

PJM's MISO Interface Definition Changes

Rebecca Carroll
Joint & Common Market
March 21, 2014

- PJM and MISO's current interface definitions may be too far into the other neighboring RTO
 - Provides correct incentive for transactions but overvalues the effect of the interchange on the coordinated congestion relief
- PJM believes a single common Interface definition will resolve overcharging of congestion for PJM/MISO transactions
 - Interface defined at the boarder
 - Ideally, both RTOs Interface definition would consist of the same generator pnodes and weightings

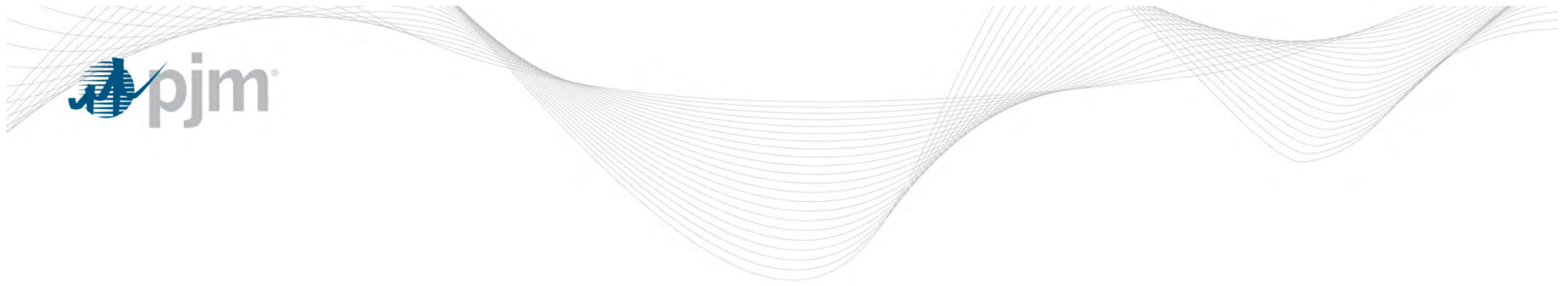
- MISO's PJMC interface definition and PJM's MISO interface definition would share the same generator pnodes and weightings
 - In PJM's analysis, generator pnodes were selected based on the following procedure:
 - PJM ran several annual PROMOD simulations to capture the hourly flows on all PJM-MISO ties
 - Over 80% of tie line flows in each simulation were represented by the same ten tie lines composed of MISO and PJM monitored facilities.
 - Definition for the new MISO interface was derived from generators electrically close to the ten tie lines
 - PJM generators used for MISO monitored tie lines
 - MISO generators used for PJM monitored tie lines

- Performed “what-if” analysis on the MISO Interface under multiple configurations to determine pricing impacts
 - LMPs from January through December 2013 were utilized
 - New MISO LMP was calculated under an equally weighted factor definition
 - MISO LMP was also calculated absent external M2M congestion (i.e. Dr. Patton’s solution)
 - New MISO LMPs were compared to the originally calculated values
 - Compared the congestion component of the LMP for all 3 definitions
 - Monthly results are available in the Appendix

- The magnitude of the Congestion LMP is generally smaller with the new MISO definition than the existing definition
 - Congestion impact on transactions is therefore reduced compared to the current definition
 - There is not a substantial difference between the congestion component associated with the “Patton LMP” and the new MISO LMP
- PJM also recreated the Potomac Economics analysis to determine the ECF using the new MISO Interface definition
 - This analysis showed that moving the interface closer to the border resulted in a substantial decrease in the impact as determined through this analysis

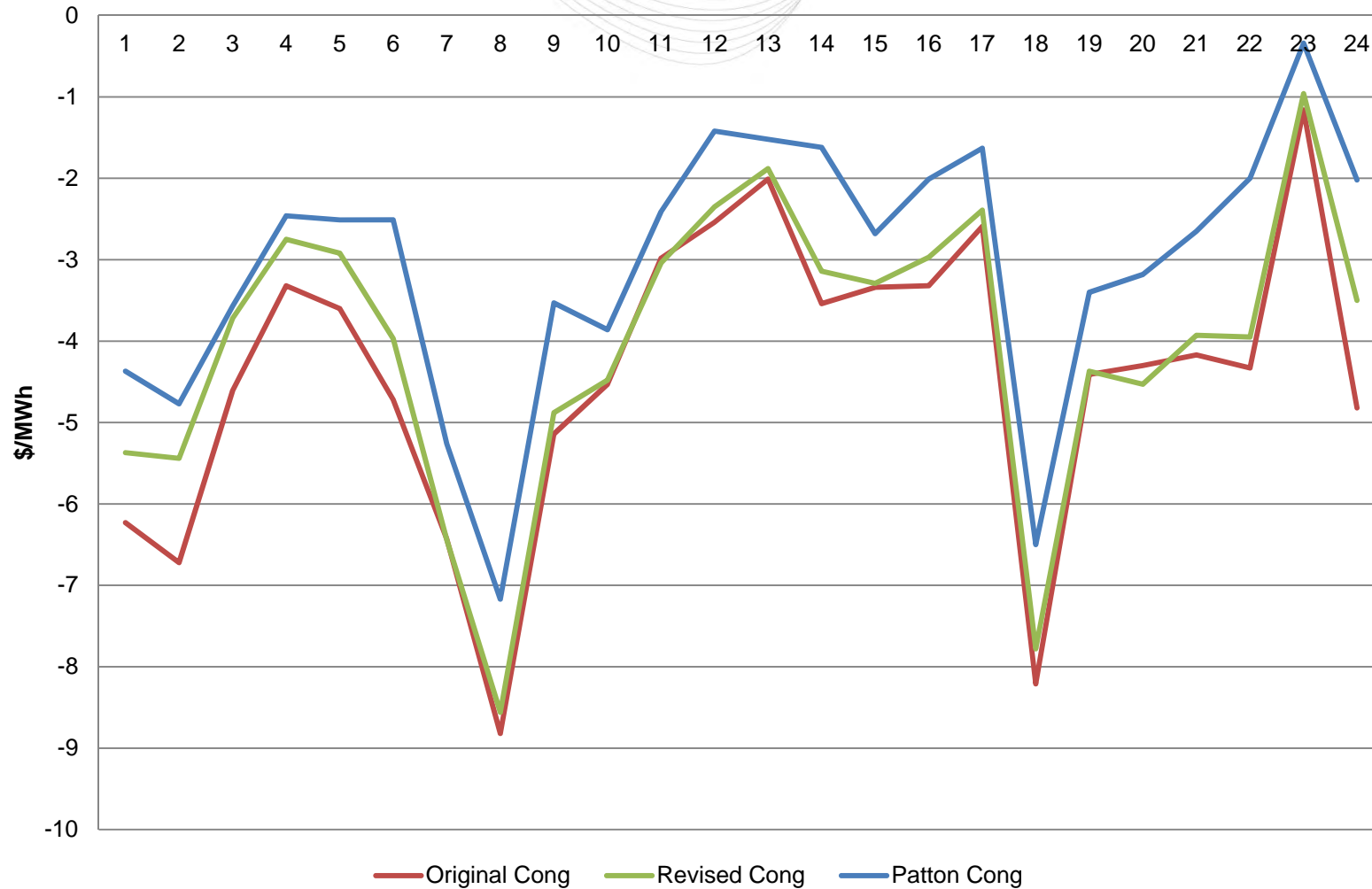
Generator Pnode	Equal Factor
ROCKPOR2 26 KV RP1	0.1
18 WILL 18 KV WC-3	0.1
3 POWERT 24 KV PO-5	0.1
16 WAUKE 138 KV WA31	0.1
EBEND 20 KV G2	0.1
BVR CH 6 20 KV RCH52GUN	0.1
SCHAHFER 345 KV SH18	0.1
CAYUGA2 345 KV CAY2	0.1
MICHIGA2 345 KV MC12	0.1
MONROE 26 KV MON1	0.1

