

WHOLESALE MARKET DISTRIBUTION UAFG PROCEDURES (VICTORIA)

PREPARED BY: Market Performance

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NGR 1.0	1 July 2010	Lu Jian Ping	New NGR Procedure
2.0	1 August 2012	Danny McGowan	Update procedure to include reference to “all” Market Participants (IN013/12)

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1. Introduction

Purpose

These are the Procedures made under Rule 317 of the National Gas Rules (Rules).

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.

Related documents

1. User guide to MIBB Reports.
2. Gas Distribution System Code made by the Victorian Essential Services Commission as amended from time to time¹.

Overview and structure of this document

This document highlights the information flow between the relevant parties and flow of events involved in the unaccounted for gas (“**UAFG**”) process. The information flows and each event are described using sequence diagrams. The data formats and formulas used to calculate the final UAFG amount are also described in this document.

In the event of conflict between these Procedures and the Rules, the Rules prevail.

Definitions

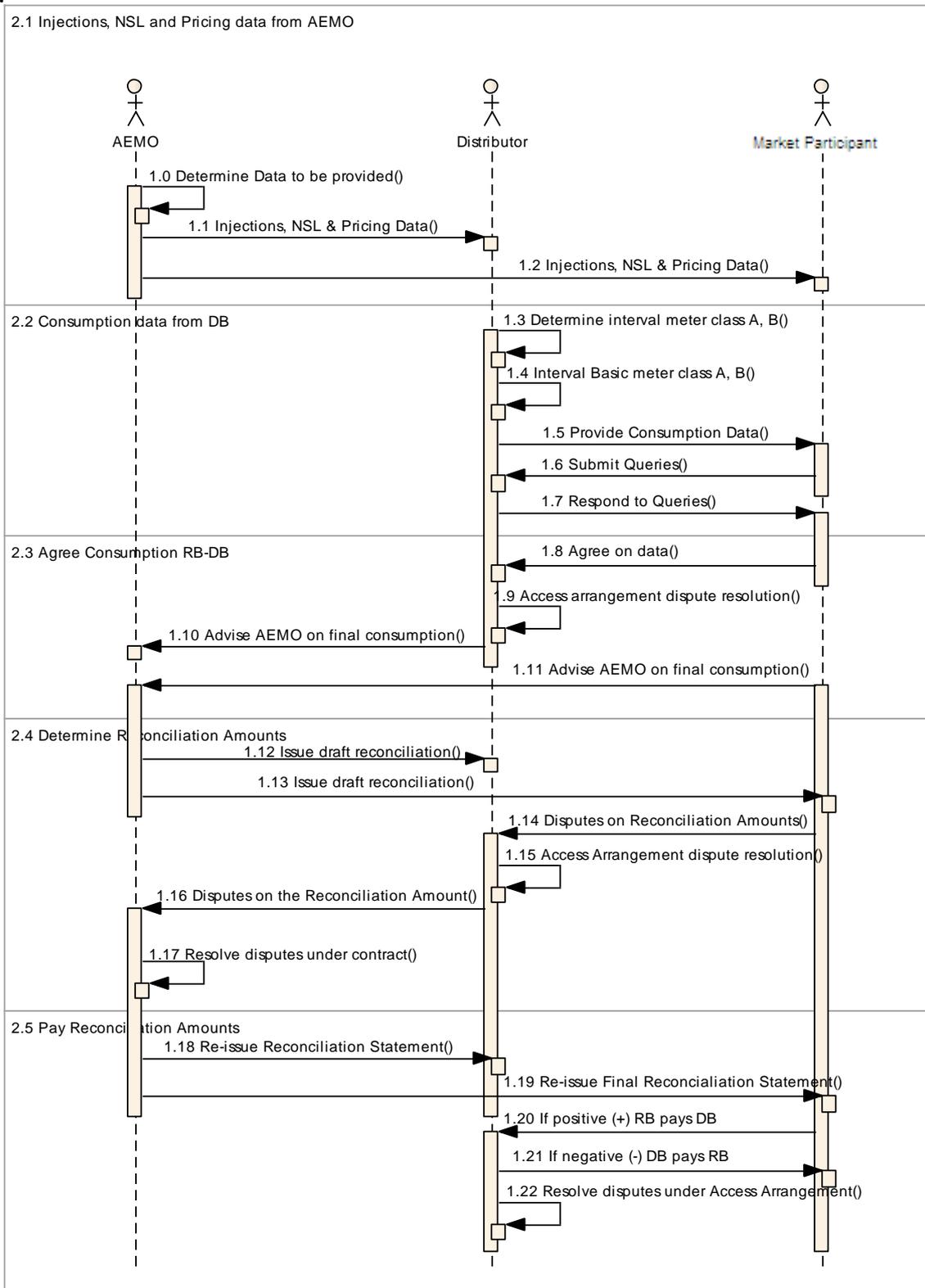
With the exception of terms defined below, terms defined in the National Gas Law and Part 19 of the Rules have the same meaning in these Procedures unless the context otherwise requires.

