### **Obligatory Reactive Power Service**

### **Default Payment Rates**

In accordance with Appendix 1 of CUSC Schedule 3, the Default Payment Rate which is used to determine the default payment (PU) for the provision of the Obligatory Reactive Power Service (ORPS) from a BM Unit in a Settlement Period is calculated as follows:

## **Default Payment Rates from 1 November 2007**

For all Settlement Periods from (and including) 1st November 2007, the Default Payment Rate ( $BP_U$ ) shall in respect of each calendar month be determined as follows:-

 $BP_U = (46,270,000 * I_m * X) / 42,054,693$ 

Where

 $I_m$  = the indexation factor (I) for the calendar month (m) determined as follows:

 $I_m = C^*[(0.5*FRPI_m/RPI_x)+(0.5*PI_m)]$ 

where

C = RPI<sub>x</sub>/RPI<sub>1</sub>

 $RPI_x$  is the RPI for March 2003 = **179.9** 

 $RPI_1$  is the RPI for March 1994 = **142.5** 

FRPI<sub>m</sub> is the Forecast RPI for the calendar month (m) in question

Pl<sub>m</sub> is a wholesale power price index determined as follows:

$$PI_m = [(p^* HPI_m / HPI_1) + (q^* PAPI_m / PAPI_1) + (r^* PPI_m / PPI_1)]$$

Where

HPI<sub>m</sub> is the mean average of the OTC baseload month ahead Heren power index bid and offer prices for all days on which this index is published in the calendar month immediately preceding the calendar month in question

PAPI<sub>m</sub> is the mean average of the OTC baseload month ahead Petroleum Argus power index bid and offer prices for all days on which this index is published in the calendar month immediately preceding the calendar month in question

PPI<sub>m</sub> is the mean average of the OTC baseload month ahead Platts power index bid and offer prices for all days on which this index is published in the calendar month immediately preceding the calendar month in question

and where

p = q = r = 1/3 (subject always to sub-paragraph 3.2(c) of Appendix 1 to CUSC Schedule 3)

and where

HPI<sub>1</sub> is the mean average of the OTC baseload month ahead Heren power index bid and offer prices for all days on which this index is published during the period from (and including) 1<sup>st</sup> October 2002 to (and including) 30th September 2003 = **17.28** 

PAPI<sub>1</sub> is the mean average of the OTC baseload month ahead Petroleum Argus power index bid and offer prices for all days on which this index is published during the period from (and including) 1st October 2002 to (and including) 30th September 2003 = **17.27** 

PPI<sub>1</sub> is the mean average of the OTC baseload month ahead Platts power index bid and offer prices for all days on which this index is published during the period from (and including) 1st October 2002 to (and including) 30th September 2003 = **17.27** 

X = Utilisation Factor = 1 in the relevant Settlement Period unless:

- a. the BM Unit or a CCGT Unit comprised within the CCGT Module has failed a Reactive Test and has not subsequently passed a further Reactive Test; or
- The User fails to set the automatic voltage regulator on the BM Unit or a CCGT Unit within the CCGT Module to a voltage following mode (unless otherwise instructed by National Grid or where permitted by the Grid Code); or
- c. The BM Unit or a CCGT Unit within the CCGT Module fails to comply with a Reactive Despatch Instruction due to the fact that the BM Unit or CCGT Unit is unable to increase and/or decrease its Mvar output; or
- d. The BM Unit fails to have a Mvar range which includes the ability to provide zero Mvar at the Commercial Boundary.

In any Settlement Period in which any of the above cases applies X = 0.2

Therefore the ORPS Default Payment Rates are:

						BP <sub>∪</sub> (£/Mvarh)	
Month	HPIm	PAPIm	PPIm	FRPIm	Im	X = 1	X = 0.2
November 2007*	29.9	29.9	28.94	210.1	1.8181	2.000335	0.400067
December 2007	41.56	41.55	42.19	211.0	2.2667	2.493900	0.498780
January 2008	51.97	52.06	52.09	210.5	2.6403	2.904948	0.580990
February 2008	60.17	60.22	59.89	211.1	2.9367	3.231057	0.646211
March 2008	61.41	61.40	60.98	211.7	2.9816	3.280457	0.656091
April 2008	52.61	52.61	52.75	213.1	2.6720	2.939825	0.587965
May 2008	56.96	56.95	56.58	213.7	2.8266	3.109921	0.621984
June 2008	61.32	61.32	65.08	215.4	3.0424	3.347352	0.669470
July 2008	68.06	68.25	68.12	215.2	3.2453	3.570589	0.714118
August 2008	81.44	81.53	81.53	218.0	3.7432	4.118396	0.823679
September 2008	83.70	83.70	83.33	218.4	3.8205	4.203444	0.840689
October 2008	81.08	81.08	80.99	218.7	3.7292	4.102992	0.820598
November 2008	95.49	95.22	94.47	219.3	4.2433	4.668623	0.933725
December 2008	124.83	124.84	128.52	220.2	5.3794	5.918598	1.183720
January 2009	77.82	77.88	77.16	214.7	3.5899	3.949730	0.789946

