

METER ERROR REPORT**FINAL**

Reconcile?	Y
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Safety Issue?	N
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Thesis Report No.	
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1. EXECUTIVE SUMMARY

SITE NAME	Easton Grey	
LDZ	Wales & West Utilities	
START DATE (actual)	15/06/2020	
LAST GOOD DATE		
END DATE	18/04/2023	
SIZE OF ERROR (No reconciliation required if under 0.1%)	0.108% over registration (5.49 GWh)	
ESTIMATE – Y/N?	N	
ROOT CAUSE	Incorrect K Factors used in the Omni flow computer	
ANALYSIS	Application of Meter Calibration Curve	
METER TYPE	USM	
AUTHOR	J Hill	
CHECKED BY	C Litster	
ACCEPTED BY NETWORK		
RECONCILIATION	Distribution	Transportation

2. BACKGROUND

Easton Grey Offtake has duty/standby ultrasonic meter streams, using a gas chromatograph for RD and CV determination and PTZ correction. During the annual ME2 meter validation at Easton Grey on the 2nd of March 2023 it was identified that the k-factors had been entered incorrectly into the Omni, this had the result of cancelling out the k-factor curve and only one k-factor was used throughout the whole metering range. It has been found the error occurred during the reinstatement of both meters 12078531 & 12078532 after their removal and re-calibration. The error was corrected in the flow computer at the time of the ME2 metering validation.

3. ERROR QUANTIFICATION AND IMPACT

The correct k-factors from the meter calibration curve were used to determine the applied and corrected volume and hence percentage volume error for each incorrect frequency used.

Easton Grey Meter A 12078531			
Incorrect (As Found) Values		Correct (As Left) Values	
Frequency (Hz)	K-factor (pulses/m3)	Frequency (Hz)	K-factor (pulses/m3)
103	2409.9937	103	2415.9132
204	2409.9937	204	2411.7481
508	2409.9937	508	2412.0413
1002	2409.9937	1002	2409.2156
1513	2409.9937	1513	2410.9548
2336	2409.9937	2336	2409.9937

Table 1. Meter A K-factor Comparison

Easton Grey Meter B 12078532			
Incorrect (As Found) Values		Correct (As Left) Values	
Frequency (Hz)	K-factor (pulses/m3)	Frequency (Hz)	K-factor (pulses/m3)
101	2419.3766	101	2415.6608
203	2419.3766	203	2413.3766
501	2419.3766	501	2416.2679
1006	2419.3766	1006	2417.6081
1517	2419.3766	1517	2418.5365
2029	2419.3766	2029	2419.3766

Table 2. Meter B K-factor Comparison

The volumetric error was calculated as the difference between the recorded and corrected volumes.

The overall error is an over-registration of 0.108%. It is recommended that the error be reconciled using the daily correction factors table in Appendix A.

4. CAUSES

Human error in reading and entering values from the calibration certificate to the Omni flow computer.

5. RECOMMENDATIONS AND LEARNING

Peer review of k-factor and frequency entries for existing and new USM/turbine installations.

REFERENCES

HPMIS Database (metering & RBD data)

Meter 12078531 calibration certificate

Meter 12078532 calibration certificate

VERSION HISTORY

<i>Version</i>	<i>Changes</i>	<i>Author</i>	<i>Date</i>
<i>0</i>	<i>First Issue</i>	<i>J Hill</i>	<i>20/04/23</i>

