



DESC Technical Workgroup

Yeovilton Weather Station

23rd April 2019

Background

- DESC agreed on 5th September 2018 that Yeovilton weather station should replace Filton for SW LDZ. Until we are ready to re-optimize SW with raw Yeovilton weather data, we needed to 'mimic' Filton the best we could
- WSSM document provides an approach for this which involves calculating 'bias adjustments'. These were presented to DESC and they approved their use from 1st October 2018
- From Gas Day 1st October 2018 the DN's Weather Service Provider (WSP) have been applying the values and sending them for use in the calculation of CWV
- Last week, following a conversation with the WSP we discovered that the table we provided to them was incorrect

Bias Adjustment Mistake

Temperature: FIL vs YEO				
Month	Afternoon	Evening	Morning	Night
Jan	0.44	-0.05	-0.05	-0.07
Feb	0.70	-0.02	0.14	-0.09
Mar	0.25	-0.17	-0.03	-0.41
Apr	0.01	-0.47	-0.50	-1.17
May	-0.14	-0.37	-0.18	-0.78
Jun	0.06	-0.21	-0.18	-0.89
Jul	0.11	-0.05	-0.10	-0.72
Aug	0.52	-0.20	-0.12	-0.72
Sep	0.25	-0.14	-0.24	-0.54
Oct	0.40	-0.45	-0.27	-0.81
Nov	0.28	-0.32	-0.31	-0.49
Dec	0.36	0.22	0.11	0.11
Overall	0.27	-0.19	-0.14	-0.55
Wind Speed: FIL vs YEO				
	Afternoon	Evening	Morning	Night
Overall	0	0	0	-1

Temperature Bias Adjustments (given to Meteo)				
	Timeslot			
Month	Night	Morning	Afternoon	Evening
1	0.44	-0.05	-0.05	-0.07
2	0.70	-0.02	0.14	-0.09
3	0.25	-0.17	-0.03	-0.41
4	0.01	-0.47	-0.50	-1.17
5	-0.14	-0.37	-0.18	-0.78
6	0.06	-0.21	-0.18	-0.89
7	0.11	-0.05	-0.10	-0.72
8	0.52	-0.20	-0.12	-0.72
9	0.25	-0.14	-0.24	-0.54
10	0.40	-0.45	-0.27	-0.81
11	0.28	-0.32	-0.31	-0.49
12	0.36	0.22	0.11	0.11
Wind Speed Bias Adjustments (given to Meteo)				
	Timeslot			
	Night	Morning	Afternoon	Evening
Overall	0	0	0	-1

Bias Adjustment Summary

Temperature Bias Adjustments (given to Meteo)				
	Timeslot			
Month	Night	Morning	Afternoon	Evening
1	0.44	-0.05	-0.05	-0.07
2	0.70	-0.02	0.14	-0.09
3	0.25	-0.17	-0.03	-0.41
4	0.01	-0.47	-0.50	-1.17
5	-0.14	-0.37	-0.18	-0.78
6	0.06	-0.21	-0.18	-0.89
7	0.11	-0.05	-0.10	-0.72
8	0.52	-0.20	-0.12	-0.72
9	0.25	-0.14	-0.24	-0.54
10	0.40	-0.45	-0.27	-0.81
11	0.28	-0.32	-0.31	-0.49
12	0.36	0.22	0.11	0.11

Temperature Bias Adjustments (Correct)				
	Timeslot			
Month	Night	Morning	Afternoon	Evening
1	-0.07	-0.05	0.44	-0.05
2	-0.09	0.14	0.70	-0.02
3	-0.41	-0.03	0.25	-0.17
4	-1.17	-0.50	0.01	-0.47
5	-0.78	-0.18	-0.14	-0.37
6	-0.89	-0.18	0.06	-0.21
7	-0.72	-0.10	0.11	-0.05
8	-0.72	-0.12	0.52	-0.20
9	-0.54	-0.24	0.25	-0.14
10	-0.81	-0.27	0.40	-0.45
11	-0.49	-0.31	0.28	-0.32
12	0.11	0.11	0.36	0.22

