



**DESC 9<sup>th</sup> July 2018**

**Action: DESC0201 – Reconciliation Analysis**

# Background

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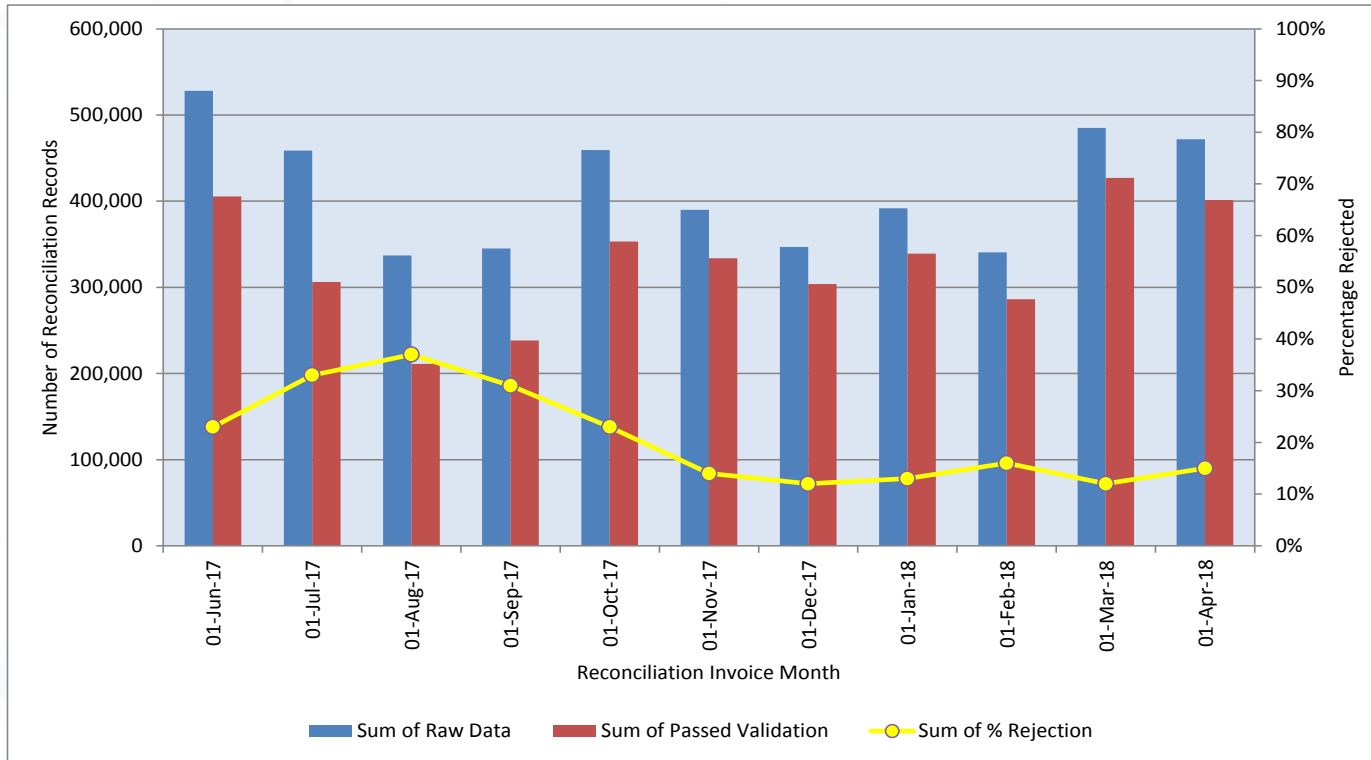
- At the DESC meeting on 13<sup>th</sup> February 2018, results of Reconciliation Analysis (Strand 4) was presented for Gas Year 2016/17.
  - Analysis was limited to the four months of June to September 2017 and was limited to Class 4 LSPs Reconciliations (c2.5 million variances) available at that time.
- An action (DESC0201) was raised for Xoserve to provide updated reconciliation analysis for SSPs and LSPs (any additional months).
- This updated analysis provides a revised assessment using Class 4 LSP Reconciliations available in June 2018 (c4.5 million variances).
- Xoserve are working on a solution to extract and report on SSP Reconciliation

