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REVIEW OF WHOLESALE ELECTRIC MARKET DESIGN	**§**	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF WINDROSE ENERGY

Executive Summary

Windrose Power & Gas LLC d/b/a Windrose Energy (REP Certificate 10254) (hereafter referred to as "Windrose") files these comments in response to PUCTs questions for comment filed October 26th 2021. Windrose Energy is a small start-up retailer based in The Woodlands, Texas that focuses solely on selling competitively-priced electricity contracts to consumers in the deregulated areas of ERCOT. Our comments can be summarized into these main points:

- The problem we face during an extreme event is very different to "normal conditions". We face a net load over 65GW less than 1% of a time and a max net load of around 75GW. We therefore only need an additional 10GW <1% of the time.

- It cannot make sense to force the building of generation to run 1% of the time. We need to look for solutions that can provide reliability during these periods that are in line with the problem faced i.e. resources that can be counted on but only for short periods of time

- We need to understand why there is not more demand response in the market place. The answer is simple, most customers sign a fixed price contract, which effectively insures them against high prices. Why would you buy insurance and then not use it?

- Massive demand response is possible. It has been proven by Griddy with a reported 50% demand reduction during Uri. Other evidence and trials also shows pricing 2 to 4 times higher than normal will result in 20-30% demand response.

- Windrose proposes that during emergency periods set by ERCOT all customers should be charged a "system emergency surcharge". This will be disclosed in all EFLs and customers must be made aware of its existence. REPs will be responsible for informing all customers that an event has been called and an emergency exists. This will provide all customers an incentive to reduce usage.

- In addition, all customers who take their usage to zero during the called emergency event will be entitled to "Fuel Cost Reimbursement". This will ensure all customers who can go off grid and run backup generation are doing so, and are rewarded for doing so. The "Fuel Cost Reimbursement" will be paid for through the system emergency surcharge fees collected.

- Such a system will be delivered at $0 net cost as it will assign the costs to those causing the reliability issue (through a "System Emergency Surcharge" and pay those working to resolve the reliability issue through a "Fuel Cost Reimbursement"

- The proposed solution ensures all Texans work together during the next crisis collectively reducing usage and making all any generation available to the grid.

- We also have a transmission and distribution reliability problem (after a hurricane) and the solution herein ensures far more power will be available after such events that will not necessarily occur when the grid itself is under threat but millions of people are nevertheless without power. The most robust combined cycle plant with LNG on site fuel is useless if the transmission system is down and can't deliver power to people after a hurricane when it is so desperately needed.

Background

"Conservation is by far the cheapest resource[1]". This may well be true, however demand response in the ERCOT market especially at the residential level has never been widely adopted. Residential demand represents around 70% of both peak winter and summer demand. If we can reduce peak residential usage by 20% that would be around 10GW of "capacity" created and a lot of cost saving on generation that does not need to be built. The Brattle Group estimates there is the potential for 20% load response nationwide[2]. According to the 2020 ERCOT Demand Response report we had maximum demand response of 2,860MW[3] around 3-4% response, so we have a long way to go. Our reliability problem is actually very simple in concept. We have a net load (load minus uncontrollable renewable generation) that must be met every minute of every day. Peak interval net load was 67.2GW, but net load was only above 60GW 1% of the time[4]. That means we only need 7GW of

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[1] Chairman Lake – Houston Chronicle "https://www-houstonchronicle-com.cdn.ampproject.org/c/s/www.houstonchronicle.com/business/energy/amp/Exclusive-Texas-top-electric-regulator-talks-16433886.php

[2] "The National Potential for Load Flexibility: Value and Market Potential Through 2030" Brattle Group - https://www.brattle.com/wp-content/uploads/2021/05/16639_national_potential_for_load_flexibility_-_final.pdf

[3] "2020 Annual Report of Demand Response" ERCOT - https://mis.ercot.com/misapp/GetReports.do?reportTypeId=13244&reportTitle=Annual%20Report%20on%20ERCOT%20Demand%20Response&showHTMLView=&mimicKey

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"capacity" 1% of the time. It clearly does not make sense for the people of Texas to subsidize the building of a thermal power plant to run 1% of the time. Demand response is ideally suited to creating this capacity for short periods of time.

Demand Response – Incentives The Carrot & The Stick

The vast majority of retail customers in ERCOT buy power on a fixed price basis, meaning they can use power freely when they want. If the wholesale market price is high sending a signal the system is stressed the customers has no incentive to respond they still pay their much lower fixed price. Without realizing it the customer has essentially bought an insurance product against high prices by paying a premium on their fixed price contract to not have to worry about such an eventuality. With fixed price contracts there is therefore no "stick" to push customers to reduce their usage. The only mechanism available is therefore a "carrot" (incentive) to reduce usage. There are many such programs including the current TDU standard offer programs[5] that offer payments based on deemed reductions from a baseline. However as designed such programs will never become "main stream" as they are only funded to about $1M per TDSP. Some REPs do offer other "carrots" such as payments for the ability to control smart thermostats, but for the most part these are not significant. We would therefore argue that although REPs do have a huge incentive to reduce usage when wholesale prices spike, they have so far been largely unsuccessful in doing so. Researchers into such incentive programs offer the explanation that baselines can be confusing to customers, and also that it can be very hard to determine a "fair" baseline[6] and baselines can also be open to manipulation by customers reducing usage on non peak days before an event

[5] Example program offered by Centerpoint - https://cnprlm.programprocessing.com/

[6] "Examining Uncertainty in Demand Response Baseline Models and Variability in Automated Responses to Dynamic Pricing" - https://www.osti.gov/servlets/purl/1051281

to increase their payoff[7]. If we are serious about significant penetration of demand response it seems that we should look beyond the "carrots" and consider the "stick" approach.

If we ask ourselves which customer serving entity was able to generate the greatest demand response when the system needed it the most, the answer is clear. It was Griddy. While we do not believe the percentage load reduction achieved by their customers is known, rumours in the marketplace have been up to 50%[8]. During the peak event of 2019 Griddy themselves said "Griddy's price signals were able to consistently drive reductions in daily peak demand across the entire portfolio – as high as 20% in totality, but with many individual members able to reduce their peak consumption by 50-60%.[9]" Clearly there were issues with their business model but we believe there are lessons to be learned from an "experiment gone wrong". We must ask ourselves the question can we get a similar response without exposing customers to such extreme pricing. The Griddy experiment along with other evidence suggests that pricing that is 10 times "normal" pricing would also incentivize a response of 25-40% as highlighted by Robert Borlick in previous comments[10]. Clearly the legislature has said 100 times is too high, but is 10 times too high?

Question 4 : An Alternative To The LSE Proposal – "System Emergency Surcharge" and "Fuel Cost Reimbursement"

In question 4 of the PUCTs filing the question is asked "Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all

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[10] Ahmad Faruqui and Stephen George, "Quantifying Customer Response to Dynamic Pricing," The Electricity Journal 18(4), May 2005, pp., 53-63.

generation resources in ERCOT?" We believe that this question should instead ask are there any alternatives to the LSE Obligation that can ensure grid reliability? Times of emergency are times for everyone to work together to find a solution. As previously stated building generation to run 1% of the time is a solution that does not fit the problem trying to be solved. Windrose proposes that instead any time ERCOT designates emergency conditions then a "system emergency surcharge" should be imposed on all customers in the ERCOT system. This surcharge would be charged by REPs and would be part of all EFLs. It would be set at a level to incentivize significant demand response (likely in at least the 20-30% range) but would be orders of magnitude below the wholesale price cap. We suggest the Commission ask the Brattle group to perform an analysis to come up with an appropriate price level for the "System Emergency Surcharge" level. We envision a level between 10-30cents/kWh but would be open to a rate outside this range. Market participants should also be given an opportunity to provide input. Retail entities would be responsible for informing customers when ERCOT has imposed emergency conditions through mobile application push alerts, text messages, emails or any other appropriate channels. In addition a push notification could be built into the ERCOT app. That way if a REP does not have the technology to inform the customer themselves they could receive the alert directly from ERCOT. It could be mandated that during the customer sign up process customers is shown a page that shows a "system emergency surcharge" exists and that they have to accept their charges will be different during system emergencies. The "system emergency surcharge" will also be a compulsory part of all EFLs. It will be important to put the "system emergency surcharge" into perspective for consumers, explaining that winter storms come once in 10 years and it is irrational to build additional generation to run once in 10 years. The state has come up with a smart alternative plan where all Texans work together to limit their usage while emergency conditions exist so that the grid remains reliable while minimizing costs for all consumers. If a view is taken that

charging such a "system emergency surcharge" is too extreme a measure then customers could be allowed a certain volume of usage based on their customer class before the surcharge applies. This way if the customer minimizes their usage they can ensure there are no additional charges. For example a RESLOWR_COAST customer may be allowed 1kW of usage whereas a RESHIWR_COAST customer may be allowed 3kW to take into account they have electric vs gas heating (these are illustrative numbers only and more analysis would be needed for setting final numbers of each customer class). The charge would be assessed for each 15 minute settlement period for which the emergency event is active. An additional benefit of this system therefore is that it would require smart meter data and finally unleash the full value of the smart meter infrastructure customers have paid significant sums for but have yet to see much benefit from.

Many in the marketplace talk of the need for "more steel in the ground", we believe that it already exists but unfortunately it might not be used efficiently during a crisis. The people of Texas by their nature are resilient people. Many were horrified by the events of winter storm Uri and the impacts that it had on their families. It has never been in their nature to wait for the government to solve their problems and many people have already made the decision that they will never be out of power during such a situation again, and solved the problem for themselves by putting in backup generation at their homes. One of the tragedies of the last storm was that there were many people who had backup generation but grid power never failed so they did not go off grid and run their backup generation. We must ensure that during the next crisis where a critical emergency exists that any and all backup generation is running to make more grid power available to those who are not fortunate enough to have backup generation. Going back to the point we need to find solutions that fit the problem trying to be solved, backup generators are an ideal fit. Generally, they are not designed to run all the time but can absolutely run for a multiday period during a winter storm. They therefore fit the

problem perfectly. They are of course (at least while paying a fixed price for power) more expensive to run during an emergency than taking grid power so we need to provide incentives to bring them online when they are most needed. Backup generators can also be more resilient than traditional generation firstly by the fact that you diversify risk by have 1,000,000 small generators versus a single power plant and the single point of failure that brings. Also, many backup generators are also dual or even tri fuel able to run off natural gas, propane or gasoline. We therefore need to incentivize people to switch over to backup generation during the next crisis. We believe that a program needs to be simple to implement. An appropriate benchmark cost for running backup generation could be calculated for each customer class. For residential customers it could be for example the cost of running a 25kW Generac natural gas generator or the cost of running a 10-15kW whole home generator on gasoline. More analysis would need to be done to ensure an appropriate rate is set. We encourage the commission to perform analysis to estimate the quantity of backup generation that currently exists. Our own rudimentary calculations estimate that at least 1.5-3GW of such backup generation exists. In terms of payments for running backup generation ("Fuel Cost Reimbursement") we believe that the simplest solution will be the most effective, and again the smart meter network will come in useful here. We propose that payments be made to any customer who can take their smart meter usage to zero for periods where an emergency is declared. "Fuel Cost Reimbursement" payments will be made for each 15 minute settlement period during the emergency. This will ensure that even if a customer is able to participate for only a limited period they are still rewarded for when they can. For example, if a customer has a battery storage system that is depleted before the end of the event, then they are still rewarded for when they participate. Again, as with "System Emergency Surcharge" the "Fuel Cost Reimbursement" must be explained to consumers. An additional page could be added at customer sign up that would inform customers of the opportunity to run backup generation

during a crisis and be paid for it through the "Fuel Cost Reimbursement" program. There could also be a single page that describes both the "System Emergency Surcharge" and "Fuel Cost Reimbursement". Again like the "System Emergency Surcharge", the "Fuel Cost Reimbursement" should also be outlined in all EFLs so customers always have a reference point for how the program works. Additional information could also be posted on the ERCOT website if that further helps to communicate to customers that the program is available to all market participants. The commission could also mandate that during the sign up process the customer is asked if they have backup generation and plan to participate. This could help address the issue of finding out where and how much backup generation exists.

The "Fuel Cost Reimbursement" program clearly encourages customers to help solve the reliability problem themselves. However it brings further benefits at times that might not necessarily threaten grid reliability. The Texas Gulf Coast is very hurricane prone. Centerpoint has stated that if a Cat 5 direct hit on Houston took place millions of people could be without power for 6-8 weeks[11]. We saw recently the City of New Orleans was without power for at least 2 weeks as transmission infrastructure was crippled leaving millions without power during Hurricane Ida[12]. Even more "minor" Hurricane Nicholas left 460,000 people without power[13]. Hurricanes tend to threaten transmission and distribution more than power plants themselves, but while the grid may tend to be fine during a hurricane (mainly because transmission and distribution damage means demand is lower as customers are cut off) customers are still without power. Distributed resources do not rely on transmission and distribution networks that can be taken down during storms so are more resilient as they do not require the T&D network and will ensure customers still have power after a hurricane.

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[11] https://www.centerpointenergy.com/en-us/Documents/161323_HW%20safety%20tips%20flyer.pdf

[12] https://www.wwno.org/news/2021-09-06/about-75k-new-orleans-entergy-customers-still-without-power-after-hurricane-ida-outages

[13] https://www.fox26houston.com/news/centerpoint-says-nearly-all-power-outages-have-been-restored-since-nicholas

The combine cycle plant with LNG fuel storage on site is useless if the transmission and distribution network has been crippled and can't deliver power to customers.

One issue not covered so far is where would the revenue and costs of these programs come from? Here we believe they are complimentary. The additional revenue collected from the "System Emergency Surcharge" could be used to fund payments required for the "Fuel Cost Reimbursement" program. More analysis would need to be done to ensure that the magnitude of the revenue and costs are similar in size. We believe if excess revenue exists it should either be allocated to further increase "Fuel Cost Reimbursement" payments or be put back into the existing state energy efficiency programs. It is important to remember the "System Emergency Surcharge" is not a revenue gathering exercise. It is a mechanism to encourage customers to use less not to pay more for using the same amount of power.

Feedback On The LSE Obligation

Windrose Energy is firmly opposed to the LSE obligation and we believe we have presented an outline for an alternative smarter solution that is much more fitting to the reliability problem we face. However, if the commission must proceed with the LSE obligation we suggest they do so while also implementing the "System Emergency Surcharge" and "Fuel Cost Reimbursement" programs above. This will greatly reduce the amount of LSE obligation required most likely to the point that we currently have enough resources available to meet the total LSE obligation requirement currently. However, we would like to add further comment to these specific questions:

4. Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all generation resources in ERCOT?

We believe the implementation of the "System Emergency Surcharge" and "Fuel Cost Reimbursement" programs will take significant load off the grid during times of crisis that the LSE Obligation will not be necessary (or triggered). We believe it is in line with our current "energy only" market structure and solves the issues we are facing using price signals rather than a mandate for supply which is a capacity market in all but name.

7. *How can the LSE Obligation be designed to ensure demand response resources can participate fully and at all points in time?*

This is our major issue with the LSE obligation. It cannot be fairly determined when retail entities are trying to reduce their obligations through demand response. If a new program or product comes online then we believe that either exemptions for LSE obligation or a greatly reduced LSE obligation should be allowed while the program / product is trialled. New product trials could be approved by either PUCT or ERCOT. We need to ensure that retailers are still able to innovate in the demand response area.

11. *How will an LSE Obligation help ERCOT ensure operational reliability in the real-time market (e.g., during cold weather events or periods of time with higher than expected electricity demand and/or lower than expected generation output of all types)?*

An LSE obligation will incentivize the building of a thermal generator to supply 100,000+ customers. If the generator fails those 100,000 customers will lose power. There is a single point of failure. Distributed resources are far more resilient as if there are many units and no single point of failure. They can also potentially run off two or three fuel sources. They are also already deployed now. We just need to ensure that customers are incentivized to run them even if they have not lost grid power to make more grid power available to others. When thinking of such systems people typically think of Generac whole home generators that typically cost $10,000+ however there are other solutions that our customers used during Uri

where they were able to power their whole homes using portable generators for a total cost of less than $1500 with tri fuel capabilities.

When talking about resiliency we should also consider resiliency of the transmission and distribution network. During a hurricane transmission and distribution infrastructure will be decimated. A highly resilient combined cycle plant with LNG on site storage is useless without the T&D infrastructure to get it to customers. Distributed resources are far more resilient in this case and in general during an emergency.

12. *What mechanism will ensure those receiving revenue streams for the reliability services perform adequately?*

This is another of our main issues with the LSE obligation mechanism. The reality is that a winter storm will likely hit once in 10 years or even less frequently. This means that you potentially only get a test of the system every 10 years. It simply isn't practical to judge how reliable each unit will turn out to be. If a unit receives payments for reliability for 10 years and then doesn't turn up when needed then really all those payments received should be returned, but that simply isn't going to be practical.

13. *What is the estimated market and consumer cost impact if an LSE obligation is implemented in ERCOT? Describe the methodology used to reach the dollar amount.*

The cost will be astronomical and would be a very inefficient use of resources. A combined cycle plant would cost around $1000/kW. So for an 800MW plant a total cost of $800 million and run less than 1% of the time. We estimate conservatively 1.5-3GW of backup generation exists and has been paid for already by consumers, who have resolved the reliability problem themselves. We must focus on ensuring all backup generation is running first before talk of building additional traditional generation resources. The net cost of our solution is $0 as funds

are taken from those causing the reliability issues through the "System Emergency Surcharge" and paid to those helping to resolve it through the "Fuel Cost Reimbursement".

The LSE obligation socializes the cost of reliability to all consumers. We believe this is unfair as some consumers are adding far more to the reliability problem than others while some are helping to resolve the reliability issue due to efforts to reduce demand and provide backup generation when needed.

16. *Are there relevant "lessons learned" from the implementation of an LSE Obligation in the SPP, CAL-ISO, MISO, and Australian markets that could be applied in ERCOT?*

While we believe it is important to look to others for inspiration, we also believe it is important to "think outside the box" and always ask the question is the traditional or established solution truly the best. In this case we believe the traditional solution of LSE Obligation is not the best solution. Texas is known for being different independent and innovative with its belief in free market policies. We believe we should move forward with the "System Emergency Surcharge" and "Fuel Cost Reimbursement" and it will be other areas of the country and the world that will see the innovation in Texas and instead be copying us.

Summary

We appreciate the opportunity to make comments on this important rule making and look forward to working with all stake holders to deliver the reliable electric grid that Texans deserve. We accept that some of our ideas presented are not fully developed, and we would welcome others to build on the ideas presented herein. In conclusion we ask the commission to remember the problem we are solving. We have an electric grid that works well 99.9% of the time and delivers some of the cheapest power in the world. We should focus on the true problem dealing with a 1 in 10 year event and deliver an appropriate solution that fits the

problem. The LSE Obligation is in danger of delivering a truly costly solution that does not fit the problem when there is another path forward that fits the problem and is much less costly for all Texans.

Thomas K. Strickland
President
Windrose Power & Gas LLC

Date: November 1, 2021

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[9] Griddy Whitepaper - https://assets.website-files.com/5d8d16728b7cac2d5338e553/5e4c2ccc67827f5f99ee1c28_White%20Paper_Griddy%20ERCOT_November%202019%20v4.pdf

[10] Ahmad Faruqui and Stephen George, "Quantifying Customer Response to Dynamic Pricing," The Electricity Journal 18(4), May 2005, pp., 53-63.

generation resources in ERCOT?" We believe that this question should instead ask are there any alternatives to the LSE Obligation that can ensure grid reliability? Times of emergency are times for everyone to work together to find a solution. As previously stated building generation to run 1% of the time is a solution that does not fit the problem trying to be solved. Windrose proposes that instead any time ERCOT designates emergency conditions then a "system emergency surcharge" should be imposed on all customers in the ERCOT system. This surcharge would be charged by REPs and would be part of all EFLs. It would be set at a level to incentivize significant demand response (likely in at least the 20-30% range) but would be orders of magnitude below the wholesale price cap. We suggest the Commission ask the Brattle group to perform an analysis to come up with an appropriate price level for the "System Emergency Surcharge" level. We envision a level between 10-30cents/kWh but would be open to a rate outside this range. Market participants should also be given an opportunity to provide input. Retail entities would be responsible for informing customers when ERCOT has imposed emergency conditions through mobile application push alerts, text messages, emails or any other appropriate channels. In addition a push notification could be built into the ERCOT app. That way if a REP does not have the technology to inform the customer themselves they could receive the alert directly from ERCOT. It could be mandated that during the customer sign up process customers is shown a page that shows a "system emergency surcharge" exists and that they have to accept their charges will be different during system emergencies. The "system emergency surcharge" will also be a compulsory part of all EFLs. It will be important to put the "system emergency surcharge" into perspective for consumers, explaining that winter storms come once in 10 years and it is irrational to build additional generation to run once in 10 years. The state has come up with a smart alternative plan where all Texans work together to limit their usage while emergency conditions exist so that the grid remains reliable while minimizing costs for all consumers. If a view is taken that

charging such a "system emergency surcharge" is too extreme a measure then customers could be allowed a certain volume of usage based on their customer class before the surcharge applies. This way if the customer minimizes their usage they can ensure there are no additional charges. For example a RESLOWR_COAST customer may be allowed 1kW of usage whereas a RESHIWR_COAST customer may be allowed 3kW to take into account they have electric vs gas heating (these are illustrative numbers only and more analysis would be needed for setting final numbers of each customer class). The charge would be assessed for each 15 minute settlement period for which the emergency event is active. An additional benefit of this system therefore is that it would require smart meter data and finally unleash the full value of the smart meter infrastructure customers have paid significant sums for but have yet to see much benefit from.

Many in the marketplace talk of the need for "more steel in the ground", we believe that it already exists but unfortunately it might not be used efficiently during a crisis. The people of Texas by their nature are resilient people. Many were horrified by the events of winter storm Uri and the impacts that it had on their families. It has never been in their nature to wait for the government to solve their problems and many people have already made the decision that they will never be out of power during such a situation again, and solved the problem for themselves by putting in backup generation at their homes. One of the tragedies of the last storm was that there were many people who had backup generation but grid power never failed so they did not go off grid and run their backup generation. We must ensure that during the next crisis where a critical emergency exists that any and all backup generation is running to make more grid power available to those who are not fortunate enough to have backup generation. Going back to the point we need to find solutions that fit the problem trying to be solved, backup generators are an ideal fit. Generally, they are not designed to run all the time but can absolutely run for a multiday period during a winter storm. They therefore fit the

problem perfectly. They are of course (at least while paying a fixed price for power) more expensive to run during an emergency than taking grid power so we need to provide incentives to bring them online when they are most needed. Backup generators can also be more resilient than traditional generation firstly by the fact that you diversify risk by have 1,000,000 small generators versus a single power plant and the single point of failure that brings. Also, many backup generators are also dual or even tri fuel able to run off natural gas, propane or gasoline. We therefore need to incentivize people to switch over to backup generation during the next crisis. We believe that a program needs to be simple to implement. An appropriate benchmark cost for running backup generation could be calculated for each customer class. For residential customers it could be for example the cost of running a 25kW Generac natural gas generator or the cost of running a 10-15kW whole home generator on gasoline. More analysis would need to be done to ensure an appropriate rate is set. We encourage the commission to perform analysis to estimate the quantity of backup generation that currently exists. Our own rudimentary calculations estimate that at least 1.5-3GW of such backup generation exists. In terms of payments for running backup generation ("Fuel Cost Reimbursement") we believe that the simplest solution will be the most effective, and again the smart meter network will come in useful here. We propose that payments be made to any customer who can take their smart meter usage to zero for periods where an emergency is declared. "Fuel Cost Reimbursement" payments will be made for each 15 minute settlement period during the emergency. This will ensure that even if a customer is able to participate for only a limited period they are still rewarded for when they can. For example, if a customer has a battery storage system that is depleted before the end of the event, then they are still rewarded for when they participate. Again, as with "System Emergency Surcharge" the "Fuel Cost Reimbursement" must be explained to consumers. An additional page could be added at customer sign up that would inform customers of the opportunity to run backup generation

during a crisis and be paid for it through the "Fuel Cost Reimbursement" program. There could also be a single page that describes both the "System Emergency Surcharge" and "Fuel Cost Reimbursement". Again like the "System Emergency Surcharge", the "Fuel Cost Reimbursement" should also be outlined in all EFLs so customers always have a reference point for how the program works. Additional information could also be posted on the ERCOT website if that further helps to communicate to customers that the program is available to all market participants. The commission could also mandate that during the sign up process the customer is asked if they have backup generation and plan to participate. This could help address the issue of finding out where and how much backup generation exists.

The "Fuel Cost Reimbursement" program clearly encourages customers to help solve the reliability problem themselves. However it brings further benefits at times that might not necessarily threaten grid reliability. The Texas Gulf Coast is very hurricane prone. Centerpoint has stated that if a Cat 5 direct hit on Houston took place millions of people could be without power for 6-8 weeks[11]. We saw recently the City of New Orleans was without power for at least 2 weeks as transmission infrastructure was crippled leaving millions without power during Hurricane Ida[12]. Even more "minor" Hurricane Nicholas left 460,000 people without power[13]. Hurricanes tend to threaten transmission and distribution more than power plants themselves, but while the grid may tend to be fine during a hurricane (mainly because transmission and distribution damage means demand is lower as customers are cut off) customers are still without power. Distributed resources do not rely on transmission and distribution networks that can be taken down during storms so are more resilient as they do not require the T&D network and will ensure customers still have power after a hurricane.

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[11] https://www.centerpointenergy.com/en-us/Documents/161323_HW%20safety%20tips%20flyer.pdf
[12] https://www.wwno.org/news/2021-09-06/about-75k-new-orleans-entergy-customers-still-without-power-after-hurricane-ida-outages
[13] https://www.fox26houston.com/news/centerpoint-says-nearly-all-power-outages-have-been-restored-since-nicholas

The combine cycle plant with LNG fuel storage on site is useless if the transmission and distribution network has been crippled and can't deliver power to customers.

One issue not covered so far is where would the revenue and costs of these programs come from? Here we believe they are complimentary. The additional revenue collected from the "System Emergency Surcharge" could be used to fund payments required for the "Fuel Cost Reimbursement" program. More analysis would need to be done to ensure that the magnitude of the revenue and costs are similar in size. We believe if excess revenue exists it should either be allocated to further increase "Fuel Cost Reimbursement" payments or be put back into the existing state energy efficiency programs. It is important to remember the "System Emergency Surcharge" is not a revenue gathering exercise. It is a mechanism to encourage customers to use less not to pay more for using the same amount of power.

Feedback On The LSE Obligation

Windrose Energy is firmly opposed to the LSE obligation and we believe we have presented an outline for an alternative smarter solution that is much more fitting to the reliability problem we face. However, if the commission must proceed with the LSE obligation we suggest they do so while also implementing the "System Emergency Surcharge" and "Fuel Cost Reimbursement" programs above. This will greatly reduce the amount of LSE obligation required most likely to the point that we currently have enough resources available to meet the total LSE obligation requirement currently. However, we would like to add further comment to these specific questions:

4. Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all generation resources in ERCOT?

We believe the implementation of the "System Emergency Surcharge" and "Fuel Cost Reimbursement" programs will take significant load off the grid during times of crisis that the LSE Obligation will not be necessary (or triggered). We believe it is in line with our current "energy only" market structure and solves the issues we are facing using price signals rather than a mandate for supply which is a capacity market in all but name.

7. *How can the LSE Obligation be designed to ensure demand response resources can participate fully and at all points in time?*

This is our major issue with the LSE obligation. It cannot be fairly determined when retail entities are trying to reduce their obligations through demand response. If a new program or product comes online then we believe that either exemptions for LSE obligation or a greatly reduced LSE obligation should be allowed while the program / product is trialled. New product trials could be approved by either PUCT or ERCOT. We need to ensure that retailers are still able to innovate in the demand response area.

11. *How will an LSE Obligation help ERCOT ensure operational reliability in the real-time market (e.g., during cold weather events or periods of time with higher than expected electricity demand and/or lower than expected generation output of all types)?*

An LSE obligation will incentivize the building of a thermal generator to supply 100,000+ customers. If the generator fails those 100,000 customers will lose power. There is a single point of failure. Distributed resources are far more resilient as if there are many units and no single point of failure. They can also potentially run off two or three fuel sources. They are also already deployed now. We just need to ensure that customers are incentivized to run them even if they have not lost grid power to make more grid power available to others. When thinking of such systems people typically think of Generac whole home generators that typically cost $10,000+ however there are other solutions that our customers used during Uri

where they were able to power their whole homes using portable generators for a total cost of less than $1500 with tri fuel capabilities.

When talking about resiliency we should also consider resiliency of the transmission and distribution network. During a hurricane transmission and distribution infrastructure will be decimated. A highly resilient combined cycle plant with LNG on site storage is useless without the T&D infrastructure to get it to customers. Distributed resources are far more resilient in this case and in general during an emergency.

12. *What mechanism will ensure those receiving revenue streams for the reliability services perform adequately?*

This is another of our main issues with the LSE obligation mechanism. The reality is that a winter storm will likely hit once in 10 years or even less frequently. This means that you potentially only get a test of the system every 10 years. It simply isn't practical to judge how reliable each unit will turn out to be. If a unit receives payments for reliability for 10 years and then doesn't turn up when needed then really all those payments received should be returned, but that simply isn't going to be practical.

13. *What is the estimated market and consumer cost impact if an LSE obligation is implemented in ERCOT? Describe the methodology used to reach the dollar amount.*

The cost will be astronomical and would be a very inefficient use of resources. A combined cycle plant would cost around $1000/kW. So for an 800MW plant a total cost of $800 million and run less than 1% of the time. We estimate conservatively 1.5-3GW of backup generation exists and has been paid for already by consumers, who have resolved the reliability problem themselves. We must focus on ensuring all backup generation is running first before talk of building additional traditional generation resources. The net cost of our solution is $0 as funds

are taken from those causing the reliability issues through the "System Emergency Surcharge" and paid to those helping to resolve it through the "Fuel Cost Reimbursement".

The LSE obligation socializes the cost of reliability to all consumers. We believe this is unfair as some consumers are adding far more to the reliability problem than others while some are helping to resolve the reliability issue due to efforts to reduce demand and provide backup generation when needed.

16. *Are there relevant "lessons learned" from the implementation of an LSE Obligation in the SPP, CAL-ISO, MISO, and Australian markets that could be applied in ERCOT?*

While we believe it is important to look to others for inspiration, we also believe it is important to "think outside the box" and always ask the question is the traditional or established solution truly the best. In this case we believe the traditional solution of LSE Obligation is not the best solution. Texas is known for being different independent and innovative with its belief in free market policies. We believe we should move forward with the "System Emergency Surcharge" and "Fuel Cost Reimbursement" and it will be other areas of the country and the world that will see the innovation in Texas and instead be copying us.

Summary

We appreciate the opportunity to make comments on this important rule making and look forward to working with all stake holders to deliver the reliable electric grid that Texans deserve. We accept that some of our ideas presented are not fully developed, and we would welcome others to build on the ideas presented herein. In conclusion we ask the commission to remember the problem we are solving. We have an electric grid that works well 99.9% of the time and delivers some of the cheapest power in the world. We should focus on the true problem dealing with a 1 in 10 year event and deliver an appropriate solution that fits the

problem. The LSE Obligation is in danger of delivering a truly costly solution that does not fit the problem when there is another path forward that fits the problem and is much less costly for all Texans.

Thomas K. Strickland
President
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