Month							BP <sub>U</sub> (£/I	Myarh)
February 2009	Month	HPI <sub>m</sub>	PAPIm	PPIm	FRPIm	Im		
March 2009	February 2009					2.8953		
May 2009								
June 2009   35.40   35.03   35.39   211.0   2.0294   2.232815   0.446663   July 2009   35.46   35.43   35.90   211.8   2.0430   2.247778   0.449556   September 2009   35.46   31.69   31.70   213.4   1.9529   2.148647   0.449556   31.69   33.15   33.15   33.13   213.4   1.9500   2.156488   0.431292   November 2009   35.08   33.81   33.31   31.70   213.4   1.9500   2.156488   0.431292   November 2009   38.08   38.43   38.32   215.0   2.1577   2.373975   0.474751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.23876   0.447751   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.450335   2.04081   2.253739   0.45035   2.04081	April 2009	48.97	48.72	47.44	209.7	2.5036	2.754546	0.550909
July 2009         35.40         35.43         35.93         210.3         2.0307         2.234245         0.446849           August 2009***         35.44         35.58         35.69         21.18         2.0430         2.247778         0.449529           September 2009         35.68         31.69         31.70         213.4         1.9529         2.148647         0.429729           November 2009         35.08         35.09         33.15         33.13         213.4         1.9509         2.156458         0.447795           December 2009         38.45         38.39         38.32         215.0         2.1577         2.373975         0.447395           January 2010         35.06         35.09         35.32         217.1         2.0466         2.251739         0.450348           March 2010         35.68         34.97         35.00         219.5         2.0486         2.253939         0.450348           May 2010         34.98         34.97         35.00         219.5         2.0486         2.253939         0.450788           May 2010         40.47         40.47         40.30         223.4         2.2007         2.487299         0.497460           August 2010         42.34         42	May 2009	35.68		35.55	210.1	2.0398	2.244257	0.448851
August 2009"         35.44         35.58         35.69         211.8         2.0430         2.247778         0.449565           September 2009         33.16         31.70         213.4         1.9600         2.156458         0.43929           October 2009         33.16         33.15         33.13         213.4         1.9600         2.156458         0.431292           November 2009         38.48         38.33         31.50         2.15150         2.1577         2.373975         0.474751           January 2010         35.06         35.09         35.32         217.1         2.0466         2.251739         0.450335           Barch 2010         37.66         37.16         37.28         217.9         2.1240         2.336897         0.467373           April 2010         34.98         34.97         35.00         219.5         2.0486         2.253393         0.45078           May 2010         34.98         33.99         33.99         33.99         2.234         2.2607         2.487299         0.497489           July 2010         40.47         40.47         40.30         22.34         2.2607         2.594022         0.51880           September 2010         42.34         42.30         4	June 2009	35.40	35.03	35.39	211.0	2.0294	2.232815	0.446563
September 2009         35.46         31.69         31.70         213.4         1.9529         2.148647         0.429729           October 2009         33.61         33.15         33.13         31.34         1.9500         2.1566485         0.431751           December 2009         35.08         35.09         34.97         214.9         2.0348         2.238796         0.447751           December 2009         35.08         35.09         34.97         214.9         2.0348         2.2373976         0.447751           January 2010         35.06         35.09         35.22         217.1         2.0466         2.251739         0.450348           March 2010         37.16         37.16         37.28         217.9         2.1240         2.338897         0.450788           May 2010         33.99         33.99         33.91         219.8         2.0131         2.214881         0.44279           July 2010         40.47         40.47         40.30         229.4         2.0366         2.292447         0.458489           July 2010         40.47         40.47         40.30         229.4         2.2567         2.487299         0.958489           September 2010         42.24         40.47 <td< td=""><td></td><td></td><td></td><td></td><td>210.3</td><td></td><td>2.234245</td><td>0.446849</td></td<>					210.3		2.234245	0.446849
October 2009         33.16         33.15         33.13         213.4         1.9800         2.168488         0.43192           November 2009         38.09         35.09         34.97         214.9         2.0348         2.233755         0.447795           December 2009         38.45         38.43         38.32         215.0         2.1577         2.373975         0.474795           January 2010         35.06         35.09         35.92         217.1         2.0466         2.251739         0.450348           March 2010         37.16         37.16         37.28         217.9         2.1240         2.36887         0.467379           April 2010         33.99         33.99         33.97         219.8         2.0131         2.214881         0.42379           June 2010         35.92         35.88         35.82         220.2         2.0836         2.282447         0.458489           July 2010         40.47         40.47         40.30         223.4         2.2607         2.487299         0.497460           August 2010         42.34         42.30         42.07         224.3         2.3304         2.563985         0.51880           September 2010         42.34         42.30         38.8<							2.247778	
November 2009   35.08   35.09   34.97   214.9   2.0348   2.238756   0.447785     January 2010   37.58   37.54   38.84   216.6   2.1538   2.336677   0.467335     February 2010   37.58   37.54   38.84   216.6   2.1238   2.336677   0.467335     February 2010   37.66   37.68   37.28   217.9   2.1240   2.336897   0.450348     March 2010   37.16   37.16   37.28   217.9   2.1240   2.336897   0.450348     Agron 2010   34.98   34.97   35.00   219.5   2.0486   2.253939   0.450788     Agron 2010   33.99   33.99   33.99   33.97   219.8   2.0131   2.214881   0.442976     June 2010   35.92   35.88   35.82   220.2   2.0836   2.292447   0.458489     July 2010   40.47   40.47   40.30   223.4   2.2607   2.467299   0.497460     August 2010   42.79   43.04   43.02   224.0   2.3577   2.594022   0.518804     September 2010   42.34   42.30   42.07   224.3   2.3304   2.563985   0.512797     October 2010   39.85   39.90   39.83   225.3   2.2472   2.47246   0.494489     November 2010   41.73   41.72   41.78   225.6   2.3171   2.549352   0.509870     December 2010   44.24   44.19   44.24   226.6   2.4112   2.652884   0.530577     January 2011   48.85   44.84   44.80   226.8   2.4341   2.678079   0.536616     February 2011   51.81   51.92   51.97   227.5   2.6949   2.985020   0.593004     March 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.58983     June 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.58983     June 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.58983     September 2011   54.45   50.86   50.63   325.8   2.7527   2.813518   0.56274     December 2011   53.17   52.27   51.98   235.8   2.7527   2.813518   0.56274     December 2011   53.17   53.14   53.02   239.2   2.7801   3.058760   0.61322     Juny 2011   52.75   52.75   52.699   2.38.35   2.6996   2.966891   0.593974     December 2011   53.17   53.14   53.02   239.2   2.7801   3.058760   0.61322     January 2012   45.93   45.64   44.59   44.89   24.25   2.2551   2.806807   0.563361     December 2011   44.64   44.65   44.86   44.8								
December 2009   38.45   38.43   38.32   215.0   2.1577   2.373975   0.474795								
January 2010   37.58   37.54   36.84   216.66   2.1238   2.336677   0.467335								
February 2010   35.06   35.09   35.32   217.1   2.0466   2.251739   0.460348   Agnil 2010   37.16   37.28   217.9   2.1240   2.336897   0.467379   Agnil 2010   34.98   34.97   35.00   219.5   2.0486   2.253939   0.4607389   Agnil 2010   35.92   35.88   35.82   22.02   2.0386   2.22447   0.442976   August 2010   40.47   40.47   40.30   223.4   2.2607   2.487299   0.497460   August 2010   42.97   43.04   43.02   224.0   2.3577   2.594022   0.518804   August 2010   42.94   42.30   42.07   224.3   2.3304   2.563985   0.512797   October 2010   39.85   39.90   39.83   225.3   2.2472   2.472446   0.494489   November 2010   41.73   41.72   41.78   42.56   2.3171   2.549352   0.508870   December 2010   44.24   44.19   44.24   226.6   2.4112   2.652884   0.530577   January 2011   44.85   44.84   44.80   226.8   2.4341   2.678079   0.538616   Ebbrary 2011   51.81   51.92   51.97   227.5   2.6949   2.665020   5.993004   Agril 2011   49.24   49.19   49.33   228.9   2.6030   2.86399   0.572782   April 2011   52.35   49.19   51.92   231.3   2.6809   2.949817   0.58983   April 2011   52.35   49.19   51.92   231.3   2.6809   2.949817   0.58983   April 2011   52.35   49.19   51.92   231.3   2.6809   2.949817   0.58983   August 2011   50.54   50.86   50.63   236.3   2.6810   2.949727   0.58993   August 2011   50.54   50.86   50.27   50.69   235.3   2.6939   2.949817   0.58993   August 2011   50.54   50.86   50.27   50.69   235.3   2.6909   2.949817   0.58993   August 2011   50.45   50.86   50.27   50.69   235.3   2.6809   2.949827   0.58993   August 2011   50.45   50.86   50.27   50.69   235.3   2.6809   2.949827   0.58993   August 2011   50.45   50.86   50.27   50.69   235.3   2.6909   2.949827   0.58993   August 2011   50.45   50.86   50.27   50.69   2.36593   2.969881   50.599372   August 2012   47.13   47.26   47.13   237.5   2.5571   2.80807   0.561361   August 2012   47.13   47.66   47.13   237.5   2.5571   2.80807   0.561361   August 2012   44.66   44.59   44.84   44.82   24.84   2.6392   2.78040   0.611752   August 2012								
March 2010   37.16   37.28   217.9   2.1240   2.336897   0.467379   April 2010   34.98   34.97   35.00   219.5   2.0486   2.253939   0.450788   May 2010   33.99   33.99   33.97   219.8   2.0131   2.214881   0.442976   June 2010   35.92   35.88   35.82   220.2   2.0836   2.292447   0.458489   July 2010   40.47   40.47   40.30   223.4   2.2607   2.467299   0.497460   August 2010   42.97   43.04   43.02   224.0   2.3577   2.594022   0.518804   September 2010   42.34   42.30   42.07   224.3   2.3304   2.563985   0.512797   Cotober 2010   39.85   39.90   39.83   225.3   2.2472   2.472446   0.494489   November 2010   41.73   41.72   41.78   225.6   2.3171   2.549352   0.509870   December 2010   44.24   44.19   44.24   226.6   2.4112   2.652884   0.530577   January 2011   44.85   44.84   44.80   226.8   2.4341   2.678079   0.538616   February 2011   51.81   51.92   51.97   227.5   2.6949   2.985020   0.593004   August 2011   49.24   49.19   49.33   228.9   2.6030   2.89309   0.572782   April 2011   49.24   49.19   49.33   228.9   2.6030   2.89309   0.572782   April 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.58963   August 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.58963   August 2011   50.54   50.66   50.63   236.3   2.6810   2.949727   0.589943   June 2011   52.75   52.27   51.98   235.8   2.7327   3.06609   0.01322   July 2011   50.54   50.86   50.63   236.3   2.6810   2.949727   0.589945   0.593074   2.940727   0.589945   0.593074   2.940727   0.589945   0.593074   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   2.940727   0.58961   0.593072   0								