# Strand 4 – Reconciliation Analysis: Approach

- The approach to this Reconciliation analysis is as follows:
- Compare deemed consumption (given by the NDM Demand Formula) with the measured consumption from available Reconciliations
  - Data available at the time of analysis (i.e. Reconciliation invoices issued for June'17 to April'18)
  - Analysis limited to Reconciliation Variances for the four months of June to September 2017 (i.e. any pre June'17 are ignored as they used the pre-Nexus algorithm)
- Rejection criteria applied prior to analysis to remove inappropriate or erroneous Reconciliation data
  - Negative and Zero actual consumption
  - Actual to Allocated ratio (i.e. 'Deemed > 2 x Actual' and 'Deemed < 0.5 Actual')
- Compare monthly % errors across the range of applicable EUCs
  - Positive errors denote over allocation and negative errors denote under allocation
  - Duration of the Reconciliations included in analysis will affect the perceived results

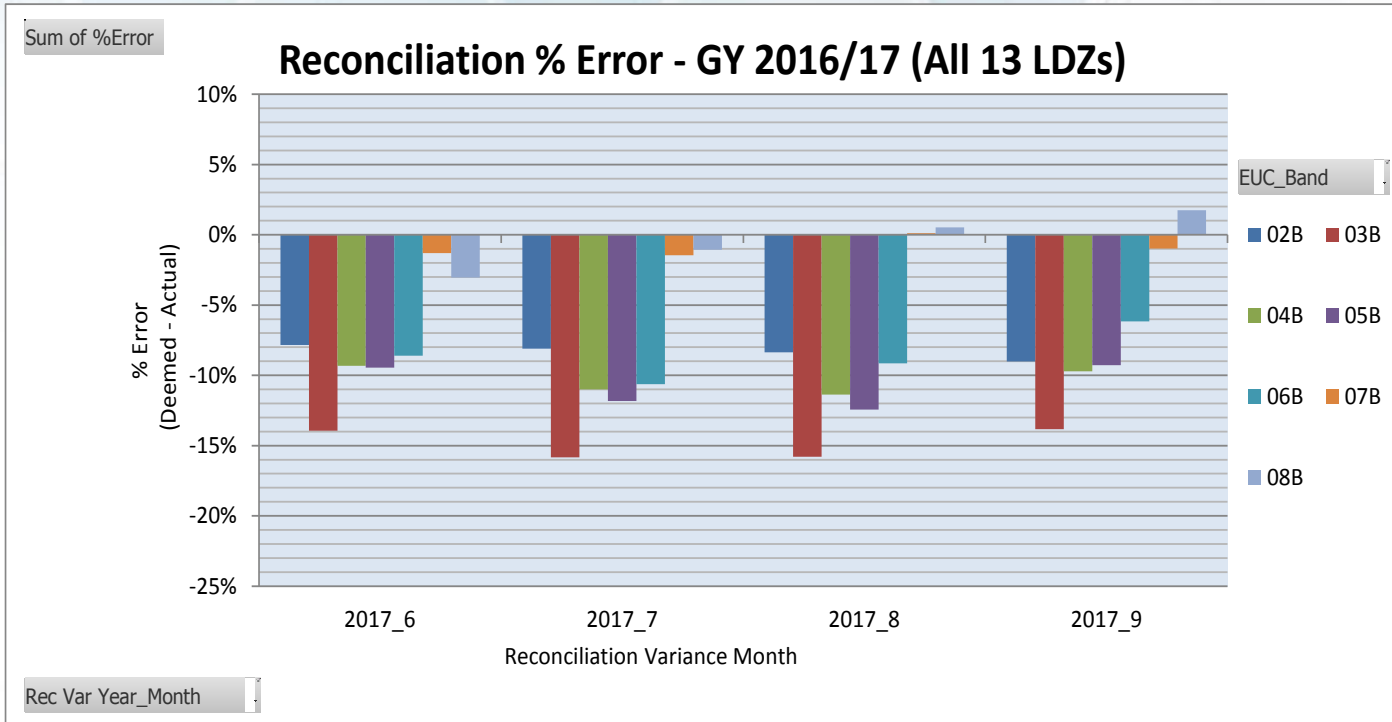
# Strand 4 – Reconciliation Analysis: Rejection Volumes

- Reconciliation variance can occur due to imperfections in the NDM Supply Meter Point Demand formula but other factors include erroneous AQs and incorrect Meter Reads
- Prior to analysis, screening attempts to remove Recs most likely affected by erroneous data



Rejection Category	Records	Rejection %
Class 1 or 2	230,926	4.8%
AQ <= 3	8,833	0.2%
Actual < 0	20,703	0.4%
Actual = 0	131,570	2.7%
Deemed > 2 x Actual Demand	558,570	11.7%
Deemed < 1/2 x Actual Demand	229,899	4.8%

