WHOLESALE MARKET DISTRIBUTION UAFG PROCEDURES (VICTORIA)

PREPARED BY: AEMO Market Management

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APPROVED BY: M Zema

TITLE: Managing Director & Chief Executive Officer

DATE: 27 November 2015

VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1.0	1 July 2010	First Issue
2.0	1 August 2012	Update procedure to include reference to "all" Market Participants (IN013/12)
3.0	1 January 2016	Amend the formula for the average volume weighted market price (AVWMP).
		Align the AVWMP formula with the formula for the Unaccounted for Gas reconciliation amount in item C2 of Part C of Schedule 1 of Victorian Gas Distribution System Code (the Code).
		Allow a DUAFG year to be split into DUAFG periods with the same benchmark values for a supply point class and distributor.
		Data formats adjusted for DUAFG year and DUAFG periods. Allow other data formats to be agreed.
		Correct typographic errors and improve clarity of diagrams.
		Remove Appendix E – Sample Reconciliation Statement.

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CHAPTER 1. INTRODUCTION

1.1.   Purpose and Scope

These are the Distribution UAFG procedures made under rule 317 of the National Gas Rules (Procedures).

These Procedures have effect only for the purposes set out in the National Gas Rules (NGR). The NGR and the National Gas Law prevail over these Procedures to the extent of any inconsistency.

The purpose of this document is to establish a Distribution unaccounted for gas ("DUAFG") process. This consists of business rules and data formats which will enable the exchange of required information between Distributors and Market Participants.

1.2.   Definitions and Interpretation

1.2.1. Glossary

The words, phrases and abbreviations set out below have the meanings set out opposite them when used in these Procedures.

Terms defined in the Law or the NGR have the same meanings in these Procedures unless otherwise specified in this clause.

Term	Definition
DUAFG period	A DUAFG year or part of a DUAFG year during which a single UAFG benchmark value applied to a Supply Point Class and Distributor.
DUAFG year	A calendar year
Market Participant	A registered participant registered in a registrable capacity in accordance with 135AB (4)(c) or 135AB (4)(d) Also labelled as 'Retailer' in some diagrams.

CHAPTER 2. UAFG PROCEDURE

The following sequence diagram shows an overview of events involve in the UAFG process. Each event is explained in more detail with rules, calculations and the data formats used.

Figure 1 Overview of UAFG process
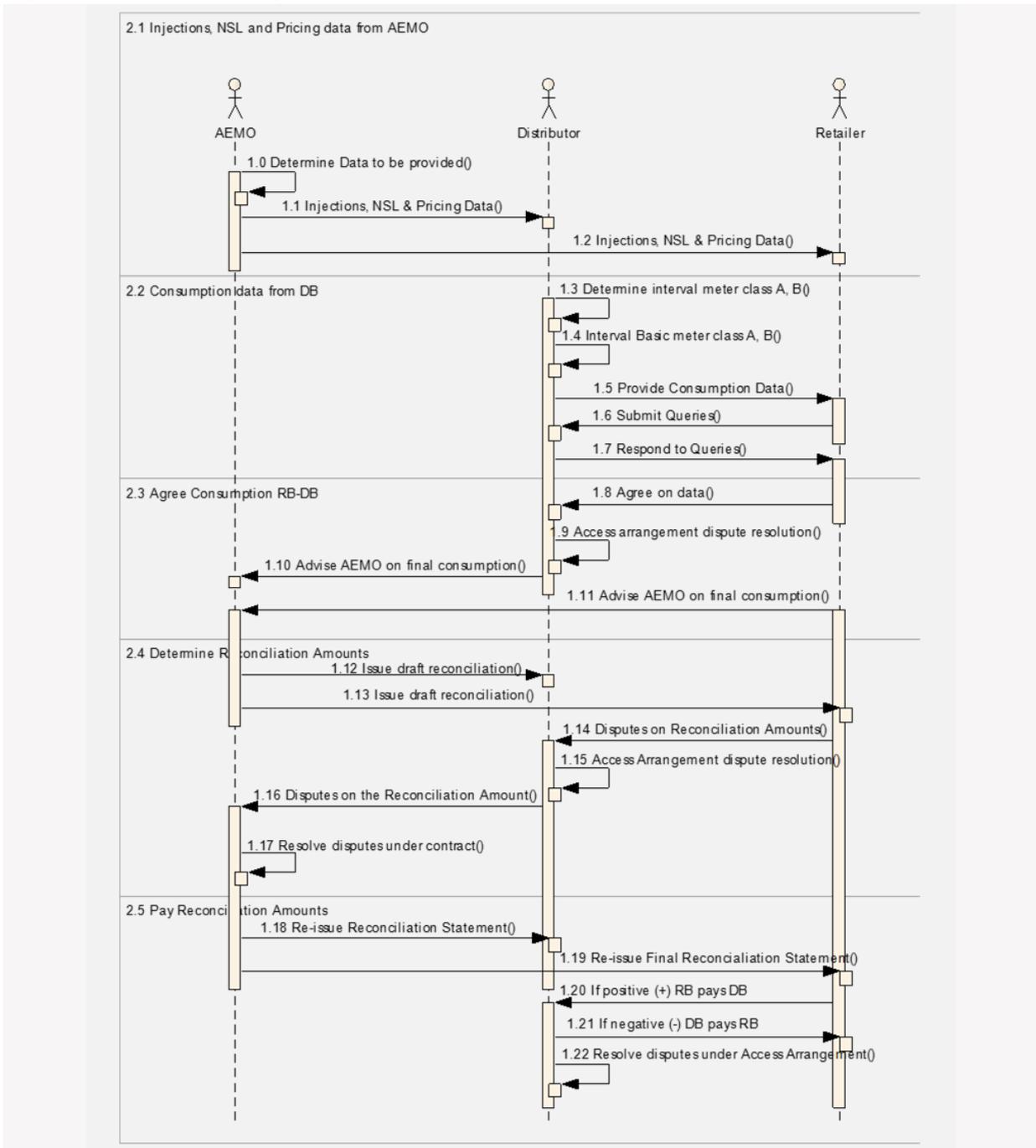
2.1.   Injections, NSL and Pricing Data from AEMO