Market Participant means a registered participant registered in a registrable capacity in accordance with 135AB(4)(c) and 135AB(4)(d).

2. Overview of the UAFG process

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.

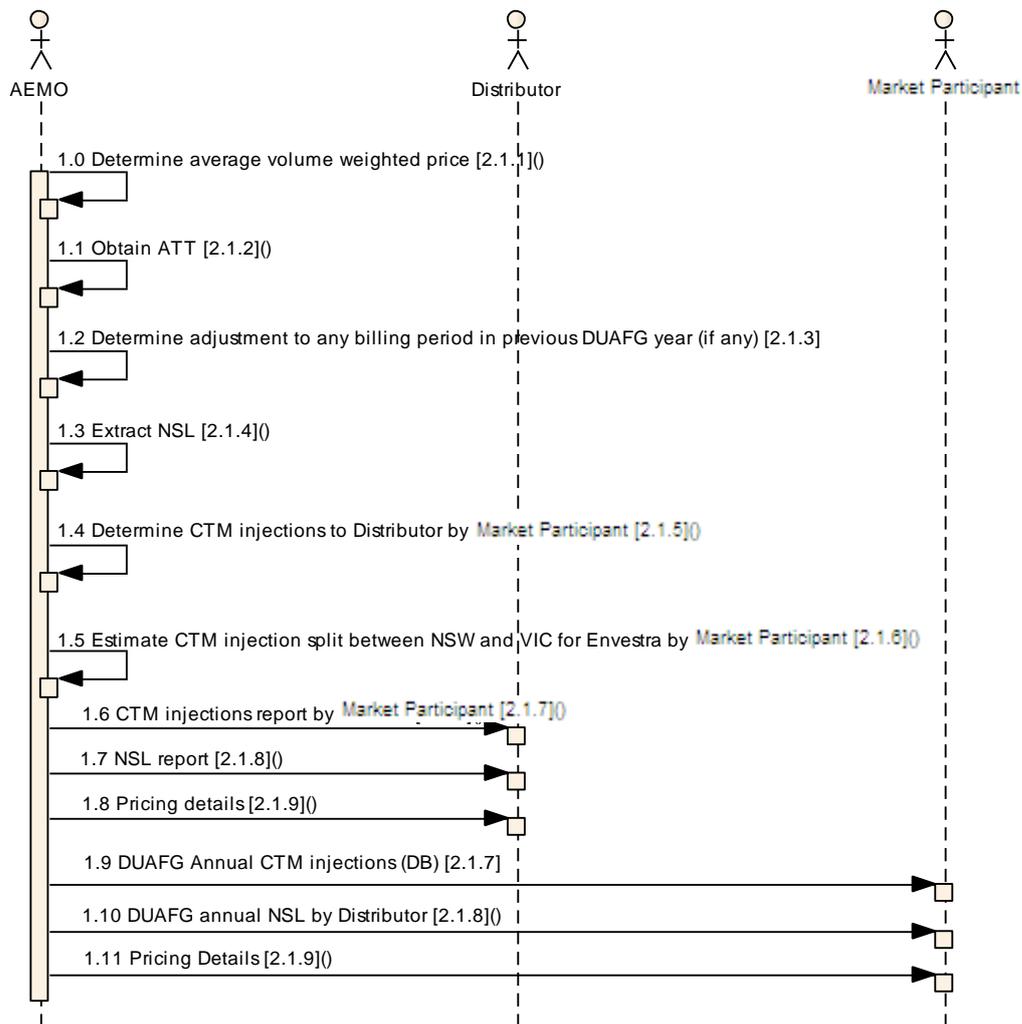
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Final

