BPA Imbalance Activity Report
May 2013

Generation Imbalance

	MWh		$ thousand
wind			
over generation	(62,336)	$	(941)
under generation	47,494	$	1,002
other			
over generation	(2,685)	$	(78)
under generation	1,758	$	71
total			
over generation	(65,021)	$	(1,019)
under generation	49,253	$	1,073
total:	**(15,768)**		**$ 54**

Energy Imbalance

	MWh		$ thousand
total			
over scheduling	(11,374)	$	(188)
under scheduling	6,575	$	185
total:	**(4,800)**	**$**	**(3)**

Persistent Deviation

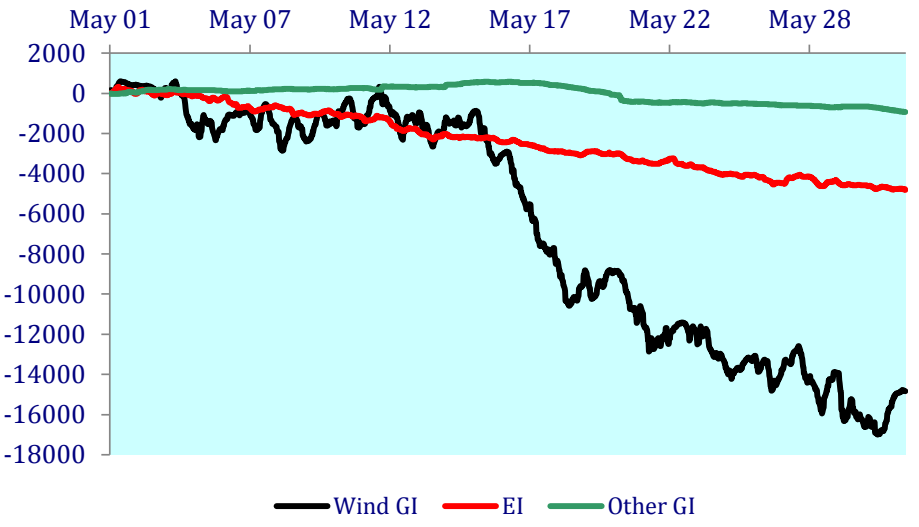
actual billing may differ

sec 1, 2 & 3	events	MWh*	hours*		$ thousand**
Negative (generation greater than schedule)					
wind	27	-3842	78	$	(31)
other	4	-884	184	$	(14)
load	1	-154	6	$	(0)
total	32	-4880	268	$	(44)
Positive (generation less than schedule)					
wind	18	1372	33	$	108
other	0	0	0	$	-
load	0	0	0	$	-
total	18	1372	33	$	108

**exempt hours are excluded*

***charge estimate does not include GI and test projects*

MWh of accumulated imbalance



Persistent Deviation Events

	3-hour	6-hour	12-hour	24-hour	Pattern	total
Negative (generation greater than schedule)						
wind	16	3	1	0	7	27
other	0	0	0	4	0	4
load	0	1	0	0	0	1
Positive (generation less than schedule) **						
wind	16	1	0	0	1	18
other	0	0	0	0	0	0
load	0	0	0	0	0	0

Persistent Deviation events and waivers

	2012 Jun	2012 Jul	2012 Aug	2012 Sep	2012 Oct	2012 Nov	2012 Dec	2013 Jan	2013 Feb	2013 Mar	2013 Apr	2013 May
events												
total	41	46	49	25	47	31	52	35	35	26	30	50
MWh negative	-3733	-1873	-2954	-1254	-2530	-3104	-4655	-1904	-1487	-1011	-1526	-4880
MWh positive	2030	2559	1722	1345	2982	1073	2470	3130	1567	1393	2122	1372
waiver requests												
total		2		1	1		6	2			2	1
MWh negative				361	26			1037			734	241
MWh positive		834					899	108			90	
granted waivers (full)												
total							3	2				
MWh negative							261	1037				
MWh positive								108				
granted waivers (partial)												
total		1										
MWh negative												
MWh positive		50										

Persistent Deviation events and waivers

	2011 Jun	2011 Jul	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr	2012 May
events												
total	8	9	4	18	16	20	14	14	25	24	40	45
MWh negative	-184	-736	-574	0	-5058	-2517	-4539	-476	-1732	-1998	-3999	-2918
MWh positive	1511	1278	435	2254	262	2281	1526	855	1540	1165	3683	3378
waiver requests												
total	1					5	3		4	17	21	4
MWh negative							-2171		-194	-390	-1156	
MWh positive	359					1691	296		698	3309	3341	1184
granted waivers (full)												
total	1					4			3	17	19	2
MWh negative										-390	-1156	
MWh positive	359					1493			698	3309	3097	394
granted waivers (partial)												
total												
MWh negative												
MWh positive												

BPA Imbalance Activity Report

reference guide

Generation Imbalance

Imbalance = Estimated Generation - Actual Generation	
over generation	Estimated Generation < Actual Generation, negative value
under generation	Estimated Generation > Actual Generation, positive value