APPENDIX A – Daily Correction Factors

Gas Day	Daily Correction Factor		Gas Day	Daily Correction Factor
15-Jun-20	0		16-Nov-21	0.999222322
16-Jun-20	0		17-Nov-21	0.999230862
17-Jun-20	0		18-Nov-21	0.999233386
18-Jun-20	0		19-Nov-21	0.999242234
19-Jun-20	0		20-Nov-21	0.999227378
20-Jun-20	0		21-Nov-21	0.999220648
21-Jun-20	0		22-Nov-21	0.999301554
22-Jun-20	0		23-Nov-21	0.999353259
23-Jun-20	0		24-Nov-21	0.999211466
24-Jun-20	0		25-Nov-21	0.999180975
25-Jun-20	0		26-Nov-21	0.999200605
26-Jun-20	0		27-Nov-21	0.999591242
27-Jun-20	0		28-Nov-21	0.99942238
28-Jun-20	0		29-Nov-21	0.999536862
29-Jun-20	0		30-Nov-21	0.99919452
30-Jun-20	0		01-Dec-21	0.999189065
01-Jul-20	0		02-Dec-21	0.999290096
02-Jul-20	0		03-Dec-21	0.999223639
03-Jul-20	0		04-Dec-21	0.999176156
04-Jul-20	0		05-Dec-21	0.999228424
05-Jul-20	0		06-Dec-21	0.99938158
06-Jul-20	0		07-Dec-21	0.999342056
07-Jul-20	0		08-Dec-21	0.999256691
08-Jul-20	0		09-Dec-21	0.999228869
09-Jul-20	0		10-Dec-21	0.999175993
10-Jul-20	0		11-Dec-21	0.999197495
11-Jul-20	0		12-Dec-21	0.999226191
12-Jul-20	0		13-Dec-21	0.999224902
13-Jul-20	0		14-Dec-21	0.999232448
14-Jul-20	0		15-Dec-21	0.999240375
15-Jul-20	0		16-Dec-21	0.999225583
16-Jul-20	0		17-Dec-21	0.9992082
17-Jul-20	0		18-Dec-21	0.999219999
18-Jul-20	0		19-Dec-21	0.999194042
19-Jul-20	0		20-Dec-21	0.999270499
20-Jul-20	0		21-Dec-21	0.999327158
21-Jul-20	0		22-Dec-21	0.999426501
22-Jul-20	0		23-Dec-21	0.999217919
23-Jul-20	0		24-Dec-21	0.999227116
24-Jul-20	0		25-Dec-21	0.999233168
25-Jul-20	0		26-Dec-21	0.999244257
26-Jul-20	0		27-Dec-21	0.999234466

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
27-Jul-20	0	28-Dec-21	0.999240282
28-Jul-20	0	29-Dec-21	0.999247124
29-Jul-20	0	30-Dec-21	0.999256134
30-Jul-20	0	31-Dec-21	0.999262719
31-Jul-20	0	01-Jan-22	0
01-Aug-20	0	02-Jan-22	0.999245416
02-Aug-20	0	03-Jan-22	0.999227011
03-Aug-20	0	04-Jan-22	0.999162686
04-Aug-20	0	05-Jan-22	0.999292476
05-Aug-20	0	06-Jan-22	0.999432815
06-Aug-20	0	07-Jan-22	0.999266853
07-Aug-20	0	08-Jan-22	0.999171348
08-Aug-20	0	09-Jan-22	0.999176322
09-Aug-20	0	10-Jan-22	0.999178359
10-Aug-20	0	11-Jan-22	0.99920675
11-Aug-20	0	12-Jan-22	0.999274445
12-Aug-20	0	13-Jan-22	0.999591236
13-Aug-20	0	14-Jan-22	0.999369514
14-Aug-20	0	15-Jan-22	0.999266836
15-Aug-20	0	16-Jan-22	0.999169376
16-Aug-20	0	17-Jan-22	0.999284053
17-Aug-20	0	18-Jan-22	0.999488256
18-Aug-20	0	19-Jan-22	0.999197775
19-Aug-20	0	20-Jan-22	0.999367081
20-Aug-20	0	21-Jan-22	0.999472186
21-Aug-20	0	22-Jan-22	0.999186426
22-Aug-20	0	23-Jan-22	0.999195473
23-Aug-20	0	24-Jan-22	0.999367915
24-Aug-20	0.999240795	25-Jan-22	0.999359167
25-Aug-20	0.999250085	26-Jan-22	0.999216243
26-Aug-20	0	27-Jan-22	0.99917868
27-Aug-20	0	28-Jan-22	0.999229979
28-Aug-20	0	29-Jan-22	0.999212882
29-Aug-20	0	30-Jan-22	0.999198404
30-Aug-20	0	31-Jan-22	0.999182505
31-Aug-20	0	01-Feb-22	0.999223059
01-Sep-20	0	02-Feb-22	0.999225702
02-Sep-20	0	03-Feb-22	0.999221735
03-Sep-20	0	04-Feb-22	0.999200663
04-Sep-20	0	05-Feb-22	0.999188841
05-Sep-20	0	06-Feb-22	0.99919442
06-Sep-20	0	07-Feb-22	0.999239955
07-Sep-20	0	08-Feb-22	0.999221297
08-Sep-20	0	09-Feb-22	0.999225712

