevant Welded Points under the MPOC as at 2400 hours on 30 September 2019 (in each case, as set out in paragraph 3.2(c)(ii) of this Schedule Seven) to become its opening Running Mismatch under the Code as at 0000 hours on 1 October 2019; or
			3. in respect of paragraph 3.2(d) of this Schedule Seven, a Shipper’s VTC Running Mismatch as at 2400 hours on 30 September 2019 (as adjusted (if applicable) following the cash-out process in paragraph 3.2(c)(i) of this Schedule Seven) to become its opening Running Mismatch under the Code as at 0000 hours on 1 October 2019,

then First Gas may cash-out each of those parties in accordance with the MPOC, the VTC and/or the MBB Agreement (as applicable) in respect of the relevant person’s aggregated Running Operational Imbalance for all relevant Welded Points under the MPOC, VTC Running Imbalance and/or relevant VTC Running Mismatch position, in each case as at 2400 hours on 30 September 2019, and the opening Running Mismatch position for each relevant person under this Code at 0000 hours on 1 October 2019 will be zero accordingly; and

* + 1. First Gas will apply the provisions of this Schedule Seven in a manner and with a view to having as close an economic effect as is reasonably practicable to the arrangements agreed by the parties to the MBB Agreement and to the VTC and the MPOC prior to the date of this Code.

# Schedule eight: wash-ups

1. **General**
	1. As set out in *section 8.10* of the Code, this Schedule Eight applies in respect of Wash-ups in relation to the period on and from 1 October 2019.
	2. In this Schedule Eight:

*D+1 Data* means any data used or calculated by First Gas in performing its obligations under this Schedule Eight and *section 8.8* and *section 8.9* of the Code, or otherwise made available to Shippers or OBA Parties by First Gas in connection with this Schedule Eight;

*MBB Agreement* means the MBB D+1 Pilot Agreement dated 1 December 2015 originally between Vector Gas Limited, Contact Energy Limited, Mighty River Power Limited, Genesis Energy Limited, Trustpower Limited, Nova Gas Limited, Greymouth Gas New Zealand Limited and Vector Gas Trading Limited; and

*Wilful Default* means an intentional or deliberate act or omission on behalf of a party to this agreement that:

* + 1. the party knew or ought to reasonably have known was wrongful; and
		2. the party knew or ought reasonable to have known would likely have harmful consequences,

but does not mean any innocent or negligent action, omission or mistake.