# Strand 4 – Reconciliation Analysis: B Band Comparison

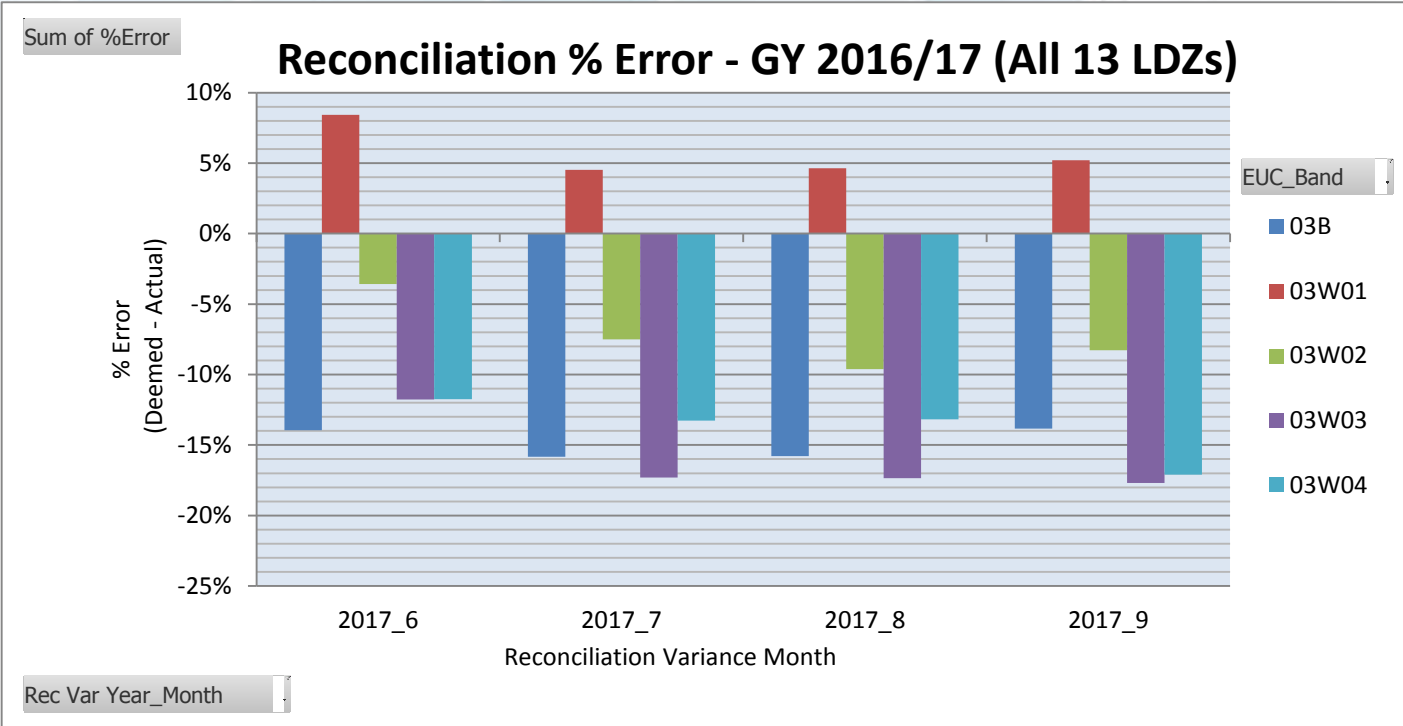


% Error Range (all days)		
Band	Min	Max
02B	-9.0%	-7.8%
03B	-15.8%	-13.8%
04B	-11.4%	-9.3%
05B	-12.4%	-9.3%
06B	-10.6%	-6.2%
07B	-1.4%	0.1%
08B	-3.1%	1.7%

- B Band analysis shows a strong dominance of under allocation by the NDM algorithm (except for Band 08B in June & July'17)

Rec Duration in Days	02B	03B	04B	05B	06B	07B	08B
<31 days	28%	39%	40%	35%	29%	26%	17%
31 to 180	53%	53%	51%	53%	53%	47%	60%
181 to 365	15%	6%	6%	8%	12%	19%	18%
>365	4%	2%	3%	5%	5%	9%	5%