- PJM is still evaluating whether to adopt Dr. Patton's solution as a longer term solution
 - Additional analysis is required to ensure there are no unintended consequences of removing congestion from the Interface LMP
 - PJM will continue to exchange and evaluate analyses with MISO as part of this evaluation

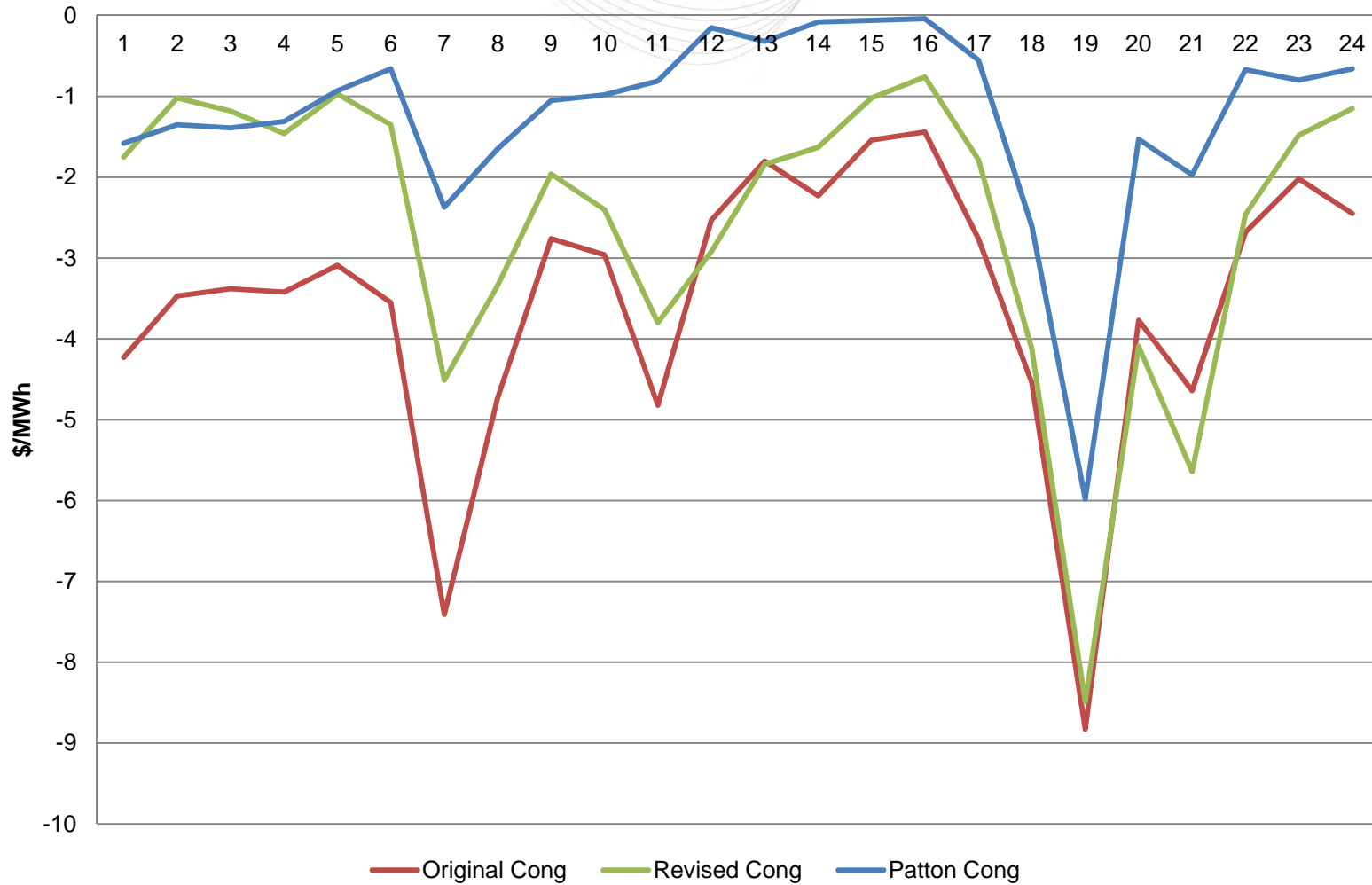