Within 2 weeks of issuing the month plus 118 business days ("M+118") revisions for December of the DUAFG year, AEMO will provide injections, net system load ("NSL") and pricing data to Distributor and Market Participants.

Figure 2 AEMO provides injection, NSL and pricing data
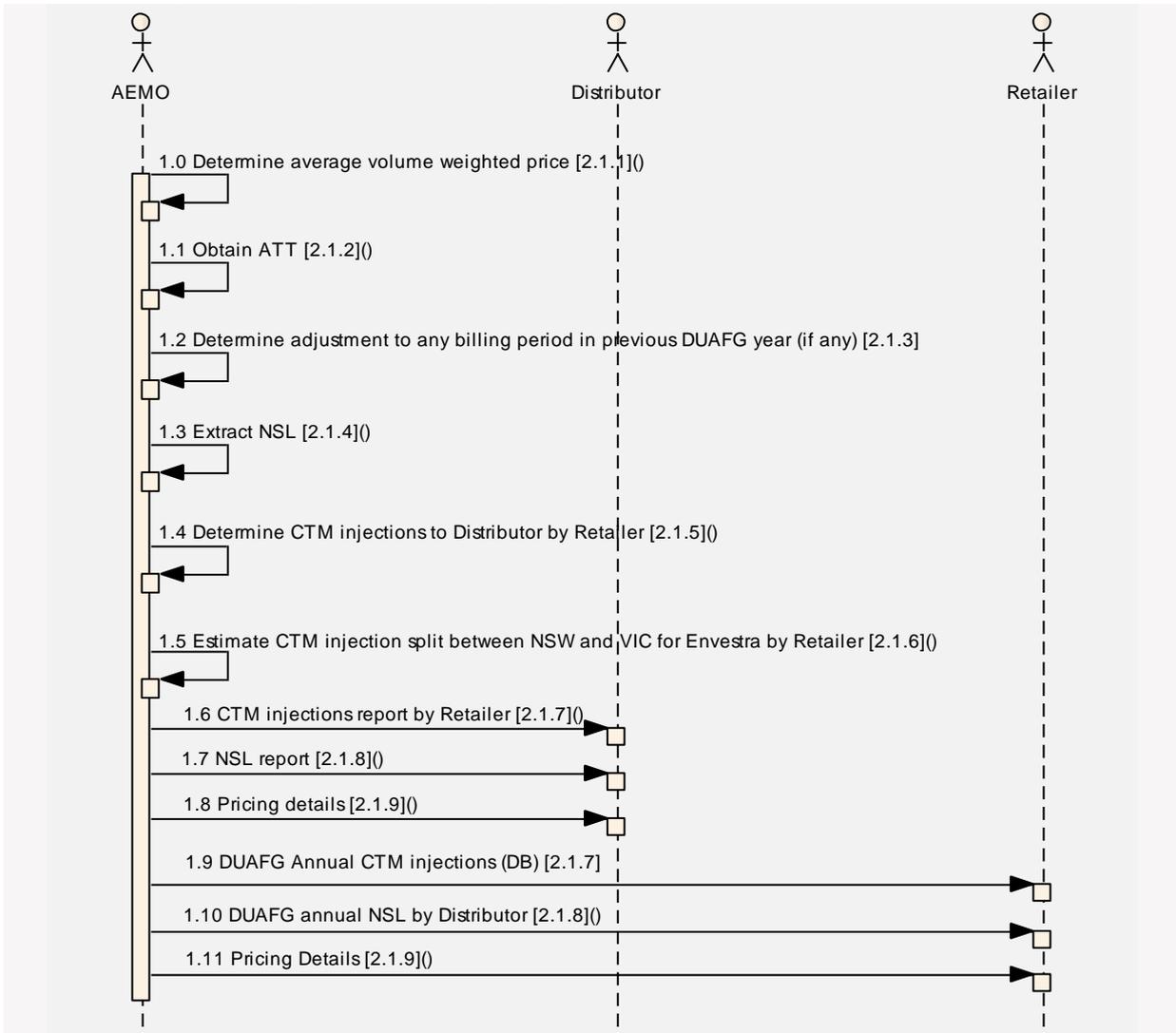
2.1.1. Average volume weighted market price ("AVWMP")