April 2010   34.98   34.97   35.00   219.5   2.0486   2.253939   0.450788								
May 2010   33.99   33.99   33.97   219.8   2.0131   2.214881   0.442976   0.458489   July 2010   40.47   40.47   40.30   223.4   2.2607   2.487299   0.497460   August 2010   42.97   43.04   43.02   224.0   2.3577   2.594022   0.518804   September 2010   42.34   42.30   42.07   224.3   2.2304   2.26082   0.512797   October 2010   39.85   39.90   39.83   225.3   2.2472   2.472446   0.494489   November 2010   41.73   41.72   41.78   225.6   2.3171   2.549352   0.509877   January 2011   44.85   44.84   44.80   226.8   2.4112   2.652884   0.530577   January 2011   44.85   44.84   44.80   226.8   2.4341   2.678079   0.535616   February 2011   51.81   51.92   51.97   227.5   2.6949   2.965020   0.593004   March 2011   49.24   49.19   49.33   228.9   2.6030   2.863909   0.572762   April 2011   52.35   49.19   49.33   228.9   2.6030   2.863909   0.572762   April 2011   52.35   49.19   49.19   49.23   231.3   2.6809   2.949617   0.589863   June 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.589863   June 2011   52.35   49.19   51.92   231.3   2.6809   2.949617   0.589963   June 2011   50.86   52.27   51.98   235.8   2.7327   3.006609   0.601322   July 2011   50.86   52.27   51.98   235.8   2.7327   3.006609   0.601322   July 2011   50.86   50.63   236.3   236.3   2.6810   2.949972   0.589945   September 2011   47.11   46.80   47.05   237.7   2.55711   2.806807   0.561361   November 2011   47.13   47.26   47.13   237.5   2.5572   2.813518   0.562704   October 2011   47.11   46.80   47.05   237.7   2.5511   2.806807   0.561361   January 2012   50.88   51.17   50.62   238.5   2.6966   2.968991   0.593378   March 2012   45.03   45.04   45.33   242.3   2.4779   2.726270   0.545254   May 2012   45.93   45.04   45.33   243.2   2.25002   2.756455   0.559259   March 2012   45.03   45.04   45.33   243.2   2.25002   2.756455   0.559239   C.560677   0.559559   March 2012   44.66   44.59   44.38   243.3   2.4379   2.726270   0.545254   May 2012   44.64   44.65   44.65   44.28   243.8   2.4514   2.697113   0.539423   0								
June 2010         35.92         35.88         35.82         220.2         2.0836         2.292447         0.458489           July 2010         40.47         40.47         40.30         223.4         2.2607         2.487299         0.497460           August 2010         42.97         43.04         43.02         224.0         2.3577         2.594022         0.518804           September 2010         42.34         42.30         42.07         224.3         2.3304         2.563985         0.512797           October 2010         39.85         39.90         39.83         225.3         2.2472         2.472446         0.494489           November 2010         41.73         41.72         41.78         225.6         2.3171         2.5439352         0.509870           December 2010         44.24         44.19         44.24         226.6         2.4112         2.652884         0.530971           January 2011         44.85         44.84         44.80         227.5         2.6949         2.965020         0.533616           February 2011         45.85         44.84         44.80         23.2         2.50.2         2.79411         0.50300           April 2011         45.85         44.84								
July 2010								
August 2010         42.97         43.04         43.02         224.0         2.3577         2.594022         0.512797           October 2010         39.85         39.90         39.83         225.3         2.3304         2.563985         0.512797           October 2010         39.85         39.90         39.83         225.3         2.2472         2.472446         0.494489           November 2010         41.73         41.72         41.78         225.6         2.3171         2.549352         0.599870           December 2011         44.85         44.84         44.80         226.6         2.4112         2.652884         0.530577           January 2011         45.85         44.84         44.80         226.8         2.4341         2.67807         0.530507           February 2011         51.81         51.92         251.97         227.5         2.6949         2.965020         0.539304           March 2011         49.24         49.19         46.61         230.2         2.5402         2.794814         0.58963           May 2011         52.35         49.19         51.92         231.3         2.6809         2.949617         0.5899923           June 2011         52.17         50.69         2								
September 2010         42.34         42.30         42.07         224.3         2.3304         2.563985         0.512797           October 2010         39.85         39.90         39.83         22.25.3         2.2472         2.472446         0.494489           November 2010         44.73         41.72         41.78         225.6         2.3171         2.549352         0.509870           December 2010         44.24         44.19         44.24         226.6         2.4112         2.652884         0.530577           January 2011         44.84         44.80         226.8         2.4341         2.678079         0.535616           February 2011         48.18         49.19         49.33         228.9         2.6030         2.863909         0.572782           April 2011         46.43         49.19         46.93         2.30.2         2.5402         2.794814         0.558963           May 2011         52.35         49.19         51.92         231.3         2.6809         2.99677         0.588933           July 2011         50.86         52.27         56.98         235.8         2.7327         3.006609         0.601322           July 2011         50.86         50.63         236.3 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
October 2010         39.85         39.90         39.83         225.3         2.2472         2.472446         0.494489           November 2010         41.73         41.78         225.6         2.3171         2.549352         0.509870           December 2010         44.24         44.19         44.24         226.6         2.4112         2.652844         0.530577           January 2011         44.85         44.84         44.80         226.8         2.4341         2.678079         0.535616           February 2011         51.81         51.92         51.97         227.5         2.6949         2.965020         0.593004           March 2011         49.24         49.19         49.33         228.9         2.6030         2.863909         0.575262           April 2011         46.43         49.19         51.92         231.3         2.6809         2.949617         0.589923           June 2011         52.17         52.27         51.98         235.8         2.7327         3.006609         0.601322           July 2011         50.86         52.27         50.69         235.3         2.6993         2.94981         0.593972           August 2011         47.13         47.26         47.13         237								
November 2010								
December 2010								
January 2011								
February 2011         51.81         51.92         51.97         227.5         2.6949         2.965020         0.593004           March 2011         49.24         49.19         49.33         228.9         2.6030         2.863909         0.557863           April 2011         46.43         49.19         46.61         230.2         2.5402         2.794814         0.558963           May 2011         52.35         49.19         51.92         231.3         2.6809         2.949617         0.589923           June 2011         50.86         52.27         51.98         235.8         2.7327         3.006609         0.601322           August 2011         50.54         50.86         50.63         236.3         2.6810         2.949727         0.589945           September 2011         47.13         47.26         47.13         237.5         2.5572         2.813518         0.562704           October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           December 2011         53.17         53.14         53.02         239.2         2.7801         3.04587         0.60517           December 2012         45.92         45.83         45.								
March 2011         49.24         49.19         49.33         228.9         2.6030         2.863909         0.572782           April 2011         46.43         49.19         46.61         230.2         2.5402         2.794814         0.589893           May 2011         52.35         49.19         51.92         231.3         2.6809         2.949617         0.589923           June 2011         52.17         52.27         51.98         235.8         2.7327         3.066609         0.601322           July 2011         50.86         52.27         50.69         235.3         2.6993         2.949861         0.593972           August 2011         50.54         50.86         50.63         236.3         2.6993         2.949727         0.589945           October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         45.92         45.83         45.35 </td <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	•							
May 2011         52.35         49.19         51.92         231.3         2.6809         2.949617         0.589923           June 2011         52.17         52.27         51.98         235.8         2.7327         3.006609         0.601322           July 2011         50.86         52.27         50.69         235.3         2.6993         2.969861         0.593972           August 2011         50.54         50.86         50.63         236.3         2.6810         2.949727         0.589945           September 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         46.60         44.59         44.38	•							