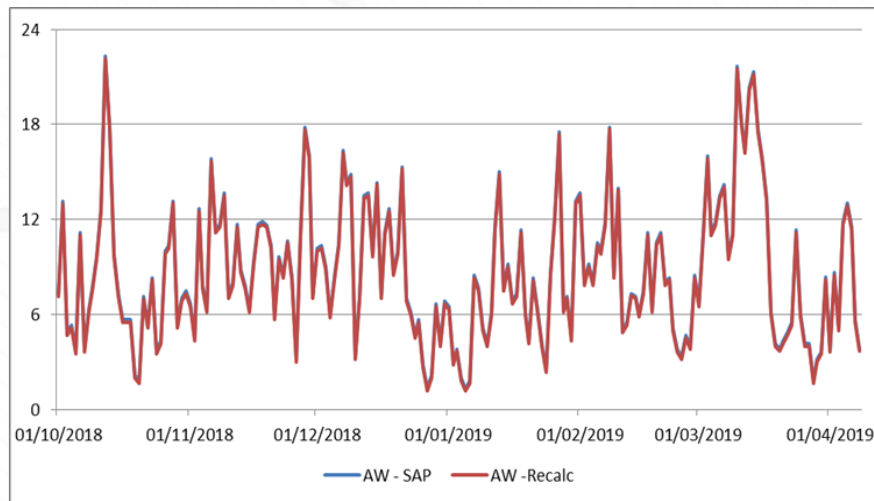
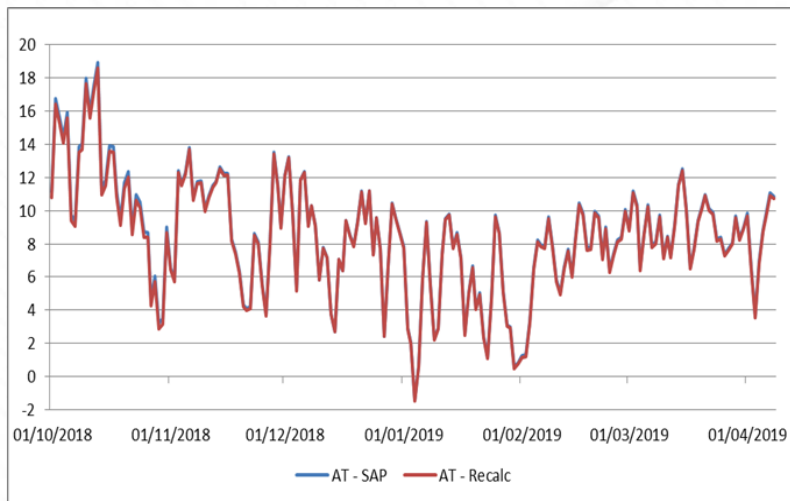
Differences				
	Timeslot			
Month	Night	Morning	Afternoon	Evening
1	0.51	0.00	-0.49	-0.02
2	0.79	-0.16	-0.56	-0.07
3	0.66	-0.14	-0.28	-0.24
4	1.18	0.03	-0.51	-0.70
5	0.64	-0.19	-0.04	-0.41
6	0.95	-0.03	-0.24	-0.68
7	0.83	0.05	-0.21	-0.67
8	1.24	-0.08	-0.64	-0.52
9	0.79	0.10	-0.49	-0.40
10	1.21	-0.18	-0.67	-0.36
11	0.77	-0.01	-0.59	-0.17
12	0.25	0.11	-0.25	-0.11

Wind Speed Bias Adjustments (given to Meteo)				
	Timeslot			
	Night	Morning	Afternoon	Evening
Overall	0	0	0	-1

Wind Speed Bias Adjustments (correct)				
	Timeslot			
	Night	Morning	Afternoon	Evening
Overall	-1	0	0	0

Wind Speed Bias Adjustments				
	Timeslot			
	Night	Morning	Afternoon	Evening
Overall	1	0	0	-1