In respect of each DUAFG period, AEMO must determine the AVWMP in in accordance with the following formula:

$$AVWMP = \frac{\sum_{D=1}^{n}\left\{\sum_{S=1}^{5}\left(P_{D,S} \times V_{D,S}\right)\right\}}{\sum_{D=1}^{n}\left\{\sum_{S=1}^{5}\left(V_{D,S}\right)\right\}}$$

Where:

n	=	Days in DUAFG period
D	=	Gas day in DUAFG period
S	=	Scheduling interval
$P_{D,S}$	=	Deviation price for gas day D, scheduling interval S (in \$/GJ). In accordance with rule 235(5)(b) of the Rules, this is the market price determined for the commencement of the next scheduling interval after interval S.

$V_{D,S}$	=	Total quantity of custody transfer meter ("CTM") injections from the declared transmission system into all declared distribution systems during scheduling interval S on gas day D, as at the most recent revision prior to the date AVWMP is determined, (net of any withdrawals from declared distribution systems to the declared transmission system at bi-directional meters) (in GJ).

The AVWMP represents the price referred to as 'X' in the Reconciliation Amount formula in the Victorian Gas Distribution System Code.

2.1.2. Average transmission tariff ("ATT")

Obtained from the declared transmission system service provider.

2.1.3. Determine CTM injection adjustments for DUAFG period in previous DUAFG year

Where AEMO has issued a revised settlement for any billing period in accordance with Part 19 of the Rules in the immediately preceding DUAFG year, AEMO must determine the CTM injection adjustment to apply to the current DUAFG year as set out in Appendix D.

2.1.4. Net system load profile for DUAFG year

AEMO must extract the current NSL by Distributor by gas day for the period covering at least 2 years before start of DUAFG year to 6 months after the end of the DUAFG year.

2.1.5. CTM injection data for DUAFG period

AEMO will determine the CTM injections to each Distributor by Market participant using the most recent revision settlement data for each billing period in the DUAFG period.

- AEMO sends CTM injections to Distributors and Market Participants after the M+118 revision for December.
- The data format used is the same for both parties, but Distributors receive the report by Market Participants operating in their network [1]and the Market Participants receive by distribution networks in which they operate.
- Each Market Participants or Distributor will only receive data relating to them.
- Where declared wholesale gas market revisions for any billing period within the previous DUAFG year have been issued after the CTM Injections for DUAFG periods in the previous DUAFG year were provided, AEMO will provide adjustments to the previously issued CTM Injections for that billing period.
- AEMO should initiate this event within 2 weeks of issuing the M+118 revision for December.

See Appendix A for details of how participants can confirm this determination using MIBB settlement reports during the year.

2.1.6. Estimate CTM injection split between NSW & Victoria

Consumption in Australian Gas Networks Limited (AGNL) distribution system is split between NSW and Victoria, and different benchmark rates apply in each state.

For Market Participants that have customers in Victoria and NSW, AEMO estimates the split of consumption as follows:

$$\text{MP Inj Vic} \quad = \quad \frac{Class\ A\ Cons\ Vic}{(1-Class\ A\ Benchmark\ Rate)} + \frac{Class\ B\ Cons\ Vic}{(1-Class\ B\ benchmark\ Rate)}$$

$$\text{MP Inj NSW} \quad = \quad (MP\ Total\ CTM) - MP\ Inj\ Vic$$

Where:

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[1] I.e. Declared Distribution System

Class A Cons Vic	=	Market Participants Class A Consumption Victoria for the DUAFG period
Class B Cons Vic	=	Market Participants Class B Consumption Victoria for the DUAFG period
MP Inj Vic	=	CTM injections for a Market Participant in Victoria in AGNL
MP Inj NSW	=	CTM injections for a Market Participant in NSW in AGNL
MP Total CTM	=	MP Total CTM injections in AGNL

2.1.7. CTM injection report format

Format for data provision (unless otherwise agreed):

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
duafg_period	Varchar(5)	PK	YYYYA Current DUAFG period 2015A, 2015B
state	Char(3)	PK	VIC/NSW
statement_version_id	Numeric(9)	PK	As per INT source for gj_inj or adj_gj_inj
version_from_date	Varchar(20)		
version_to-date	Varchar(20)		
Inj_gj	Numeric18(9)		Injections by Distributor by State by Market participant for current DUAFG period (positive)
adj_inj_gj	Numeric18(9)		Previous DUAFG period (positive or negative)
Adj_inj_duafg_period	Varchar(5)		YYYYA Adjusted DUAFG period 2015A, 2015B
Distributor_id	Integer	PK	
Distributor_name	Varchar(40)		
fro_id	Integer	PK	
fro_name	Varchar(40)		
created_date	Varchar(20)		

2.1.8. NSL Report format

Format for data provision (unless otherwise agreed):

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
duafg_period	Varchar (5)	PK	YYYYA Current DUAFG period 2015A, 2015B
gas_date	Varchar (20)		
distributor_id	Integer	PK	
Distributor_name	Varchar (40)		
nsl_gj	Numeric 18(9)		
nsl_update	Numeric 18(9)		
created_date	Varchar (20)		