APPENDIX – LMP ANALYSIS

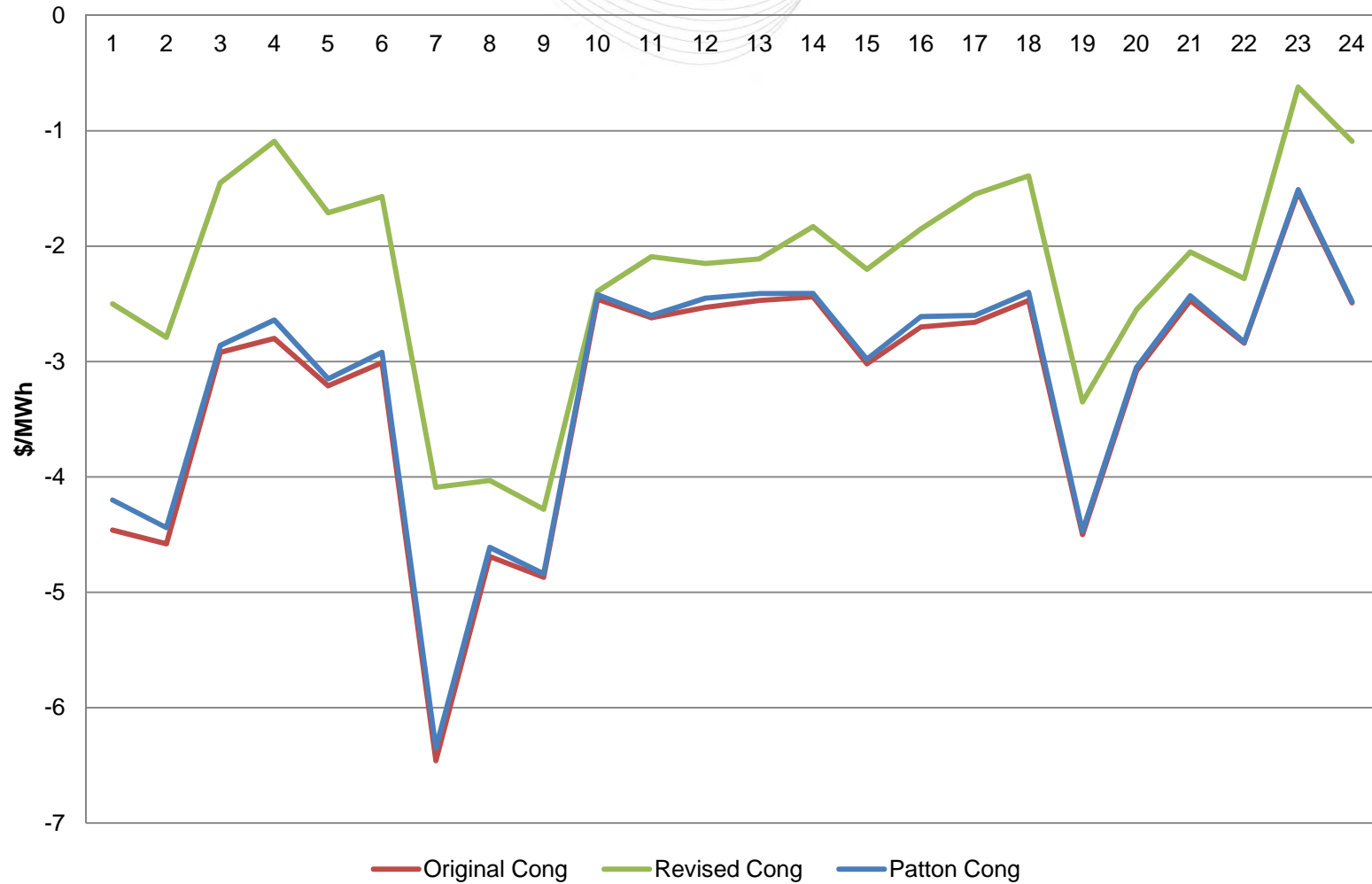
Jan 2013 Hourly Congestion LMPs



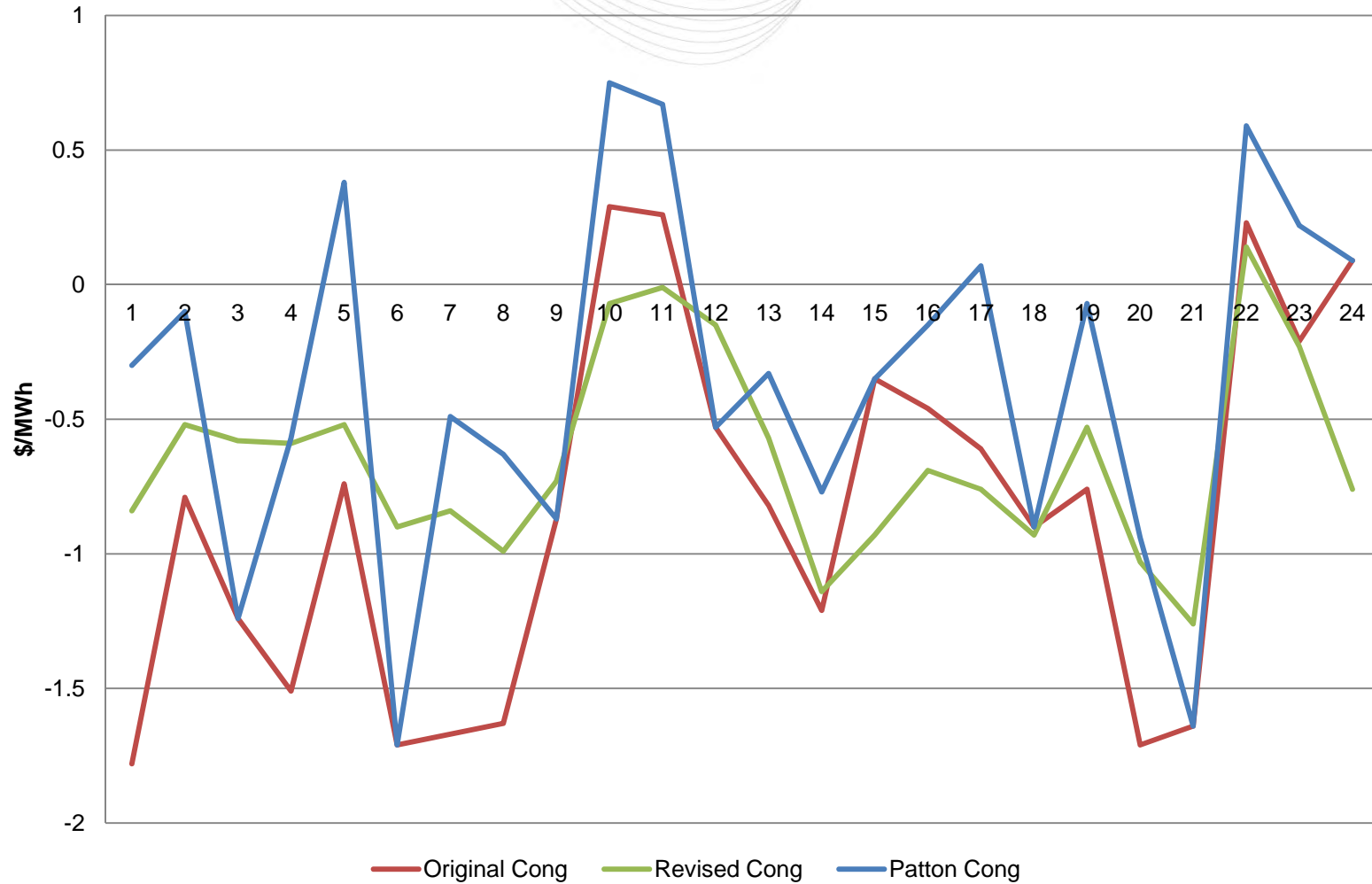