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
09-Sep-20	0	10-Feb-22	0.999194296
10-Sep-20	0	11-Feb-22	0.999232426
11-Sep-20	0	12-Feb-22	0.999189093
12-Sep-20	0	13-Feb-22	0.999213985
13-Sep-20	0	14-Feb-22	0.99918564
14-Sep-20	0	15-Feb-22	0.999214204
15-Sep-20	0	16-Feb-22	0.999227117
16-Sep-20	0	17-Feb-22	0.999207538
17-Sep-20	0	18-Feb-22	0.999189915
18-Sep-20	0	19-Feb-22	0.999266836
19-Sep-20	0	20-Feb-22	0.999192791
20-Sep-20	0	21-Feb-22	0.999260238
21-Sep-20	0	22-Feb-22	0.999208886
22-Sep-20	0	23-Feb-22	0.999202678
23-Sep-20	0	24-Feb-22	0.999207042
24-Sep-20	0	25-Feb-22	0.999177214
25-Sep-20	0	26-Feb-22	0.999220066
26-Sep-20	0	27-Feb-22	0.999227723
27-Sep-20	0	28-Feb-22	0.999209786
28-Sep-20	0	01-Mar-22	0.999199756
29-Sep-20	0	02-Mar-22	0.999214059
30-Sep-20	0	03-Mar-22	0.999221147
01-Oct-20	0	04-Mar-22	0.999224361
02-Oct-20	0.999223373	05-Mar-22	0.999215102
03-Oct-20	0	06-Mar-22	0.9991698
04-Oct-20	0.999228004	07-Mar-22	0.999229666
05-Oct-20	0.999230998	08-Mar-22	0.999189406
06-Oct-20	0	09-Mar-22	0.999063112
07-Oct-20	0	10-Mar-22	0.999213543
08-Oct-20	0	11-Mar-22	0.999232268
09-Oct-20	0.999226708	12-Mar-22	0.999245438
10-Oct-20	0.999233894	13-Mar-22	0.999234807
11-Oct-20	0.999256188	14-Mar-22	0.999242339
12-Oct-20	0.999238781	15-Mar-22	0.999241395
13-Oct-20	0.999226786	16-Mar-22	0.999227986
14-Oct-20	0.999228739	17-Mar-22	0.999230544
15-Oct-20	0.999229119	18-Mar-22	0.999247014
16-Oct-20	0.999236281	19-Mar-22	0.999258711
17-Oct-20	0.999231229	20-Mar-22	0.999186926
18-Oct-20	0.999231997	21-Mar-22	0.99921785
19-Oct-20	0.999228763	22-Mar-22	0.999246321
20-Oct-20	0	23-Mar-22	0.999259483
21-Oct-20	0	24-Mar-22	0
22-Oct-20	0	25-Mar-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
23-Oct-20	0.99923875	26-Mar-22	0
24-Oct-20	0.999232744	27-Mar-22	0
25-Oct-20	0.99922385	28-Mar-22	0.999245169
26-Oct-20	0.99920816	29-Mar-22	0.999216887
27-Oct-20	0.999198814	30-Mar-22	0.999176559
28-Oct-20	0.999181103	31-Mar-22	0.999154158
29-Oct-20	0.999194929	01-Apr-22	0.999200596
30-Oct-20	0.99921206	02-Apr-22	0.999214893
31-Oct-20	0	03-Apr-22	0.999216217
01-Nov-20	0	04-Apr-22	0.999227542
02-Nov-20	0.999232499	05-Apr-22	0.999239782
03-Nov-20	0.999210786	06-Apr-22	0.999238348
04-Nov-20	0.999201614	07-Apr-22	0.999208831
05-Nov-20	0.999205904	08-Apr-22	0.999228765
06-Nov-20	0.999202685	09-Apr-22	0.999243552
07-Nov-20	0.999218112	10-Apr-22	0.999250057
08-Nov-20	0.999234436	11-Apr-22	0.999253454
09-Nov-20	0.99923359	12-Apr-22	0
10-Nov-20	0.999244902	13-Apr-22	0
11-Nov-20	0.999235433	14-Apr-22	0
12-Nov-20	0.999234698	15-Apr-22	0
13-Nov-20	0.999235919	16-Apr-22	0
14-Nov-20	0.999233997	17-Apr-22	0
15-Nov-20	0.999232117	18-Apr-22	0
16-Nov-20	0.999207729	19-Apr-22	0
17-Nov-20	0.999228151	20-Apr-22	0
18-Nov-20	0.9992321	21-Apr-22	0
19-Nov-20	0.99920334	22-Apr-22	0
20-Nov-20	0.999195341	23-Apr-22	0
21-Nov-20	0.999226275	24-Apr-22	0
22-Nov-20	0.999232816	25-Apr-22	0
23-Nov-20	0.999201272	26-Apr-22	0
24-Nov-20	0.999232237	27-Apr-22	0.99925762
25-Nov-20	0.999207612	28-Apr-22	0.999252635
26-Nov-20	0.99917556	29-Apr-22	0.999257607
27-Nov-20	0.999263566	30-Apr-22	0
28-Nov-20	0.999201878	01-May-22	0
29-Nov-20	0.999198639	02-May-22	0
30-Nov-20	0.999193154	03-May-22	0
01-Dec-20	0.999176124	04-May-22	0
02-Dec-20	0.999185049	05-May-22	0
03-Dec-20	0.999175116	06-May-22	0
04-Dec-20	0.999185799	07-May-22	0
05-Dec-20	0.999174013	08-May-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
06-Dec-20	0.999207777	09-May-22	0
07-Dec-20	0.999247296	10-May-22	0
08-Dec-20	0.999182153	11-May-22	0
09-Dec-20	0.999188581	12-May-22	0.997548252
10-Dec-20	0.999187855	13-May-22	0
11-Dec-20	0.999196946	14-May-22	0
12-Dec-20	0.999208781	15-May-22	0
13-Dec-20	0.999186536	16-May-22	0
14-Dec-20	0.999211361	17-May-22	0
15-Dec-20	0.999202967	18-May-22	0
16-Dec-20	0.999195018	19-May-22	0
17-Dec-20	0.999209499	20-May-22	0
18-Dec-20	0.999232793	21-May-22	0
19-Dec-20	0.999224087	22-May-22	0
20-Dec-20	0.9992084	23-May-22	0
21-Dec-20	0.999217543	24-May-22	0
22-Dec-20	0.999218811	25-May-22	0
23-Dec-20	0.999215671	26-May-22	0
24-Dec-20	0.999187689	27-May-22	0
25-Dec-20	0.999180126	28-May-22	0
26-Dec-20	0.999186818	29-May-22	0
27-Dec-20	0.999195292	30-May-22	0
28-Dec-20	0.999269434	31-May-22	0
29-Dec-20	0.99920839	01-Jun-22	0
30-Dec-20	0.999170063	02-Jun-22	0.997548252
31-Dec-20	0.999242118	03-Jun-22	0
01-Jan-21	0.999300381	04-Jun-22	0
02-Jan-21	0.999366521	05-Jun-22	0
03-Jan-21	0.999180108	06-Jun-22	0
04-Jan-21	0.999275033	07-Jun-22	0
05-Jan-21	0.999314548	08-Jun-22	0
06-Jan-21	0.999318431	09-Jun-22	0
07-Jan-21	0.999598523	10-Jun-22	0
08-Jan-21	0.999589456	11-Jun-22	0.999234039
09-Jan-21	0.999439244	12-Jun-22	0
10-Jan-21	0.999372041	13-Jun-22	0
11-Jan-21	0.999367798	14-Jun-22	0