1. **Balancing Wash-up Calculations**
	1. The Running Mismatch and/or ERM for each Shipper, OBA Party and First Gas will or may require Wash-ups when changes are required:
		1. to Daily Delivery Quantities determined by the Allocation Agent; and/or
		2. as a result of corrections required for Metering errors or miscalculation of energy quantities; and/or
		3. to Receipt Quantities determined by the Gas Transfer Agent; and/or
		4. for operational or technical reasons determined by First Gas.
	2. Following the release of the “interim allocations”, “final allocations” or any “special allocations” (each as defined in the DDR) during a Month, First Gas will calculate Wash-ups in accordance with Attachment 1 to this Schedule Eight, which will be applied to each Shipper’s, each OBA Party’s and First Gas’ opening Running Mismatch position on the first Day of the Month following receipt of the revised “interim allocations”, “final allocations” or “special allocations” (as applicable).
2. **Calculation of Balancing Wash-up Amounts**
	1. Changes to Running Mismatch and/or ERM quantities pursuant to paragraph 2 of this Schedule Eight may result in changes to invoiced amounts under *section 11*. First Gas will determine the difference between the amounts resulting from such changes to Running Mismatch and/or ERM quantities, and will debit and/or credit the resulting changes to Shippers and OBA Parties in accordance with Attachment 2 to this Schedule Eight and *section 11*.
3. **D+1 business rules**
	1. Each Shipper and each OBA Party will use their reasonable endeavours to comply with the GIC’s D+1 business allocation rules published from time to time on the GIC’s website.
4. **First Gas obligations**
	1. Nothing in this Schedule Eight will oblige First Gas to do, or not do, anything that may (in First Gas’ opinion) cause First Gas to:
		1. be non-compliant with any applicable law (including any statute, regulation, by-law, scheme, determination, ordinance, rule or other like provision); or
		2. operate other than as a Reasonable and Prudent Operator.
5. **Acknowledgements and liability**
	1. Each Shipper and each OBA Party acknowledge that First Gas will determine “initial” Daily Delivery Quantities in accordance with *section 6.11*.
	2. Each Shipper acknowledges and agrees that First Gas does not make any representations or warranties that any D+1 Data is reliable, accurate or complete. First Gas is not liable for any loss resulting from any action taken by a Shipper or OBA Party in relation to, or any reliance placed by a Shipper or OBA Party on, any D+1 Data.
6. **Independent Auditor**
	1. Any Shipper or OBA Party may give notice (*Audit Notice*) to First Gas requiring the appointment of an independent auditor to review the processes under this Schedule Eight, in which case:
		1. the Shipper or OBA Party who requested an audit (*Requesting Party*) and First Gas will jointly appoint an independent international audit firm with the necessary expertise to determine the matter (*Independent Auditor*) or failing agreement on the appointment within fourteen days of the date of the Audit Notice, the Independent Auditor will be appointed by the President of the New Zealand Institute of Chartered Accountants;
		2. no later than fourteen days following the appointment of the Independent Auditor, First Gas will allow the Independent Auditor reasonable access to First Gas’ systems, books and records for the purpose of satisfying the Independent Auditor that First Gas has complied with its obligations under this Schedule Eight in its use of the daily allocated quantities provided by the GIC;
		3. the Requesting Party and First Gas will instruct the Independent Auditor to comply with any reasonable security and non-disclosure requirements imposed by First Gas;
		4. the Requesting Party and First Gas will instruct the Independent Auditor to carry out its review in a manner which as far as reasonably practicable minimises any disruption to First Gas’ business and affairs; and
		5. the Requesting Party will pay the costs of the Independent Auditor. If the audit was requested by more than one Requesting Party, then the costs of the Independent Auditor will be shared equally by them.
	2. First Gas will promptly take correction active to rectify any error identified in the audit carried out under paragraph 7.1 of this Schedule Eight to prevent such error occurring again (but will not be obliged to retrospectively correct any such error).
7. **Liability, Indemnity and Costs**
	1. To the maximum extent permitted by law, First Gas will not be liable to any Shipper or OBA Party for any Loss suffered or incurred by any Shipper or OBA Party or any other person in connection with this Schedule Eight, except to the extent of any Wilful Default by First Gas.
	2. Each Shipper and OBA Party agrees that it will not bring any claim against First Gas in relation to this Schedule Eight, whether by way of a claim for breach of any obligation under this Schedule Eight by First Gas or otherwise, except to the extent of any Wilful Default by First Gas.
	3. If First Gas is liable to any Shipper or OBA Party as a result of any Wilful Default by First Gas, then First Gas’ total liability to that Shipper or OBA Party for any Loss suffered or incurred by any Shipper, OBA Party or any other person in connection with this Schedule Eight will be limited in accordance with *sections 16.2* to *16.7* of the Code.
	4. Each Shipper and each OBA Party will defend, hold harmless and indemnify First Gas for any Loss suffered or incurred as a direct or indirect result of a claim made by any customer of that Shipper or OBA Party (*Claiming Customer*) in connection with the D+1 Data or this Schedule Eight. If the Claiming Customer is a customer of more than one Shipper or OBA Party, then those Shippers and OBA Parties will jointly defend, hold harmless and indemnify First Gas in accordance with this paragraph 8.4.
	5. In any case where First Gas is indemnified by one or more Shippers or OBA Parties (the *Liable Washup Party*) in accordance with paragraph 8.4 of this Schedule Eight:
		1. First Gas will notify the Liable Washup Party promptly on receiving any notice of proceeding relating to the matter for which First Gas is indemnified;
		2. First Gas will allow the Liable Washup Party to conduct the defence and/or settlement of those proceedings (and the Washup Party will be responsible for allocating responsibility for such defence and/or settlement amongst them), unless and until First Gas releases the Liable Washup Party from all liability relating to those proceedings; and
		3. the Liable Washup Party will use reasonable endeavours to conduct proceedings in a way that does not prejudice First Gas’ interests.