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.



2.1.1 Average Volume Weighted Market Price (“AVWMP”)

AEMO will determine the AVWMP in accordance with the following formula;

$$\sum_{D=1}^n (PS_D * VS_D + PC_D * VC_D)$$

$$\sum_{D=1}^n (VS_D + VC_D)$$

Where;

n = Days in DUAFG period

D = Gas day in DUAFG year

PS_D = Daily Market Price for gas day D \$/GJ

Up to and including 31 Jan 2007

- Price is ex post market price
- As published in MIBB report INT40

From 1 Feb 2007

- Price is imbalance & deviation weighted average daily price
- As published in MIBB report INT42

PC_D = CPI Adjusted contract price for the DUAFG period. The contract price of \$2.26 at November 1996 will be CPI adjusted from the Melbourne CPI.

VS_D = Custody transfer meter (“**CTM**”) injections from declared transmission system into all Distributors on gas day D as at the most recent revision (net of any withdrawals from Distributor to declared transmission system at bi-directional meters).

VC_D = Total daily volume of gas withdrawn from the declared transmission system by Distributor for Market Participants less VS_D .

2.1.2 Average transmission tariff (“ATT”)

Obtained from the declared transmission system service provider.

2.1.3 Determine CTM injection adjustments for previous DUAFG year

Where AEMO has issued a revised settlement for any billing period during the previous DUAFG year in accordance with Part 19 of the Rules, AEMO must determine the CTM injection adjustment to apply to the current DUAFG year.

2.1.4 Net System Load profile for DUAFG

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

2.1.5 CTM injection data for DUAFG year

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 year.

- 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 network² 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 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 Envestra 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;

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

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

Where;

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

² ie declared distribution system.

MP Inj Vic = CTM injections for a Market Participant in Victoria

MP Inj Nsw = CTM injections for a Market Participant in NSW

MP Total CTM = MP Total CTM injections in Envestra.

2.1.7 Produce CTM injection report

Format

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
duafig_period	Varchar(4)	PK	YYYY Current DUAFIG period
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	Numeric 18(9)		Injections by Distributor by State by Market Participant for current DUAFIG period (positive)
adj_inj_gj	Numeric 18(9)		Previous DUAFIG period (positive or negative)
Distributor_id	Integer	PK	
Distributor_name	Varchar(40)		
fro_id	Integer	PK	
fro_name	Varchar(40)		

Final

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
created_date	Varchar(20)		

2.1.8 Produce NSL report

Format

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
duafg_period	Varchar (4)	PK	YYYY Current DUAFG period
gas_date	Varchar (20)		
distributor_id	Integer	PK	
Distributor_name	Varchar (40)		
nsI_gj	Numeric 18(9)		
nsI_update	Numeric 18(9)		
created_date	Varchar (20)		

2.1.9 Produce pricing data report

Format

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
Duafg_period	Varchar(4)	PK	YYYY Current DUAFG period
avg_price_period	Varchar(7)		YYYY-MM

COLUMN NAME	DATA TYPE	PRIMARY KEY (PK)	COMMENTS
Att	Float	PK	Average transmission tariff
created_date	Varchar(20)		

2.1.10 Provide Injection, NSL & pricing data

Distributor receives:

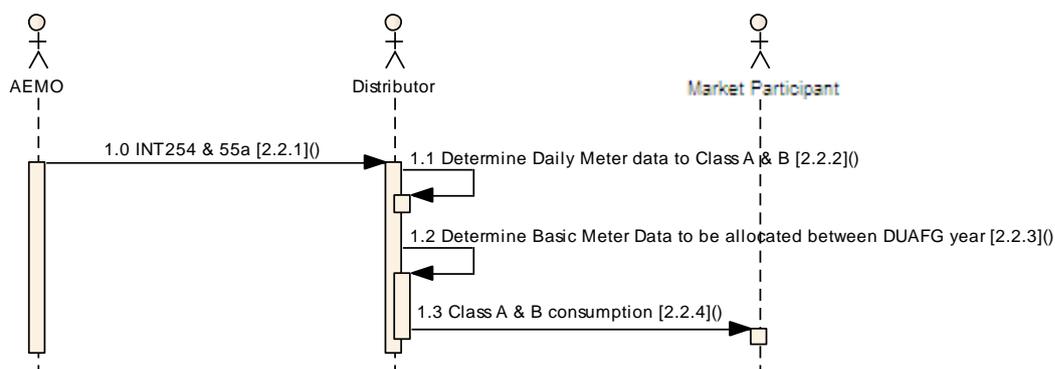
- CTM injection report where ab_id = company_id
- NSL report where db_id = company_id
- Pricing data report

Market Participant receives:

- CTM injection report where Fro_id = company_id
- NSL report – all
- Pricing 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.



Final

2.2.1 INT254 & INT55a³

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 & B DM data

For interval meters Distributors determine the class A & B consumption data using the above 2 MIBB reports, INT254 Metering Data Monthly (Billing meters only) & INT55a (Metering Registration Monthly Data – Billing Meters only) MIBB reports 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 year

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

See **Appendix B** for the Procedure to determine the apportionment.

2.2.4 Class A & B consumption to Market Participant

³ These are both MIBB reports.

Distributor sends Class A & B consumption to each Market Participant via CD.

Format:

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
NMI	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
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	

Final

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
Current_NSL_Split	Numeric 18(9)	O	
Category	Alpha(1)	O	<p>Category A, B, C, D, E, Z</p> <p>A – When the bill falls between Start date and End date of Review periods the complete bill is taken into consideration.</p> <p>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.</p> <p>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</p> <p>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</p> <p>Z – Captures billing which occurs after the previous cut off date. To capture late adjustments which continue to occur after reconciliation.</p>

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:

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
NMI	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	

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
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	<p>Category A,B,C,D,E,Z</p> <p>A - When the bill falls between Start date and End date of Review periods the complete bill is taken into consideration.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>

Final

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
Comments	Memo	M	<p>the end date of the review period; complete bill is taken into consideration.</p> <p>Z - Captures billing which occurs after the previous cut off date. To capture late adjustments which continue to occur after reconciliation.</p>
			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