Feb 2013 Hourly Congestion LMPs



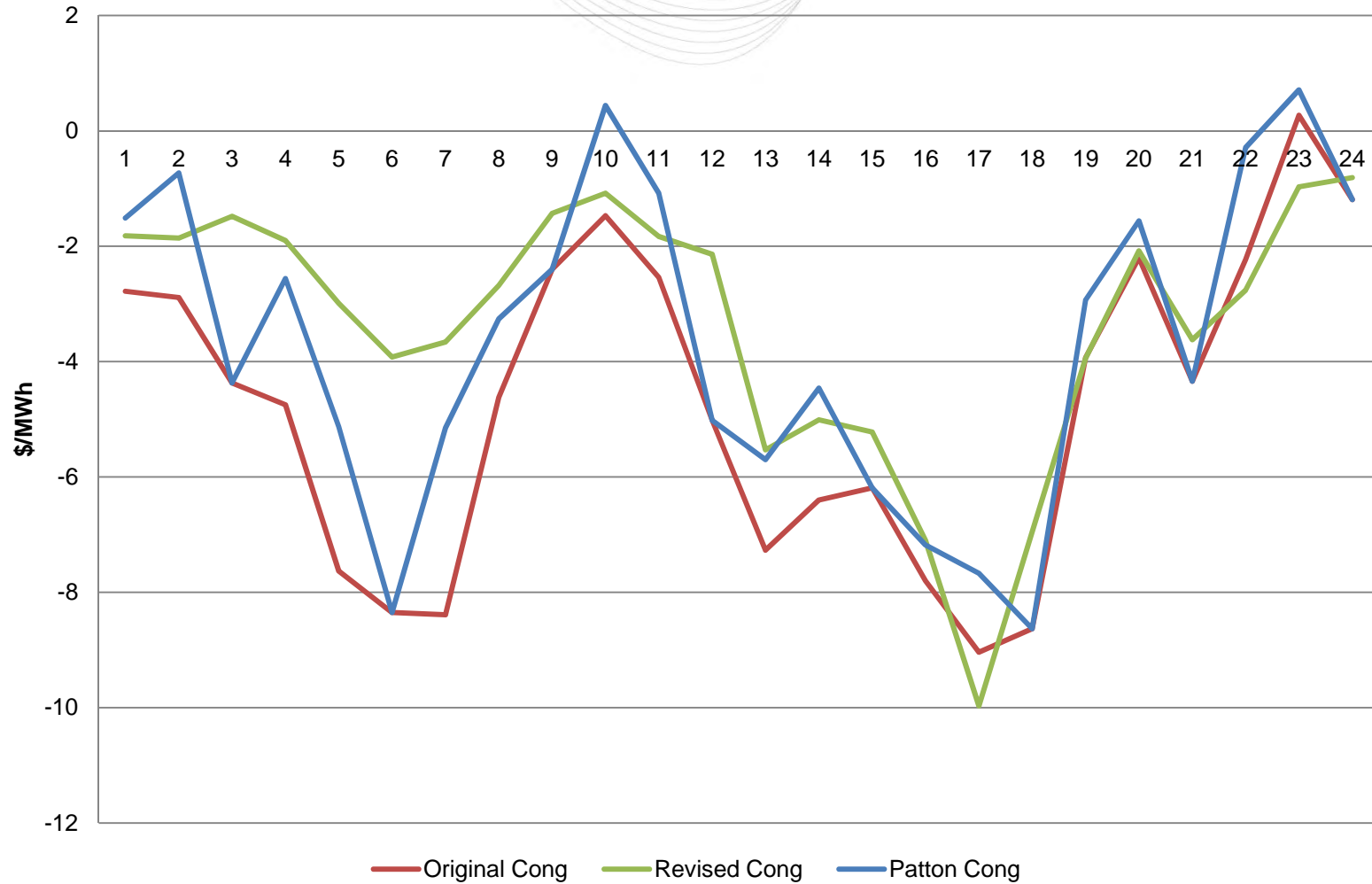
Mar 2013 Hourly Congestion LMPs



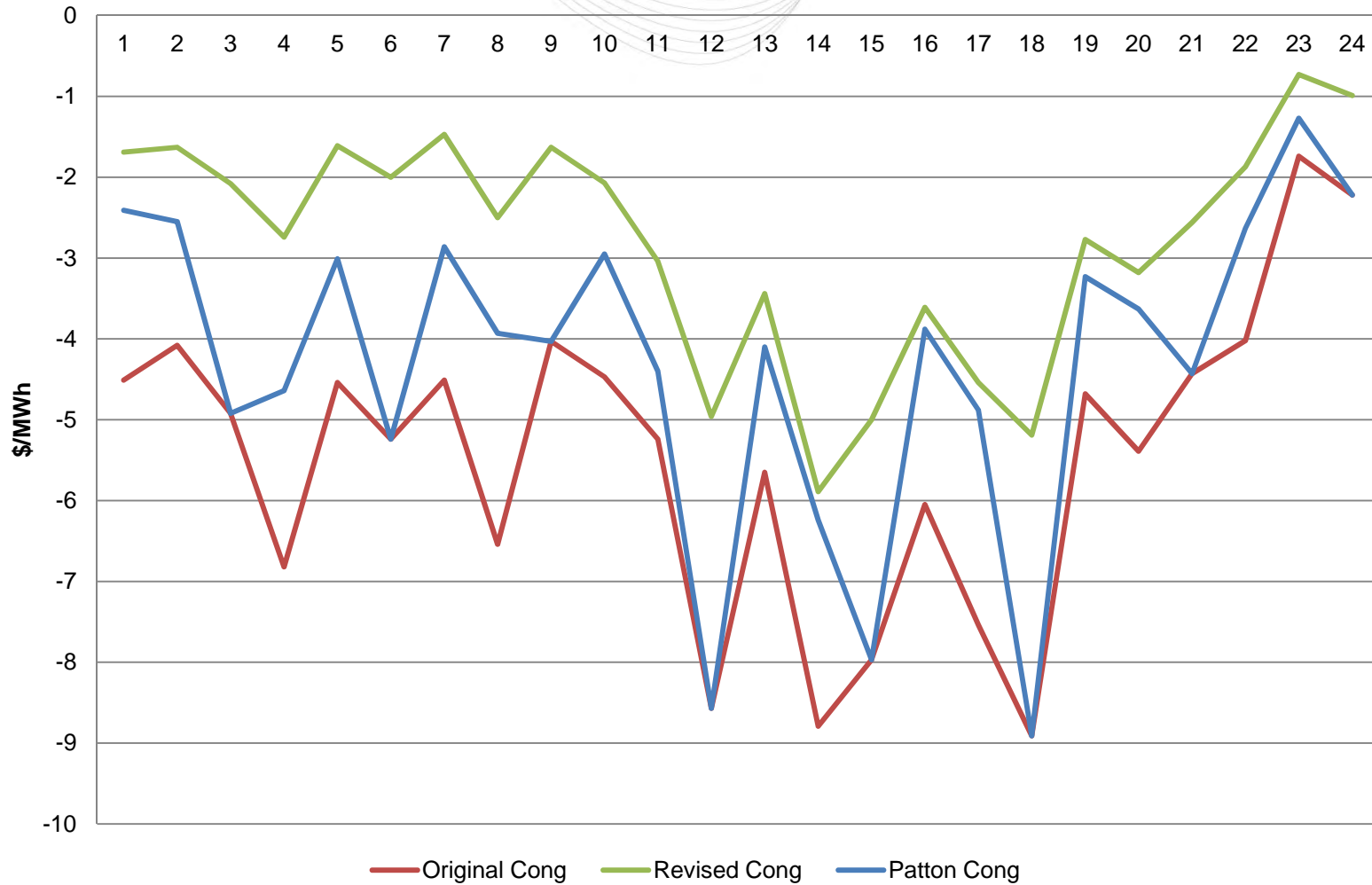
Apr 2013 Hourly Congestion LMPs