2.1.9. Pricing data report format

Format for data provision (unless otherwise agreed):

Column Name	Data Type	Primary Key (PK)	Comments
duafg_period	Varchar(5)	PK	YYYYA Current DUAFG period 2015A, 2015B
avg_price_period	Varchar(7)		YYYY-MM
Att	Float	PK	Average transmission tariff
created_date	Varchar(20)		

2.1.10. Provide Injection, NSL & pricing data

Distributors receive

- CTM injection report where distributor_id = company_id
- NSL report where distributor_id = company_id
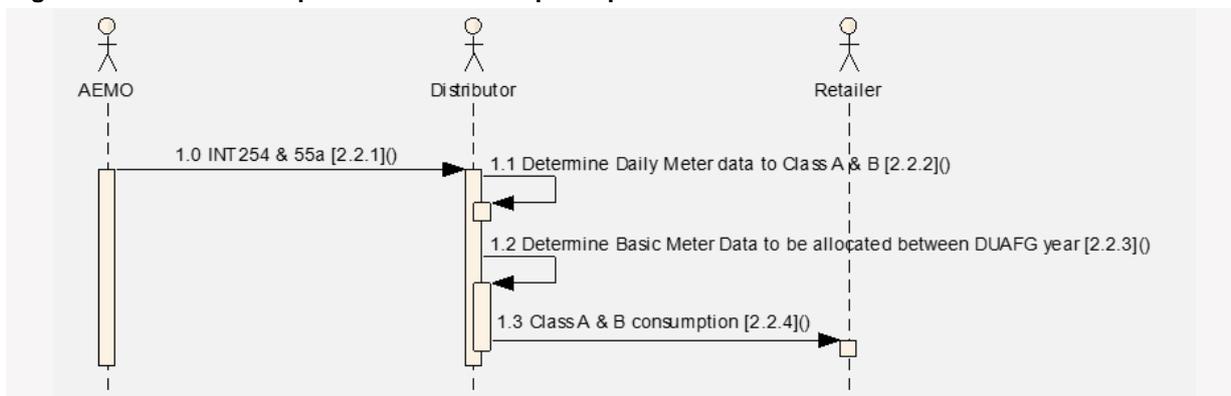- Pricing data report

Market Participants receive

CTM injection report where FRO_id = company_id

- NSL report – all
- Pricing data report

2.2.   Consumption Data from Distributor

After receiving data from AEMO, Distributors determine the class A & B consumption data and send to Market Participants.

Figure 3 Provide consumption data to market participant

2.2.1. MIBB Reports

AEMO publishes the following MIBB reports:

- INT254   Monthly report after the settlement processing
- INT55a   Published after each revision

Distributor has the access to these reports via the MIBB.

2.2.2. Determine class A and B data

For interval meters Distributors determine the class A & B consumption data using the above two MIBB reports, INT254 Metering Data Monthly (Billing meters only) & INT55a (Metering Registration Monthly Data – Billing Meters only) produced by AEMO.

For basic meters they use their own records to determine the class A & B consumption.

- Each Market Participant will get data related to them.

See Appendix A for the procedure to determine volume of gas withdrawn from the declared transmission system by Distributor for Market Participants using MIBB reports.

- Distributors initiate this event within 5 weeks of the revision for December.

2.2.3. Determine BM data to be allocated between DUAFG periods

Distributor determines the BM data to be allocated to the DUAFG period.

See Appendix B for the procedure to determine the apportionment.

2.2.4. Class A and B consumption to market participant

Distributor provides Class A and B consumption data to each Market Participant.

Format for data provision (unless otherwise agreed):

Column Name	Data Type	Mandatory/ Optional	Comment
MIRN	Alpha(10)	M	
Invoice_Number	Alpha(20)	M	
Transaction_Id	Alpha(17)	M	
Transaction_Date	Date(10)	M	
Adjustment_Indicator	Alpha(1)	M	C = Cancelled transaction R = Rebilled transaction N = New transaction

Column Name	Data Type	Mandatory/ Optional	Comment
Period	Alpha(6)	M	
Billing_Days	Numeric(3)	M	
Type_of_Read	Alpha(1)	M	A = Actual E = Estimated S = Substituted C = Customer own read
Consumption_MJ	Numeric(11)	M	
Current_Read_Date	Date(10)	M	
Previous_Read_Date	Date(10)	M	
Distributor_ID	Alpha(10)	M	
Network_Tariff_Code	Alpha(10)	M	
Current_NSL_Split	Numeric 18(9)	O	
Category	Alpha(1)	O	Category A, B, C, D, E, Z A – When the bill falls between Start date and End date of Review periods the complete bill is taken into consideration. B - When the bill starts before the start date and ends before the previous cut off date and the ends before the previous cut off date and the end date of the review periods the bill is issued before the previous cut off date; profile the bill from the start date of the review periods. C – When the bill starts after the start date of the review period and ends after end date of the review period but before the current cut off date the bill is issued before cut off date for the current review period; profile the bill to the end date of the review period E – When the bill is issued after the cut off date of the previous review period and before the cut off date of the current review period bill starts before the start date of the review period and ends before the end date of the review period; complete bill is taken into consideration Z – Captures billing which occurs after the previous cut off date. To capture late adjustments which continue to occur after reconciliation.