June 2011   52.17   52.27   51.98   235.8   2.7327   3.006609   0.601322     July 2011   50.86   52.27   50.69   235.3   2.6993   2.969861   0.593972     August 2011   50.54   50.86   50.63   236.3   2.6810   2.949727   0.589945     September 2011   47.13   47.26   47.13   237.5   2.5572   2.813518   0.562704     October 2011   47.11   46.80   47.05   237.7   2.5511   2.806807   0.561361     November 2011   52.72   52.74   52.92   238.3   2.7654   3.042587   0.608517     December 2011   53.17   53.14   53.02   239.2   2.7801   3.058760   0.611752     January 2012   50.88   51.17   50.62   238.5   2.6966   2.966891   0.593378     February 2012   45.92   45.83   45.35   239.7   2.5111   2.762797   0.552559     March 2012   42.10   42.07   42.11   240.7   2.3828   2.621637   0.524327     April 2012   45.91   46.70   46.05   243   2.5417   2.796465   0.559293     June 2012   45.03   45.04   45.13   243.2   2.5002   2.750805   0.550161     July 2012   41.80   41.81   41.82   243.8   2.3828   2.621637   0.524327     October 2012   42.36   42.26   42.28   245.1   2.4057   2.646833   0.529367     November 2012   44.06   44.05   44.13   245.6   2.4726   2.720438   0.524328     December 2012   48.79   48.48   48.42   246.4   2.6392   2.903737   0.580747     January 2013   49.59   49.58   49.49   245.7   2.6730   2.940925   0.580747     January 2013   50.78   50.79   50.70   246.9   2.7211   2.993847   0.598595     April 2013   48.16   48.26   48.19   249.6   2.6372   2.901537   0.598595     April 2013   48.68   48.63   48.47   250.1   2.6521   2.917630   0.583566     August 2013   47.46   47.55   47.38   251.1   2.6522   2.850097   0.571219     October 2013   46.68   46.60   46.84   252.7   2.5959   2.850097   0.571219     October 2013   46.68   46.67   46.73   252.9   2.6829   2.951818   0.590364     October 2013   46.68   46.67   46.73   252.9   2.6829   2.951818   0.590364     October 2013   46.68   46.67   46.73   252.9   2.6829   2.951818   0.590364     October 2013   46.68   46.67   46.73   252.9   2.6829   2.951	April 2011	46.43	49.19	46.61	230.2	2.5402	2.794814	0.558963
July 2011         50.86         52.27         50.69         235.3         2.6993         2.969861         0.593972           August 2011         50.54         50.86         50.63         236.3         2.6810         2.949727         0.588945           September 2011         47.13         47.26         47.13         237.5         2.5572         2.813518         0.562704           October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         <	May 2011	52.35	49.19	51.92	231.3	2.6809	2.949617	0.589923
August 2011         50.54         50.86         50.63         236.3         2.6810         2.949727         0.589945           September 2011         47.13         47.26         47.13         237.5         2.5572         2.813518         0.562704           October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         4	June 2011			51.98		2.7327		0.601322
September 2011         47.13         47.26         47.13         237.5         2.5572         2.813518         0.562704           October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.525559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5617         2.796465         0.559293           June 2012         45.03         45.04         45							2.969861	0.593972
October 2011         47.11         46.80         47.05         237.7         2.5511         2.806807         0.561361           November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.64         41.63         41	August 2011	50.54		50.63	236.3	2.6810	2.949727	
November 2011         52.72         52.74         52.92         238.3         2.7654         3.042587         0.608517           December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         43.03         45.04         43.23         242.8         2.4517         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4517         2.694683         0.524438           September 2012         41.64         41.63         41.68	September 2011	47.13		47.13	237.5	2.5572	2.813518	0.562704
December 2011         53.17         53.14         53.02         239.2         2.7801         3.058760         0.611752           January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.64         41.81         41.82         243.8         2.3828         2.622188         0.524438           September 2012         42.36         42.26         42.28 </td <td>October 2011</td> <td>47.11</td> <td>46.80</td> <td>47.05</td> <td>237.7</td> <td>2.5511</td> <td>2.806807</td> <td>0.561361</td>	October 2011	47.11	46.80	47.05	237.7	2.5511	2.806807	0.561361
January 2012         50.88         51.17         50.62         238.5         2.6966         2.966891         0.593378           February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28 <td>November 2011</td> <td>52.72</td> <td>52.74</td> <td>52.92</td> <td>238.3</td> <td>2.7654</td> <td>3.042587</td> <td>0.608517</td>	November 2011	52.72	52.74	52.92	238.3	2.7654	3.042587	0.608517
February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         48.79         48.48         48.42 </td <td>December 2011</td> <td>53.17</td> <td>53.14</td> <td>53.02</td> <td>239.2</td> <td>2.7801</td> <td>3.058760</td> <td>0.611752</td>	December 2011	53.17	53.14	53.02	239.2	2.7801	3.058760	0.611752
February 2012         45.92         45.83         45.35         239.7         2.5111         2.762797         0.552559           March 2012         42.10         42.07         42.11         240.7         2.3828         2.621637         0.524327           April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         48.79         48.48         48.42 </td <td>January 2012</td> <td>50.88</td> <td>51.17</td> <td>50.62</td> <td>238.5</td> <td>2.6966</td> <td>2.966891</td> <td>0.593378</td>	January 2012	50.88	51.17	50.62	238.5	2.6966	2.966891	0.593378
April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70	February 2012	45.92	45.83	45.35			2.762797	0.552559
April 2012         44.66         44.59         44.38         242.3         2.4779         2.726270         0.545254           May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70	March 2012	42.10	42.07	42.11	240.7	2.3828	2.621637	0.524327
May 2012         45.91         46.70         46.05         243         2.5417         2.796465         0.559293           June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.38333         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         5	April 2012							
June 2012         45.03         45.04         45.13         243.2         2.5002         2.750805         0.550161           July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         48.16         48.26 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
July 2012         43.03         45.04         43.23         242.8         2.4514         2.697113         0.539423           August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         <								
August 2012         41.80         41.81         41.82         243.8         2.3833         2.622188         0.524438           September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
September 2012         41.64         41.63         41.68         245.3         2.3828         2.621637         0.524327           October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         48.58         48.63	•							
October 2012         42.36         42.26         42.28         245.1         2.4057         2.646833         0.529367           November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.598535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.								
November 2012         44.06         44.05         44.13         245.6         2.4726         2.720438         0.544088           December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38<	· · · · · · · · · · · · · · · · · · ·							
December 2012         48.79         48.48         48.42         246.4         2.6392         2.903737         0.580747           January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.67         46.73								
January 2013         49.59         49.58         49.49         245.7         2.6730         2.940925         0.588185           February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         49.11         49.10         49.19<								
February 2013         50.78         50.79         50.70         246.9         2.7211         2.993847         0.598769           March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364								
March 2013         50.31         50.25         50.21         247.9         2.7064         2.977673         0.595535           April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364								
April 2013         48.16         48.26         48.19         249.6         2.6372         2.901537         0.580307           May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364	-							
May 2013         53.39         53.25         52.80         250.3         2.8204         3.103100         0.620620           June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364								
June 2013         50.25         50.18         50.19         250.5         2.7136         2.985595         0.597119           July 2013         48.58         48.63         48.47         250.1         2.6521         2.917930         0.583586           August 2013         47.46         47.55         47.38         251.1         2.6155         2.877662         0.575532           September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364	•							
July 2013       48.58       48.63       48.47       250.1       2.6521       2.917930       0.583586         August 2013       47.46       47.55       47.38       251.1       2.6155       2.877662       0.575532         September 2013       46.68       46.80       46.84       252.7       2.5959       2.856097       0.571219         October 2013       46.68       46.67       46.73       252.5       2.5922       2.852026       0.570405         November 2013       49.11       49.10       49.19       252.9       2.6829       2.951818       0.590364								
August 2013       47.46       47.55       47.38       251.1       2.6155       2.877662       0.575532         September 2013       46.68       46.80       46.84       252.7       2.5959       2.856097       0.571219         October 2013       46.68       46.67       46.73       252.5       2.5922       2.852026       0.570405         November 2013       49.11       49.10       49.19       252.9       2.6829       2.951818       0.590364								
September 2013         46.68         46.80         46.84         252.7         2.5959         2.856097         0.571219           October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364		48.58		48.47		2.6521	2.917930	0.583586
October 2013         46.68         46.67         46.73         252.5         2.5922         2.852026         0.570405           November 2013         49.11         49.10         49.19         252.9         2.6829         2.951818         0.590364	)	47.46	47.55	47.38	251.1	2.6155	2.877662	0.575532
November 2013 49.11 49.10 49.19 252.9 2.6829 2.951818 0.590364	September 2013	46.68	46.80	46.84	252.7	2.5959	2.856097	0.571219
November 2013 49.11 49.10 49.19 252.9 2.6829 2.951818 0.590364	October 2013	46.68	46.67	46.73	252.5	2.5922	2.852026	0.570405
	November 2013	49.11	49.10	49.19			2.951818	
	December 2013	53.09	53.13	53.05	253.7	2.8303	3.113992	0.622798

