Balancing Services Use of System Charging (BSUoS) Workshop

Nick Everitt
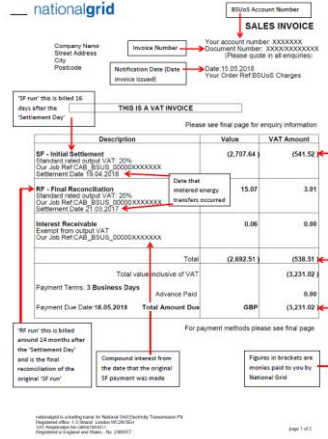
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Questions

|	
1	Are you a BSUoS customer?
2	Do you use the II notifications?
3	Do you see the invoice?
4	Do you use the backing data?
5	Do you use the BPA/BCR Reports?
6	Do you use an other sources for info?

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BSUoS Data Sources

Settlement Day	Settlement Period	BSUoS Price (£/MWh Hour)	Half-hourly Charge	Total Daily BSUoS Charge	Run Type
26/09/2018	25	3.47114	91280.98512	9,421,272.39	II
26/09/2018	26	2.84174	73691.34808	9,421,272.39	II
26/09/2018	27	3.48438	89853.10081	9,421,272.39	II
26/09/2018	28	3.91878	100553.23	9,421,272.39	II
26/09/2018	29	4.12649	105938.2636	9,421,272.39	II
26/09/2018	30	4.16213	107005.8234	9,421,272.39	II
26/09/2018	31	2.56337	65478.92835	9,421,272.39	II
26/09/2018	32	2.21720	59226.48939	9,421,272.39	II
26/09/2018	33	2.91378	83245.03375	9,421,272.39	II
26/09/2018	34	2.54998	76558.55954	9,421,272.39	II
26/09/2018	35	1.66420	51770.00017	9,421,272.39	II
26/09/2018	36	2.55942	81382.59438	9,421,272.39	II
26/09/2018	37	3.83798	123067.1699	9,421,272.39	II
26/09/2018	38	4.20699	136490.1532	9,421,272.39	II
26/09/2018	39	5.81223	193681.754	9,421,272.39	II
26/09/2018	40	4.49342	149520.7073	9,421,272.39	II
26/09/2018	41	4.77589	155692.1514	9,421,272.39	II
26/09/2018	42	3.26165	102557.1047	9,421,272.39	II
26/09/2018	43	2.74101	83049.12192	9,421,272.39	II
26/09/2018	44	2.87808	81762.82788	9,421,272.39	II
26/09/2018	45	3.69546	97749.90587	9,421,272.39	II
26/09/2018	46	4.71192	115004.2084	9,421,272.39	II
26/09/2018	47	8.98547	203070.0945	9,421,272.39	II
26/09/2018	48	11.73666	248456.2897	9,421,272.39	II

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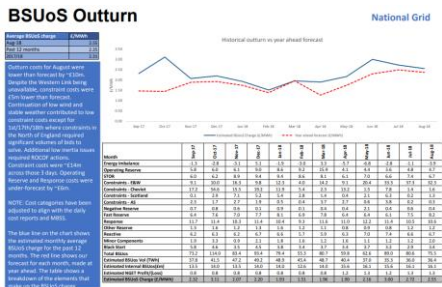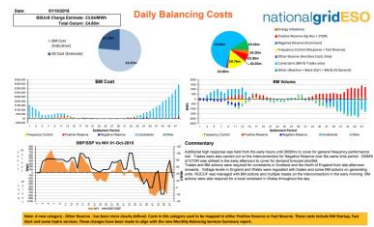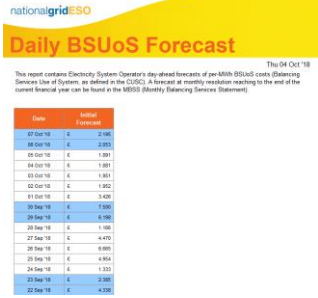
BCR New Page 1 – Daily Charges by Category & YTD

NGESO BALANCING SERVICES USE OF SYSTEM CHARGES	Page :	1			
BALANCING SERVICES CHARGING REPORT(BCR)					
	Date:	15/10/2019			
Settlement Day:21/09/2019					
SAA Run Number:	2	Settlement Run Type:	SF	NGESO Version Id:	2
Internal Scheme Code:	19/20	Internal Scheme Name:	2019/2020	Internal Scheme Day:	174
BALANCING SERVICES USE OF SYSTEM CHARGE	TODAY COMPONENTS(£)	YEAR TO DATE(£)			
System Operator Balancing Mechanism Costs	2,913,218.71	257,270,860.01			
Balancing Services Contract Cost	1,294,297.85	155,654,631.92			
Balancing Services Cost Variable	1,472,956.83	65,197,805.98			
ESO Incentive Recovery Costs	0	7,000,000.00			
Black Start Capital Costs	0	0			
Black Start Testing Costs	0	0			
Black Start Availability Costs	122,407.51	20,029,043.26			
Black Start Other Costs	0	0			
System Operator Internal Costs	824,071.04	143,388,360.96			
System Innovation Costs	0	0			
Prior Year Cost Recovery	0	0			
EMR Incentive Revenue	4,128.42	718,345.08			
Placeholder Column2 30 Charact	0	0			
Placeholder Column3 30 Charact	0	0			
Wind Forecast Incentive	0	0			
Provision Of Balancing Services to Others	0	0			
Total Internal Costs	824,071.04	143,388,360.96			
Total External Costs	5,807,009.32	505,870,686.24			
Total Adjusted Energy Volume (MWh)	1,010,988.28				