12-Jan-21	0.999193469	15-Jun-22	0
13-Jan-21	0.999202274	16-Jun-22	0
14-Jan-21	0.999186594	17-Jun-22	0
15-Jan-21	0.999443215	18-Jun-22	0
16-Jan-21	0.999194302	19-Jun-22	0
17-Jan-21	0.99925323	20-Jun-22	0
18-Jan-21	0.999310625	21-Jun-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
19-Jan-21	0.999191146	22-Jun-22	0
20-Jan-21	0.99920684	23-Jun-22	0
21-Jan-21	0.99924348	24-Jun-22	0
22-Jan-21	0.999384136	25-Jun-22	0
23-Jan-21	0.999427691	26-Jun-22	0
24-Jan-21	0.999428405	27-Jun-22	0
25-Jan-21	0.999599659	28-Jun-22	0
26-Jan-21	0.999442439	29-Jun-22	0
27-Jan-21	0.999220376	30-Jun-22	0
28-Jan-21	0.999210011	01-Jul-22	0
29-Jan-21	0.999198062	02-Jul-22	0
30-Jan-21	0.999259294	03-Jul-22	0
31-Jan-21	0.999415844	04-Jul-22	0
01-Feb-21	0.999451378	05-Jul-22	0
02-Feb-21	0.999207608	06-Jul-22	0
03-Feb-21	0.999193642	07-Jul-22	0
04-Feb-21	0.999235648	08-Jul-22	0
05-Feb-21	0.999190026	09-Jul-22	0
06-Feb-21	0.999284634	10-Jul-22	0
07-Feb-21	0.999399025	11-Jul-22	0
08-Feb-21	0.999572731	12-Jul-22	0
09-Feb-21	0.999649346	13-Jul-22	0
10-Feb-21	0.999656718	14-Jul-22	0
11-Feb-21	0.999696064	15-Jul-22	0
12-Feb-21	0.999639288	16-Jul-22	0
13-Feb-21	0.999678534	17-Jul-22	0
14-Feb-21	0.999406117	18-Jul-22	0
15-Feb-21	0.999240683	19-Jul-22	0
16-Feb-21	0.999219741	20-Jul-22	0
17-Feb-21	0.999207192	21-Jul-22	0.999932822
18-Feb-21	0.999207539	22-Jul-22	0
19-Feb-21	0.999198927	23-Jul-22	0
20-Feb-21	0.999230387	24-Jul-22	0
21-Feb-21	0.999232266	25-Jul-22	0
22-Feb-21	0.999223699	26-Jul-22	0
23-Feb-21	0.999223289	27-Jul-22	0
24-Feb-21	0.999246844	28-Jul-22	0
25-Feb-21	0.999227891	29-Jul-22	0
26-Feb-21	0.999211173	30-Jul-22	0
27-Feb-21	0.999220248	31-Jul-22	0
28-Feb-21	0.999220521	01-Aug-22	0
01-Mar-21	0.99922255	02-Aug-22	0
02-Mar-21	1.006024003	03-Aug-22	0
03-Mar-21	1.000418822	04-Aug-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
04-Mar-21	1.015686215	05-Aug-22	0
05-Mar-21	1.020106219	06-Aug-22	0
06-Mar-21	1.01441716	07-Aug-22	0
07-Mar-21	1.008573269	08-Aug-22	0
08-Mar-21	0.992730069	09-Aug-22	0
09-Mar-21	0.943330841	10-Aug-22	0
10-Mar-21	0.996501945	11-Aug-22	0
11-Mar-21	1.005188549	12-Aug-22	0
12-Mar-21	0.99799061	13-Aug-22	0
13-Mar-21	1.001148611	14-Aug-22	0
14-Mar-21	0.995487009	15-Aug-22	0
15-Mar-21	0.976379084	16-Aug-22	0
16-Mar-21	0.966616167	17-Aug-22	0
17-Mar-21	1.001982374	18-Aug-22	0
18-Mar-21	0.984595433	19-Aug-22	0
19-Mar-21	1.000585085	20-Aug-22	0
20-Mar-21	0.994016665	21-Aug-22	0
21-Mar-21	0.983284066	22-Aug-22	0
22-Mar-21	0.994855233	23-Aug-22	0
23-Mar-21	0.990750996	24-Aug-22	0
24-Mar-21	0.98028514	25-Aug-22	0
25-Mar-21	0.988022201	26-Aug-22	0
26-Mar-21	1.003931099	27-Aug-22	0
27-Mar-21	0.992735758	28-Aug-22	0
28-Mar-21	0.991659856	29-Aug-22	0
29-Mar-21	0.956858658	30-Aug-22	0
30-Mar-21	0	31-Aug-22	0
31-Mar-21	0	01-Sep-22	0
01-Apr-21	1.019713659	02-Sep-22	0
02-Apr-21	0.997125828	03-Sep-22	0
03-Apr-21	1.004765895	04-Sep-22	0
04-Apr-21	0.983144932	05-Sep-22	0
05-Apr-21	1.009302468	06-Sep-22	0
06-Apr-21	1.016412143	07-Sep-22	0
07-Apr-21	1.015649179	08-Sep-22	0
08-Apr-21	1.010774047	09-Sep-22	0
09-Apr-21	0.995286732	10-Sep-22	0
10-Apr-21	1.009787169	11-Sep-22	0
11-Apr-21	1.003335917	12-Sep-22	0
12-Apr-21	0.995286129	13-Sep-22	0.999140136
13-Apr-21	0.970695624	14-Sep-22	0
14-Apr-21	0.993441601	15-Sep-22	0
15-Apr-21	0.996167574	16-Sep-22	0
16-Apr-21	1.002707883	17-Sep-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
17-Apr-21	0.956261377	18-Sep-22	0
18-Apr-21	0.946802391	19-Sep-22	0
19-Apr-21	0.94440377	20-Sep-22	0
20-Apr-21	0	21-Sep-22	0
21-Apr-21	0	22-Sep-22	0
22-Apr-21	0.922278178	23-Sep-22	0
23-Apr-21	0	24-Sep-22	0
24-Apr-21	0	25-Sep-22	0
25-Apr-21	0	26-Sep-22	0.999221259
26-Apr-21	0.977485885	27-Sep-22	0.998937516
27-Apr-21	1.011187165	28-Sep-22	0
28-Apr-21	1.018913809	29-Sep-22	0
29-Apr-21	0.99306623	30-Sep-22	0
30-Apr-21	0.978193504	01-Oct-22	0
01-May-21	1.018921346	02-Oct-22	0
02-May-21	0	03-Oct-22	0
03-May-21	1.001239442	04-Oct-22	0
04-May-21	0.977695906	05-Oct-22	0
05-May-21	0.998839114	06-Oct-22	0
06-May-21	0.96716584	07-Oct-22	0
07-May-21	0.970114944	08-Oct-22	0
08-May-21	0.983121343	09-Oct-22	0
09-May-21	0.987680494	10-Oct-22	0
10-May-21	0	11-Oct-22	0
11-May-21	0	12-Oct-22	0
12-May-21	0.9163488	13-Oct-22	0
13-May-21	0	14-Oct-22	0
14-May-21	0.946629119	15-Oct-22	0
15-May-21	0	16-Oct-22	0
16-May-21	0	17-Oct-22	0
17-May-21	0	18-Oct-22	0
18-May-21	0	19-Oct-22	0
19-May-21	0	20-Oct-22	0
20-May-21	0	21-Oct-22	0
21-May-21	1.001600798	22-Oct-22	0
22-May-21	1.002592531	23-Oct-22	0
23-May-21	1.004289171	24-Oct-22	0
24-May-21	0.977958405	25-Oct-22	0
25-May-21	0.994849628	26-Oct-22	0
26-May-21	0.962025157	27-Oct-22	0
27-May-21	0	28-Oct-22	0
28-May-21	0	29-Oct-22	0
29-May-21	0	30-Oct-22	0
30-May-21	0	31-Oct-22	0