Month		1		<u> </u>			BP∪ (£/I	Myarh)
January 2014	Month	HPIm	PAPIm	PPIm	FRPIm	Im		
February 2014	January 2014		54.73	54.59	253.1	2.8862	3.175495	
March 2014	February 2014	54.54	54.55		254.3	2.8848		
April 2014	March 2014	50.84	50.80				3.034225	<del> </del>
May 2014	April 2014			46.20		2.5922	2.852026	0.570405
June 2014         41,87         42,02         41,95         258,0         2,4381         2,682480         0,536496           July 2014         39,74         39,58         39,79         257.6         2,3548         2,590831         0,51818           August 2014         36,67         37,00         37.22         258.0         2,2596         2,486089         0,497218           September 2014         35,06         35,07         35,19         259.0         2,1917         2,411383         0,482277           Cotober 2014         48,27         38,08         38,14         259.5         2,3039         2,534629         0,5663264           December 2014         48,00         47,94         47,98         261.0         2,6689         2,936414         0,587283           January 2015         48,04         48,07         48,00         260.2         2,6884         2,938414         0,587283           January 2015         45,94         45,80         45,88         261.8         2,5949         2,854997         0,570999           March 2015         40,11         39,92         40,21         262.4         2,3342         2,683178         0,524636           April 2015         41,35         41,35         41	May 2014							
July 2014         39.74         39.58         39.79         257.6         2.3548         2.590831         0.518166           August 2014         36.97         37.00         37.22         258.0         2.2596         2.486089         0.497218           September 2014         35.06         35.07         35.19         259.0         2.1917         2.411383         0.842277           October 2014         48.03         38.14         259.5         2.3039         2.534829         0.506966           November 2014         48.00         47.94         47.98         261.0         2.6684         2.936414         0.587283           January 2015         48.94         48.00         26.02         2.6684         2.93564         0.587173           February 2015         45.94         45.80         46.88         261.8         2.5949         2.854997         0.57598           March 2015         40.01         39.92         40.21         262.4         2.3442         2.623178         0.624636           April 2015         41.32         41.76         41.59         263.4         2.4484         2.6737602         0.547520           July 2015         41.03         41.06         264.0         2.4822         2								<del> </del>
August 2014         36.97         37.00         37.22         258.0         2.2596         2.486089         0.497218           September 2014         35.06         35.07         35.19         259.0         2.1917         2.411383         0.482277           October 2014         38.17         38.08         38.14         259.5         2.3039         2.534829         0.506966           November 2014         48.00         47.94         47.98         261.0         2.6689         2.936414         0.58254           December 2015         48.04         48.07         48.00         260.2         2.6684         2.935864         0.587173           February 2015         45.94         45.80         45.88         261.8         2.5949         2.854997         0.570999           March 2015         40.01         39.92         40.21         262.4         2.3424         2.623178         0.524836           April 2015         41.78         41.76         41.59         263.4         2.4484         2.693813         0.538763           May 2015         43.21         43.22         43.23         263.6         2.5044         2.4526         2.693843         0.53185           June 2015         41.35         41	July 2014							
September 2014         35.06         35.07         35.19         259.0         2.1917         2.411383         0.482277           October 2014         45.23         45.11         44.99         259.7         2.5597         2.816269         0.563254           December 2014         48.00         47.94         47.98         261.0         2.6688         2.935864         0.587283           January 2015         48.04         48.07         48.00         260.2         2.6688         2.935864         0.587783           January 2015         48.04         48.07         48.00         260.2         2.6689         2.935864         0.587783           January 2015         48.04         45.80         45.88         261.8         2.5949         2.854997         0.570999           March 2015         40.01         39.92         40.21         262.4         2.3842         2.623178         0.524636           April 2015         41.38         41.76         41.59         263.4         2.4482         2.637862         0.551085           July 2015         41.35         41.35         41.35         41.30         265.7         2.4429         2.6877928         0.534186           August 2015         41.35 <t< td=""><td>August 2014</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	August 2014							
October 2014         38.17         38.08         38.14         259.5         2.3039         2.54829         0.560254           November 2014         45.23         45.11         44.99         259.7         2.5597         2.816269         0.563254           December 2014         48.00         47.94         47.98         261.0         2.6689         2.936414         0.587283           January 2015         48.04         48.07         48.00         260.2         2.6684         2.33424         2.63778         0.570999           March 2015         40.01         39.92         40.21         262.4         2.3842         2.623178         0.524636           April 2015         41.78         41.76         41.59         263.4         2.4842         2.693813         0.538763           April 2015         41.32         43.22         243.23         263.6         2.5044         2.755426         0.551085           July 2015         41.35         41.35         41.35         41.35         24.72         2.64.72         2.687022         0.5347520           September 2015         41.35         41.35         41.35         41.35         265.7         2.4429         2.887761         0.53762           Sept	September 2014				259.0		2.411383	<del> </del>
December 2014	October 2014			38.14			2.534829	0.506966
January 2015	November 2014	45.23	45.11	44.99	259.7	2.5597	2.816269	0.563254
February 2015	December 2014	48.00	47.94	47.98	261.0	2.6689	2.936414	0.587283
March 2015	January 2015		48.07				2.935864	0.587173
March 2015	February 2015	45.94	45.80	45.88	261.8	2.5949	2.854997	0.570999
April 2015	March 2015	40.01						
May 2015	April 2015					2.4484		
June 2015	May 2015					2.5044		
July 2015         41.03         41.04         41.06         264.4         2.4276         2.670928         0.534186           August 2015         41.35         41.35         41.30         265.7         2.4429         2.687761         0.537552           September 2015         41.35         41.35         41.33         266.8         2.4470         2.692272         0.538454           October 2015         40.39         40.38         40.40         267.2         2.4135         2.655415         0.531083           November 2015         41.47         41.46         41.37         267.5         2.4527         2.698544         0.539709           December 2016         38.91         38.89         38.05         268.8         2.4379         2.682260         0.536452           January 2016         38.91         38.89         38.05         268.8         2.4379         2.682260         0.536452           January 2016         35.52         37.60         37.15         260.3         2.2821         2.510844         0.502169           March 2016         35.52         31.70         261.0         2.1673         2.384537         0.476907           Jup 2016         32.93         32.18         33.85	June 2015				264.0			
August 2015         41.35         41.36         41.30         265.7         2.4429         2.687761         0.537552           September 2015         41.35         41.35         41.33         266.8         2.4470         2.692272         0.538454           October 2015         40.39         40.38         40.40         267.2         2.4135         2.655415         0.531083           November 2015         41.47         41.46         41.37         267.5         2.4527         2.698544         0.539709           December 2015         41.42         41.41         39.88         268.8         2.4379         2.682260         0.536452           January 2016         38.91         38.89         38.05         268.0         2.3515         2.587200         0.517440           February 2016         37.62         37.60         37.15         260.3         2.2821         2.510844         0.502169           March 2016         32.29         32.18         33.85         261.5         2.1140         2.325895         0.465179           May 2016         32.51         32.46         35.45         262.8         2.1453         2.369332         0.472066           August 2016         35.94         35.90         <	July 2015							
September 2015         41.35         41.35         41.33         266.8         2.4470         2.692272         0.538454           October 2015         40.39         40.38         40.40         267.2         2.4135         2.655415         0.531083           November 2015         41.47         41.46         41.37         267.5         2.4527         2.698544         0.539709           December 2016         341.42         41.41         39.88         268.8         2.4379         2.682260         0.536452           January 2016         38.91         38.89         38.05         268.0         2.3515         2.587200         0.517440           February 2016         37.62         37.60         37.15         260.3         2.2821         2.510844         0.502169           March 2016         35.25         35.52         31.70         261.0         2.1673         2.384537         0.476907           Jup 2016         33.98         33.98         31.00         262.2         2.1254         2.338437         0.467687           June 2016         32.251         32.46         35.45         262.8         2.1453         2.360332         0.472066           July 2016         37.52         37.49 <td< td=""><td>August 2015</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	August 2015							
October 2015         40.39         40.38         40.40         267.2         2.4135         2.655415         0.531083           November 2015         41.47         41.46         41.37         267.5         2.4527         2.698544         0.539709           December 2015         41.42         41.41         39.88         268.8         2.4379         2.682260         0.536452           January 2016         38.91         38.89         38.05         268.0         2.3515         2.587200         0.517440           February 2016         37.62         37.60         37.15         260.3         2.2821         2.510844         0.502169           March 2016         35.52         35.52         31.70         261.0         2.1673         2.384537         0.476907           April 2016         32.19         32.18         33.98         33.98         31.00         262.2         2.1264         2.325895         0.465179           June 2016         32.09         32.09         32.50         262.7         2.0995         2.309941         0.461988           July 2016         35.94         35.90         36.65         262.8         2.1453         2.360332         0.472066           August 2016         37	_							<del> </del>
November 2015	October 2015							
December 2015   41.42   41.41   39.88   268.8   2.4379   2.682260   0.536452	November 2015							
January 2016   38.91   38.89   38.05   268.0   2.3515   2.587200   0.517440	December 2015							
February 2016   37.62   37.60   37.15   260.3   2.2821   2.510844   0.502169								
March 2016         35.52         35.52         31.70         261.0         2.1673         2.384537         0.476907           April 2016         32.19         32.18         33.85         261.5         2.1140         2.325895         0.465179           May 2016         33.98         33.98         31.00         262.2         2.1254         2.338437         0.467687           June 2016         32.09         32.09         32.50         262.7         2.0995         2.309941         0.461988           July 2016         32.51         32.46         35.45         262.8         2.1453         2.360332         0.472066           August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15<	•							
April 2016         32.19         32.18         33.85         261.5         2.1140         2.325895         0.465179           May 2016         33.98         33.98         31.00         262.2         2.1254         2.338437         0.467687           June 2016         32.09         32.09         32.50         262.7         2.0995         2.309941         0.461988           July 2016         32.51         32.46         35.45         262.8         2.1453         2.360332         0.472066           August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         54.108         54.08         53.6	•							
May 2016         33.98         33.98         31.00         262.2         2.1254         2.338437         0.467687           June 2016         32.09         32.09         32.50         262.7         2.0995         2.309941         0.461988           July 2016         32.51         32.46         35.45         262.8         2.1453         2.360332         0.472066           August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.78         54.71         47	April 2016							
June 2016         32.09         32.09         32.50         262.7         2.0995         2.309941         0.461988           July 2016         32.51         32.46         35.45         262.8         2.1453         2.360332         0.472066           August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71 <td< td=""><td>·</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	·							
July 2016         32.51         32.46         35.45         262.8         2.1453         2.360332         0.472066           August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         40.64         42.59 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
August 2016         35.94         35.90         36.65         265.1         2.2517         2.477397         0.495479           September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         40.41         40.42 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
September 2016         37.52         37.49         36.85         265.2         2.2931         2.522946         0.504589           October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           July 2017         38.28         38.32         37.	August 2016							
October 2016         37.62         37.57         47.90         265.2         2.4299         2.673458         0.534692           November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           July 2017         38.28         38.32         37.90         272.5         2.4018         2.642542         0.528508           July 2017         39.44         39.44         48.00 <td>September 2016</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	September 2016							
November 2016         44.25         44.26         62.95         266         2.7783         3.056780         0.611356           December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90 <td>October 2016</td> <td></td> <td></td> <td></td> <td>265.2</td> <td></td> <td>2.673458</td> <td></td>	October 2016				265.2		2.673458	
December 2016         63.92         63.93         75.40         267.3         3.4138         3.755979         0.751196           January 2017         72.12         72.20         51.15         266.2         3.3151         3.647385         0.729477           February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         48.00         274.9<	November 2016						3.056780	
February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         53.03         53.03         52.1 </td <td>December 2016</td> <td></td> <td></td> <td></td> <td></td> <td>3.4138</td> <td></td> <td></td>	December 2016					3.4138		
February 2017         54.108         54.08         53.65         268.0         2.9117         3.203551         0.640710           March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9<	January 2017	72.12	72.20	51.15	266.2	3.3151	3.647385	0.729477
March 2017         54.78         54.71         47.25         268.4         2.8510         3.136767         0.627353           April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1 <td>February 2017</td> <td>54.108</td> <td></td> <td>53.65</td> <td></td> <td>2.9117</td> <td>3.203551</td> <td>0.640710</td>	February 2017	54.108		53.65		2.9117	3.203551	0.640710
April 2017         50.36         49.79         42.65         269.3         2.6844         2.953468         0.590694           May 2017         42.64         42.59         39.85         270         2.4710         2.718678         0.543736           June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35<	March 2017	54.78	54.71		268.4	2.8510	3.136767	0.627353
June 2017         40.41         40.42         37.85         272.5         2.4018         2.642542         0.528508           July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48	April 2017	50.36	49.79	42.65	269.3	2.6844	2.953468	
July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         4	May 2017	42.64	42.59	39.85	270	2.4710	2.718678	0.543736
July 2017         38.28         38.32         37.90         272.5         2.3509         2.586540         0.517308           August 2017         40.23         40.17         37.90         273.9         2.4021         2.642872         0.528574           September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         4	June 2017	40.41	40.42	37.85	272.5	2.4018	2.642542	
August 2017       40.23       40.17       37.90       273.9       2.4021       2.642872       0.528574         September 2017       39.44       39.44       48.00       274.9       2.5102       2.761807       0.552361         October 2017       48.23       48.03       46.45       275.5       2.7050       2.976133       0.595227         November 2017       46.45       46.42       52.65       275.9       2.7407       3.015411       0.603082         December 2017       53.03       53.03       52.1       277.2       2.8992       3.189798       0.637960         January 2018       53.31       53.26       57.35       276.2       2.9659       3.263184       0.652637         February 2018       56.72       56.84       52       277.8       2.9914       3.291240       0.658248         March 2018       50.60       50.93       48.35       279.4       2.8060       3.087256       0.617451         April 2018       50.21       50.26       49.4       280.1       2.8084       3.089897       0.617979         May 2018       49.30       49.22       49.5       280.7       2.7880       3.067452       0.613490         June 2018	July 2017	38.28	38.32			2.3509	2.586540	
September 2017         39.44         39.44         48.00         274.9         2.5102         2.761807         0.552361           October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65<	August 2017	40.23				2.4021	2.642872	
October 2017         48.23         48.03         46.45         275.5         2.7050         2.976133         0.595227           November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85	September 2017	39.44	39.44			2.5102	2.761807	0.552361
November 2017         46.45         46.42         52.65         275.9         2.7407         3.015411         0.603082           December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950	October 2017		48.03					0.595227
December 2017         53.03         53.03         52.1         277.2         2.8992         3.189798         0.637960           January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950	November 2017							
January 2018         53.31         53.26         57.35         276.2         2.9659         3.263184         0.652637           February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950	December 2017							
February 2018         56.72         56.84         52         277.8         2.9914         3.291240         0.658248           March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950								
March 2018         50.60         50.93         48.35         279.4         2.8060         3.087256         0.617451           April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950	•							
April 2018         50.21         50.26         49.4         280.1         2.8084         3.089897         0.617979           May 2018         49.30         49.22         49.5         280.7         2.7880         3.067452         0.613490           June 2018         49.97         49.89         53.65         281.3         2.8570         3.143368         0.628674           July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950								
May 2018     49.30     49.22     49.5     280.7     2.7880     3.067452     0.613490       June 2018     49.97     49.89     53.65     281.3     2.8570     3.143368     0.628674       July 2018     53.86     53.83     52.85     281.9     2.9446     3.239749     0.647950								
June 2018     49.97     49.89     53.65     281.3     2.8570     3.143368     0.628674       July 2018     53.86     53.83     52.85     281.9     2.9446     3.239749     0.647950	•							
July 2018         53.86         53.83         52.85         281.9         2.9446         3.239749         0.647950								
	August 2018	53.44	53.59	55.45	283.7	2.9746	3.272756	0.654551