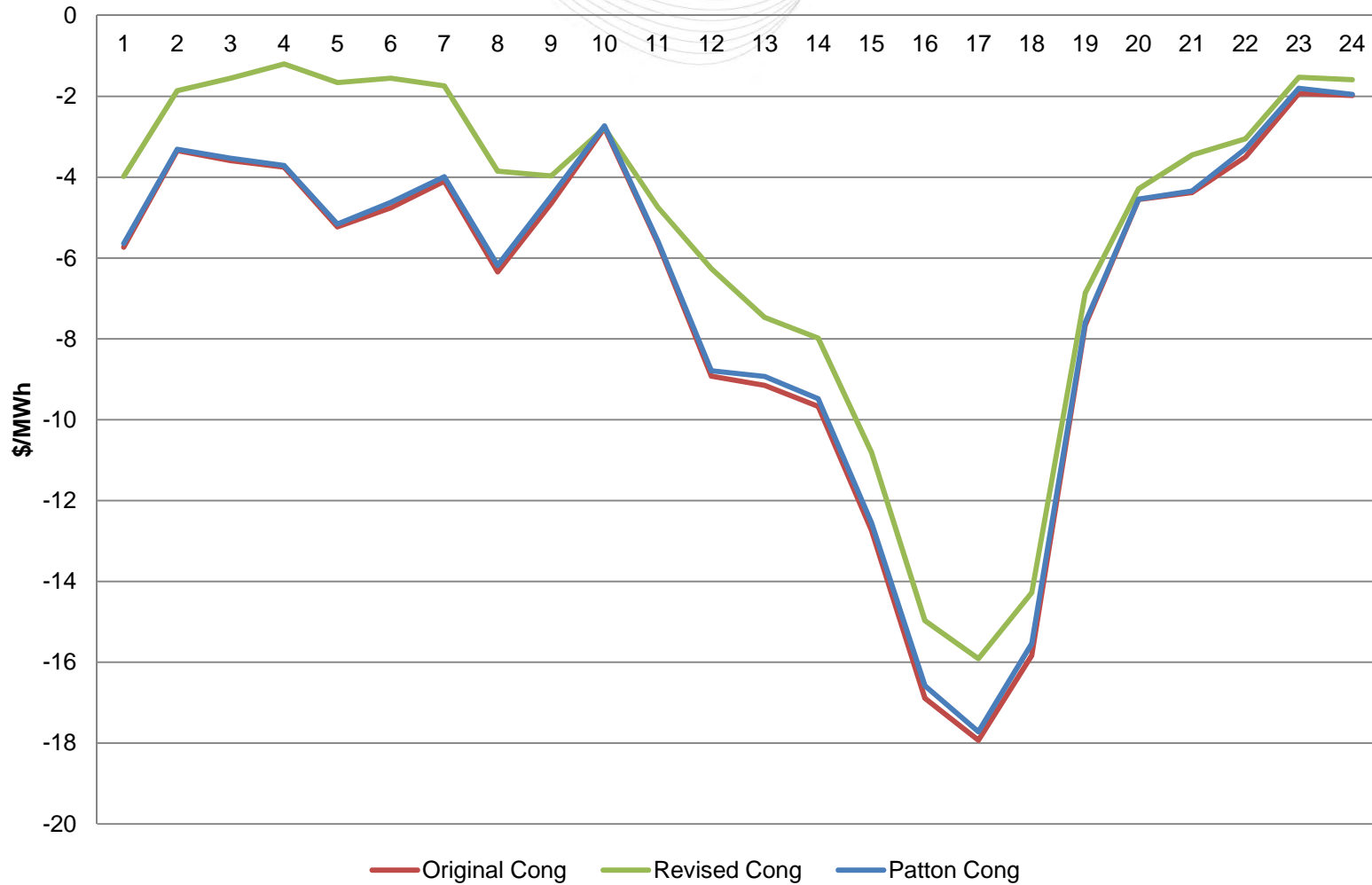
May 2013 Hourly Congestion LMPs



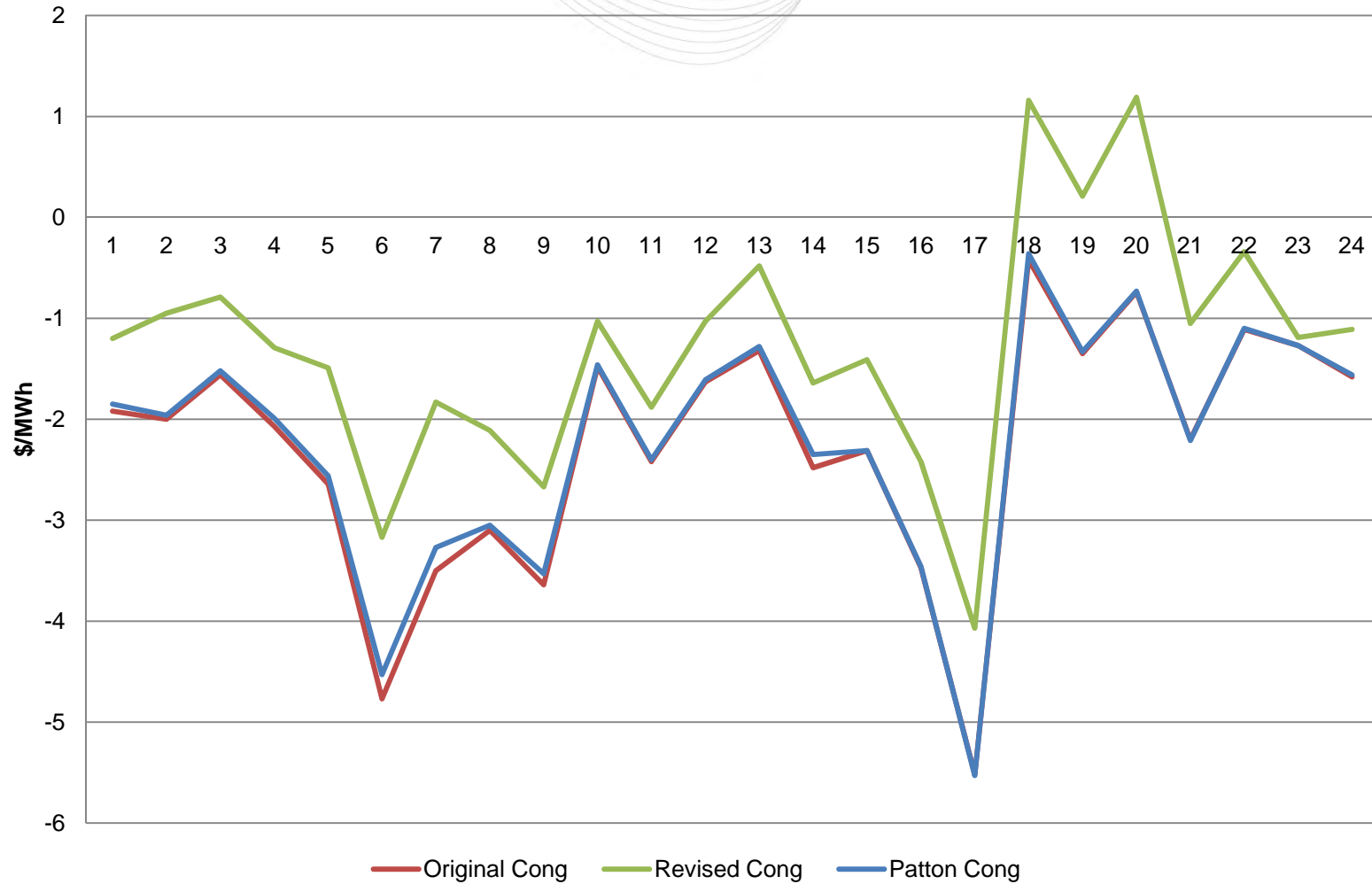
June 2013 Hourly Congestion LMPs