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
31-May-21	0	01-Nov-22	0
01-Jun-21	0	02-Nov-22	0.999246758
02-Jun-21	0	03-Nov-22	0.99926158
03-Jun-21	0	04-Nov-22	0.999249288
04-Jun-21	0	05-Nov-22	0.999262077
05-Jun-21	0	06-Nov-22	0.999257909
06-Jun-21	0	07-Nov-22	0.999221861
07-Jun-21	0.948096186	08-Nov-22	0.999248908
08-Jun-21	0	09-Nov-22	0.999246327
09-Jun-21	0	10-Nov-22	0
10-Jun-21	0	11-Nov-22	0
11-Jun-21	0	12-Nov-22	0
12-Jun-21	0	13-Nov-22	0
13-Jun-21	0	14-Nov-22	0
14-Jun-21	0	15-Nov-22	0.999247511
15-Jun-21	0	16-Nov-22	0.999243272
16-Jun-21	0	17-Nov-22	0.999246613
17-Jun-21	0	18-Nov-22	0.999232155
18-Jun-21	0	19-Nov-22	0.999237021
19-Jun-21	0	20-Nov-22	0.999233387
20-Jun-21	0	21-Nov-22	0.999217229
21-Jun-21	0	22-Nov-22	0.999222694
22-Jun-21	0	23-Nov-22	0.99921639
23-Jun-21	0	24-Nov-22	0.999213516
24-Jun-21	0	25-Nov-22	0.999232868
25-Jun-21	0	26-Nov-22	0.999240568
26-Jun-21	0	27-Nov-22	0.999250933
27-Jun-21	0	28-Nov-22	0.999228876
28-Jun-21	0	29-Nov-22	0.999240209
29-Jun-21	0.998804783	30-Nov-22	0.999206166
30-Jun-21	0	01-Dec-22	0.999191877
01-Jul-21	0	02-Dec-22	0.999223245
02-Jul-21	0	03-Dec-22	0.999193669
03-Jul-21	0	04-Dec-22	0.99917249
04-Jul-21	0	05-Dec-22	0.999178533
05-Jul-21	0	06-Dec-22	0.999182679
06-Jul-21	0	07-Dec-22	0.999314015
07-Jul-21	0	08-Dec-22	0.999312094
08-Jul-21	0	09-Dec-22	0.999352712
09-Jul-21	0	10-Dec-22	0.999281385
10-Jul-21	0	11-Dec-22	0.999358652
11-Jul-21	0	12-Dec-22	0.99942917
12-Jul-21	0	13-Dec-22	0.999483631
13-Jul-21	0	14-Dec-22	0.999532433

