

McCULLOUGH RESEARCH

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PRINCIPAL

Date: September 30, 2015
To: McCullough Research Colleagues and Clients
From: Robert McCullough
Subject: Decrypting New York's "Secret" Electric Bids

The New York Independent System Operator (NYISO) asserts that it masks the identities of the bidders in its electric markets to avoid facilitating predatory pricing and collusion. However, the masked generator IDs can easily be decoded. Further, since firms' cost and revenue information can be determined from public sources, industry bidding strategies are likely known throughout the NYISO market. This opaque system keeps only one group in the dark: the public.

It is doubtful that NYISO members do not already know the true identity of every masked generator ID. The masking system assigns an eight digit number to each bid, replacing the bidder's name to ostensibly maintain confidentiality – yet the ID can be quickly decrypted. For example, the last three digits of the bidder ID are always 180 or 750, reflecting the in-service date of the unit. The maximum bid size and the date of the first bid can be used to identify newly constructed power plants. The first digit frequently represents the unit number of multi-unit power plants.

The issue of confidentiality in New York's energy markets arose when New York State Assemblyman Jim Brennan, Chair of the Committee on Corporations, Authorities and Commissions, submitted a Freedom of Information Law (FOIL) request for utilities' reports filed at the New York Public Service Commission. Many of the reports received were redacted to keep the operating information on market participants secret.

Ironically, the decision to classify ordinary operating data, easily available from neighboring states, as well as U.S. government databases at the Energy Information Administration (EIA), the Federal Energy Regulatory Commission (FERC), the Environmental Protection Agency (EPA), and the Nuclear Regulatory Commission (NRC), involved protecting the secret bids at the ISO. Since any reasonably competent analyst could, and most likely already has, broken the code at the ISO, the effort to reduce transparency in New York electric markets is doomed to failure.

Transparency is a necessary component of competitive markets. In the absence of transparency, market bids are often anomalous. New York has frequently suffered from such problems, with market bids that are more than ten times the bids seen in more competitive markets. For example, in 2013, 8% of all NYISO bid segments were over \$500/MWh. This would imply that heat rates for those bidding plants are as high as ten times those of any existing power plants. Put more colloquially, NYISO’s markets are like a grocery store where some vegetables cost \$100 per pound and shoppers only discover this price at the cash register.

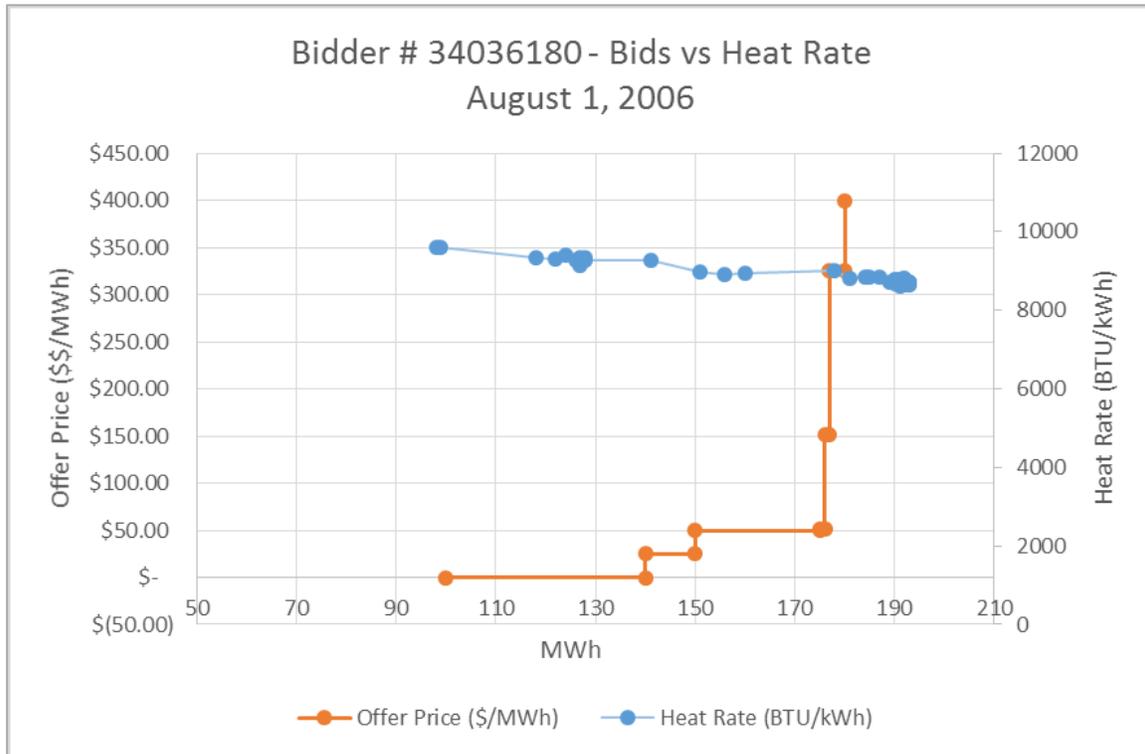
There is no theoretical basis for keeping market information secret. Indeed, economic theory supports transparency. Even if transparent markets were fatally flawed, the current situation where some market participants are able to decode the bids and others are not creates a fertile field for market abuse. The only thing worse than a grocery store with bizarre, secret prices is a store where only some customers get to see the prices.

