Subj: **My comments to Howard Illian's May 28th Energy Pricing Alternatives**
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Howard is illustrating 4 energy pricing alternatives. I relabel the first 3 as variants of using the Bads' Worst Market Price:
1. Use the Bads' Worst Market Price with Goods' Market Prices Averaged.
2. Use the Bads' Worst Market Price
3. Use the Bads' Next-Worst Market Price
Using Bad's Worst Market Price is identical to using Good's Best Market Price which is depicted in the third row of my May 8th matrix (attached). So, the first 3 alternatives share this alternative's perversity illustrated in the matrix, namely that Congestion is not being paid or charged when the Bad's Worst Market Price is on the supply side of the Inadvertent energy transaction (in Howard's new examples 1-4, 2-2, 2-4,and 3-3). Furthermore Howard's 3rd alternative has the added perversity that the Best-priced Good is penalized (in Howard's examples 3-2 and 3-3).
Howard's 4th and 5th alternatives collapse for reasons explained below to what I relabel as
4. Use Own Market Price
as depicted in the 5th row of my May 8th matrix.

In this and in Howard's previous paper, use of a single price for the Inadvertent energy transactions of all Balancing Authorities with the Interconnection shares the perversity of over- and under-charging/paying congestion. This alone argues in favor of Howard's 4th alternative of using each Balancing Authority's own price as its settlement price.

A market's (agent's) bid/offer spread is different from a market-MAKER's (principal's) bid/offer spread. A market's bid/offer spread is the distance between the highest bidder in the bid stack and the lowest offer in the offer stack. A transaction "price" is set when the highest bid or the lowest offer is "hit". Accordingly, unlike market-MAKERS, markets have a "single" (last) transaction price, not a "binary" price. So, we need to sort out the apples of "bid/offer spreads" from the oranges of "transaction prices". Inadvertent energy pricing should recognize a Balancing Authority not in its affiliated commercial role as a market-maker, but in its role as representing its underlying market. Accordingly, we can dismiss spreads and their complications from Howard's paper, and thereby collapse his 4th and 5th alternatives. A simple way is to regard an inadvertent transaction as an "involuntary" transaction or a "forced" transaction and not presume which side of the bid/offer spread is hit. In other words, on average, and in a "negotiated" situation, the transaction price is the midpoint of the spread and should be so deemed here. That still achieves the anti-gaming objective of Howard's 5th alternative by completely disincentivizing widening the spread from both ends, and by halving the incentive of widening it from one end. This may be disincentive enough, short of violating the market principle of spreads by outright reversing them as Howard does in his 5th alternative. That way, inadvertent energy pricing is recognizing transactions between "markets" (agents) and not between "market makers" (principals).