# Strand 4 – Reconciliation Analysis: WAR Bands (Band 03)

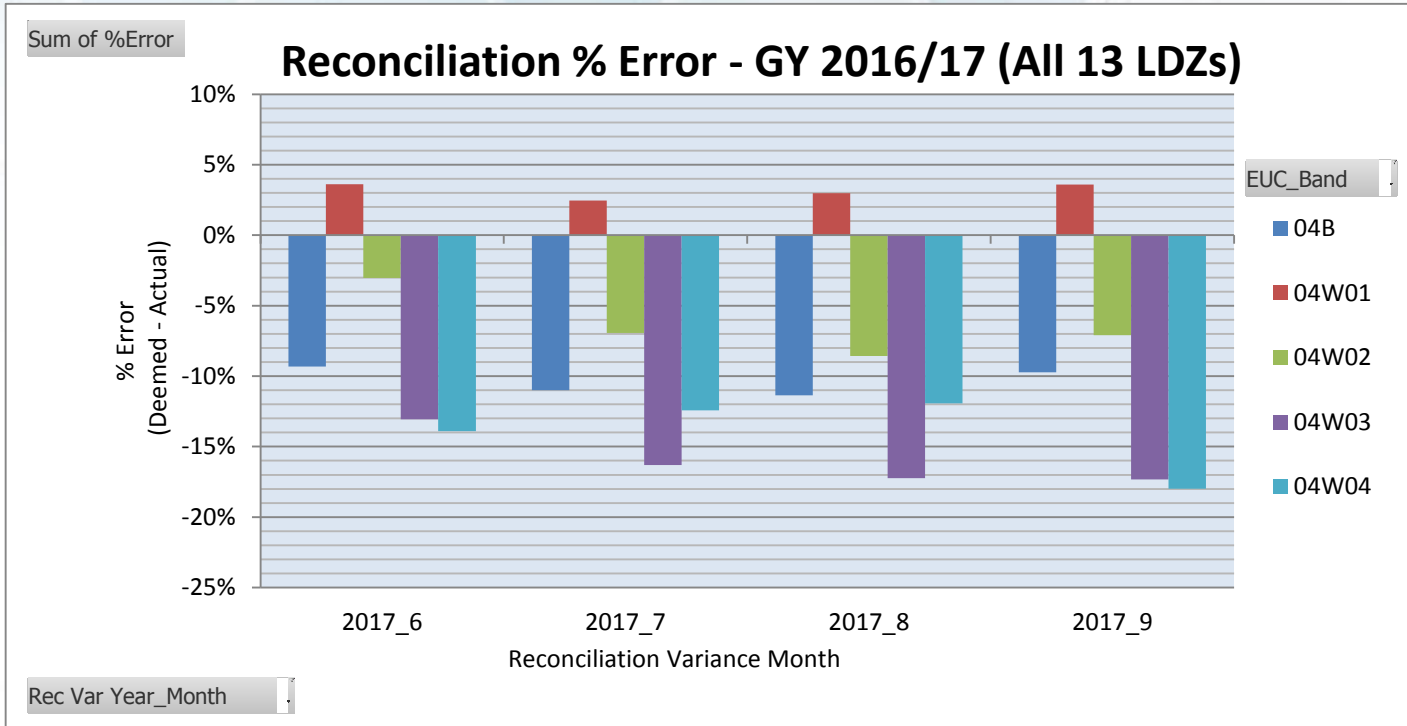


% Error Range (all days)		
Band	Min	Max
03B	-15.8%	-13.8%
03W01	4.5%	8.4%
03W02	-9.6%	-3.6%
03W03	-17.7%	-11.8%
03W04	-17.1%	-11.8%

- Band 03 WAR analysis shows under allocation in each of the four months with the exception of WAR Band 01
- 03B % error included for comparison

Rec Duration in Days	03B	03W01	03W02	03W03	03W04
<31 days	39%	51%	49%	49%	48%
31 to 180	53%	47%	49%	49%	49%
181 to 365	6%	2%	2%	2%	3%
>365	2%	0%	0%	0%	0%

