Beyond LMP: Marginal vs. Convex Hull Pricing

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Refreshments served at 4pm

Abstract:

Over the last approximately 20 years, most Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) in the United States have used a method called locational marginal pricing (LMP) to determine the price of electricity bought and sold in their energy markets. While this method has worked well during this time, recent changes in the industry have caused ISOs and RTOs to reexamine price formation. Recently, some ISOs and RTOs have begun implementing alternatives to LMP based on a method called convex hull pricing. With the aid of some simple examples, this presentation will explain what convex hull pricing is, how it differs from LMP, and some of its advantages and disadvantages. In addition, current work at PJM exploring the implementation of convex hull pricing in its wholesale electricity markets will be discussed.

Bio:

Anthony Giacomoni is a Senior Market Strategist in the Emerging Markets department at PJM Interconnection in Audubon, PA. In his current role, he conducts research and analysis relating to electricity markets and emerging issues in the energy industry. Previously, he was a Senior Engineer in the Resource Adequacy Department at ISO New England. From 2012-2016 he was a Market Analyst in the Market Monitoring Department at ISO New England where he helped ensure the competitiveness of the wholesale electricity markets for the New England region. From 2011-2012 he was a Post-Doctoral Associate in the Electrical and Computer Engineering Department at the University of Minnesota. He received the B.S. degree in electric power engineering and economics from Rensselaer Polytechnic Institute, Troy, NY in 2007, and the M.S. and Ph.D. degrees in electrical engineering with a concentration in electric power systems from the University of Minnesota, Minneapolis, MN in 2009 and 2011 respectively.