2.3. Agree Consumption Market Participant and Distributor

It is required to agree the consumption by Market Participants and the Distributors. Market Participants review the data they received from Distributors.

2.3.1. Review consumption

Market Participants review the consumption receives from Distributors.

Market Participants must review and agree on the consumption within 8 weeks.

2.3.2. Queries on data issues

Market Participants submit queries if they find any issues in the consumption data provided by Distributors.

Format used by Market Participants (unless otherwise agreed):

Column Name	Data Type	Mandatory/ Optional	Comment
MIRN	Alpha(10)	M	
Invoice Number	Alpha(20)	M	
Transaction_ID	Alpha(17)	M	
Transaction_Date	Date(10)	M	
Adjustment_Indicator	Alpha(1)	M	
Period	Alpha(6)	M	
Billing_Days	Numeric(3)	M	
Type_of_Read	Alpha(1)	M	
Consumption_MJ	Numeric(11)	M	
Current_Read_Date	Date(10)	M	
Previous_Read_Date	Date(10)	M	
Distributor_ID	Alpha(10)	M	
Network_Tariff_Code	Alpha(10)	M	
Current_NSL_Split	Numeric 18(9)	O	

Column Name	Data Type	Mandatory/ Optional	Comment
Category	Alpha(1)	O	Category A,B,C,D,E,Z A - When the bill falls between Start date and End date of Review periods the complete bill is taken into consideration. B - When the bill starts before the start date and ends before the previous cut off date and the end date of the review periods the bill is issued before the previous cut off date; profile the bill from the start date of the review periods. C - When the bill starts after the start date of the review period and ends after the end date of the review period but before the current cut off date the bill is issued before cut off date for the current review period; profile the bill to the end date of the review period. D - When the bill starts before the start date and ends after the end date but before the cut off date in the current review and the bill is issued before the cut off date of the current review period; profile the bill to the end date of the review period. E - When the bill is issued after the cut off date of the previous review period and before the cut off date of the current review period bill starts before the start date of the review period and ends before the end date of the review period; complete bill is taken into consideration. Z - Captures billing which occurs after the previous cut off date. To capture late adjustments which continue to occur after reconciliation.
Comments	Memo	M	Market participant's Comments on Data issues

2.3.3. Resolve data issues

Distributors attempt to resolve any data issues raised by Market Participants.

2.3.4. Dispute resolution

Disputes as to consumption data and reconciliation amounts will be "relevant disputes" within the meaning of rule 135F of the Rules and as such determined in accordance with Part 15C of the Rules.

2.3.5. Resolve disputes

Distributor resends the corrected data to the Market Participants.

2.3.6. Agree on consumption

Market Participants inform the Distributors that they agree on the consumption.

2.3.7. Advise AEMO on final consumption

Distributors and Market Participants send final consumption data to AEMO by Distributor by Market participant.

Format of final consumption advice (unless otherwise agreed):

Column Name	Data Type	Mandatory/ Optional	Comment
DUAFG_Period	Varchar(5)	M	yyyyA eg : 2015A, 2015B etc

Column Name	Data Type	Mandatory/ Optional	Comment
class_A_consumption	Numeric(11)	M	GJ
class_B_consumption	Numeric(11)	M	GJ
adj_prv_yr_class_A	Numeric(11)	M	GJ average adjustments (+ve or –ve) to previous year class A
adj_prv_yr_class_B	Numeric(11)	M	GJ average adjustments (+ve or –ve) to previous year class B
Adj_prv_yr_duafg_period	Varchar(5)	M	yyyyA DUAFG period to which adjustments apply eg : 2015A, 2015B etc

2.4. Determine Reconciliation Amounts

AEMO determines the reconciliation amounts based on the final consumption advised by Distributors.