						BP <sub>U</sub> (£/I	Mvarh)
Month	HPIm	PAPIm	PPIm	FRPIm	Im	X = 1	X = 0.2
September 2018	56.47	56.44	61.1	284.4	3.1175	3.429979	0.685996
October 2018	62.75	62.64	68.15	284.6	3.3562	3.692605	0.738521
November 2018	69.58	69.59	67.55	284.9	3.5177	3.870293	0.774059
December 2018	67.14	67.18	68.2	285.3	3.4680	3.815611	0.763122
January 2019	67.14	67.18	67.9	286.8	3.4696	3.817372	0.763474
February 2019	66.61	66.63	62.55	283.7	3.3804	3.719231	0.743846
March 2019	61.39	61.41	62.4	285.3	3.2570	3.583462	0.716692
April 2019	49.77	49.83	50	285.3	2.8234	3.106400	0.621280
May 2019	44.42	44.41	43.9	289.1	2.6312	2.894936	0.578987
June 2019	43.94	42.65	42.65	289.9	2.5915	2.851256	0.570251
July 2019	41.69	41.69	39.6	289.9	2.5152	2.767308	0.553462
August 2019	38.43	38.43	44.5	290.2	2.4966	2.746844	0.549369
September 2019	41.09	43.64	42.05	292.7	2.5714	2.829142	0.565828
October 2019	42.25	43.65	47.75	292.6	2.6547	2.920791	0.584158
November 2019	42.96	42.92	49.3	293.0	2.6748	2.942906	0.588581
December 2019	48.16	48.09	46.8	291.6	2.7656	3.042807	0.608561
January 2020	47.63	47.65	46	293.4	2.7504	3.026083	0.605217
February 2020	45.74	45.72	37.4	289.0	2.5837	2.842674	0.568535
March 2020	38.53	38.58	32.65	291.1	2.3584	2.594792	0.518958

