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WHOLESALE ELECTRIC PRICING

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You asked for an explanation of the Independent System Operator-(ISO)-New England's Market Rule 1 as it applies to wholesale energy prices and how the rule affects retail electricity prices in Connecticut. This report focuses on the day-ahead energy market component of Market Rule 1 which accounts for approximately 95% of the energy sold on the spot market; the rule also covers other factors that are reflected in electricity prices, including generating capacity and reserve charges.

MARKET RULE 1

The law that opened the retail electric market in Connecticut to competition effectively required electric companies to sell their power plants and current law only allows them to own generation facilities under limited circumstances. Many suppliers that compete with the electric companies also do not own generation facilities. As a result, the electric companies and suppliers primarily buy power on the regional wholesale market. ISO-New England administers this market under rules approved by the Federal Energy Regulatory Commission.

Market Rule 1 has detailed rules on pricing and bidding in the day-ahead market for electric energy. Prices are set in this market at 900 locations (nodes) on the regional power grid. At times, transmission and reserve constraints prevent the cheapest power from reaching all locations of the grid, causing prices to differ among these locations. Even when the cheapest megawatt can reach all locations, transmission losses will result in different prices across the system. Electric companies and competitive suppliers pay prices by zone based on the nodal prices paid to generators. Connecticut is one of eight zones in the region.

Wholesale prices are determined in the day-ahead market by supply offers and demand bids. Supply offers are influenced by production costs (most notably fuel costs) and the supplier's operating characteristics. The demand bids for electric energy reflect an electric company or other market participants requirements, tolerance for risk, and expectations about congestion on the system caused by transmission constraints. Participants may offer to pay any price set by the market or limit their bids to a certain price.

Pursuant to this rule, every day ISO-New England estimates how much power will be needed for each hour in the subsequent day based on the bids. Suppliers submit offers and ISO-New England chooses the winners. All of the generators selected in the process are paid the price paid to the last generator whose power is needed to meet the projected demand. For example, ISO-New England may estimate that 10,000 megawatt-hours (MWH) will be needed from 9 a.m. to 10 a.m. Six generators submit offers to supply 2,000 MWH each at prices of \$5, \$6, \$7, \$8, \$9, and \$10, respectively. ISO-New England will choose all but the last generator to supply power for that hour. All of the selected generators will be paid \$9 per MWH (9¢ per kilowatt-hour) offered by the last chose supplier. The selected generators are paid this price regardless of their offers and their cost of producing the power. On the other hand, generators are not paid in this market unless they run. According to ISO-New England, natural gas-fired plants set the price in the day-ahead market about 60% of the time in 2009 (the latest available data). The marginal cost supplier can vary geographically depending on transmission constraints.

IMPACT ON RATES

The prices set in the day-ahead market play a significant role in determining retail electric rates, but there are many other factors involved. According to generators in Connecticut, the bulk of the power sold in the region is sold under long-term bilateral contracts rather than on the day-ahead market. While the day-ahead price plays an important role in determining contract prices, contract prices also are affected by the parties' tolerance for risk, transaction costs, and other factors.

The cost of energy sold in the day-ahead market and under bilateral contracts accounted for less than 65% of the total average wholesale electric rate in the region in 2009 (latest available data), according to ISO-New England. Other major components of the average wholesale rate include payments for generating capacity (about 20% of the wholesale rate). These payments are analogous to the retainer paid to an attorney to ensure that he or she is available to the client, while the energy cost is analogous to the attorney's hourly rate.

The wholesale rate accounted for approximately 66% of the total retail rate paid by the average Connecticut Light and Power residential customer on standard service in 2010. The remainder of the retail rate includes charges that are set by the Department of Public Utility Control, such as the distribution charge, or are set in statute, such as the charges that support conservation and renewable energy programs.

Altogether, the prices set in the day-ahead market affect about half of the total retail cost of electricity, albeit in a largely indirect manner.

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