Figure 4 Determine reconciliation amounts
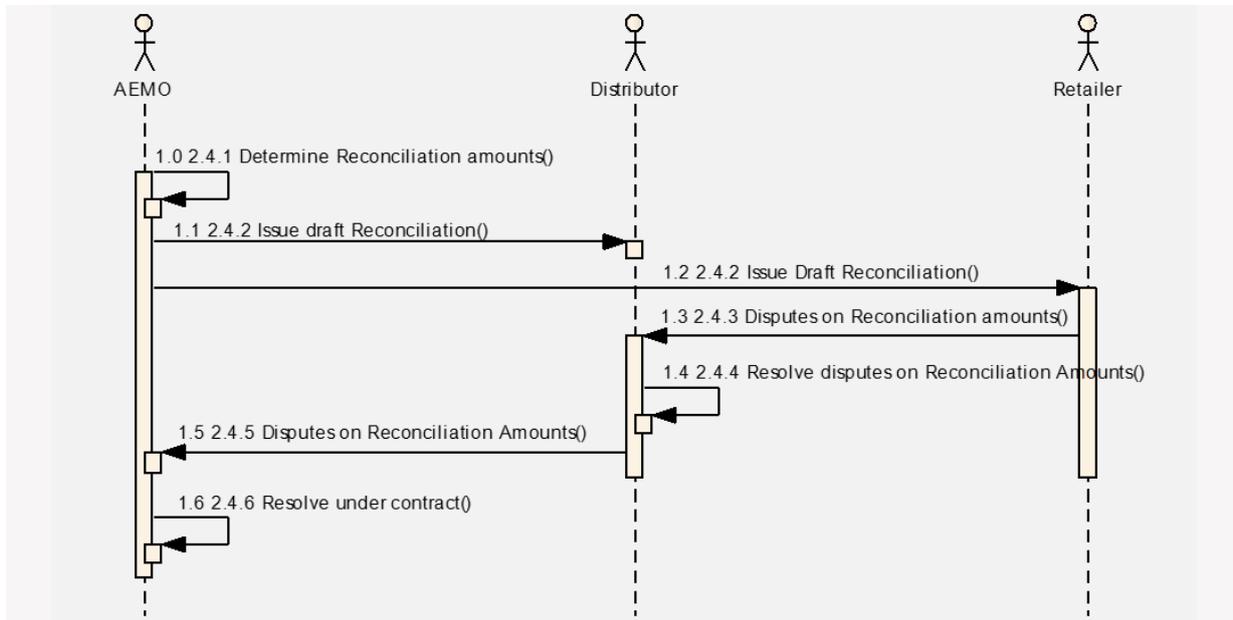
2.4.1. Determine reconciliation amounts

AEMO determines the reconciliation amounts based on the final consumption provided by Distributors.

See Appendix C for the formula applied to calculate the reconciliation amount.

Previous DUAFG period adjustments will be taken into account in the current DUAFG year. The price used for the adjustments will be the prices used in the previous DUAFG period.

- Adjustments will be done only for DUAFG periods in the immediately preceding DUAFG year
- AEMO will not consider any adjustments to the consumption data after M+118, unless it has a significant material impact

See Appendix D for the formula used to calculate the previous year adjustment.

2.4.2. Issue draft reconciliation

Once AEMO determines the reconciliation amount the draft statement is sent to Market Participants and Distributors.

2.4.3. Disputes on reconciliation amounts

Disputes as to consumption data and reconciliation amounts will be "relevant disputes" within the meaning of rule 135F of the Rules and as such determined in accordance with Part 15C of the Rules.

2.5. Pay Reconciliation Amounts

If there are no disputes on the reconciliation amounts produced as a draft, AEMO issues the final statement.

Figure 5 Pay reconciliation amounts
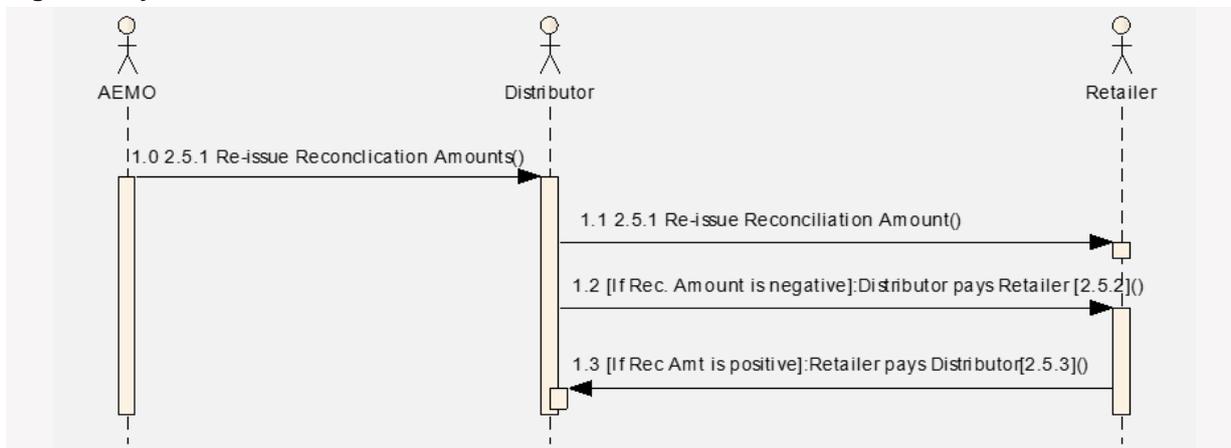
2.5.1. Re-issue reconciliation

Once both parties agreed on the draft reconciliation amount, AEMO issues the final reconciliation statement to Distributors and Market Participants.

See Appendix E: For the format of the reconciliation statement issued by AEMO.

2.5.2. Distributor pays market participant (Refer rule 317(3) of the Rules)

If the reconciliation amount is negative, the Distributor must pay the reconciliation amount to the Market Participants.

2.5.3. Market participant pays distributor (Refer rule 317(3) of the Rules)

If the reconciliation amount is positive the Market Participants must pay the reconciliation amount to the Distributor.