<sup>\*</sup> Due to the implementation of CAP156 in mid November 2007, National Grid invoked Appendix 1 paragraph 3.2 (c) of Schedule 3 of the CUSC and substituted the factors relating to the respective market indices to those that reflect the implementation of CAP156 for the whole of November.

#### Correction of ORPS Default Payment Rates - Nov 07 to May 08

An error has been identified in the calculation of the ORPS Default Payment Rate in respect of the RPI forecast figure for the period November 2007 to May 2008 inclusive. The below table shows the previously published Default Payment figures with the corrected figures shown in the table in the above section. Reconciliation of Reactive payments to Providers will be completed by the end of July 2008.

		Publis	shed Figures			Difference
Month	FRPIm	Im	X = 1 (£/MWh)	X = 0.2 (£/MWh)	Corrected Figures	between Published and Actual (X = 1)
November 2007	209.5	1.8160	1.998025	0.399605	See above table	£0.00231
December 2007	209.9	2.2628	2.489609	0.497922	See above table	£0.004291
January 2008	210.9	2.6417	2.906488	0.581298	See above table	-£0.00154
February 2008	210.5	2.9346	3.228746	0.645749	See above table	£0.002411
March 2008	210.9	2.9788	3.277377	0.655475	See above table	£0.00308
April 2008	211.7	2.6671	2.934434	0.586887	See above table	£0.005391
May 2008	212.1	2.8210	3.103760	0.620752	See above table	£0.006161

# Default Payment Rates for the period from 1 April 2004 to 31 October 2007

Prior to the implementation of Amendment Proposal CAP156, the Default Payment Rate for the provision of the Obligatory Reactive Power Service (ORPS) was calculated as follows:

 $BP_U = (46,270,000 * I_m * X) / 42,054,693$ 

<sup>\*\*</sup> Due to an error in how the Heren data was published for the August 2009 Default Payment Rate an incorrect value was utilised. The correct value is now included in the table above. This has resulted in a £0.000220 reduction in the X=1 rate for August 2009.

Where

 $I_m$  = the Indexation factor (I) for the calendar month (m) determined as follows:

 $I_m = C^*[(0.5*FRPI_m/RPI_x)+(0.5*PI_m)]$ 

 $C = RPI_x/RPI_1 = 1.262456$ 

 $RPI_x$  is the RPI for March 2003 = 179.9

RPI<sub>1</sub> is the RPI for March 1994 = 142.5

FRPI<sub>m</sub> is the Forecast RPI for the calendar month (m) in question

Pl<sub>m</sub> is a wholesale power price index determined as follows:

 $PI_{m} = [(p*HPI_{m}/HPI_{1})+(q*PAPI_{m}/PAPI_{1})+(r*PPI_{m}/PPI_{1})+(s*DTSP_{m}/DTSP_{1})]$ 

- HPI<sub>m</sub> is the mean average of the OTC baseload month ahead Heren power index bid and offer prices for all days on which the index is published in the calendar month immediately preceding the calendar month (m) in question
- PAPI<sub>m</sub> is the mean average of the OTC baseload month ahead Petroleum Argus power index bid and offer prices for all days on which the index is published in the calendar month immediately preceding the calendar month (m) in question
- PPI<sub>m</sub> is the mean average of the OTC baseload month ahead Platts power index bid and offer prices for all days on which the index is published in the calendar month immediately preceding the calendar month (m) in question
- DTSPI<sub>m</sub> is the mean average of the OTC baseload month ahead Deloitte and Touche Spectron power index bid and offer prices for all days on which the index is published in the calendar month immediately preceding the calendar month (m) in question

p = q = r = 0.2 and s = 0.4 (subject to sub-paragraph 3.2(c) of Appendix 1 to CUSC Schedule 3)

- HPI<sub>1</sub> is the mean average of the OTC baseload month ahead Heren power index bid and offer prices for all days on which the index is published during the period from (and including) 1 October 2002 to (and including) 30 September 2003 = **17.28**
- PAPI<sub>1</sub> is the mean average of the OTC baseload month ahead Petroleum Argus power index bid and offer prices for all days on which the index is published during the period from (and including) 1 October 2002 to (and including) 30 September 2003 = **17.27**
- PPI<sub>1</sub> is the mean average of the OTC baseload month ahead Platts power index bid and offer prices for all days on which the index is published during the period from (and including) 1 October 2002 to (and including) 30 September 2003 = **17.27**

DTSPI<sub>1</sub> is the mean average of the OTC baseload month ahead Deloitte and Touche Spectron power index bid and offer prices for all days on which the index is published during the period from (and including) 1 October 2002 to (and including) 30 September 2003 = **17.32** 

X is the Utilisation Factor = 1 in the relevant Settlement Period, unless:

- a. the BM Unit or a CCGT Unit comprised within the CCGT Module has failed a Reactive Test and has not passed a further Reactive Test; or
- b. The User fails to set the automatic voltage regulator on the BM Unit or a CCGT Unit comprised within the CCGT Module to a voltage following mode (unless otherwise instructed by National Grid or where permitted by the Grid Code); or
- c. The BM Unit or a CCGT Unit comprised within the CCGT Module fails to comply with a Reactive Despatch Instruction due to the fact that the BM Unit or CCGT Unit is unable to increase and/or decrease its Mvar output; or
- d. The BM Unit fails to have a Mvar range which includes the ability to provide zero Mvar at the Commercial Boundary.