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
14-Jul-21	0	15-Dec-22	0.999695614
15-Jul-21	0	16-Dec-22	0.999557199
16-Jul-21	0	17-Dec-22	0.99932168
17-Jul-21	0	18-Dec-22	0.999177628
18-Jul-21	0	19-Dec-22	0.99923317
19-Jul-21	0	20-Dec-22	0.99923802
20-Jul-21	0	21-Dec-22	0.999220641
21-Jul-21	0	22-Dec-22	0.99922715
22-Jul-21	0	23-Dec-22	0.999240066
23-Jul-21	0	24-Dec-22	0.999247191
24-Jul-21	0	25-Dec-22	0.999255973
25-Jul-21	0	26-Dec-22	0.999228719
26-Jul-21	0	27-Dec-22	0.999221792
27-Jul-21	0	28-Dec-22	0.999241882
28-Jul-21	0	29-Dec-22	0.999222958
29-Jul-21	0	30-Dec-22	0.999207913
30-Jul-21	0.99876534	31-Dec-22	0.999233868
31-Jul-21	0.997990672	01-Jan-23	0.999231528
01-Aug-21	0	02-Jan-23	0.999201231
02-Aug-21	0.999224085	03-Jan-23	0.999204515
03-Aug-21	0	04-Jan-23	0.999238898
04-Aug-21	0	05-Jan-23	0.999232334
05-Aug-21	0	06-Jan-23	0.999222601
06-Aug-21	0	07-Jan-23	0.999221733
07-Aug-21	0	08-Jan-23	0.999199888
08-Aug-21	0	09-Jan-23	0.999191461
09-Aug-21	0	10-Jan-23	0.999205321
10-Aug-21	0	11-Jan-23	0.999212335
11-Aug-21	0	12-Jan-23	0.999221117
12-Aug-21	0	13-Jan-23	0.999213122
13-Aug-21	0	14-Jan-23	0.9992225
14-Aug-21	0	15-Jan-23	0.999190459
15-Aug-21	0	16-Jan-23	0.999252463
16-Aug-21	0	17-Jan-23	0.999452372
17-Aug-21	0	18-Jan-23	0.999200061
18-Aug-21	0	19-Jan-23	0.999282941
19-Aug-21	0	20-Jan-23	0.999182767
20-Aug-21	0	21-Jan-23	0.999325424
21-Aug-21	0	22-Jan-23	0.999262129
22-Aug-21	0	23-Jan-23	0.999283439
23-Aug-21	0	24-Jan-23	0.999293242
24-Aug-21	0	25-Jan-23	0.999278357
25-Aug-21	0	26-Jan-23	0.999174497
26-Aug-21	0	27-Jan-23	0.999165229

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
27-Aug-21	0	28-Jan-23	0.999181186
28-Aug-21	0	29-Jan-23	0.999241485
29-Aug-21	0	30-Jan-23	0.999208336
30-Aug-21	0	31-Jan-23	0.999216471
31-Aug-21	0	01-Feb-23	0.999201711
01-Sep-21	0	02-Feb-23	0.999229102
02-Sep-21	0	03-Feb-23	0.999236479
03-Sep-21	0	04-Feb-23	0.999237482
04-Sep-21	0	05-Feb-23	0.999204641
05-Sep-21	0	06-Feb-23	0.999243851
06-Sep-21	0	07-Feb-23	0.999181974
07-Sep-21	0	08-Feb-23	0.999231164
08-Sep-21	0	09-Feb-23	0.999194067
09-Sep-21	0	10-Feb-23	0.99918808
10-Sep-21	0	11-Feb-23	0.999238011
11-Sep-21	0	12-Feb-23	0.999241617
12-Sep-21	0.99921694	13-Feb-23	0.999221277
13-Sep-21	0.99923125	14-Feb-23	0.99922543
14-Sep-21	0.999196331	15-Feb-23	0.999232688
15-Sep-21	0.999164269	16-Feb-23	0.999228448
16-Sep-21	0.999528366	17-Feb-23	0.999247304
17-Sep-21	0.999273817	18-Feb-23	0.999253168
18-Sep-21	0.999251557	19-Feb-23	0.999250747
19-Sep-21	0.999187508	20-Feb-23	0.999238743
20-Sep-21	0.999226484	21-Feb-23	0.999238981
21-Sep-21	0.999224094	22-Feb-23	0.999231178
22-Sep-21	0	23-Feb-23	0.999197064
23-Sep-21	0	24-Feb-23	0.999203099
24-Sep-21	0	25-Feb-23	0.99919869
25-Sep-21	0	26-Feb-23	0.999193708
26-Sep-21	0	27-Feb-23	0.999191792
27-Sep-21	0	28-Feb-23	0.999215923
28-Sep-21	0	01-Mar-23	0.99917647
29-Sep-21	0	02-Mar-23	0.999205292
30-Sep-21	0	03-Mar-23	0.999520134
01-Oct-21	0	04-Mar-23	0.999196618
02-Oct-21	0	05-Mar-23	0.999175772
03-Oct-21	0	06-Mar-23	0.999220922
04-Oct-21	0	07-Mar-23	0.999177485
05-Oct-21	0	08-Mar-23	0.999281674
06-Oct-21	0	09-Mar-23	0.999215879
07-Oct-21	0	10-Mar-23	0.999181051
08-Oct-21	0	11-Mar-23	0.999197421
09-Oct-21	0	12-Mar-23	0.999233606

Gas Day	Daily Correction Factor	Gas Day	Daily Correction Factor
10-Oct-21	0	13-Mar-23	0.999241362
11-Oct-21	0	14-Mar-23	0.999180054
12-Oct-21	0	15-Mar-23	0.999193986
13-Oct-21	0	16-Mar-23	0.999237029
14-Oct-21	0	17-Mar-23	0.999244607
15-Oct-21	0.998656313	18-Mar-23	0.999266002
16-Oct-21	0	19-Mar-23	0.999252201
17-Oct-21	0	20-Mar-23	0.999247823
18-Oct-21	0	21-Mar-23	0.999247076
19-Oct-21	0	22-Mar-23	0.999249519
20-Oct-21	0	23-Mar-23	0.999248345
21-Oct-21	0	24-Mar-23	0.999248858
22-Oct-21	0.999244512	25-Mar-23	0.9992567
23-Oct-21	0.999246391	26-Mar-23	0.999237804
24-Oct-21	0.999248442	27-Mar-23	0.999236758
25-Oct-21	0.999259843	28-Mar-23	0.999228832
26-Oct-21	0	29-Mar-23	0.999246963
27-Oct-21	0	30-Mar-23	0.999256645
28-Oct-21	0	31-Mar-23	0.999256014
29-Oct-21	0	01-Apr-23	0.999246297
30-Oct-21	0	02-Apr-23	0.999245481
31-Oct-21	0	03-Apr-23	0.999199724
01-Nov-21	0.99924652	04-Apr-23	0.999227625
02-Nov-21	0.999232811	05-Apr-23	0.9992454
03-Nov-21	0.999290279	06-Apr-23	0.999250084
04-Nov-21	0.999283879	07-Apr-23	0
05-Nov-21	0.999193381	08-Apr-23	0
06-Nov-21	0.999245833	09-Apr-23	0
07-Nov-21	0.999248562	10-Apr-23	0
08-Nov-21	0.999217372	11-Apr-23	0
09-Nov-21	0.999243176	12-Apr-23	0
10-Nov-21	0.999249888	13-Apr-23	0
11-Nov-21	0.999250975	14-Apr-23	0
12-Nov-21	0.999252963	15-Apr-23	0
13-Nov-21	0.999252534	16-Apr-23	0
14-Nov-21	0.999241881	17-Apr-23	0
15-Nov-21	0.999233152	18-Apr-23	0