**ATTACHMENT ONE: BALANCING WASH-UP CALCULATIONS**

1. **RUNNING MISMATCH WASH-UPS**

## Requirement

* 1. On or before the 16th Business Day of each Month or as required, First Gas will calculate, for each Day in the Month that requires a Wash-up, the changed Running Mismatch for each Shipper, OBA Party and First Gas.

## Shipper Running Mismatch Wash-up Calculation

* 1. A Shipper’s changed Running Mismatch ($RM\_{n}$) is initially defined as:

$RM\_{n}=RM\_{d-1}+\left(R\_{n}-D\_{n}\right)+ATQ\_{n}+WU$

where:

$RM\_{d-1}$ is the Shipper’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$R\_{n}$ is the Shipper’s most recently calculated Receipt Quantity for that Day;

$D\_{n}$ is the Shipper’s most recently calculated Daily Delivery Quantity for that Day;

$ATQ\_{n}$ is the Shipper’s the most recently calculated Aggregate Trade Quantity for that Day; and

$WU$ is the Shipper’s previously calculated Wash-up quantity for the Month.

## First Gas Running Mismatch Wash-up Calculation

* 1. First Gas’ changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(R\_{n}-D\_{n}\right)+ATQ\_{n}+WU$

where:

$RM\_{d-1}$ is First Gas’ initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$R\_{n}$ is First Gas’ most recently calculated quantity of Gas purchased by First Gas for that Day;

$D\_{n}$ is First Gas’ most recently calculated quantity of Gas sold by First Gas or consumed by equipment such as compressors and line heaters for that Day;

$ATQ\_{n}$ is First Gas’ most recently calculated Aggregate Trade Quantity for that Day; and

$WU$ is First Gas’ previously calculated Wash-up quantity for the Month.

## Delivery Point OBA Party Running Mismatch Wash-up Calculation

* 1. A Delivery Point OBA Party’s changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(N\_{n}-DQ\_{n}\right)+ATQ\_{n}+WU$

where:

$RM\_{d-1}$ is the OBA Party’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$N\_{n}$ is the most recently calculated total approved nominations for the applicable Delivery Point and that Day;

$DQ\_{n}$ is the most recently calculated metered quantity for the applicable Delivery Point and that Day;

$ATQ\_{n}$ is the OBA Party’s most recently calculated Aggregate Trade Quantity for that Day; and

$WU$ is the OBA Party’s previously calculated Wash-up quantity for the Month.

## Receipt Point OBA Party Running Mismatch Wash-up Calculation

* 1. A Receipt Point OBA Party’s changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(RQ\_{n}-N\_{n}\right)+ATQ\_{n}+WU$

where:

$RM\_{d-1}$ is the OBA Party’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$RQ\_{n}$ is the most recently calculated metered quantity for the applicable Receipt Point and that Day;

$N\_{n}$ is the most recently calculated total approved nominations for the applicable Receipt Point and that Day;

$ATQ\_{n}$ is the OBA Party’s most recently calculated Aggregate Trade Quantity for that Day; and

$WU$ is the OBA Party’s previously calculated Wash-up quantity for the Month.

1. **BALANCING GAS ALLOCATION WASH-UP**

## Requirement

* 1. Following the calculation of Running Mismatch Wash-ups in accordance with paragraph 1 of this Attachment One, First Gas will calculate, for each Day in the Month, the changed Balancing Gas allocation for each Shipper, OBA Party and First Gas.

## Balancing Gas purchased

* 1. If, for a Day, First Gas has purchased Balancing Gas ($PG\_{n}$), then the allocated Wash-up quantity of that Balancing Gas for each Shipper and OBA Party ($BGP\_{n}$) is:
		1. if $PG\_{n}$ is greater than $NRM\_{ALL, wu-1}$:

$BGP\_{n}=-1 × NRM\_{wu-1}$

* + 1. if $PG\_{n}$ is less than $NRM\_{ALL, wu-1}$:

$$BGP\_{n}=PG\_{n} × \frac{NRM\_{wu-1}}{NRM\_{ALL, wu-1}}$$

where:

$NRM\_{wu-1}$ is the Shipper or OBA Party’s most recently calculated Running Mismatch for the previous Day, as calculated in accordance with paragraph 1 of this Attachment One, if that value is less than zero; and

$NRM\_{ALL, wu-1}$ is the sum of all $NRM\_{wu-1}$ for all Shippers and OBA Parties.