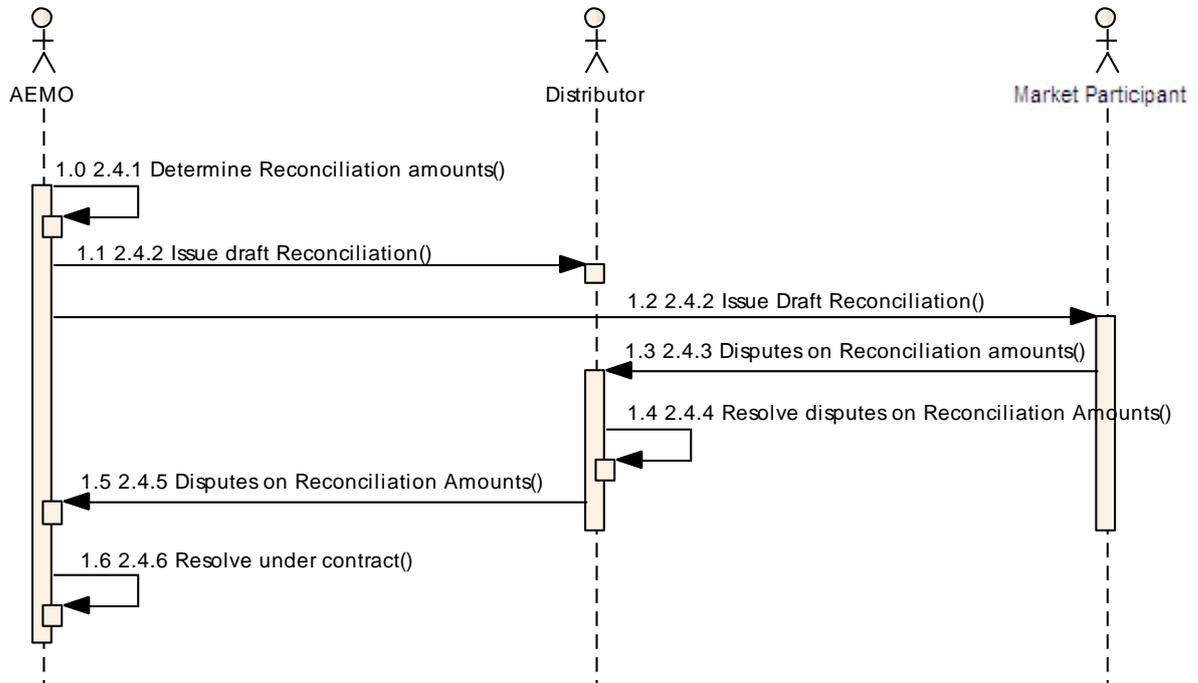
Distributors and Market Participants send final consumption data to AEMO by Distributor by Market Participant.

Format:

COLUMN NAME	DATA TYPE	MANDATORY/ OPTIONAL	COMMENT
DUAFG_Year	Alpha(4)	M	yyyy eg : 2006
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

2.4 Determine reconciliation amounts

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



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

- Adjustments will be done only for the previous 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

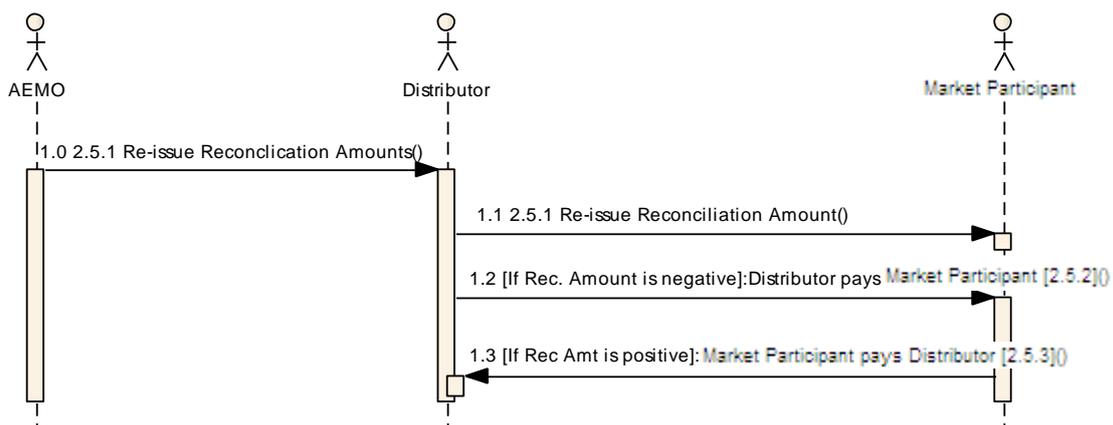
Once AEMO determines the reconciliation amount the draft statement is sent to Market Participants and Distributors.

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.