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BCR New Page 2 – Costs, Energy & Price by SP

NGESO BALANCING SERVICES USE OF SYSTEM CHARGES	Page :	2			
BALANCING SERVICES CHARGING REPORT(BCR)					
	Date:	15/10/2019			
Settlement Day:21/09/2019					
SAA Run Number:	2	Settlement Run Type:	SF	NGESO Version Id:	2
BALANCING SERVICES USE OF SYSTEM CHARGE - DAILY SETTLEMENT PERIOD COMPONENTS					
Settlement Period	Period total Energy Volume(MWh)	Total Period Balance use of System Charges	Balancing Services Price(£/MWh)		
1	19,471.61	150,452.66	7.72677		
2	19,120.71	150,144.02	7.85243		
3	18,838.18	167,929.00	8.91429		
4	18,889.74	163,332.33	8.64662		
5	18,917.12	162,555.48	8.59304		
6	18,726.19	162,550.16	8.68036		
7	18,495.61	175,036.01	9.46365		
8	18,207.57	177,896.44	9.77047		
9	18,270.23	180,824.56	9.89722		
10	18,302.16	175,782.20	9.60445		
11	18,275.21	169,158.81	9.25619		
12	18,621.68	170,534.41	9.15784		
13	19,330.81	193,698.12	10.02017		
14	20,018.89	226,570.67	11.31784		
15	20,766.01	100,300.94	4.83005		
16	21,608.16	139,613.00	6.46112		
17	21,911.35	130,583.75	5.95964		
18	21,940.91	128,278.03	5.84652		
19	22,020.59	126,486.67	5.74402		
20	21,792.09	114,135.00	5.23745		
21	21,535.50	110,338.19	5.12355		
22	21,075.12	99,220.40	4.70794		
23	20,916.12	123,254.59	5.8928		
24	20,348.23	112,106.18	5.50938		
25	20,152.18	119,091.69	5.90962		

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BCR New Page 3 – Daily Charges by Category & YTD

NGESO BALANCING SE	Page :	3
BALANCING SERVICES CHARGING REPORT(BCR)		
Date:	15/10/2019	
Settlement Day:21/09/2019		

SAA Run Number:	2	Settlement Run Type: SF	NGESO Version Id	2

BALANCING SERVICES USE OF SYSTEM CHARGE - SETTLEMENT PERIOD COMPONENTS

Settlement Period	Total Adjustment Energy factor Volume	System Operator Balancing Mechanism Costs(£)	Balancing Services Contract Cost(£)	Balancing Services Cost Variable(£)	ESO Incentive Recovery Costs	Black Start Capital Costs	Black Start Testing Costs	Black Start Availability Costs	Black Start Other Costs	System Operator Internal Costs(£)	System Innovation Costs(£)	Prior Year Cost Recovery	EMR Incentive Revenue	Placeholder Column2 30 Charact	Placeholder Column3 30 Charact	Wind forecast Incentive(£)	Provision of Balancing Services to Others(£)	Total Period BSUoS charges(£)
1	0.01926	14,632.88	24,928.18	92,582.91	0	0	0	2,357.57	0	15,871.61	0	0	79.513	0	0	0	0	150,452.66
2	0.01891	15,109.96	24,475.17	92,582.91	0	0	0	2,314.73	0	15,583.18	0	0	78.068	0	0	0	0	150,144.02
3	0.01863	14,495.63	24,112.77	111,610.79	0	0	0	2,280.45	0	15,352.44	0	0	76.912	0	0	0	0	167,929.00
4	0.01868	9,786.72	24,177.48	111,610.79	0	0	0	2,286.57	0	15,393.65	0	0	77.119	0	0	0	0	163,332.33
5	0.01871	8,654.39	24,216.31	111,898.92	0	0	0	2,290.25	0	15,418.37	0	0	77.243	0	0	0	0	162,555.48
6	0.01852	9,075.60	23,970.40	111,898.92	0	0	0	2,266.99	0	15,261.80	0	0	76.458	0	0	0	0	162,550.16
7	0.01829	11,940.44	23,672.71	122,036.26	0	0	0	2,238.83	0	15,072.26	0	0	75.509	0	0	0	0	175,036.01
8	0.01801	15,429.44	23,310.30	122,036.26	0	0	0	2,204.56	0	14,841.52	0	0	74.353	0	0	0	0	177,896.44
9	0.01807	15,185.84	23,387.96	125,073.29	0	0	0	2,211.90	0	14,890.96	0	0	74.601	0	0	0	0	180,824.56
10	0.0181	10,076.13	23,426.79	125,073.29	0	0	0	2,215.58	0	14,915.69	0	0	74.724	0	0	0	0	175,782.20
11	0.01808	7,992.22	23,400.91	120,578.71	0	0	0	2,213.13	0	14,899.20	0	0	74.642	0	0	0	0	169,158.81
12	0.01842	8,604.55	23,840.97	120,578.71	0	0	0	2,254.75	0	15,179.39	0	0	76.045	0	0	0	0	170,534.41
13	0.01912	18,213.36	24,746.98	132,562.18	0	0	0	2,340.43	0	15,756.24	0	0	78.935	0	0	0	0	193,698.12
14	0.0198	44,510.22	25,627.10	137,611.33	0	0	0	2,423.67	0	16,316.61	0	0	81.743	0	0	0	0	226,570.67
15	0.02054	66,188.52	26,584.88	-11,997.93	0	0	0	2,514.25	0	16,926.42	0	0	84.798	0	0	0	0	100,300.94
16	0.02137	103,637.31	27,659.15	-11,997.93	0	0	0	2,615.85	0	17,610.40	0	0	88.224	0	0	0	0	139,613.00
17	0.02167	98,834.73	28,047.43	-16,898.07	0	0	0	2,652.57	0	17,857.62	0	0	89.463	0	0	0	0	130,583.75
18	0.0217	96,461.67	28,086.26	-16,898.07	0	0	0	2,656.24	0	17,882.34	0	0	89.587	0	0	0	0	128,278.03
19	0.02178	95,032.69	28,189.81	-17,440.05	0	0	0	2,666.04	0	17,948.27	0	0	89.917	0	0	0	0	126,486.67
20	0.02156	83,174.90	27,905.06	-17,440.05	0	0	0	2,639.11	0	17,766.97	0	0	89.009	0	0	0	0	114,135.00
21	0.0213	79,133.35	27,568.54	-16,611.63	0	0	0	2,607.28	0	17,552.71	0	0	87.935	0	0	0	0	110,338.19
22	0.02085	69,025.76	26,986.11	-16,611.63	0	0	0	2,552.20	0	17,181.88	0	0	86.078	0	0	0	0	99,220.40
23	0.02069	84,876.15	26,779.02	-8,068.64	0	0	0	2,532.61	0	17,050.03	0	0	85.417	0	0	0	0	123,254.59
24	0.02013	74,984.89	26,054.22	-8,068.64	0	0	0	2,464.06	0	16,588.55	0	0	83.105	0	0	0	0	112,106.18
25	0.01993	78,565.05	25,795.36	-4,214.31	0	0	0	2,439.58	0	16,423.74	0	0	82.279	0	0	0	0	119,091.69
26	0.01988	68,261.84	25,730.64	-4,214.31	0	0	0	2,433.46	0	16,382.53	0	0	82.073	0	0	0	0	108,676.24
27	0.0198	74,436.72	25,627.10	-10,076.25	0	0	0	2,423.67	0	16,316.61	0	0	81.743	0	0	0	0	108,809.59
28	0.01959	81,020.92	25,355.30	-10,076.25	0	0	0	2,397.96	0	16,143.55	0	0	80.876	0	0	0	0	114,922.36
29	0.01965	90,502.08	25,432.95	-9,633.90	0	0	0	2,405.31	0	16,193.00	0	0	81.123	0	0	0	0	124,980.56
30	0.01983	96,045.41	25,665.93	-9,633.90	0	0	0	2,427.34	0	16,341.33	0	0	81.867	0	0	0	0	130,927.97
31	0.02002	92,965.39	25,911.84	-8,366.00	0	0	0	2,450.60	0	16,497.90	0	0	82.651	0	0	0	0	129,542.38
32	0.02031	100,501.27	26,287.19	-8,366.00	0	0	0	2,486.10	0	16,736.88	0	0	83.848	0	0	0	0	137,729.29

BPA and BCR files are available in four different formats: pdf, dat, prt & csv which is shown below (BPA sample)

NGC BALANCING SERVICES USE OF SYSTEM CHARGES

BSC PARTY CHARGING ADVICE (BPA)

Date:	20180515						
Settlement Day:	20180419			This will either be for the II, SF or RF run			
CAB Run Number:	2	SAA Run Number:	2	Settlement Run Type:	SF	NGC Version Id:	1
Internal Scheme Code:	18/19	Internal Scheme Name:	2018/2019	Internal Scheme Day:	19		
External Scheme Code:	18/19	External Scheme Name:	2018/2019	External Scheme Day:	19		

Lead Party ID

Company Name

BSC PARTY ID:	XXXXX	BSC Party Name:	XXXXXXXXXX

BSC PARTY BALANCING SERVICES USE OF SYSTEM CHARGE (£):	-2,707.64

Total SF Charge

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Breakdown of BSUoS charge per BMU

BM UNIT SETTLEMENT DAY CHARGES:	
BM Unit Id	**Balancing Services Use of System Charge(£)**
2_AABCD	-358.09
2_BABCD	-144.38
2_CABCD	0
2_DABCD	-244.15
2_EABCD	-334.54
2_FABCD	-307.34
2_GABCD	-21.61
2_HABCD	-318.25
2_JABCD	-66.23
2_KABCD	-242.71
2_LABCD	-202.51
2_MABCD	-474.6
2_NABCD	-26.65
2_PABCD	33.42
C_DBCDE	0
C_FBCDE	0

BSC PARTY BALANCING SERVICES	
USE OF SYSTEM CHARGE	-2,707.64

This is a list of each BMU's individual BSUoS charges for this settlement day.

This section of the BPA file will show a list of every BMU owned by the BSC Party ID/ Lead Party ID, including directly connected & embedded BMU's as well as the supplier BMU's shown to the left.

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The rest of the BPA file shows for each BMU the charges broken down by settlement period and components of the calculation

NGC BALANCING SERVICES USE OF SYSTEM CHARGES
BSC PARTY CHARGING ADVICE (BPA)

Date:	20180515					
Settlement Day:	20180419					
CAB Run Number:	2	SAA Run Number:	2	Settlement Run Type:	SF	NGC Version Id: 1
Internal Scheme Code:	18/19	Internal Scheme Name: 2018/2019	Internal Scheme Day: 19			
External Scheme Code:	18/19	External Scheme Name: 2018/2019	External Scheme Day: 19			

BSC PARTY ID: XXXXX   BSC Party Name: XXXXXXXXXXX

BM UNIT SETTLEMENT PERIOD DATA:

This table applies the BSUoS Charge to each metered volume period from BMU '2_AABCD'

BM UNIT ID: 2_AABCD

Useful calculation

Settlement Period	BM Unit Metered Energy Volume (MWh)	Transmission Loss Multiplier	Trading Unit Delivery Mode	Balancing Services Use of System Charge (£)
1	1.948	1.0172379	-1	-13.782
2	1.827	1.017628	-1	-12.364
3	1.155	1.0170298	-1	-7.924
4	1.819	1.0163888	-1	-13.429
5	3.859	1.0160457	-1	-23.641
6	4.735	1.0149942	-1	-31.539
7	4.467	1.0148752	-1	-24.958

BSUoS Charge Calculation
BSUoS Price £/MWh x BM Unit metered Energy Volume (MWh) x Transmission Loss Multiplier x Trading Unit Delivery Mode (+ or − 1) = BSUoS Charge for Settlement Period

£6.9953 x 1.948 x 1.0172379 x -1 = -£13.782

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BM UNIT SETTLEMENT PERIOD DATA:

BM UNIT ID: 2_PABCD

Settlement Period	BM Unit Metered Energy Volume (MWh)	Transmission Loss Multiplier	Trading Unit Delivery Mode	Balancing Services Use of System Charge (£)
1	0.879	0.9677364	1	5.916
2	0.934	0.967474	1	6.009
3	0.927	0.9677468	1	6.051
4	0.969	0.9682556	1	6.815
5	0.986	0.968559	1	5.758
6	0.869	0.9690831	1	5.526
7	0.896	0.9692148	1	4.781
8	0.939	0.9693277	1	4.529
9	0.909	0.9696446	1	3.916
10	0.949	0.9702299	1	3.593
11	0.873	0.9708463	1	3.904
12	0.941	0.9712337	1	3.871
13	0.766	0.971835	1	2.821
14	0.678	0.9890128	-1	-1.438
15	0.64	0.9886449	-1	-0.553
16	0.728	0.9885363	-1	-0.683
17	0.794	0.9885119	-1	-1.26
18	0.837	0.9887433	-1	-1.038
19	0.748	0.9888095	-1	-0.936
20	0.741	0.9891283	-1	-0.792
21	0.689	0.9892983	-1	-0.814
22	0.714	0.9892624	-1	-0.859

This is a good example of how the BM unit metered volume stays more or less the same but the charges flip to a credit due to the trading unit delivery mode changing at Settlement Period 14

Trading unit delivery mode change causes charge to flip to a credit

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Questions?

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