APPENDIX A.   IDENTIFYING METERS IN MIBB REPORTS

Basic meter withdrawals into a distribution area are profiled and allocated to each Market Participants and assigned to a logical meter. This information and the data for interval metered sites provided in INT254 are sufficient to determine the volume of gas withdrawn from the declared transmission system by Distributor by Market Participants. The profiled logical meters and interval meters are identified using the INT55a MIBB report as follows.

  a) profiled logical meter

   inject_withdraw = ”W”

   meter_type = ”LC”

   evp_name = ”Basic Meter Profiler”

   billing = ”Y”

  b) interval meters

   inject_withdraw = ”W”

   meter_type = ”PD”

   billing = ”Y”

Process and sample queries:

  1. Create two tables in a new MSAccess database:
     – meter_register with column names as per INT55a MIBB report
     – meter_data with column names as per INT254 MIBB report
  2. Import INT55a and INT254 MIBB reports into meter_register and meter_data tables respectively.
     Note import the dates as text.

Sample query for <u>Distributors</u> to obtain monthly withdrawals for each Market Participant:

   SELECT meter_register.fro_name, Month([meter_data]![gas_date]) AS [Month], Sum(meter_data.uafg_adj_energy_gj) AS CTM_Withdrawals

   FROM meter_data INNER JOIN meter_register ON (meter_data.gas_date = meter_register.gas_date) AND (meter_data.mirn = meter_register.mirn)

   WHERE meter_register.inject_withdraw="W" (And [meter_register].[mirn] Like "53*" Or [meter_register].[mirn] Like "3*LC" *Or [meter_register].[mirn] Like "52*" Or [meter_register].[mirn] Like "2*LC"*)

   GROUP BY meter_register.fro_name, Month([meter_data]![gas_date]);

Sample output if tables contain data for month of January and February:

fro_name	Month	CTM_Withdrawals
Market participant A	1	350000.000
Market participant B	1	300000.000
Market participant C	1	7000.000
Market participant A	2	250000.000
Market participant B	2	200000.000

fro_name	Month	CTM_Withdrawals
Market participant C	2	6000.000

Sample query for <u>Market Participants</u> to obtain monthly withdrawals for each Distributor:

SELECT [meter_register].[distributor_name], Month([meter_register]![gas_date]) AS Month, Sum([meter_data].[uafg_adj_energy_gj]) AS CTM_Withdrawals

FROM meter_data INNER JOIN meter_register ON ([meter_data].[gas_date]=[meter_register].[gas_date]) AND ([meter_data].[mirn]=[meter_register].[mirn])

WHERE [meter_register].[inject_withdraw]="W" And [meter_register].[distributor_name]<>"No Access" (And [meter_register].[mirn] Like "53*" Or [meter_register].[mirn] Like "3*LC" *Or [meter_register].[mirn] Like "52*" Or [meter_register].[mirn] Like "2*LC")*

GROUP BY [meter_register].[distributor_name], Month([meter_register]![gas_date]);

Sample Output if tables contain data for month of January and February:

| Distributor_name	Month	CTM_Withdrawals
Distributor A	1	350000.000
Distributor B	1	300000.000
Distributor C	1	7000.000
Distributor A	2	350000.000
Distributor B	2	300000.000
Distributor C	2	7000.000

If there are no flows to NSW the information in italics in the above queries is not required.

APPENDIX B. NSL APPORTIONMENT

B.1   Meter reading start time

Meter reads are assumed to start at the beginning of the gas day. This means that the last gas day of the meter reading period is the previous gas day, and the first gas day of the next reading period is gas day on which the meter reading was made.

Figure 6 Meter reading start time
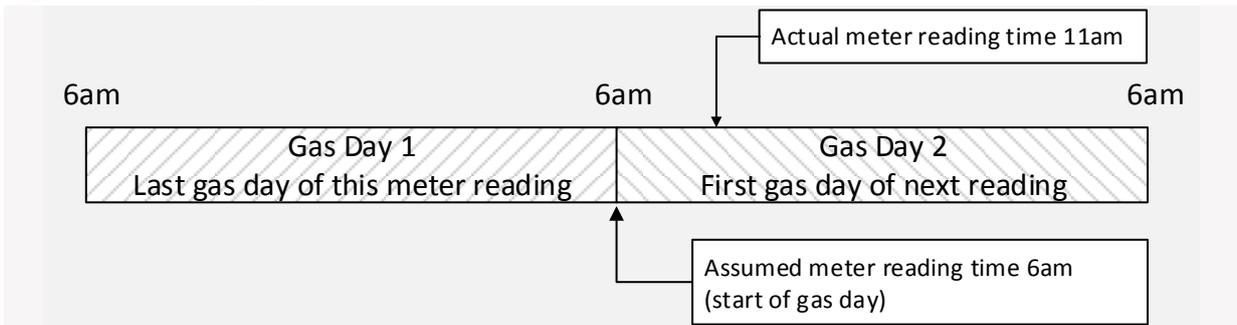
### B.2   Apportionment of meter readings across DUAFG periods

Meter readings that span a DUAFG period must be apportioned between the DUAFG periods as follows:

$$\text{Apportionment DUAFG period N} = \frac{\sum_{d=gas\ date\ from}^{d=last\ gas\ day\ in\ period} NSL_{d,DB} \times meter\ reading\ GJ}{\sum_{d=gas\ date\ from}^{d=gas\ date\ to} NSL_{d,DB}}$$

Apportionment DUAFG period N+1 = $meter\ reading - Apportionment\ DUAFG\ period\ N$

Note: Can be done individually or by summing all meter readings with the same gas date from and gas date to.

Figure 7 Apportionment between DUAFG periods
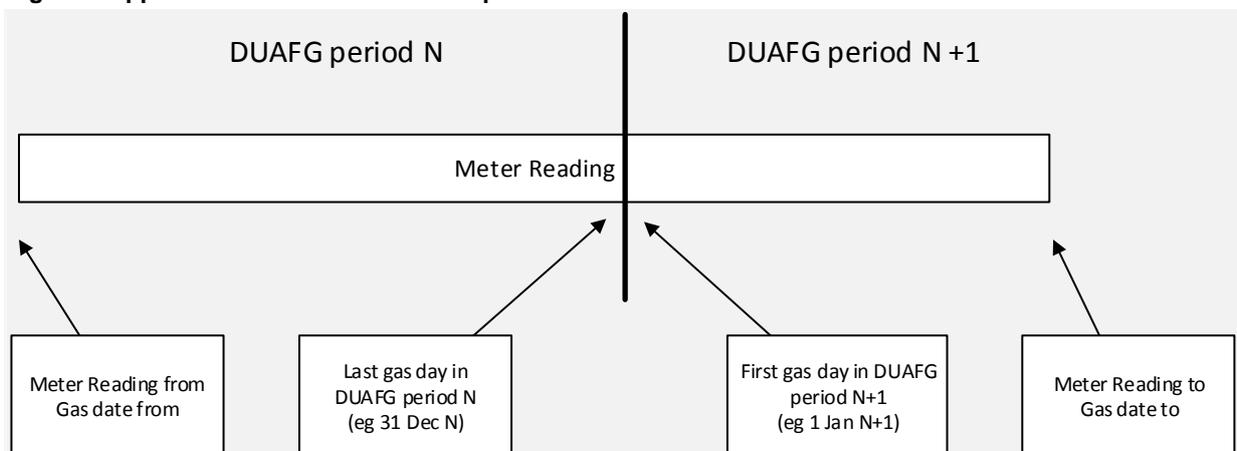
APPENDIX C. RECONCILIATION AMOUNT

The reconciliation amount for a DUAFG year is the sum of the reconciliation amounts for each of the DUAFG periods in that DUAFG year and any adjusted reconciliation amounts (determined under Appendix D) for a DUAFG periods in the previous DUAFG year.

The reconciliation amount for a DUAFG period is:

$(X + Y) \times (B - A)$

Where:

X	=	AVWMP as determined by AEMO under clause 2.1.1 for the DUAFG period, being the quantity determined for the purposes of the value of X in the 'Reconciliation Amount' formula in the Victorian Gas Distribution System Code;
Y	=	the average transmission tariff for the DUAFG period expressed in $ per gigajoule as calculated under the declared transmission system service provider's prevailing reference tariffs;
A	=	$D - (E/(1-G))$
D	=	Amount determined by AEMO for declared wholesale gas market settlement purposes as quantity of gas withdrawn from the declared transmission system by the Distributor for Market Participants at the connection points for the DUAFG period; A retrospective transfer does not impact accuracy of metering data
E	=	the quantity of gas withdrawn by Distributor for Market Participants at all Class A supply points for the DUAFG period as advised to AEMO under clause 2.3;
G	=	the unaccounted for gas benchmark for class A supply points for that DUAFG period;
B	=	$H/(1-F)$
H	=	the quantity of gas withdrawn by Distributor for Market Participants at all Class B supply points for the DUAFG period as advised to AEMO under clause 2.3;
F	=	the unaccounted for gas benchmark for class B supply points for that DUAFG period.

APPENDIX D.   PREVIOUS DUAFG PERIOD ADJUSTMENTS

The adjustment to a previous DUAFG period in the immediately preceding DUAFG year will be:

$(X + Y) * (B' - A')$

Where:

X	=	AVWMP as determined by AEMO under clause 2.1.1 for the DUAFG period, being the quantity determined for the purposes of the value of X in the 'Reconciliation Amount' formula in the Victorian Gas Distribution System Code;
Y	=	the average transmission tariff for the DUAFG period expressed in $ per gigajoule as calculated under the declared transmission system service provider's prevailing reference tariffs;
B'	=	$ADJ\_B / (1 - F)$
A'	=	$ADJ\_D - ADJ\_A / (1 - G)$
F	=	the unaccounted for gas benchmark for class B supply points for that DUAFG period.
G	=	the unaccounted for gas benchmark for class A supply points for that DUAFG period;
ADJ_B	=	adjustment (revised value – previous value) to class B consumption in DUAFG period in immediately preceding DUAFG year as advised by Distributor and agreed by Market Participant and provided to AEMO with consumption data for current DUAFG year
ADJ_A	=	adjustment (revised value – previous value) to class A consumption in DUAFG period in immediately preceding DUAFG year as advised by Distributor and agreed by Market Participant and provided to AEMO with consumption data for current DUAFG year
ADJ_D	=	adjustment (revised value – previous value) to amount determined by AEMO for declared wholesale gas market settlement purposes as quantity of gas withdrawn from the declared transmission system by the Distributor for Market Participants at the connection points for the DUAFG period in immediately preceding DUAFG year.