



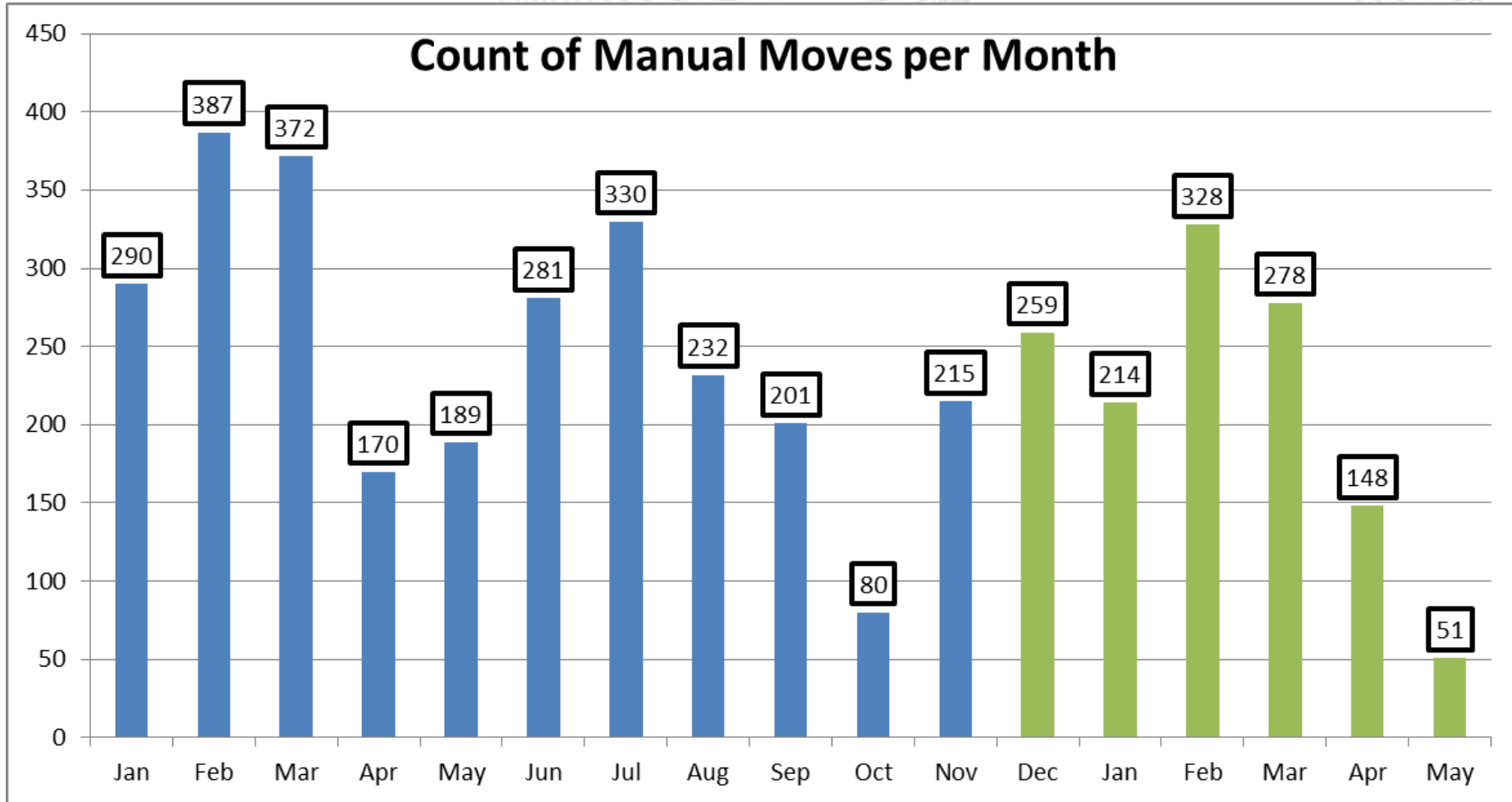
# Regulation Performance Impact Updates

Regulation Market Issues Senior Task Force

June 1, 2016

Danielle Croop, senior engineer –  
Performance Compliance

- RPI changes were implemented into PJM software on 12/14/2015 00:00:00
  - Tie-breaker logic changes minimize the BF curve changes
- Observed Changes to date:
  - Non-excursion hours (BF40) do not provide much change from previous operations; Excursion hours (BF26.2) are in the right direction
  - Reg D offer MW increased after changes; new resources qualifying late 2015
  - See some improvement on manual moves since RPI in comparison to last year, no large changes to manual action on regulation signals
  - Market Clearing Prices have been lower than average since RPI; unable to relate this to RPI with mild system conditions and LMPs over winter period



\* May data through May 23, 2016



# Reg D Clearing Since RPI – Performance Score

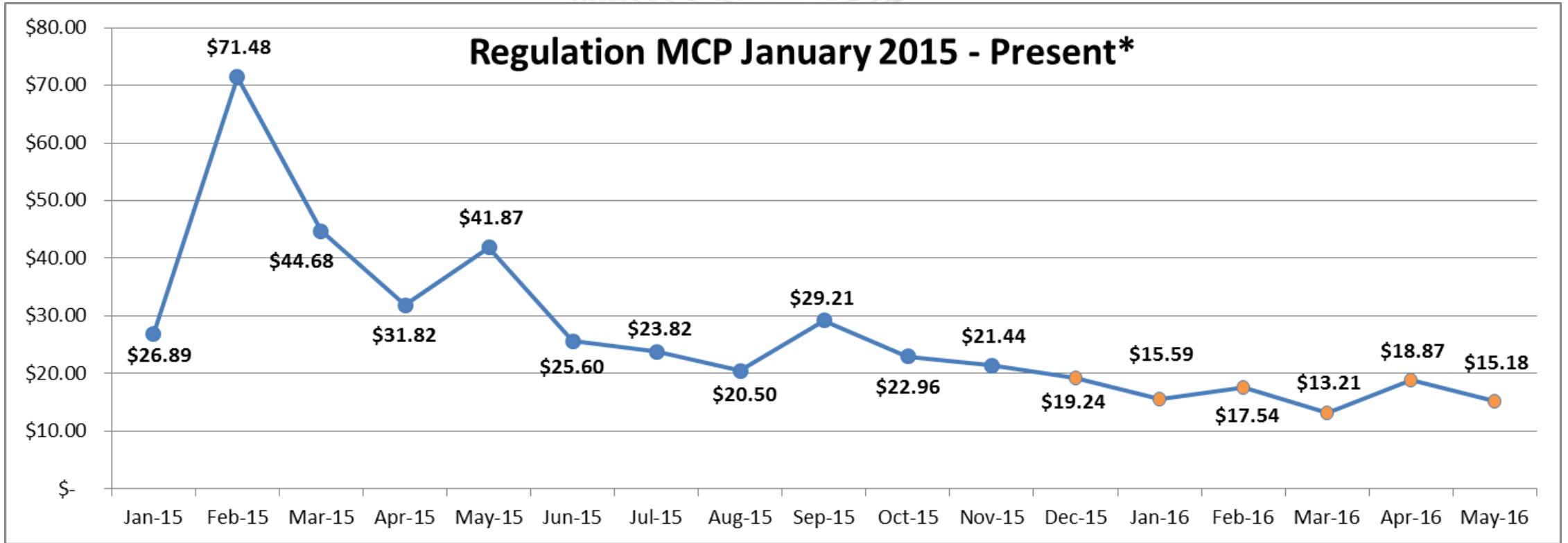
	February		March		April		May	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Excursion Hours	0.80	0.95	0.89	0.95	0.88	0.95	0.85	0.95
Non-Excursion Hours	0.79	0.92	0.81	0.94	0.79	0.94	0.76	0.93

\* May data through May 24, 2016



# Regulation Market Composition

MW	Steam	Hydro	CT	Energy Storage	DSR	Total
Regulation A Qualified	3,724.5	1,013	1,236.4	0	4.2	5,978.1
Regulation D Qualified	0	420	75.4	265.1	18.6	779.1
Avg. Performance Score	74%	82%	85%	94%	83%	79%
Requirement On-Peak						700
Requirement Off-Peak						525



\* May data through May 23, 2016