# Strand 4 – Reconciliation Analysis: WAR Bands (Band 04)

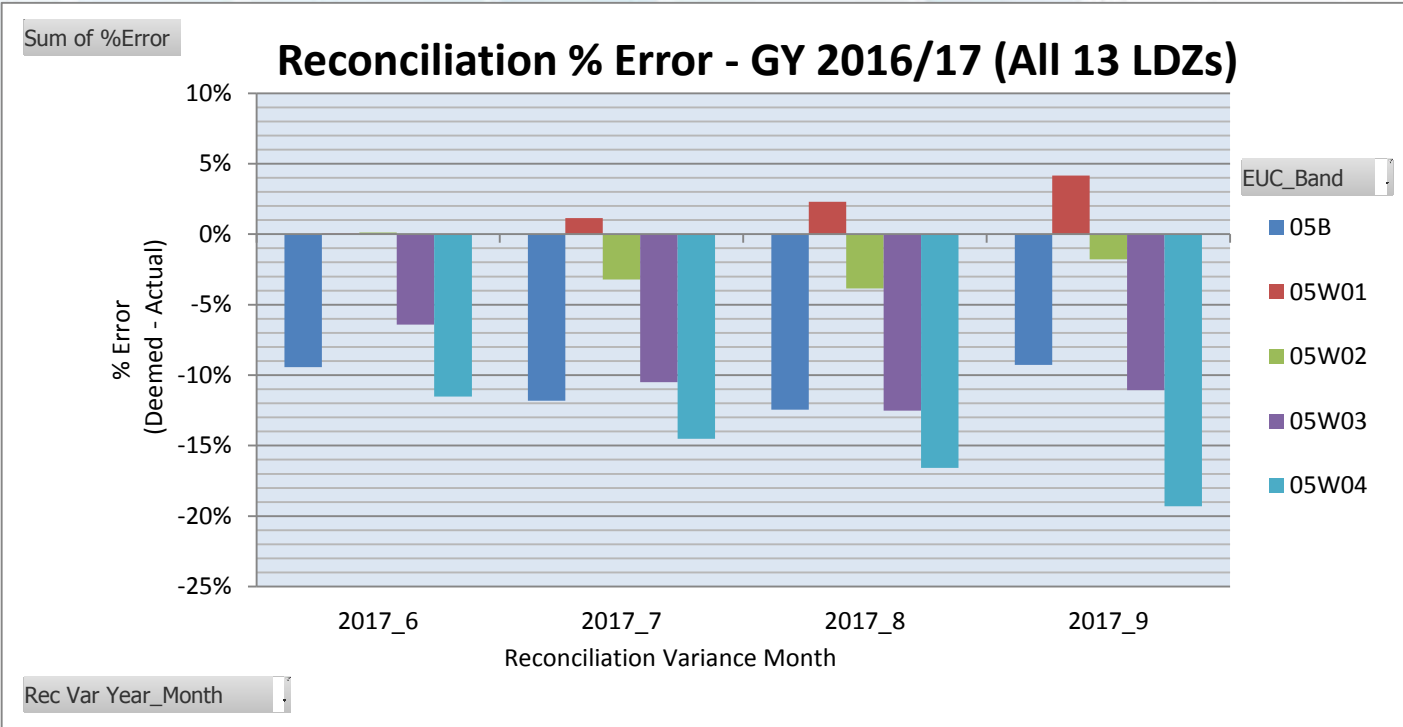


% Error Range (all days)		
Band	Min	Max
04B	-11.4%	-9.3%
04W01	2.5%	3.6%
04W02	-8.6%	-3.0%
04W03	-17.3%	-13.1%
04W04	-18.0%	-11.9%

- Band 04 WAR analysis shows under allocation with the exception of WAR Band 01
- 04B % error included for comparison

Rec Duration in Days	04B	04W01	04W02	04W03	04W04
<31 days	40%	56%	51%	49%	49%
31 to 180	51%	42%	47%	49%	48%
181 to 365	6%	2%	2%	2%	3%
>365	3%	0%	0%	0%	0%

