

From: GELL Richard -ELEC SALE&TR
Sent: September 18, 2008 1:10 PM
To: MacKenzie, John
Subject: RE: Linked Wheel Transactions

John:

Thanks for the prompt reply. Based on what you have provided, I'm not sure I fully understand the comparison (I don't recall us walking through any examples). As well, is the Export formula correct? Further, my assumption is that the Zone Price will be determined by the marginal transaction that does not flow or partially flows. Question – How is the Zone Price determined if it is the Linked Wheel transaction that is congesting the Zone?

In the examples that follow, the source/sink references as seen by the Linked Wheel transaction.

Example 1: Wheel transaction from NY to MISO via Ontario.

PD HOEP = \$50

PD NYSI (Source) = \$40 (ICP = -\$10)

PD MISO (Sink) = \$60 (ICP = \$10)

50 MW, Marginal Import Offer at NYSI = \$40

50 MW, Marginal Export Bid at MISO = \$60

50 MW, Linked Wheel Congestion Bid = \$20

Sink – Source = \$60 - \$40 = \$20

The zones prices are determined by the marginal bid/offers in the respective zones. Thus in this scenario, the benefit of each would be \$0 to Ontario. What is the outcome here? Prorata treatment at each interface?

Import Benefit = Source PD Zone Price – Import Offer Price = \$40 - \$40 = \$0

Export Benefit = Export Offer Price – Sink PD Zone Price = \$60 - \$60 = \$0

Linked Wheel Benefit = Linked Wheel Bid Price – (Sink PD Zone Price – Source PD Zone Price) = \$20 – (\$60 - \$40) = \$20 - \$20 = \$0

Example 2: Wheel transaction from NY to MISO via Ontario.

PD HOEP = \$50

PD NYSI (Source) = \$45 (ICP = -\$5)

PD MISO (Sink) = \$60 (ICP = \$10)

50 MW, Marginal Import Offer at NYSI = \$45

50 MW, Marginal Export Bid at MISO = \$60

50 MW, Linked Wheel Congestion Bid = \$20

Sink – Source = \$60 - \$45 = \$15

Import Benefit = Source PD Zone Price – Import Offer Price = \$45 - \$45 = \$0

Export Benefit = Export Offer Price – Sink PD Zone Price = \$60 - \$60 = \$0

Linked Wheel Benefit = Linked Wheel Bid Price – (Sink PD Zone Price – Source PD Zone Price) = \$20 – (\$60 - \$45) = \$20 - \$15 = \$5

In this scenario, the Linked Wheel transaction would flow; pay \$15 in congestion costs. The Zone prices remain congested at the respective prices determined by the marginal imports and exports and the marginal imports and exports would not clear the market. Is this correct?

We should probably develop various examples on this to ensure we are all on the same page.

Thanks
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