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

Basic meter withdrawals into a distribution area are profiled and allocated to each Market Participant 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 Participant. 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"
```

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 Distributors 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")

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
Market Participant C	2	6000.000

Sample query for Market Participants 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")
```

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

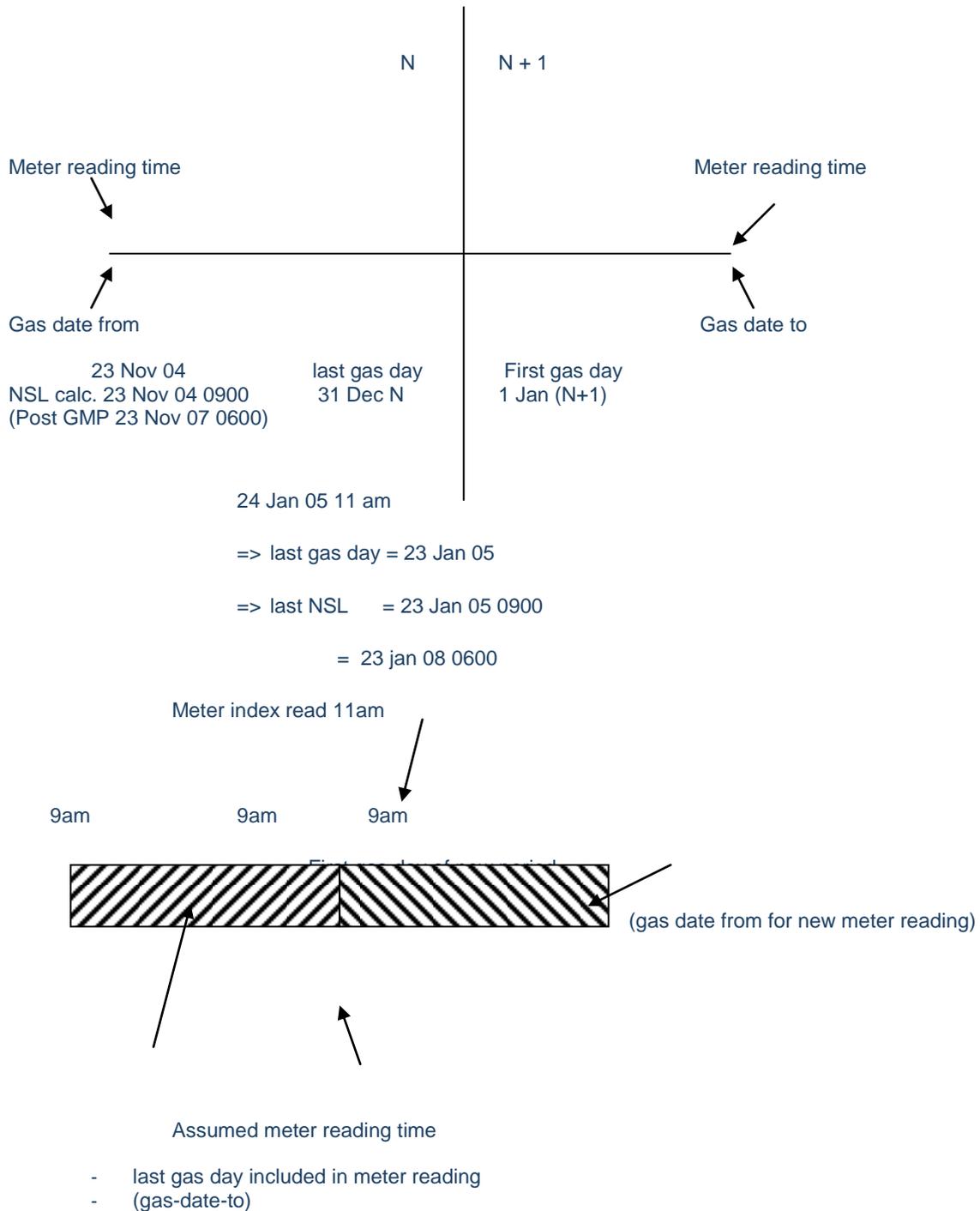
Sample Output if tables contain data for month of January and February:

