Price Takers

When an electricity generator bids into the hourly market at zero, that generator is called a "price taker." This means that that generator is willing to take any clearing price for that hour. Remember that these price-takers bid into the market at zero, but they don't necessarily receive zero (although this is possible; see next paragraph). That's because every generator who clears in the market (bids at or below the clearing price for that hour) receives the same clearing price. But, when a generator bids in at zero, that generator is called a "price taker."

It is possible for the energy market to clear at zero for certain hours. This happens when the overall demand for electricity [called "load"] is low enough, and there are enough price takers bidding in to the market to serve the entire load for that hour. For example, on September 8, 2014, the wholesale clearing price for electricity in New England was zero for the hours ending at 4:00 AM and 11:00 PM. I am writing this on the morning of September 16, 2014, and so far today the wholesale clearing price for electricity in New England was zero for the hours that ended at 2:00 AM and 5:00 AM.

Locational Nodes

There are 82 large electricity generators in New England, each one at a different geographical location. Part of the ISO's job is to get electricity from these 82 generators (or as many as are on at any time) to tens of millions of end users. These end users are also located all over New England. It is the transmission system that moves the electrons from generator to customer. The transmission system is expensive to build, and there are constraints (limits) on the transmission system that can make it difficult to get electricity

from certain generators to certain customers. This is especially true for densely populated cities (like Boston).

There are, in fact, exactly 1,121 separate transmission "nodes" on the New England electricity grid. These geographical nodes sometimes require the ISO dispatch (turn on) specific generators in specific locations in order to service the customers in that node (or in another specific node). Those generators may be dispatched not because they bid in to the hourly market at the lowest price, but because the generator is geographically located where it is needed to get electricity into a specific transmission-constrained geographical node.