Energy Imbalance

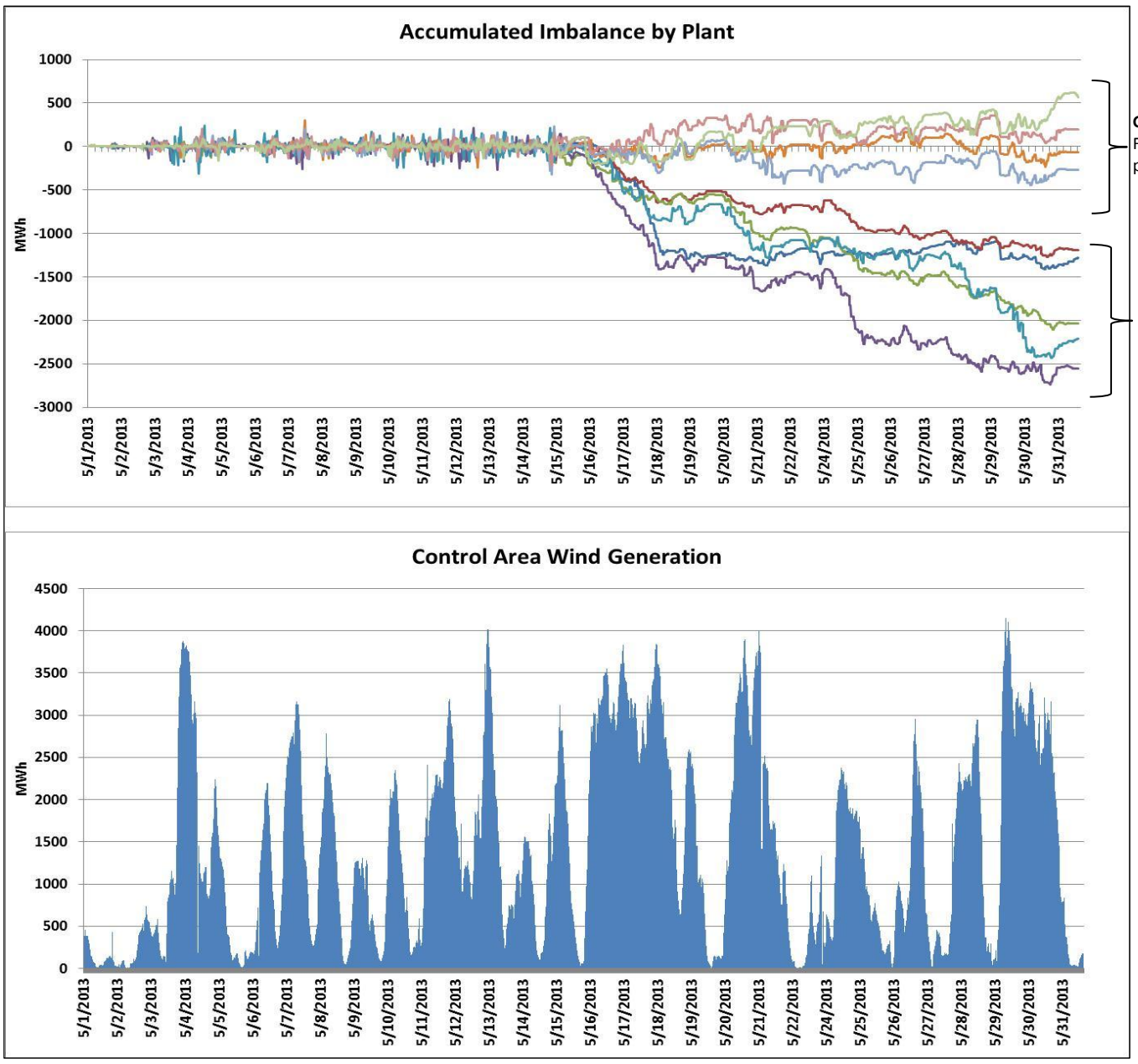
Imbalance = Actual Load - Scheduled Load	
over scheduling	Actual Load < Scheduled Load, negative value
under scheduling	Actual Load > Scheduled Load, positive value

Persistent Deviation

Definition	
section 1 & 2	All hours or schedule periods in which either a negative or positive deviation exceeds both 15 % of schedule and 20 MW for three consecutive hours or more or
section 3	A pattern of either positive or negative deviation that occurs generally or at specific times of day. For reporting purposes, a the number of Pattern Persistent Deviation Events is equal to the number of days in which a zig-zag scheduling pattern was identified.

Penalty	
Negative	No credit is given for negative deviation.
Positive	For positive deviation, the charge is the greater of 125% of BPA's highest incremental cost that occurs during that day or 100 mills per kilowatt-hour.
**charge estimate excludes test projects*	New projects in test mode (up to 90 days) are exempt from the Persistent Deviation Penalty charge. However, Persistent Deviation events are still tracked.
***charge estimate does*	The Persistent Deviation section of this report shows the penalty component of the charge, i.e. $100/MWh less GI rate.

Appendix



Group A:
Frequent PD Section 1 and 2 penalties.

Group B:
Frequent Pattern PD Section 3 penalties, few PD Section 1 and 2

Comments:

The contribution to the large accumulation of imbalance was not equal across the wind fleet. **Group B** in the chart above is comprised of the top five contributors to imbalance and is characterized by receiving few PD Section 1 and 2 penalties, but having many instances of zig-zag ("Pattern" or PD Section 3) scheduling. **Group A** received far more PD Section 1 and 2 Penalties despite exhibiting a more unbiased imbalance throughout the month. There were no PD Section 3 penalties for projects in **Group A**. Both groups contain wind projects of various sizes.