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** is done as below;



Final

last gas day of period

Apportionment; $\sum \text{NSL}_{\text{DB}} * \text{Meter readings (GJ)}$

Year End

$\frac{\text{gas date from}}{\text{last gas day of period}}$

$\sum \text{NSL}_{\text{DB}}$

gas date from

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

Appendix – C

Reconciliation amount is;

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

Where:

X = the quantity of annual price of gas, using spot and contract prices and quantities, as determined by AEMO for the previous calendar year expressed in \$ per gigajoule;

Y = the average transmission tariff for the previous calendar year expressed in \$ per gigajoule as calculated under the declared transmission system service provider's prevailing reference tariffs;

$$A = D = (E/(1-G))$$

Where:

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 Participant* at the connection points for the previous calendar year;

E = the quantity of gas withdrawn by Distributor for Market Participants at all Class A supply points for the previous calendar year

$$B = H(1-F)$$

H = the quantity of gas withdrawn by Distributor for Market Participants at all Class B supply points for the previous calendar year

F = the benchmark flow rate for gas for class B supply points set out above

G = the benchmark flow rate of gas for class A supply points set out above

Appendix – D

Formula used for previous year adjustments;

Formula will be;

$$[(X + Y) * (B - A)]_N + [(X + Y) * (B' - A')]_{\text{year } N-1}$$

$$B' = \text{ADJ_B}_{N-1} / (1 - F)$$

$$A' = \text{ADJ_D}_{N-1} - \text{ADJ_A}_{N-1} / (1 - G)$$

ADJ_B_{N-1} = adjustment for class B in year (N-1) consumption as advised by Distributor & agreed by Market Participant with consumption data for year N

ADJ_A_{N-1} = adjustment for class A in year (N-1) consumption as advised by Distributor & agreed by Market Participant with consumption data for year N

ADJ_D_{N-1} = adjustment for year (N-1), amount determined by AEMO for declared wholesale gas market settlement purposes as quantity of gas withdrawn from the declared transmission system by Distributor for Market Participant at connection points for the previous calendar year

Appendix - E

Distributor: XYZ Networks (Gas) Pty Ltd

Market Participant: ABC Sales Pty Limited

State: Victoria

Unaccounted for Gas Calculation from 01-Jan-2004 to 31-Dec-2004

AEMO's calculation of UAFG and payment determination is as follows:

ITEM	PREVIOUS YEAR	ADJ PREV YEAR	CURRENT YEAR
$B=H/(1-F)$	105,263GJ		57,895GJ
$A=D-(E/(1-G))$	119,679GJ		64,859GJ
$B' = ADJ_B_{N-1}/(1-F)$		-842GJ	
$A' = ADJ_D_{N-1} - ADJ_A_{N-1}/(1-G)$		-800GJ	
Class B for Market Participant (H)	100,000GJ	- 800GJ	55,000GJ
Class A for Market Participant (E)	80,000GJ	- 200GJ	35,000GJ
CTM injections into Distribution (D)	200,000GJ	-1000GJ	100,000GJ
Business for Retail Business			
Actual UAFG (H+E)-D	-20,000GJ		-10,000GJ

Reconciliation Amount (X+Y)*(B-A)	(\$40,365)	(\$117)	(\$21,449)
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Reconciliation Amount for the Current Year $[(X + Y) * (B - A)]_N + [(X + Y) * (B' - A')]_{\text{year } N-1}$	(\$21,566)
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Notes :

Average Vol Weighted Spot Price Current Year	X	\$2.723337/GJ
Average Transmission Tariff Current Year	Y	\$0.356780/GJ
Average Vol Weighted Spot Price Prev Year	X	\$2.5/GJ
Average Transmission Tariff Prev Year	Y	\$0.30/GJ
Class B Benchmark Rate	F	5.00%
Class A Benchmark Rate	G	0.40%

Comments: