

UNC Modifications 0831/0831A

Quantitative Impact Simulation UNC Mod Panel 21/09/2023

Action from August Meeting

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- Quantification of the likely redistribution of energy as a result of the potential implementation of either Modification 0831 or 0831A.
 - Using the format in tables on p. 10 and p.11 of the WGR but populated with kWh so the impact of Modification 0831 and 0831A can be compared against the current UIG Table but populated with kWh.
 - A further table showing the resulting scale of the changes which each EUC/ Class will see in relation to their kWh allocation i.e. whether their share will go up or down and by how much.
- Please use data from two periods to allow adequate comparison of impacts:
 - a) Gas Year 2021/22 and
 - b) current Gas Year to date.

Considerations

- These 2 Modifications would not change the amount of daily UIG, just the sharing of UIG between Classes/End User Categories
- UIG is not set by the AUGE: it is the balancing figure in each LDZ each day
- UIG at point of allocation (D+5) is not the final position
- UIG is subsequently reconciled based on accepted meter readings
- Recent negative allocated UIG position has switched to positive following UIG reconciliation
- Assessment needs to be applied to the (predicted) reconciled position, not D+5 position
- "Latest" UIG position per Xoserve website for Gas Year 2021 is 2.02% of throughput
- For Gas Year 2022/23 the AUGE's predicted UIG equates to 2.04% of throughput – it's too early to use the "latest" position for current GYr

Notes on Data Sources

- UIG Weighting Factors taken from Final AUGS Table for 21/22 and 22/23
 - <u>AUG Statement 2021/22 | Joint Office of Gas Transporters</u> (gasgovernance.co.uk)
 - <u>AUG Statement 2022/23 | Joint Office of Gas Transporters</u> (gasgovernance.co.uk)
- 2021/22 gas usage taken straight from AUGE's Consumption Forecast (Final AUGS)
- 2022/23 Class 1 and 2 usage taken from Consumption Forecast, Class 3 and 4 usage based on live AQs as at 01/04/23 (mid-point of Gas Year to account for recent price-driven demand reductions)
 - AQ data available to Shippers in Xoserve secure area:
 - Folder18/UIG <u>UKLink Secure Docs</u>
- Latest UIG position in the National UIG chart: "UIG as % of total throughput" on the Xoserve UIG page
 - <u>Unidentified Gas (UIG) (xoserve.com)</u>

Calculations

- Calculated UIG by Matrix position for both years using the Consumption figures and UIG % as per previous slides – gives initial Simulated positions
- Calculated an "effective UIG %" assigned UIG ÷ forecast Consumption
- Repeated above steps for both years using Mod 0831 and 0831A Weighting Factors as per the Final Mod Report
- Calculated the % change in assigned UIG for both years compared to Simulated actual for Mod 0831 and 0831A
- Note all calculations based on estimated long-run annualised UIG and estimated market breakdown

Presentation of Results



Actual UIG Weighting Factors

Gas Year 2021/22

CLASS							
		1	2	3	4		
	1ND	66.75	66.75	66.75	85.20		
	1PD	104.33	104.33	104.33	243.73		
	1NI	11.44	617.53	600.45	663.21		
	1PI	427.54	427.54	600.45	663.21		
	2ND	196.82	197.45	196.82	239.97		
	2PD	81.14	81.14	196.82	239.97		
EUC	2NI	11.44	163.05	169.71	169.71		
BAND	2PI	37.88	37.88	169.71	169.71		
	3	11.44	62.86	72.23	84.95		
	4	11.44	68.66	71.87	92.78		
	5	11.44	54.73	65.43	68.63		
	6	11.44	48.75	59.29	60.97		
	7	11.44	45.91	51.05	56.73		
	8	11.44	38.65	45.71	53.99		
	9	11.44	25.36	29.56	33.85		

Gas Year 2022/23

CLASS							
		1	2	3	4		
	1ND	60.12	60.12	60.12	84.50		
	1PD	64.11	64.11	64.11	382.64		
	1NI	5.10	830.68	173.52	756.21		
	1PI	173.52	295.06	173.52	756.21		
	2ND	69.94	69.94	70.04	126.46		
	2PD	70.04	91.22	70.04	126.46		
EUC	2NI	5.10	100.34	63.15	199.46		
BAND	2PI	26.18	26.18	63.15	199.46		
	3	5.10	53.23	48.36	52.53		
	4	5.10	60.64	54.07	58.44		
	5	5.10	55.38	52.51	55.56		
	6	5.10	58.76	53.69	71.81		
	7	5.10	63.30	57.14	62.54		
	8	5.10	50.85	60.52	46.14		
	9	5.10	28.00	23.64	26.34		

Source – Joint Office AUG Information (Post 2017) | Joint Office of Gas Transporters (gasgovernance.co.uk)

Proposed UIG Weighting Factors

Modification 0831

	Product/Class				
EUC	1	2	3	4	
1ND	1	1	1	1	
1PD	1	1	1	1	
1NI	1	1	1	1	
1PI	1	1	1	1	
2ND	1	1	1	1	
2PD	1	1	1	1	
2NI	1	1	1	1	
2PI	1	1	1	1	
3	1	1	1	1	
4	1	1	1	1	
5	1	1	1	1	
6	1	1	1	1	
7	1	1	1	1	
8	1	1	1	1	
9	1	1	1	1	

Modification 0831A

	Product/Class					
EUC	1	2	3	4		
1ND	0	1	1	1		
1PD	0	1	1	1		
1NI	0	1	1	1		
1PI	0	1	1	1		
2ND	0	1	1	1		
2PD	0	1	1	1		
2NI	0	1	1	1		
2PI	0	1	1	1		
3	0	1	1	1		
4	0	1	1	1		
5	0	1	1	1		
6	0	1	1	1		
7	0	1	1	1		
8	0	1	1	1		
9	0	1	1	1		



Simulated UIG Allocations – Using Actual Weighting Factors

Gas Year <u>2021/22</u> – GWh

EUC	1	2	3	4	Total
1ND	-	-	<mark>636</mark>	4,721	
1PD	-	-	6	953	
1NI	-	-	234	1,445	
1PI	-	-	0	5	
2ND	-	-	9	284	
2PD	-	-	0	10	
2NI	-	0	190	481	
2PI	-	-	0	0	
3	-	0	96	244	
4	0	1	83	308	
5	0	4	39	164	
6	1	16	21	143	
7	2	29	19	115	
8	12	49	13	118	
9	145	15	1	17	
	159	115	1,348	9,008	10,630

Effective % UIG

duct/Class	
1 2 3	4 Average
/A N/A 1.44%	1.83%
/A N/A 2.25%	5.25%
/A N/A 12.93%	14.28%
/A N/A 12.90%	14.28%
/A N/A 4.24%	5.17%
/A N/A 4.20%	5.17%
/A 3.50% 3.65%	3.65%
/A N/A 3.70%	3.65%
/A 1.36% 1.56%	1.83%
0.23% 1.48% 1.55%	2.00%
0.25% 1.18% 1.41%	1.48%
0.25% 1.05% 1.28%	1.31%
0.25% 0.99% 1.10%	1.22%
0.25% 0.83% 0.98%	1.16%
0.25% 0.55% 0.64%	0.73%
	2.029

N/A = no/negligible consumption in that matrix position per the forecast

21/22 Mod 0831 GWh and %

Mod 0831 Simulation

Gas Year <u>2021/22</u> – GWh

EUC	1	2	3	4	Total
1ND	-	-	894	5,198	
1PD	-	-	6	367	
1NI	-	-	37	204	
1PI	-	-	0	1	
2ND	-	-	4	111	
2PD	-	-	0	4	
2NI	-	0	105	266	
2PI	-	-	0	0	
3	-	0	124	269	
4	0	2	108	312	
5	1	6	57	225	
6	9	31	34	221	
7	13	59	35	191	
8	98	120	26	204	
9	1,185	54	4	47	
	1,306	273	1,433	7,618	10,630

Effective % UIG

Product/Class						
EUC	1	2	3	4	Average	
1ND	N/A	N/A	2.02%	2.02%		
1PD	N/A	N/A	2.02%	2.02%		
1NI	N/A	N/A	2.02%	2.02%		
1PI	N/A	N/A	2.00%	2.02%		
2ND	N/A	N/A	2.02%	2.02%		
2PD	N/A	N/A	2.00%	2.02%		
2NI	N/A	2.03%	2.02%	2.02%		
2PI	N/A	N/A	2.00%	2.02%		
3	N/A	2.02%	2.02%	2.02%		
4	2.03%	2.02%	2.02%	2.02%		
5	2.02%	2.02%	2.02%	2.02%		
6	2.02%	2.02%	2.02%	2.02%		
7	2.02%	2.02%	2.02%	2.02%		
8	2.02%	2.02%	2.02%	2.02%		
9	2.02%	2.02%	2.02%	2.02%		
					2.02%	

N/A = no/negligible consumption in that matrix position per the forecast Very low consumption positions do not return the industry average due to rounding

Mod 0831A Simulation

Gas Year <u>2021/22</u> – GWh

21/22 Mod 0831A

GWh and %

EUC	1	2	3	4	Total
1ND	-	-	1,020	5,926	
1PD	-	-	6	418	
1NI	-	-	42	233	
1PI	-	-	0	1	
2ND	-	-	5	126	
2PD	-	-	0	5	
2NI	-	0	120	303	
2PI	-	-	0	0	
3	-	0	142	307	
4	0	2	123	355	
5	0	7	65	256	
6	0	36	38	251	
7	0	68	40	217	
8	0	136	29	233	
9	0	61	5	53	
	0	311	1,634	8,685	10,630

Effective % UIG

Pi	roduct/Cla	SS			
EUC	1	2	3	4	Total
1ND	N/A	N/A	2.30%	2.30%	
1PD	N/A	N/A	2.30%	2.30%	
1NI	N/A	N/A	2.30%	2.30%	
1PI	N/A	N/A	2.30%	2.30%	
2ND	N/A	N/A	2.30%	2.30%	
2PD	N/A	N/A	2.30%	2.30%	
2NI	N/A	2.30%	2.30%	2.30%	
2PI	N/A	N/A	2.30%	2.30%	
3	N/A	2.30%	2.30%	2.30%	
4	0.00%	2.30%	2.30%	2.30%	
5	0.00%	2.30%	2.30%	2.30%	
6	0.00%	2.30%	2.30%	2.30%	
7	0.00%	2.30%	2.30%	2.30%	
8	0.00%	2.30%	2.30%	2.30%	
9	0.00%	2.30%	2.30%	2.30%	
					2.02%

N/A = no/negligible consumption in that matrix position per the forecast

% Change by Gas Year – 2021/22

Mod 0831 – Change in UIG %

EUC	1	2	3	4	Total
1ND	-	-	0.58%	0.19%	
1PD	-	-	-0.23%	-3.23%	
1NI	-	-	-10.91%	-12.26%	
1PI	-	-	-10.90%	-12.26%	
2ND	-	-	-2.22%	-3.15%	
2PD	-	-	-2.20%	-3.15%	
2NI	-	-1.47%	-1.63%	-1.63%	
2PI	-	-	-1.70%	-1.63%	
3	-	0.66%	0.46%	0.19%	
4	1.80%	0.54%	0.47%	0.02%	
5	1.78%	0.84%	0.61%	0.54%	
6	1.77%	0.97%	0.74%	0.71%	
7	1.77%	1.03%	0.92%	0.80%	
8	1.77%	1.19%	1.04%	0.86%	
9	1.77%	1.47%	1.38%	1.29%	
					0.0%

Mod 0831A – Change in UIG %

EUC	1	2	3	4	Total
1ND	-	-	0.87%	0.47%	
1PD	-	-	0.06%	-2.95%	
1NI	-	-	-10.63%	-11.98%	
1PI	-	-	-10.60%	-11.98%	
2ND	-	-	-1.94%	-2.86%	
2PD	-	-	-1.90%	-2.86%	
2NI	-	-1.20%	-1.35%	-1.35%	
2PI	-	-	-1.40%	-1.35%	
3	-	0.94%	0.75%	0.47%	
4	-0.23%	0.82%	0.76%	0.31%	
5	-0.25%	1.12%	0.89%	0.83%	
6	-0.25%	1.25%	1.03%	0.99%	
7	-0.25%	1.31%	1.20%	1.08%	
8	-0.25%	1.47%	1.32%	1.14%	
9	-0.25%	1.76%	1.67%	1.57%	
					0.0%

Overall "effective rate" of UIG unchanged by either Modification



Simulated UIG Allocations – Using Actual Weighting Factors

Gas Year 2022/23 – GWh

EUC	1	2	3	4	Total
1ND	-	-	<mark>653</mark>	4,044	
1PD	-	-	9	1,188	
1NI	-	-	80	1,509	
1PI	-	-	0	6	
2ND	-	-	2	151	
2PD	-	-	0	5	
2NI	-	0	94	597	
2PI	-	-	0	0	
3	-	0	73	141	
4	-	3	93	165	
5	0	2	56	116	
6	0	14	40	152	
7	1	37	39	109	
8	5	65	26	105	
9	64	5	2	13	
	71	126	1,167	8,302	9,666

Effective % UIG

	Product/Cla	SS			
EUC	1	2	3	4	Average
1ND	N/A	N/A	1.47%	1.57%	
1PD	N/A	N/A	3.09%	6.54%	
1NI	N/A	N/A	4.42%	14.91%	
1PI	N/A	N/A	3.00%	16.17%	
2ND	N/A	N/A	1.14%	2.75%	
2PD	N/A	N/A	3.90%	2.48%	
2NI	N/A ·	2.27%	1.81%	4.53%	
2PI	N/A	N/A	1.90%	3.55%	
3	N/A	1.43%	1.19%	1.06%	
4	N/A	2.65%	1.73%	1.07%	
5	0.08%	0.77%	2.00%	1.04%	
6	0.11%	0.88%	2.43%	1.39%	
7	0.21%	1.25%	2.23%	1.16%	
8	0.11%	1.10%	2.03%	1.04%	
9	0.11%	0.20%	0.84%	0.56%	
					2.04%

N/A = no/negligible consumption in that matrix position per the forecast

22/23 Mod 0831 GWh and %

Mod 0831 Simulation

Gas Year <u>2022/23</u> – GWh

EUC	1	2	3	4	Total
1ND	-	-	<mark>9</mark> 81	4,327	
1PD	-	-	12	281	
1NI	-	-	42	180	
1PI	-	-	0	1	
2ND	-	-	3	108	
2PD	-	-	0	4	
2NI	-	0	135	270	
2PI	-	-	0	0	
3	-	0	137	242	
4	-	4	155	255	
5	1	4	97	189	
6	8	21	68	191	
7	23	52	61	158	
8	91	115	39	207	
9	1,135	17	6	44	
	1,258	214	1,736	6,457	9,666

Effective % UIG

Product/Class				I	
EUC	1	2	3	4	Average
1ND	N/A	N/A	2.04%	2.04%	
1PD	N/A	N/A	2.04%	2.04%	
1NI	N/A	N/A	2.04%	2.04%	
1PI	N/A	N/A	1.98%	2.04%	
2ND	N/A	N/A	2.04%	2.04%	
2PD	N/A	N/A	2.03%	2.04%	
2NI	N/A	2.03%	2.04%	2.04%	
2PI	N/A	N/A	2.06%	2.03%	
3	N/A	2.04%	2.04%	2.04%	
4	N/A	2.04%	2.04%	2.04%	
5	2.04%	2.04%	2.04%	2.04%	
6	2.04%	2.04%	2.04%	2.04%	
7	2.04%	2.04%	2.04%	2.04%	
8	2.04%	2.04%	2.04%	2.04%	
9	2.04%	2.04%	2.04%	2.04%	
					2.04%

N/A = no/negligible consumption in that matrix position per the forecast Very low consumption positions do not return the industry average due to rounding

Mod 0831A Simulation

Gas Year 2022/23 – GWh

22/23 Mod 0831A

GWh and %

EUC	1	2	3	4	Total
1ND	-	-	1,128	4,974	
1PD	-	-	14	323	
1NI	-	-	48	207	
1PI	-	-	0	1	
2ND	-	-	3	124	
2PD	-	-	0	4	
2NI	-	0	155	311	
2PI	-	-	0	0	
3	-	0	157	278	
4	-	5	178	294	
5	0	5	111	217	
6	0	24	78	220	
7	0	60	71	181	
8	0	133	45	238	
9	0	20	7	51	
	0	246	1,996	7,423	9,666

Effective % UIG

		Product/Class					
EUC	1	2	3	4	Total		
1ND	N/A	N/A	2.35%	2.35%			
1PD	N/A	N/A	2.35%	2.35%			
1NI	N/A	N/A	2.35%	2.35%			
1PI	N/A	N/A	2.37%	2.35%			
2ND	N/A	N/A	2.35%	2.35%			
2PD	N/A	N/A	2.36%	2.35%			
2NI	N/A	2.33%	2.35%	2.35%			
2PI	N/A	N/A	2.36%	2.35%			
3	N/A	2.35%	2.35%	2.35%			
4	N/A	2.35%	2.35%	2.35%			
5	0.00%	2.35%	2.35%	2.35%			
6	0.00%	2.35%	2.35%	2.35%			
7	0.00%	2.35%	2.35%	2.35%			
8	0.00%	2.35%	2.35%	2.35%			
9	0.00%	2.35%	2.35%	2.35%			
					2.04%		

N/A = no/negligible consumption in that matrix position per the forecast Very low consumption positions do not return the industry average due to rounding

% Change by Gas Year – 2022/23

Mod 0831 – Change in UIG %

EUC	1	2	3	4	Total
1ND	-	-	0.57%	0.47%	
1PD	-	-	-1.05%	-4.50%	
1NI	-	-	-2.38%	-12.87%	
1PI	-	-	-1.02%	-14.13%	
2ND	-	-	0.90%	-0.71%	
2PD	-	-	-1.87%	-0.44%	
2NI	-	-0.23%	0.23%	-2.49%	
2PI	-	-	0.16%	-1.52%	
3	-	0.62%	0.85%	0.98%	
4	-	-0.61%	0.31%	0.97%	
5	1.96%	1.27%	0.04%	1.00%	
6	1.93%	1.16%	-0.39%	0.65%	
7	1.83%	0.79%	-0.19%	0.88%	
8	1.93%	0.94%	0.01%	1.00%	
9	1.93%	1.84%	1.20%	1.48%	
					0.0%

Mod 0831A – Change in UIG %

EUC	1	2	3	4	Total
1ND	-	-	0.87%	0.77%	
1PD	-	-	-0.74%	-4.20%	
1NI	-	-	-2.08%	-12.57%	
1PI	-	-	-0.63%	-13.82%	
2ND	-	-	1.21%	-0.41%	
2PD	-	-	-1.54%	-0.13%	
2NI	-	0.07%	0.54%	-2.19%	
2PI	-	-	0.46%	-1.20%	
3	-	0.92%	1.16%	1.29%	
4	-	-0.31%	0.61%	1.27%	
5	-0.08%	1.58%	0.34%	1.30%	
6	-0.11%	1.47%	-0.09%	0.95%	
7	-0.21%	1.10%	0.11%	1.19%	
8	-0.11%	1.25%	0.31%	1.30%	
9	-0.11%	2.14%	1.51%	1.78%	
					0.0%

Overall "effective rate" of UIG unchanged by either Modification

X Serve