In any Settlement Period in which any of the above cases applies X = 0.2

Therefore the ORPS Default Payment Rates were:

		Ž					BPu (£/	Mvarh)
Month	HPI <sub>m</sub>	$PAPI_{m}$	$PPI_{m}$	DTSPIm	$FRPI_m$	I <sub>m</sub>	X = 1	X = 0.2
April 2004	19.28	19.29	19.31	19.37	186.1	1.3584	1.494558	0.298912
May 2004	18.27	18.27	18.23	18.20	186.6	1.3204	1.452749	0.290528
June 2004	19.07	19.06	19.07	18.95	186.6	1.3490	1.484216	0.296843
July 2004	20.08	20.01	19.94	20.09	186.2	1.3849	1.523714	0.304743
August 2004	21.14	21.14	21.14	21.12	186.5	1.4258	1.568714	0.313743
September 2004	20.72	20.71	20.74	20.68	188.1	1.4159	1.557821	0.311564
October 2004	22.11	22.13	22.19	22.17	188.8	1.4712	1.618664	0.323733
November 2004	24.88	24.88	24.71	24.91	188.9	1.5702	1.727587	0.345517
December 2004	31.68	31.55	31.85	32.09	190.0	1.8294	2.012768	0.402554
January 2005	32.09	32.09	32.36	32.19	189.7	1.8405	2.024981	0.404996
February 2005	31.40	31.41	31.48	31.92	190.5	1.8229	2.005616	0.401123
March 2005	26.03	26.05	26.11	26.21	190.8	1.6230	1.785680	0.357136
April 2005	25.51	25.51	25.32	24.63	191.8	1.5900	1.749372	0.349874
May 2005	28.47	28.48	28.47	28.32	192.3	1.7119	1.883490	0.376698
June 2005	29.96	29.96	29.87	29.91	192.5	1.7677	1.944884	0.388977
July 2005	31.01	31.01	30.93	31.07	192.1	1.8063	1.987353	0.397471
August 2005	33.55	33.50	33.85	33.91	192.6	1.9076	2.098806	0.419761
September 2005	37.84	37.80	38.36	37.50	193.4	2.0585	2.264832	0.452966
October 2005	34.92	34.93	34.82	34.69	193.5	1.9497	2.145126	0.429025
November 2005	39.18	39.17	39.20	39.23	194.1	2.1121	2.323804	0.464761
December 2005	43.52	43.53	43.35	43.51	194.4	2.2694	2.496871	0.499374
January 2006	57.55	57.56	56.31	62.37	194.1	2.8431	3.128075	0.625615
February 2006	69.65	69.63	70.53	70.97	194.9	3.2519	3.577851	0.715570
March 2006	60.03	59.97	59.31	58.98	195.2	2.8552	3.141388	0.628278
April 2006	50.34	50.49	50.34	51.57	196.2	2.5451	2.800205	0.560041
May 2006	46.41	46.59	44.16	47.62	196.6	2.3865	2.625708	0.525142
June 2006	41.74	41.74	41.83	41.97	197.3	2.2200	2.442519	0.488504
July 2006	33.21	33.21	32.95	33.39	197.9	1.9074	2.098586	0.419717
August 2006	35.45	35.40	35.50	35.42	198.9	1.9894	2.191116	0.438223
September 2006	40.64	40.65	40.69	40.49	199.6	2.1822	2.400930	0.480186
October 2006	36.94	36.94	36.95	36.84	200.4	2.0502	2.255700	0.451140
November 2006	37.48	37.46	37.41	37.28	200.7	2.0688	2.276164	0.455233

							BPu (£/	Mvarh)
Month	HPI <sub>m</sub>	PAPI <sub>m</sub>	$PPI_m$	DTSPIm	$FRPI_m$	I <sub>m</sub>	X = 1	X = 0.2
December 2006	43.91	43.90	43.86	44.53	201.3	2.3178	2.550122	0.510024
January 2007	50.60	50.97	50.07	51.03	201.5	2.5591	2.815609	0.563122
February 2007	41.40	41.39	41.28	41.48	202.8	2.2232	2.446040	0.489208
March 2007	31.61	31.63	31.77	31.02	203.4	1.8602	2.046655	0.409331
April 2007	22.41	22.44	22.46	22.31	205.4	1.5378	1.691940	0.338388
May 2007	20.76	20.75	20.72	20.62	206.1	1.4876	1.626806	0.325361
June 2007	20.17	20.16	20.36	20.39	206.6	1.4568	1.612723	0.322545
July 2007	24.11	24.11	24.15	24.39*	206.7	1.6098	1.771157	0.354231
August 2007	25.95	26.03	26.22	26.90*	208.1	1.6939	1.863686	0.372737
September 2007	25.53	25.52	25.42	25.41*	208.3	1.6602	1.826608	0.365322
October 2007	25.56	25.55	25.57	25.36*	209	1.6635	1.830239	0.366048

<sup>\*</sup> As Spectron ceased to produce the OTC baseload month ahead Deloitte and Touche Spectron power index with effect from 1 July 2007, National Grid obtained the necessary data from Spectron to derive the mean average for each of the calendar months July to October 2007 using the same method as that employed by Spectron prior to 1 July 2007.

## **Default Payment Rates before 1 April 2004**

Prior to the implementation of Amendment Proposal CAP045, the Default Payment Rates for the provision of the Obligatory Reactive Power Service (ORPS) was calculated as follows:

 $BP_U = (46,270,000 * I * X) / 42,054,693$ 

Where I = Indexation factor (RPI<sub>2</sub> / RPI<sub>1</sub>)

 $RPI_1 = RPI$  for March 1994 = 142.5

X = Utilisation Factor = 1 in the relevant Settlement Period unless:

- the BM Unit or a CCGT Unit comprised within the CCGT Module has failed a Reactive Test and has not subsequently passed a further Reactive Test; or
- The User fails to set the automatic voltage regulator on the BM Unit or a CCGT Unit comprised within the CCGT Module to a voltage following mode (unless otherwise instructed by National Grid or where permitted by the Grid Code); or
- The BM Unit or a CCGT Unit comprised within the CCGT Module fails to comply with a Reactive Despatch Instruction due to the fact that the BM Unit or CCGT Unit is unable to increase and/or decrease its Mvar output; or
- d. The BM Unit fails to have a Mvar range which includes the ability to provide zero Mvar at the Commercial Boundary.

In any of the above cases X = 0.2

Therefore the ORPS Default Payment Rates were:

Year	From - To	Indexation	BP <sub>∪</sub> (£/Mvarh)	
		Factor (I)	X = 1	X = 0.2
2000/2001	1/4/00 - 31/3/01	1.1818	1.300256	0.260051
2001/2002	1/4/01 - 31/3/02	1.208	1.329083	0.265817

2002/2003	1/4/02 - 31/3/03	1.2246	1.347346	0.269469
2003/2004	1/4/03 - 31/3/04	1.2625	1.389045	0.277809