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Subject: CPUC Docket R1012007

I regard to the last two items in the discussion just before the lunch break, I see that the biggest barrier (last slide) is the lack of a way to cash out second-by-second imbalances that occur in regard to the various services identified in the next to the last slide. One would hope that the cash out of imbalances would somehow reflect the value of the services that storage can bring to the system, but should at least reflect the real time value of the imbalances to the system.

In regard to the need for imbalance cash out, I refer to

- "Tie Riding Freeloaders--The True Impediment to Transmission Access," *Public Utilities Fortnightly*, 1989 December 21.

In regard to methods to set the price for those cashouts, I refer to

- “Trust But Verify And Then Cash-Out, Comments Of Mark B. Lively, Utility Economic Engineers,” *National Action Plan on Demand Response*, FERC Docket No. AD09-10-000, 2009 December 4.
- “Metrics for Operating Reserves,” *The National Regulatory Research Institute Quarterly Bulletin*, Spring 1998.
- “Competitive Markets for Imbalances, Not Penalties,” *Staff Technical Conference on Increasing Real-Time and Day-Ahead Market Efficiency through Improved Software*, FERC Docket No. AD10-12-003, 2012 June 25-27.

Good discussion so far.

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