## Balancing Gas sold by Shippers and OBA Parties

* 1. If for a Day, First Gas has sold Balancing Gas ($SG\_{n}$), then the allocated Wash-up quantity of that Balancing Gas for each Shipper and OBA Party ($BGS\_{n}$) is:
		1. if $SG\_{n}$ is greater than $PRM\_{ALL, wu-1}$:

$BGS\_{n}=PRM\_{wu-1}$

* + 1. if $SG\_{n}$ is less than $PRM\_{ALL, wu-1}$:

$$BGS\_{n}=SG\_{n} × \frac{PRM\_{wu-1}}{PRM\_{ALL, wu-1}}$$

where:

$PRM\_{wu-1}$ is the Shipper or OBA Party’s most recently calculated Running Mismatch for the previous Day, as calculated in accordance with paragraph 1 of this Attachment One, if that value is greater than zero; and

$PRM\_{ALL, wu-1}$ is the sum of all $PRM\_{wu-1}$ for all Shippers and OBA Parties.

1. **CALCULATION AND APPLICATION OF WASH-UP QUANTITIES**

## Requirement

* 1. First Gas will calculate the difference between the Running Mismatch calculated in accordance with paragraph 1 of this Attachment One and the previously calculated Running Mismatch. The difference will be returned to Shippers, OBA Parties and First Gas as an adjustment to Running Mismatch in the next Month after the calculation has been performed.

## Months after 1 October 2019

* 1. For each Shipper, OBA Party and First Gas, First Gas will calculate the applied Wash-up quantity ($WU$), which is the sum of the Wash-up quantities of prior Days ($WU\_{A}$) divided by the Days of the Month after the Day of calculation ($M)$. $WU$ will be applied to each Day of the Month following the Month that these calculations take place, where:

* + 1. $WU\_{A}$ for a Day is:

$$WU\_{A}=RM\_{n}-RM\_{n-1}$$

where:

$RM\_{n}$ has the meaning set out in paragraph 1.2 of this Attachment One for Shippers, paragraph 1.3 of this Attachment One for First Gas, paragraph 1.4 of this Attachment One for Delivery Point OBA Parties and paragraph 1.5 of this Attachment One for Receipt Point OBA Parties; and

$RM\_{n-1}$ is the previous calculated Running Mismatch for the relevant Day.

* + 1. $WU$ is:

$$WU=\frac{\sum\_{i=1}^{x}WU\_{A}}{M}$$

where:

$x$ is the count of prior Days that have had a change to variables that make up Running Mismatch; and

$M$ is the number of days in the Month following the Month in which $WU$ is calculated.

1. **FINAL REVISED RUNNING MISMATCH**

## Shipper Running Mismatch Wash-up Calculation

* 1. A Shipper’s changed Running Mismatch ($RM\_{n}$) is finally defined as:

$RM\_{n}=RM\_{d-1}+\left(R\_{n}-D\_{n}\right)+ATQ\_{n}+\left(BGP\_{n}-BGS\_{n}\right)+WU$

where:

$RM\_{d-1}$ is the Shipper’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$R\_{n}$ is the Shipper’s most recently calculated Receipt Quantity for that Day;

$D\_{n}$ is the Shipper’s most recently calculated Daily Delivery Quantity for that Day;

$ATQ\_{n}$ is the Shipper’s the most recently calculated Aggregate Trade Quantity for that Day;

$BGP\_{n}$ is calculated in accordance with paragraph 2.2 of this Attachment One;

$BGS\_{n}$ is calculated in accordance with paragraph 2.3 of this Attachment One; and

$WU$ is the Shipper’s previously calculated Wash-up quantity for the Month.

## First Gas Running Mismatch Wash-up Calculation

* 1. First Gas changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(R\_{n}-D\_{n}\right)+ATQ\_{n}+\left(BGP\_{n}-BGS\_{n}\right)+WU$

where:

$RM\_{d-1}$ is First Gas’ initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$R\_{n}$ is First Gas’ most recently calculated quantity of Gas purchased by First Gas for that Day;

$D\_{n}$ is First Gas’ most recently calculated quantity of Gas sold by First Gas or consumed by equipment such as compressors and line heaters for that Day;

$ATQ\_{n}$ is First Gas’ most recently calculated Aggregate Trade Quantity for that Day;

$BGP\_{n}$ is calculated in accordance with paragraph 2.2 of this Attachment One;

$BGS\_{n}$ is calculated in accordance with paragraph 2.3 of this Attachment One; and

$WU$ is the First Gas’ previously calculated Wash-up quantity for the Month.

## Delivery Point OBA Party Running Mismatch Wash-up Calculation

* 1. A Delivery Point OBA Party’s changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(N\_{n}-DQ\_{n}\right)+ATQ\_{n}+\left(BGP\_{n}-BGS\_{n}\right)+WU$

where:

$RM\_{d-1}$ is the OBA Party’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$N\_{n}$ is the most recently calculated total approved nominations for the applicable Delivery Point and that Day;

$DQ\_{n}$ is the most recently calculated metered quantity for the applicable Delivery Point and that Day;

$ATQ\_{n}$ is the OBA Party’s most recently calculated Aggregate Trade Quantity for that Day;

$BGP\_{n}$ is Balancing Gas Purchases calculated in accordance with paragraph 2.2 of this Attachment One;

$BGS\_{n}$ is Balancing Gas Sold calculated in accordance with paragraph 2.3 of this Attachment One; and

$WU$ is the OBA Party’s previously calculated Wash-up quantity for the Month.

## Receipt Point OBA Party Running Mismatch Wash-up Calculation

* 1. A Receipt Point OBA Party’s changed Running Mismatch ($RM\_{n}$) for a Day is defined as:

$RM\_{n}=RM\_{d-1}+\left(RQ\_{n}-N\_{n}\right)+ATQ\_{n}+\left(BGP\_{n}-BGS\_{n}\right)+WU$

where:

$RM\_{d-1}$ is the OBA Party’s initial published Running Mismatch for the previous Day, calculated in accordance with *section 1.1*;

$RQ\_{n}$ is the most recently calculated metered quantity for the applicable Receipt Point and that Day;

$N\_{n}$ is the most recently calculated total approved nominations for the applicable Receipt Point and that Day;

$ATQ\_{n}$ is the OBA Party’s most recently calculated Aggregate Trade Quantity for that Day;

$BGP\_{n}$ is calculated in accordance with paragraph 2.2 of this Attachment One; and

$BGS\_{n}$ is calculated in accordance with paragraph 2.3 of this Attachment One;

$WU$ is the OBA’s previously calculated Wash-up quantity for the Month.

* 1. The Final Running Mismatch positions when calculated by First Gas in accordance with paragraphs 4.1 to 4.4 above will apply as each Shipper’s, OBA Party’s and First Gas’ opening position on D*n+1*.
1. **CALCULATION OF ERM WASH-UP QUANTITIES**

## Requirement

* 1. First Gas will recalculate the positive and negative ERM quantities as based on the Wash-up Running Mismatch calculated in accordance with paragraph 1 of this Attachment One. Any resulting differences from what was previously charged will be debited and/or credited in accordance with Attachment Two of this Schedule Eight.

## Determination of Running Mismatch Tolerance Wash up

* 1. For each Day that $RM\_{n}$ has been calculated, First Gas will calculate the Running Mismatch Tolerance for First Gas, each Shipper and each OBA Party. This will be calculated with the same quantities used in the determination of $RM\_{n}$ and in accordance with the definition of Running Mismatch Tolerance in *section 1.1*. Where the Running Mismatch Tolerance is:
		1. positive it is the positive Running Mismatch Tolerance ($PT\_{n}$); and
		2. negative it is the negative Running Mismatch Tolerance ($NT\_{n}$).

## Calculation of Positive and Negative ERM Quantity Wash up

* 1. For each Day that $RM\_{n}$ has been calculated, First Gas will calculate the positive ERM quantity Wash-up ($PERM\_{n}$) and negative ERM quantity Wash-up ($NERM\_{n}$), and:
		1. if $RM\_{n}$ is greater than $PT\_{n}$; then

$PERM\_{n}$ will equal $RM\_{n}$ less $PT\_{n}$; otherwise

$PERM\_{n}$ equals zero.