Despite claims by New York generators that information regarding their marginal costs is secret and should remain so, a central component of those marginal costs is widely available thanks to the EPA. The following is a comparison of “secret” heat rates available on Google and the heat rates reported by the EPA in its NEEDS database:

Company	Year of disclosed heat rate	Intended to redact?	Published heat rate (btu/kWh)	NEEDS v 5.14 heat rate
US Power Generating Company / Astoria Generating Station	2012	Yes	11,825 – 21,467	18,437
Castleton Energy Center	2014	No	8820	8603
Castleton Energy Center	2013	No	8850	8603
Constellation Energy Nuclear Group / Nine Mile Point 1	2013	Yes	9977	10,460
Constellation Energy Nuclear Group / Nine Mile Point 1	2012	Yes	10,023	10,460
Constellation Energy Nuclear Group / Nine Mile Point 2	2013	Yes	10,018	10,460
Constellation Energy Nuclear Group / Ginna	2013	Yes	10,493	10,460
Constellation Energy Nuclear Group / Ginna	2012	Yes	10,408	10,460
Edgewood Energy, LLC / PPL Edgewood Energy, LLC	2012	No	10,440	10,745
Empire Generating Co, LLC	2012	No	7022	7119
Entergy / Indian Point 3	2013	Yes	10,425	10,460
Entergy / Indian Point 3	2012	Yes	10,425	10,460
Entergy / Indian Point 2	2013	Yes	10,792	10,460
Entergy / Indian Point 2	2012	Yes	10,792	10,460

Company	Year of disclosed heat rate	Intended to redact	Published heat rate (btu/kWh)	NEEDS v 5.14 heat rate
Entergy / Fitzpatrick	2013	Yes	9757	10,460
Entergy / Fitzpatrick	2012	Yes	9757	10,460
New Athens Generating Company, LLC	2014	Yes	6950 - 6958	7179
New Athens Generating Company, LLC	2013	Yes	6948 - 6983	7179

New York has traditionally been an outlier among administered electric markets.¹ Although bizarre and inexplicable bids – those bids where prices per MWh wildly exceed any conceivable level of marginal cost – occur in most administered markets, New York historically has an unusually high share of such aberrations. The chart below shows the stepped offer curve (in orange) for Masked Bidder 34036180 on August 1, 2006.²



¹ The U.S. is split between “open markets” where prices are set by open outcry. These markets, by their very nature, are highly transparent. The oldest and largest market in the United States is the Western States Power Pool, initially approved by FERC in 1987. More recently, FERC has preferred “administered markets” where the prices are determined by a central authority. The central authority set prices by using bids – often secret – as well as other components. The New York ISO is an administered market.

² This offer curve persisted from 1:00 p.m. on August 1, 2006 through 4:00 a.m. the next morning.

It should be noted that this bidder is selling the output from a standard coal-fired unit built in 1960. The actual fuel use, heat-input, and amount of generation is reported to the EPA on an hour-by-hour basis. The blue line in the figure above shows that as the offer price increases to astronomical levels, the actual heat rate of the unit does not. Traditional economic theory identifies this as market power – this generator is increasing its offer price significantly, despite a relatively unchanged marginal cost. Monopolists and oligopolists are often able to charge above their marginal cost since consumers have limited choices.

In 1934, Abba Lerner proposed the Lerner Index to measure market power. In the case of Bidder 34036180, the plant's implied Lerner Index at the date and time discussed above was 0.834.³ This is a very high Lerner Index – the highest possible value would be 1.

In a final note of irony, Robert McCullough's affidavit filed in support of expanded transparency in New York has now been redacted by the New York Public Service Commission in order to protect the secrecy of data available on Google – in effect attempting to redact the Internet.

McCullough's redacted affidavit can be found at http://www.mresearch.com/pdfs/20150911-RM_Affidavit_Redacted.pdf. It is also available on the New York PSC's web site at <http://documents.dps.ny.gov/public/Common/View-Doc.aspx?DocRefId={761204BA-8CF9-46BE-9923-AB9F88FBE24F}>.

³ The Lerner Index ranges from 0 to 1, with higher values indicating greater market power being exerted.