Daily Weighted Temperature / Wind



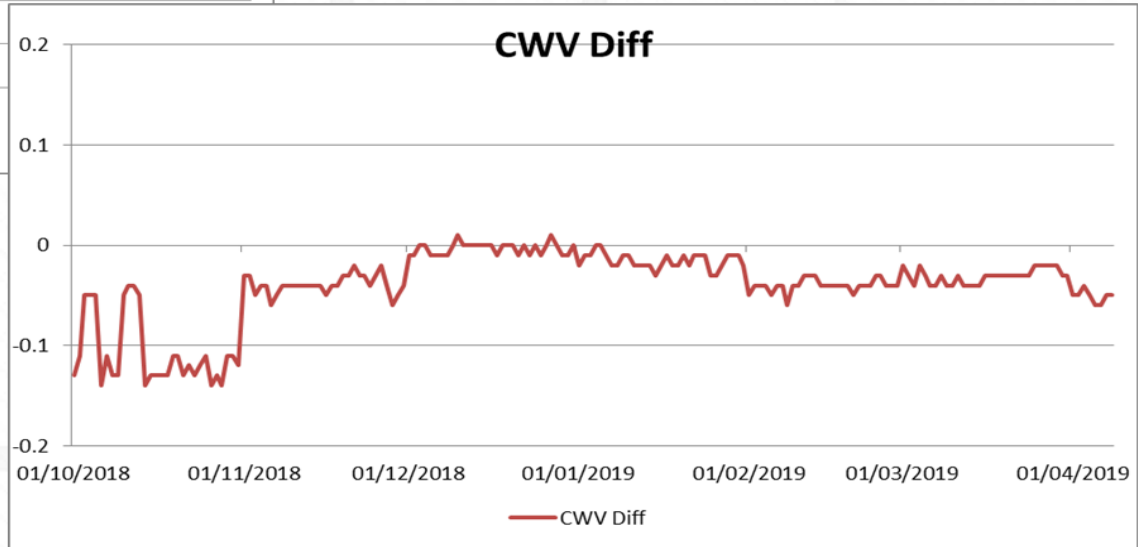
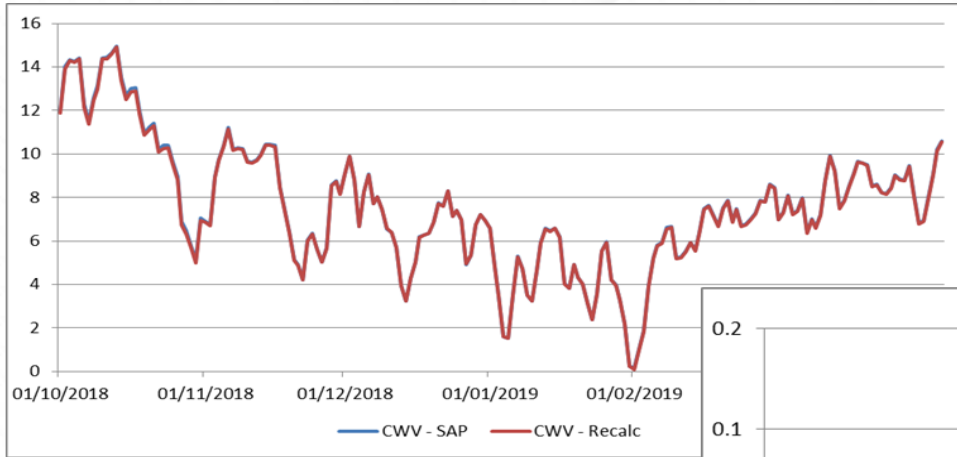
Temps should all have been lower
i.e colder

Consistent difference every day of month

Wind should all have been less windy

Row Labels	Average of AT Diff	Average of AW Diff
1	-0.074174727	-0.167
2	-0.116368414	-0.167
3	-0.086135773	-0.167
4	-0.144249997	-0.167
10	-0.326784949	-0.167
11	-0.106736116	-0.167
12	-0.032860207	-0.167
Grand Total	-0.124910655	-0.167

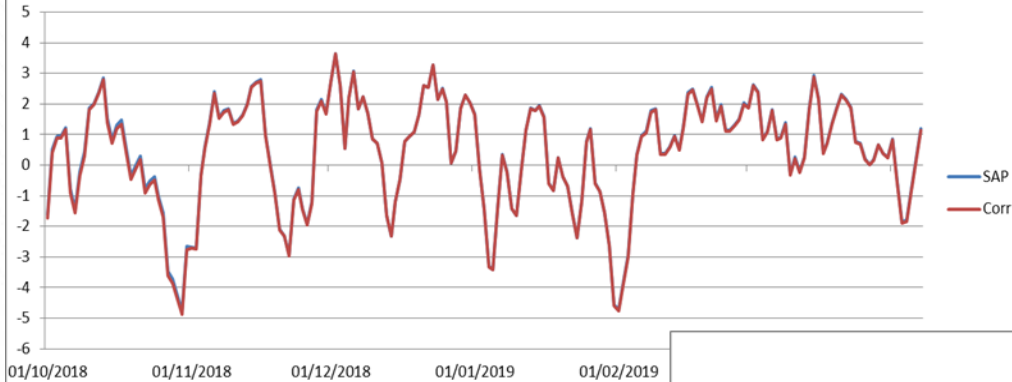
CWV Comparison



CWVs should have been lower
i.e colder

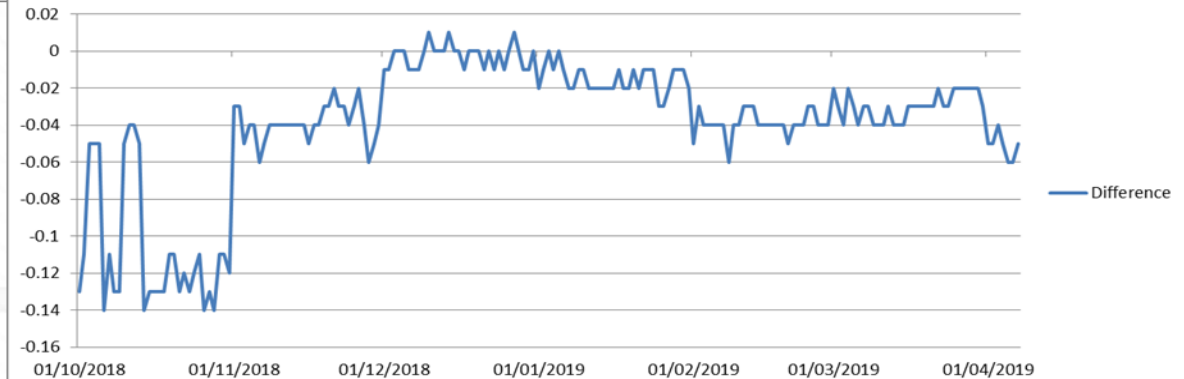
WCF Comparison

Calculated WCF - based on SAP and corrected CWVs



WCF diffs are generally negative so expected to be more demand estimated to weather sensitive sites

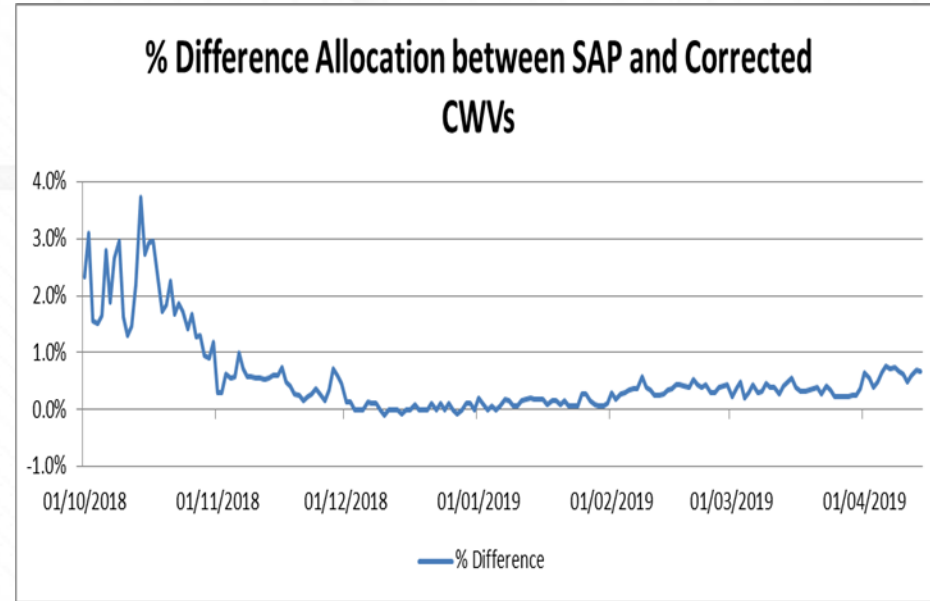
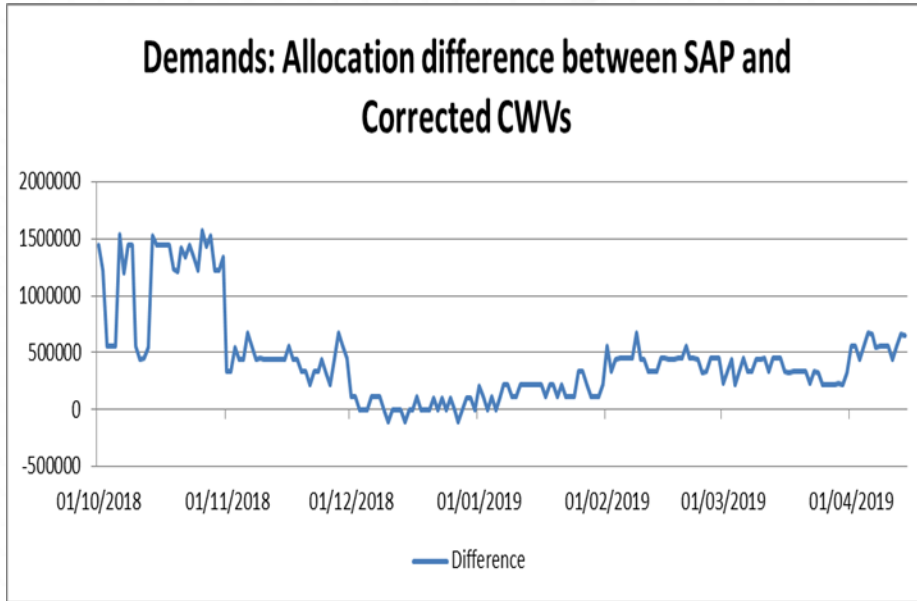
WCF Difference



What are the impacts ?

- CWVs calculated in SAP for SW LDZ have used less accurate weather data since 1st October 2018 upto current date
- CWVs are used by Gemini and SAP-ISU
- Gemini uses CWV in calculation of NDM Nominations and Allocations (WCF)
UIG is balancing figure in demand attribution so will be impacted too (equal and opposite)
- SAP-ISU uses CWV in the calculation of AQs – (WCF and WAALPs)
- This impacts LDZ SW ONLY

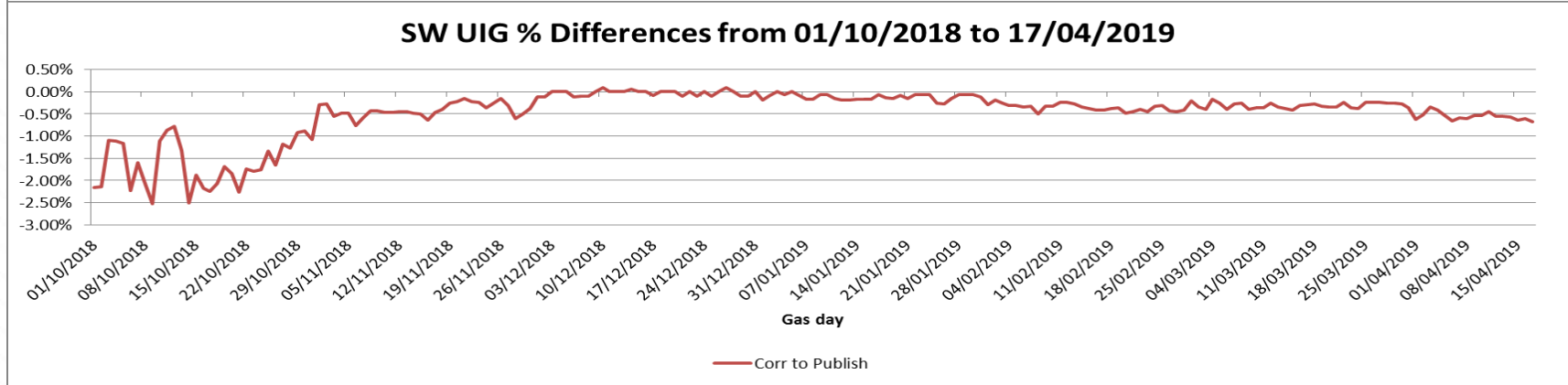
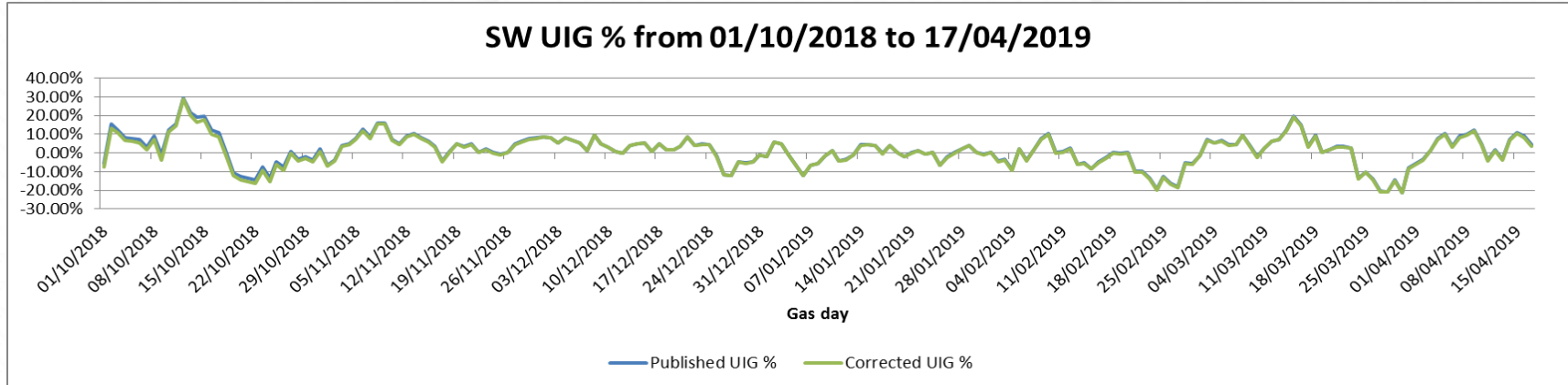
Total NDM Allocation for SW: Original vs Recalculation (upto mid April)



More NDM demand should have been estimated

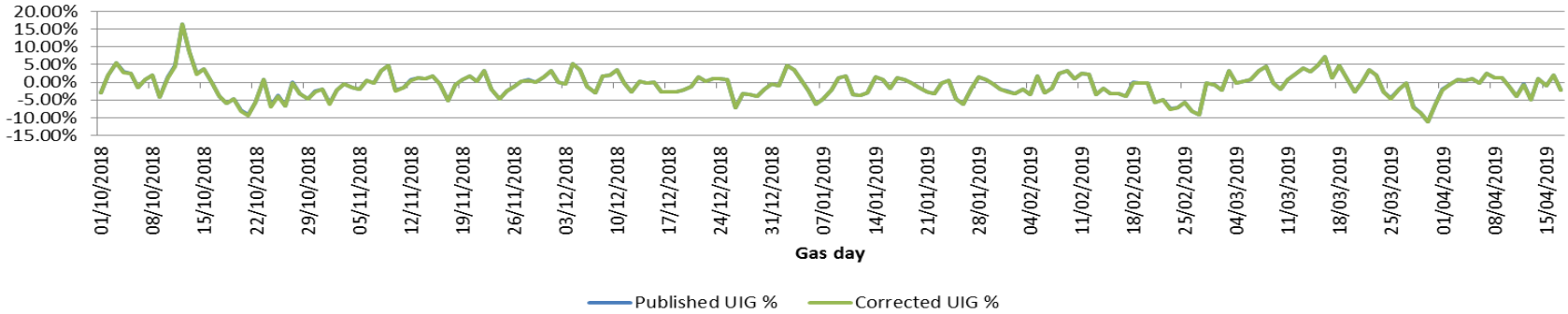
October worst due to bigger temp differences

UIG for SW: Original vs Recalculation (upto mid April)

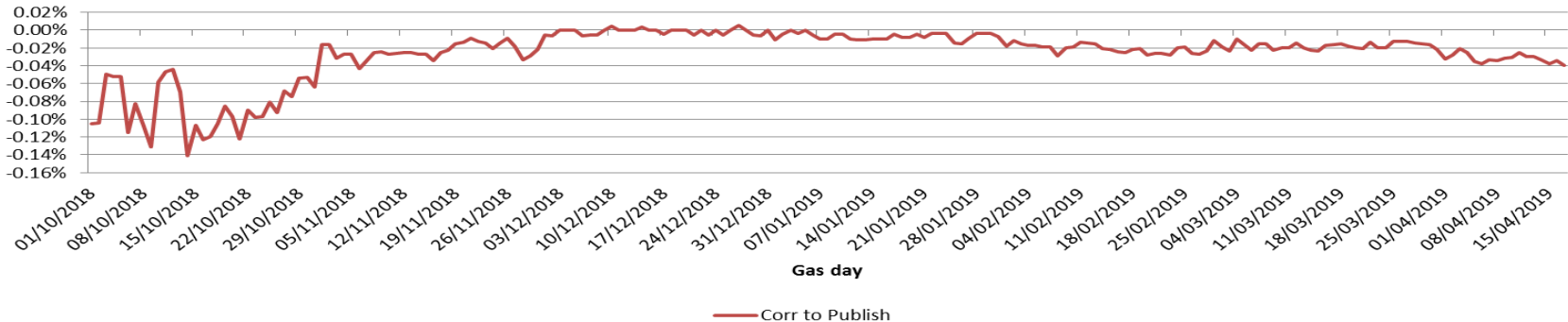


UIG for National: Original vs Recalculation (upto mid April)

National UIG % from 01/10/2018 to 17/04/2019



National UIG % Differences from 01/10/2018 to 17/04/2019



AQ Calculations

Cumulative WAALP Values from 01/10/2018 to 15/04/2019			
Row Labels	Sum of SAP WAALP	Sum of Corr WAALP	Diff
SW:E1801B	285.4583592	286.6715621	0.43%
SW:E1802B	267.095926	268.0175985	0.35%
SW:E1803B	268.9855646	269.983622	0.37%
SW:E1803W01	213.5766428	213.8084282	0.11%
SW:E1803W02	251.0741222	251.7080777	0.25%
SW:E1803W03	278.2616164	279.2865668	0.37%
SW:E1803W04	308.7371439	310.3360349	0.52%
SW:E1804B	256.7665029	257.5921913	0.32%
SW:E1804W01	213.5766428	213.8084282	0.11%
SW:E1804W02	251.0741222	251.7080777	0.25%
SW:E1804W03	278.2616164	279.2865668	0.37%
SW:E1804W04	308.7371439	310.3360349	0.52%
SW:E1805B	242.7531332	243.3787293	0.26%
SW:E1805W01	205.7152646	205.8475848	0.06%
SW:E1805W02	231.867983	232.3424136	0.20%
SW:E1805W03	262.2369742	263.0364525	0.30%
SW:E1805W04	299.2834046	300.7031329	0.47%
SW:E1806B	241.1354182	241.6717943	0.22%
SW:E1806W01	196.1458441	196.1514088	0.00%
SW:E1806W02	213.1619191	213.3808963	0.10%
SW:E1806W03	246.4461949	247.0372212	0.24%
SW:E1806W04	284.7339767	285.8635479	0.40%
SW:E1807B	219.3158071	219.6279047	0.14%
SW:E1807W01	195.629159	195.629159	0.00%
SW:E1807W02	205.6004177	205.7202388	0.06%
SW:E1807W03	222.7975598	223.1565101	0.16%
SW:E1807W04	272.0884414	273.0346846	0.35%
SW:E1808B	219.3158071	219.6279047	0.14%
SW:E1808W01	195.629159	195.629159	0.00%
SW:E1808W02	205.6004177	205.7202388	0.06%
SW:E1808W03	222.7975598	223.1565101	0.16%
SW:E1808W04	272.0884414	273.0346846	0.35%
SW:E1809B	214.3036611	214.5203207	0.10%

When WAALPs > 365 – Colder than SN
 When WAALPs < 365 – Warmer than SN

This is not full year, however positive difference in WAALPs means for 01B for example, the AQ would be 0.43% overstated if read period was purely 1/10/18 to 15/4/19 (worst case)

In reality this overstatement will be 'watered down' for most

Proposed Next Steps

- From [x] date ensure CWVs for SW are calculated in SAP-ISU using correct bias adjustments – Weather Services Provider to make change
- Ensure future AQs calculated in May onwards use corrected historic WAALPs
- No action required for Allocations and UIG in Gemini, this will be addressed through meter point reconciliation
- CWV publication – Leave MIPI ‘as-is’ - this reflects the values used in Nominations and Allocations
- Publish revised CWV values for period of error upto date [x] on secure area along with correct bias adjustments table
- Current plan for date [x] is early May ahead of next AQ calculation run – finer detail to be provided nearer the time
- Use revised CWVs in 2019 EUC modelling processes for SW