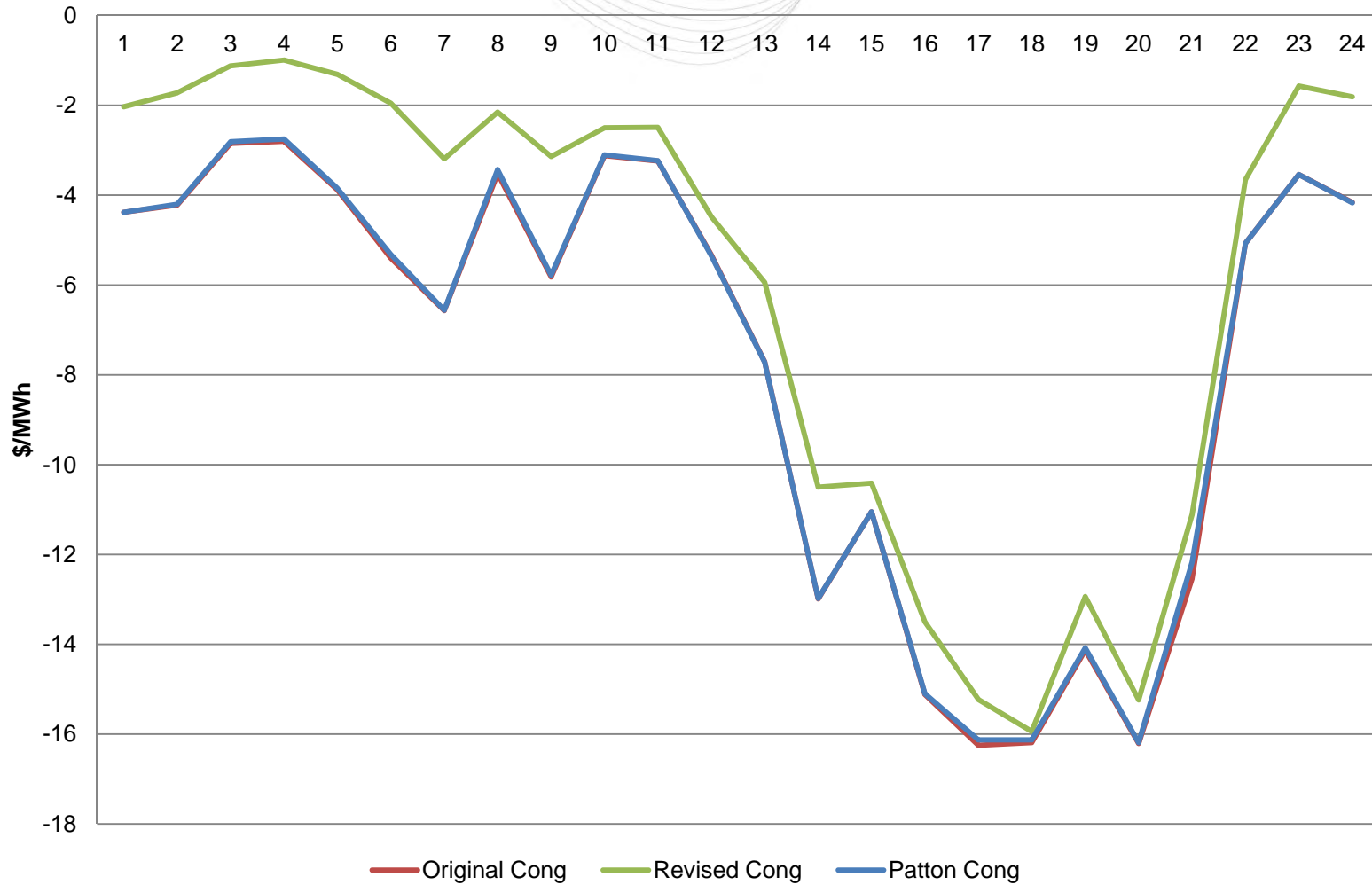
July 2013 Hourly Congestion LMPs



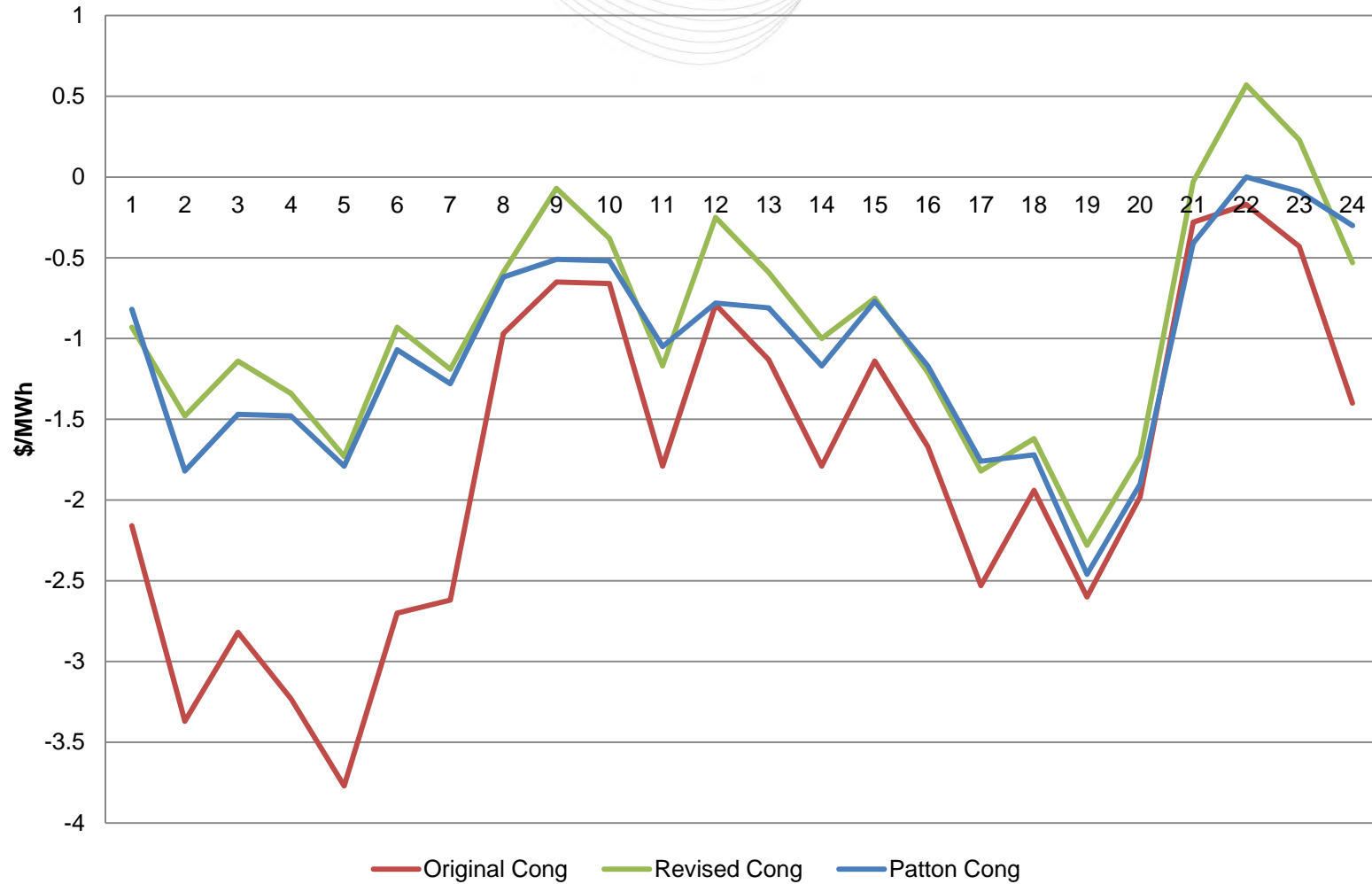
August 2013 Hourly Congestion LMPs



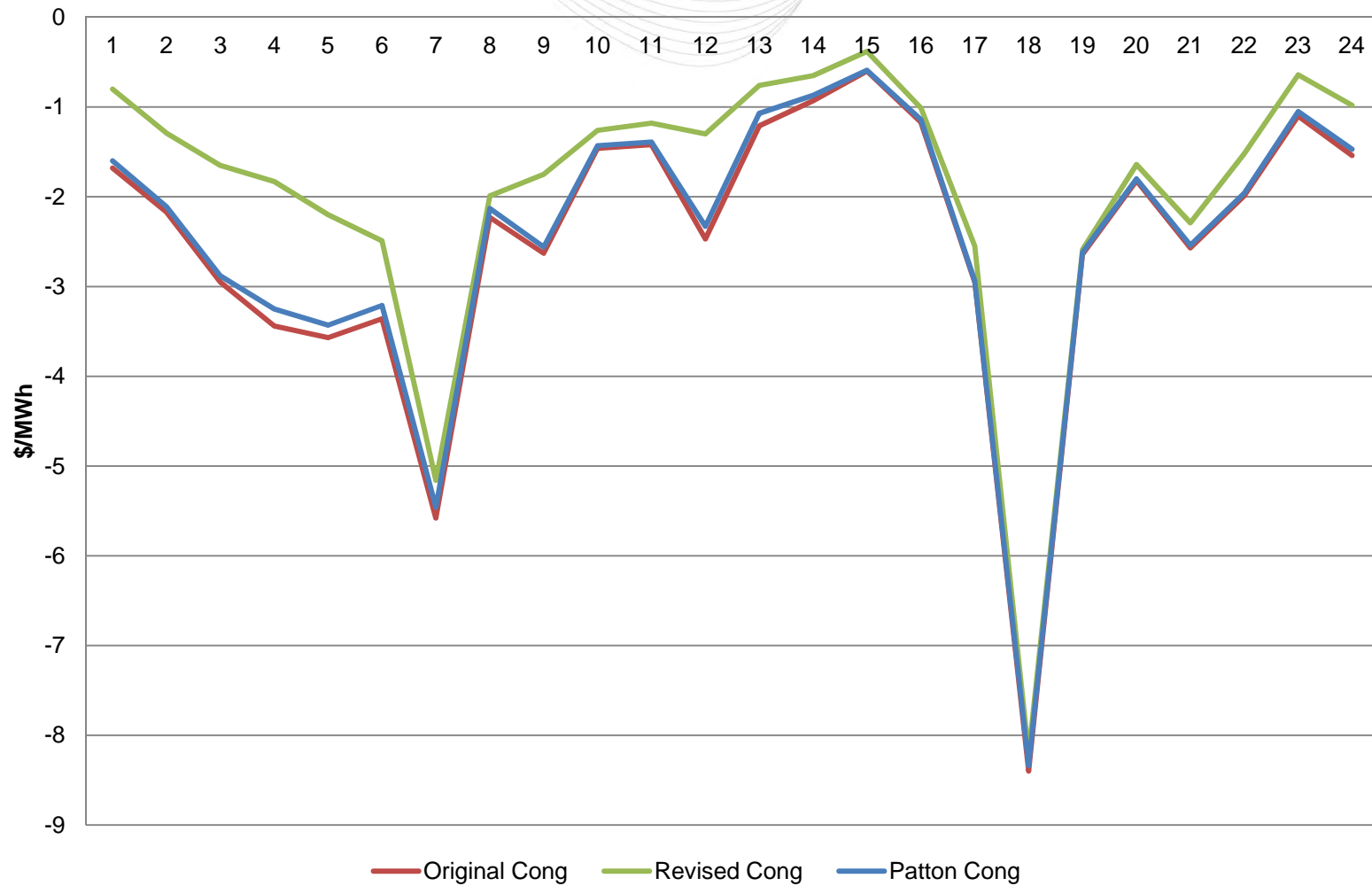
September 2013 Hourly Congestion LMPs



October 2013 Hourly Congestion LMPs



November 2013 Hourly Congestion LMPs



December 2013 Hourly Congestion LMPs

