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ASPIRE 9:07

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Public Utility Commission
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Re: Complaint Against ERCOT

Dear Commissioners:

On May 30, 2019 Aspire Commodities, LLC ("Aspire") lost money on ERCOT futures contracts they had transacted on the Intercontinental Exchange. Aspire lost money not because its research was wrong, quite the opposite. In fact, the company's financial position was correct given the actual market fundamentals that existed. Our forecast of load was correct. Our forecast of available generation was correct, as was our expectations about the state of the transmission grid. There was no sudden unforeseen reliability event. We had the correct position yet we lost money because ERCOT at approximately 2:50PM allowed an undisputed mistake to create an invalid market solution.

We understand that mistakes occur. What we cannot understand is why, given that (1) there is no dispute whatsoever that a mistake occurred and (2) it is incredibly easy to fix, why this mistake, which led to an absurdly invalid market solution, has not been reversed. Our impression based on how the issue has been handled, is that ERCOT management operates as if the ERCOT market exists in a vacuum – unaware of the wider market ecosystem they are a part of. The decisions taken – or, in this case, not taken – by ERCOT have far ranging implications that extend far beyond May 30th. Current and future consumers and generators of electricity will feel the consequences, as will entities beyond the boundaries of the State and potentially even the nation.

We were not the only entity to lose money because of ERCOT's unilateral decision. The business model of Griddy,¹ a retail electric provider in Texas, is to allow individual customers, i.e., households, to purchase retail electricity at the wholesale market price established by ERCOT. Griddy then adds a

¹ <https://www.gogriddy.com/>

Hi [REDACTED]

You may have noticed today's MASSIVE price spike and felt a chill run down your spine as you thought about all the money this was going to cost you. Well, we've got good news, and more good news! First of all don't worry that \$9/kWh price was not real and you will not be charged for it. It was due to a data error by the state's grid operator, ERCOT. They're the ones who set the wholesale price every five minutes based on the real-time supply and demand on the grid.

TODAY'S OUTLOOK

Capacity
 ■ Actual
 □ Available
 ▨ Reserves
 Demand
 ■ Actual
 □ Forecast

Today, ERCOT had a data glitch that made it look like 4,000 megawatts of available generation capacity suddenly disappeared. This made their pricing models think that the grid was critically undersupplied, which triggered the software to jack up the price as high as it could go – the regulatory cap of \$9/kWh. But they quickly discovered the error and corrected the capacity calculation before the next 5-minute price was set. Since it was an error, we expect that ERCOT will also recalculate what the actual price SHOULD have been, and you will be billed based on the CORRECTED price (it'll probably wind up being around 5 cents/kWh). However, if for some reason ERCOT decides not to correct the price, Griddy will credit you for the difference. Either way, you will not pay for ERCOT's pricing mistake.

So that's a relief! But what if that price had been real? Would you have to cash out your 401k to pay this month's electric bill? Well that's the other piece of good news. Even in the EXTREMELY rare case where the price does spike up to \$9/kWh¹, the damage to your bank roll would be barely noticeable. For an average Griddy member, today's spike would have cost \$2.79 – or about as much as a medium Starbucks coffee. Over the long run that would be more than covered by the hours and hours of cheap, free and even negative-priced electricity.

¹Just how rare are these kinds of price spikes? Well, in the entire history of the U.S. wholesale electricity market, the price has only hit the \$9/kWh cap one time before. Since 2015, the price has only spiked above 30¢/kWh 0.5% of the time, and over \$1/kWh only 0.05% of the time. That means that 99.95% of the time, it stays below \$1. The reason is that when these spikes occur, it causes power plants to ramp up generation to try to make more money, while also causing large industrial users (who typically pay a real-time wholesale price just like Griddy members) to ramp down usage. Those two forces work together to bring the grid back into balance and bring prices back down. So what happened to Griddy members that time when the price did hit \$9/kWh? Well, they had a very expensive 10 minutes – and for the month Griddy members STILL paid less than the Texas average.

flat fee on top of the wholesale electricity price. On May 30th Griddy sent out the message on the right to their customers. Notice that they define the price spike as “not real” and that it was due to a “data error.” Furthermore, Griddy offers that the “correct” price should be approximately \$0.05 per kWh or around \$50 per MW. Presumably they arrived at that price because the wholesale electricity price for the interval immediately preceding the “data glitch” was \$37 and nothing had changed in regards to the actual market fundamentals from the previous interval.

We may be wrong, but we are unaware of any market – ever – where the market price has increased instantaneously from \$37 to \$9000 and then back down to \$37 with no change in any market fundamentals. No change in demand. No change in supply. No change in transmission capacity. No sudden reliability situation. Yet price increases by more than 24,000%. We welcome and look forward to the explanation from ERCOT’s economists as well as those on ERCOT’s Board of Directors on why this result is consistent with the outcomes of a well functioning market. We understand the mathematics of dispatch and LMP pricing. The question is not one of mathematics, but rather what should be done when an undisputed error takes place and the software creates a price that is completely out of line with reality.

While Griddy decided it was in their best interest to absorb the costs of ERCOT’s error, their customers will, in the long run – like all retail customers in Texas – pay for this error. So too will all businesses who chose to operate in Texas. And every customer anywhere in the world who purchases a product made in Texas will pay a slightly higher price if this invalid market solution is not re-priced. There is no free lunch and every future retail contract offered in ERCOT will have to reflect the fact that prices are allowed to reach \$9000 not just because of market fundamentals but also as a result of inefficient, incorrect and unilateral decisions made by ERCOT.

Electricity markets are complex and difficult to understand but this singular episode provides unrivaled clarity into how ERCOT operates the market as well as the consequences of their actions. We believe this was an extremely significant event, perhaps the most important event since the beginning of the ERCOT market in 2001, for several reasons

First, at a time when low reserve margins have prompted ERCOT to emphasize the increased “potential to need Emergency Energy Alert status in order to maintain reliability”² during the summer, we believe it is imperative for ERCOT to reduce, rather than increase, artificial uncertainty in the market. The actions of ERCOT, and more importantly their resulting decision not to re-price electricity for the affected interval, despite the indisputable knowledge that the prices were fictitious and artificial, only increases the uncertainty of potential investors in generation, storage, demand side management and interruptible load, not to mention existing plant operators.

Second, at no time before or during the interval in question did actual frequency drop to the level of an alert. Thus the ERCOT operators instantaneously knew full well that there had been no sudden loss of generation. They knew immediately with 100% certainty that there was no physical condition on the grid that warranted \$9000 prices. Under any definition of the term, it is impossible to understand how the solution obtained by SCED can be considered and defined as a “valid market solution.” If this situation can be considered a “valid” market solution the term has no real or effective meaning.

Third, it is quite possible that ERCOT came close to artificially creating a reliability event. When SCED reached the \$9000 price, well over 1000 MWs of Emergency Response Service resource provided interruptible service. With no actual loss of generation, the sudden loss of load would have very quickly caused frequency to increase dramatically.

Fourth, there were actually two events on May 30th in which ERCOT’s SCED process mistakenly “lost” 6000-7000 MWs. A prior event occurred at 11:42AM (SCED timestamp 11:42:24). The only difference was that the earlier occurrence took place during a non-pricing interval. This is irrelevant. What is relevant is that there was a known and observable problem with SCED that was responsible for generating invalid market solutions. What is even more troubling is that these two occurrences are not stand-alone events. Rather it

² <http://www.ercot.com/news/releases/show/181248>

can be shown, using ERCOT's own data, the ERCOT SCED process routinely suffers from significant losses and gains in available generation in a matter of seconds. That is, it is common for the ERCOT SCED process to lose or gain 100's of MW of capacity in as little as 10 seconds only for the capacity to "re-appear" or "disappear" as the case may be seconds later. This is a significant problem and gets directly to the integrity of the dispatch process and the market itself.

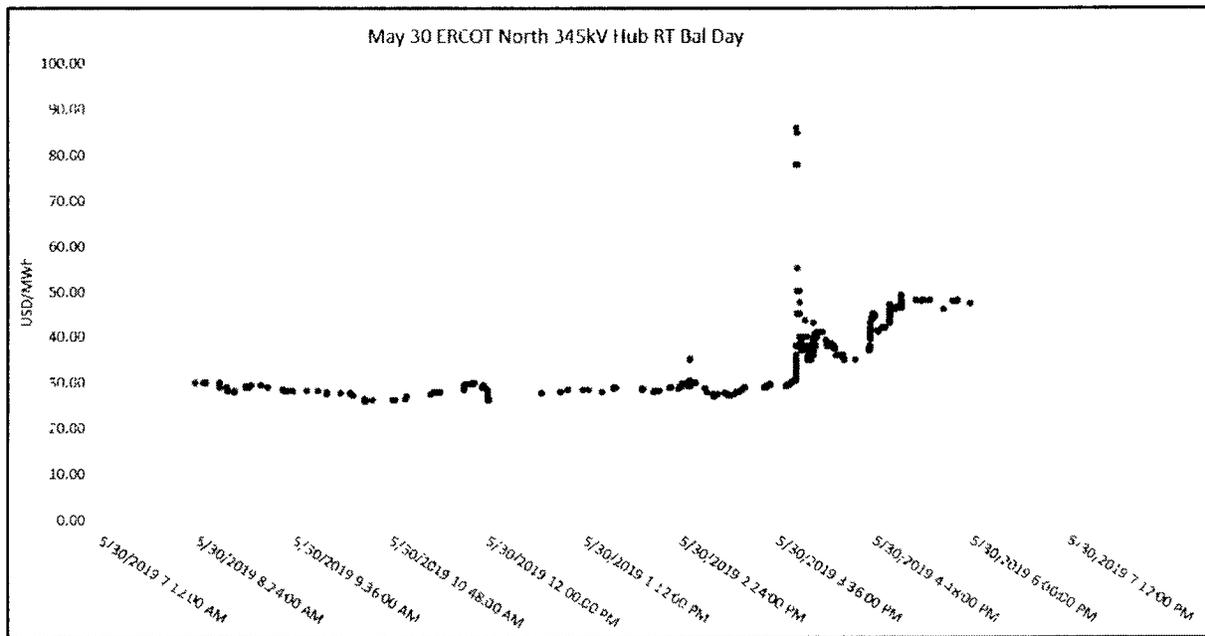
Fifth, we listened closely to ERCOT's explanation of events at the Wholesale Market Subcommittee (WMS) meeting on June 5, 2019 – namely that a Qualified Scheduling Entity had wrongly set the HSL and LSL levels for the generation they represent at 0. This had the obvious affect of dramatically reducing the amount of capacity available to the SCED process and caused prices to reach the maximum allowed in the market. The nearly instantaneous reliance on QSE provided data, without any apparent or meaningful Quality Control on the part of ERCOT, suggests that it is timely, desirable and necessary to review the pros and cons of other potential electricity market designs currently operating in the United States that use state estimator data rather than relying on flawed – and manipulable – data from Market Participants. At that same meeting we were deeply concerned to hear ERCOT staff publicly state "there is incorrect data for every interval." We have never heard staff or management from PJM, MISO, SPP, NYISO, ISO-NE or the CAISO make a similar statement.

Sixth, and perhaps most important, ERCOT's actions capriciously resulted in a massive increase in the cost of electricity. The average locational marginal prices and system load for the intervals 1430, 1445 and 1500 on May 30, 2019 were, \$40.53/55,405MWs, \$1359.13/55,507MWs and \$29.50/55,697 respectively.³ Thus using these average LMP values for the three intervals as an ERCOT-wide approximation, the total spent on electricity for these three 15-minute intervals by the market was: \$561,391, \$18,860,307, and \$410,765. The average of the 1st and 3rd intervals was \$486,078. To re-iterate, the estimated expenditure on electricity in Texas for the interval from 1445 to 1500 on May 30, 2019 was \$18,860,307 – and this occurred without any dislocation of supply, increase in demand, transmission outage or reliability event! Relative to the average of the 15-minute intervals immediately before and after the interval from 1445–1500 this equates to an instantaneous increase in expenditures of 3,780% from one 15-minute period to the next. Using these average values, the "cost" of the artificial and fictitious price spike created by ERCOT was \$18,374,229. These were real prices and real expenditures and represent a very significant unjustifiable transfer of wealth from load to the generators. We simply cannot understand how anybody associated with the market cannot argue that re-pricing is absolutely required for this interval. Furthermore, we cannot understand how, under any interpretation or the terms, this result is can be defined as a "valid market solution" or that the market was "properly functioning" and produced "efficient", "fair", and "unbiased" outcomes. The integrity of the market, ERCOT and the PUCT is at stake and the loss of integrity will necessarily harm everybody. How can this outcome, if allowed to stand, be explained to electricity consumers in Texas?

Seventh, ERCOT's actions – not changes in supply, or demand, or the transmission system, or reliability concerns – caused the price of the ERCOT North Bal-Day (Balance of the Day) Contract for May 30th trading on ICE to increase from \$30 to \$86 as shown in the graph below.⁴ This equates to an instantaneous price increase of 187%. Or alternatively a wealth transfer of nearly \$45,000 on every single contract transacted on The Intercontinental Exchange for that day.

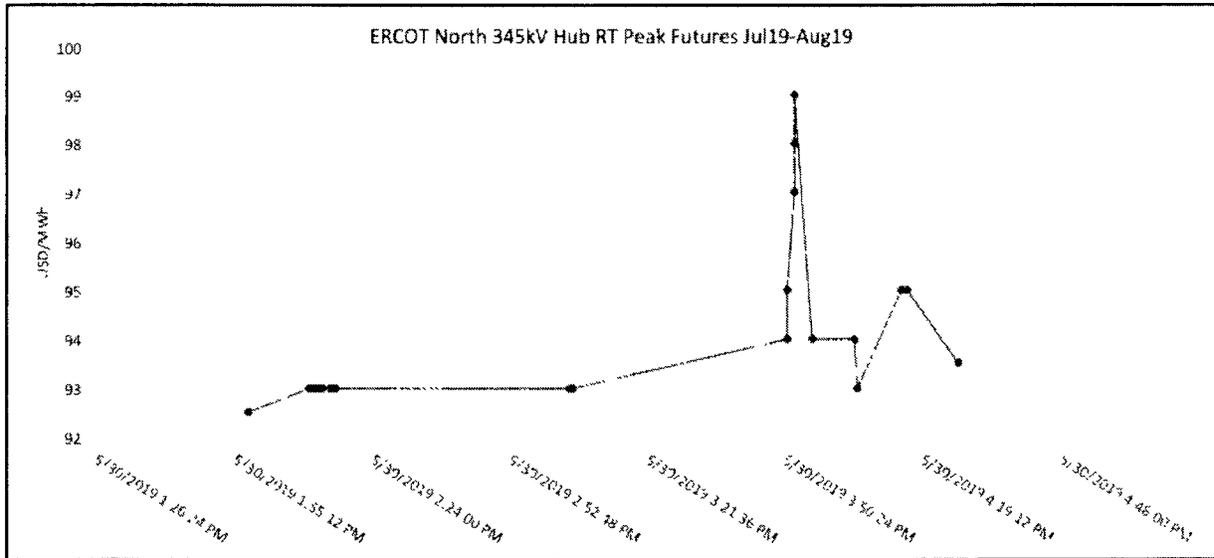
³ The average locational marginal prices provided are an average of the bus prices for each interval. As such they provide an estimate of the market expenditures for electricity for those intervals

⁴ Data provided by The Intercontinental Exchange.



Furthermore, the effect of ERCOT’s action was not limited to just the cost of power on May 30th. The invalid market solution was solely responsible for lifting the price of power for the July and August futures contract by \$6.00 per MW – from \$93.00 to \$99.00 as shown in the following chart.⁵ We are at a loss to understand how these results are consistent with the outcomes obtained in a properly functioning market. We do not understand how ERCOT can defend, let alone explain, their operations when they produce these results. Nor do we understand how they can unilaterally state this represented a “valid market solution.” These price movements were not generated or caused by anything actually occurring or any new information – they were entirely the result of ERCOT producing an invalid market solution. To provide some context for the summer price movement, last summer there were 704 peak hours in July and August and the average hourly load for those hours was 58,080 MWs. If we assume a similar load for this year, every \$1 increase in the Summer Peak Futures Contract translates to an increase of approximately \$41,000,000 in the cost of summer power. Thus the \$6 price increase caused by ERCOT temporarily created an increase in the cost of peak summer peak power of more than \$245 million. These were real prices at which summer peak power was transacted.

⁵ Data provided by The Intercontinental Exchange.



Eighth, we find it perverse that the market rewarded the very entity/entities that caused the invalid solution. Moreover, we are interested to know – and believe the Commission should also be interested in finding out – whether or not those parties who submitted the incorrect data, also benefitted from the resulting increase in the prices on financial exchanges.

Ninth, there can be no doubt whatsoever, that had the exact same conditions existed for a longer time period the market would have ceased to exist because it is highly likely that many of the retail electric providers would have gone bankrupt. The length of time that a “mistake” is allowed to continue should not be the determining factor in whether it is corrected. An error is an error.

Tenth, it is problematic that ERCOT is allowed to review, analyze and then make decisions on their own actions. An event such as this should have been reviewed independently by the PUCT.

For the interval in question, Aspire was not a direct counterparty to the ERCOT market. Our exposure to the fictitious prices was through the Intercontinental Exchange (ICE) where we had forward positions. ICE, like other financial exchanges, uses the prices created by ERCOT to settle the contracts traded on their exchange. As we understand the Protocols, specifically Section 20.1 (1)-(2) only a counter-party may request Alternative Dispute Resolution to seek correction of settlement data and resettlement. Therefore, pursuant to PURA Section 15.051 in regards to the actions taken by ERCOT on Thursday, May 30, 2019 at 1450 Aspire hereby lodges a formal complaint against ERCOT and requests that for the affected interval ERCOT be ordered to re-price the published settlement prices. The Commission is well aware that Section 6.3 (4) of the Protocols requires ERCOT to correct prices when “...a market solution is determined to be invalid.” If ever there was a situation whereby a SCED solution was invalid this is it. A decision by the Commission to order ERCOT to re-price this interval will serve the public interest, reduce artificial uncertainty in the market, enhance the integrity of the ERCOT electricity market, and will be unequivocally beneficial for the market both now and in the future.

Kind regards,

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