# Strand 4 – Reconciliation Analysis: WAR Bands (Band 05)



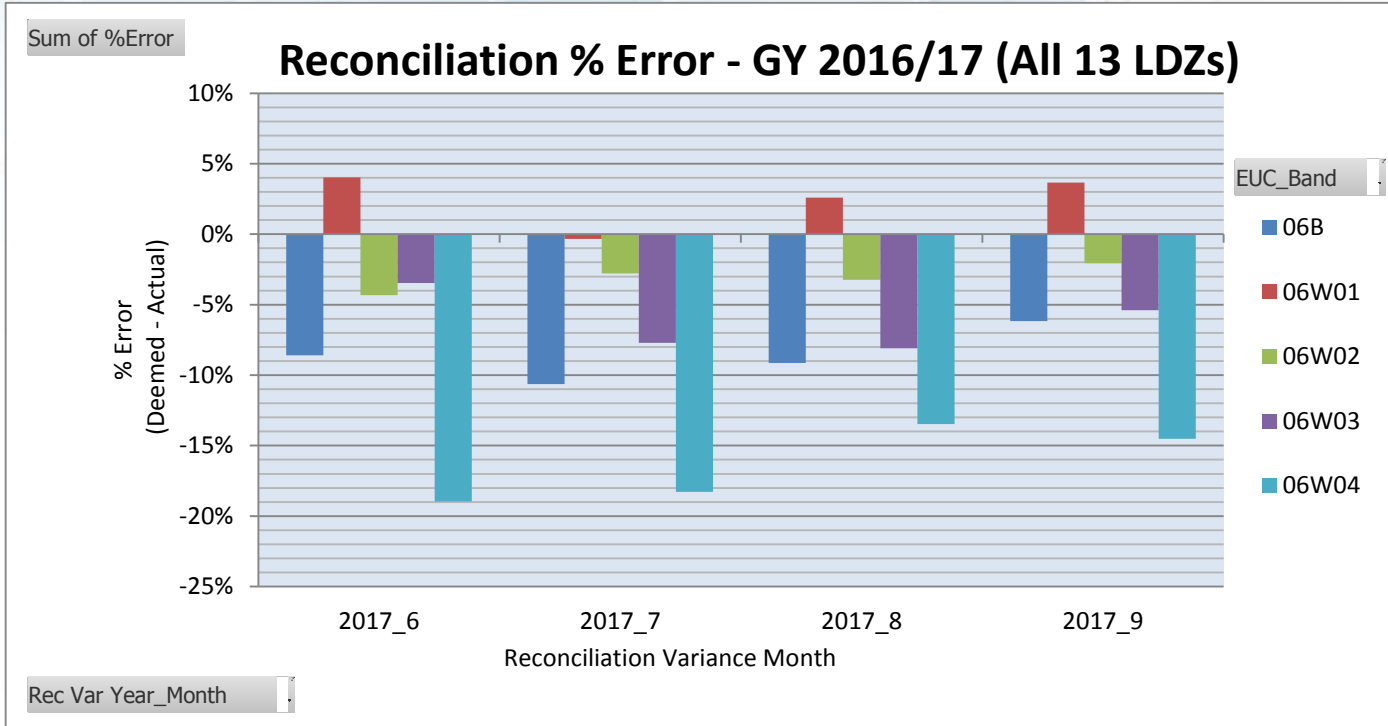
% Error Range (all days)		
Band	Min	Max
05B	-12.4%	-9.3%
05W01	0.0%	4.2%
05W02	-3.8%	0.1%
05W03	-12.5%	-6.4%
05W04	-19.3%	-11.5%

- Band 05 WAR analysis shows under allocation from June to September'17 with the exception of WAR Band 01 and WAR Band 02 in June'17

Rec Duration in Days	05B	05W01	05W02	05W03	05W04
<31 days	35%	57%	52%	49%	48%
31 to 180	53%	40%	45%	48%	47%
181 to 365	8%	3%	3%	3%	5%
>365	5%	0%	0%	0%	0%



# Strand 4 – Reconciliation Analysis: WAR Bands (Band 06)

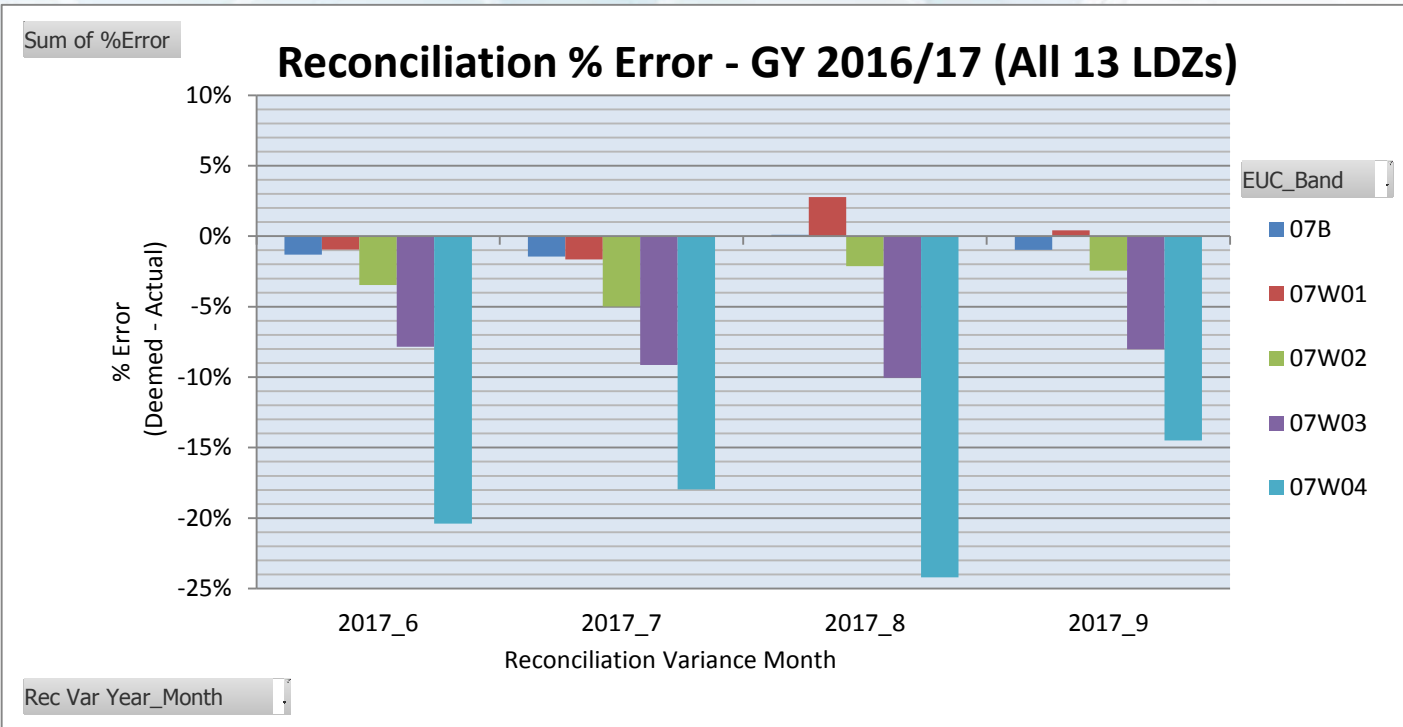


% Error Range (all days)		
Band	Min	Max
06B	-10.6%	-6.2%
06W01	-0.3%	4.0%
06W02	-4.3%	-2.1%
06W03	-8.1%	-3.5%
06W04	-19.0%	-13.5%

- Band 06 WAR analysis shows under allocation with the exception of WAR Band 01 in Jun'17, Aug'17 & Sep'17
- 06B % error included for comparison

Rec Duration in Days	06B	06W01	06W02	06W03	06W04
<31 days	29%	58%	58%	50%	44%
31 to 180	53%	39%	37%	44%	48%
181 to 365	12%	3%	5%	6%	8%
>365	5%	0%	0%	0%	0%

# Strand 4 – Reconciliation Analysis: WAR Bands (Band 07)

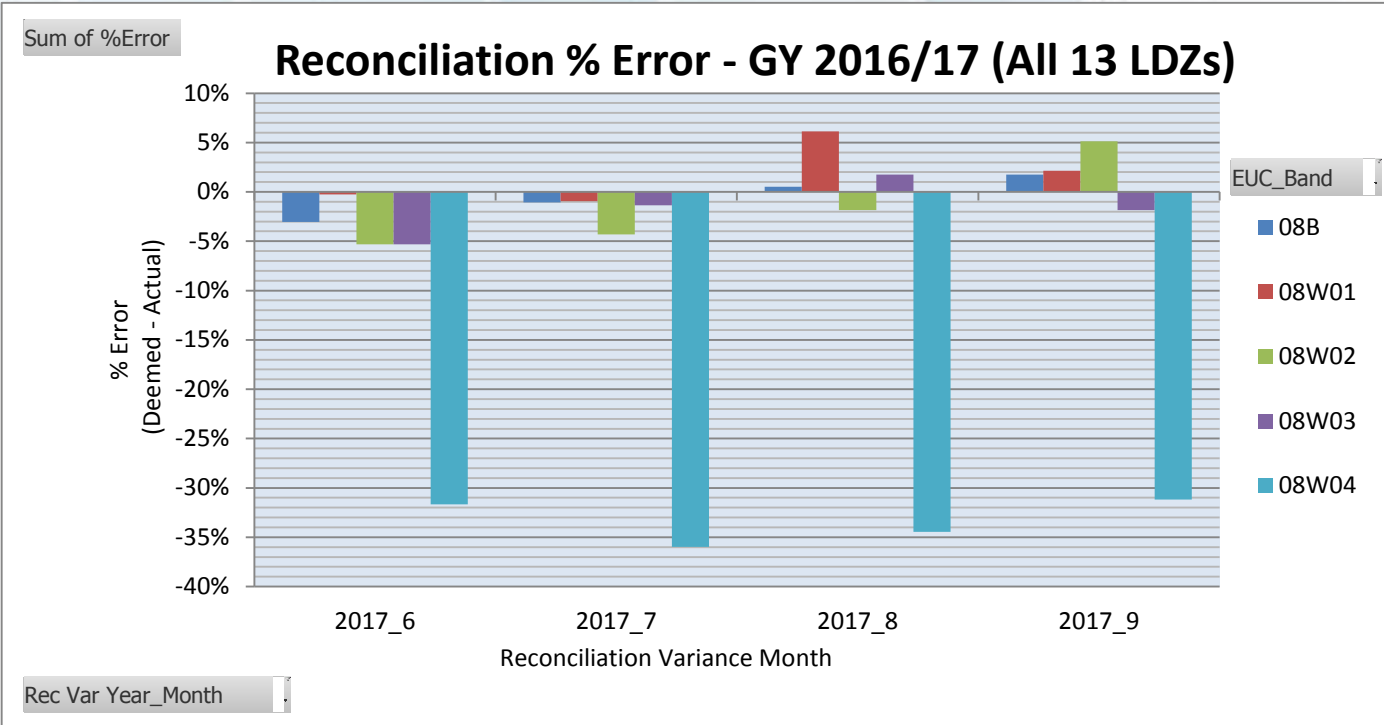


% Error Range (all days)		
Band	Min	Max
07B	-1.4%	0.1%
07W01	-1.7%	2.8%
07W02	-5.0%	-2.1%
07W03	-10.0%	-7.9%
07W04	-24.2%	-14.5%

- Band 07 WAR analysis shows under allocation with the exception of WAR Band 01 in Aug'17 & Sep'17
- 07B % error included for comparison

Rec Duration in Days	07B	07W01	07W02	07W03	07W04
<31 days	26%	56%	58%	49%	40%
31 to 180	47%	38%	37%	45%	49%
181 to 365	19%	6%	5%	5%	10%
>365	9%	0%	0%	0%	1%

# Strand 4 – Reconciliation Analysis: WAR Bands (Band 08)



% Error Range (all days)		
Band	Min	Max
08B	-3.1%	1.7%
08W01	-1.0%	6.1%
08W02	-5.3%	5.1%
08W03	-5.3%	1.8%
08W04	-36.0%	-31.2%

- Band 08 WAR analysis shows under allocation with the exception of WAR Band 01 in Aug'17 & Sep'17, WAR Band 02 in Sep'17 and WAR Band 03 in Aug'17

Rec Duration in Days	08B	08W01	08W02	08W03	08W04
<31 days	17%	51%	53%	47%	32%
31 to 180	60%	39%	41%	45%	60%
181 to 365	18%	10%	6%	7%	8%
>365	5%	0%	0%	1%	0%

# Strand 4 – Reconciliation Analysis: Conclusions

Conclusions of this updated analysis:

- Bucket band (02B to 08B) analysis shows a clear tendency for the NDM Algorithm to under allocate during the months of June to September'17 (the exception being in Band 07B and 08B). It must be noted that, since analysis for gas year 2016/17 is limited to only four summer months, it is too soon to draw conclusions as to whether these NDM profiles are too peaky (i.e. over allocate in winter and under allocate in summer) or whether AQs are in fact understated
- WAR Band 1 (in most cases) shows smaller errors across Bands 03 to 08 than WAR Bands 2, 3 and 4 (most likely due to this band being less weather sensitive – i.e. more predictable)
- WAR Band 1 analysis across Bands 03 to 08 suggests that the NDM Algorithm has a tendency to slightly over allocate during the months of June to September'17
- In contrast, analysis of WAR Bands 2, 3 & 4 across Bands 03 to 08 shows under allocation by the NDM Algorithm in all but three month/band combination during the months of June to September'17

## Strand 4 – Reconciliation Analysis: Conclusions

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- Overall, this updated assessment shows very similar results to the original assessment presented in February'18, with % error changes across all EUC / Rec Variance Month combinations ranging from -3.2% (in Band 08B for June'17) and +6.3% (in Band 08B for August'17)
- Results of this updated Reconciliation Analysis have been included in Section 12 of the latest 'NDM Algorithms Booklet', available from the UKLink Secure website (Folder 18 / 2018-19 Gas Year / 4. NDM Algorithms booklet)