* + 1. if $RM\_{n}$ is less than $NT\_{n}$; then

$NERM\_{n}$ will equal $RM\_{n}$ less $NT\_{n}$ multiplied by -1; otherwise

$NERM\_{n}$ equals zero.

**ATTACHMENT TWO: CALCULATION OF BALANCING WASH-UP AMOUNTS**

1. **CALCULATION OF BALANCING GAS ALLOCATION WASH-UP AMOUNT**

## Requirement

* 1. For each Day that Balancing Gas allocation quantities have been determined in accordance with paragraph 2 of Attachment One of this Schedule Eight, First Gas will determine the resulting debit and credit amounts for each Shipper and OBA Party.

## Calculation of the Balancing Gas Allocation Wash-up Amount

* 1. First Gas will calculate for each Month:
		1. the allocated amount based on the quantities determined in accordance with paragraphs 2.2 and 2.3 of Attachment One of this Schedule Eight ($BG\_{n}$):

$BG\_{n}=\sum\_{i=1}^{m}\left(BGP\_{n}×P\_{n}\right)-\sum\_{i=1}^{m}\left(BGS\_{n}×S\_{n}\right)$

* + 1. the Balancing Gas Allocation Wash-up Amount (BGW):

$BGW=BG\_{n}-BG\_{n-1}$

where:

$m$ is the count of the Days of the Month;

$BGP\_{n}$ is calculated in accordance with paragraph 2.2 of Attachment One of this Schedule Eight;

$P\_{n}$ is the applied price to the Balancing Gas purchase;

$BGS\_{n}$ is calculated in accordance with paragraph 2.3 of Attachment One of this Schedule Eight;

$S\_{n}$ is the applied price to the Balancing Gas sale; and

$BG\_{n-1}$ is the most recent of the amount calculated in accordance with *sections 8.8* and *8.9* or the previously calculated amount for $BG\_{n}$.

## Invoicing of the Balancing Gas Allocation Wash-up Amount

* 1. For the amounts calculated in accordance with paragraph 1.2 of Attachment Two of this Schedule Eight:
		1. if $BGW$ is positive, that amount will be charged to the relevant Shipper or OBA Party; or
		2. if $BGW$ is negative, that amount will be credited to the relevant Shipper or OBA Party,

in each case, in accordance with section *11.21(m)*.

1. **CALCULATION OF ERM WASH-UP AMOUNT**

## Requirement

* 1. For each Day that ERM quantities have been determined in accordance with paragraph 1 of Attachment One of this Schedule Eight, First Gas will determine the resulting ERM debit and credit amounts for each Shipper and OBA Party.

## Calculation of the ERM Wash-up Amount

* 1. For each Month, First Gas will calculate:
		1. the total amount using the ERM quantities determined in accordance with paragraph 1 of Attachment One of this Schedule Eight ($ERM\_{n}$):

$ERM\_{n}=\sum\_{i=1}^{m}\left(PERM\_{n}×F\_{PERM}×I\_{P}\right)+\sum\_{i=1}^{m}\left(NERM\_{n}×F\_{NERM}×I\_{n}\right)$

* + 1. the ERM Wash-up Amount ($EW$):

$EW=ERM\_{n}-ERM\_{n-1}$

where:

$m$ is the count of the Days of the Month;

$PERM\_{n}$ is calculated in accordance with paragraph 5.3 of Attachment One of this Schedule Eight;

$F\_{PERM}$ is calculated in accordance with *section 8.14(b)*;

$I\_{P}$ is calculated in accordance with *section 8.13*;

$NERM\_{n}$ is calculated in accordance with paragraph 5.3 of Attachment One of this Schedule Eight;

$F\_{NERM}$ is calculated in accordance with *section 8.14(a)*;

$I\_{n}$ is calculated in accordance with *section 8.12*;

$ERM\_{n-1}$ is the most recent of the total of the amounts calculated in accordance with *sections 8.12* and *8.13* or the previous calculated amount for $ERM\_{n}$.

## Invoicing of the ERM Wash-up Amount

* 1. In respect of the amounts calculated in accordance with paragraph 2.2 of Attachment Two of this Schedule Eight:
		1. if $EW$ is positive, that amount will be charged to the relevant Shipper or OBA Party; and
		2. if $EW$ is negative, that amount will be credited to the relevant Shipper or OBA Party.