



**Local Electricity Utility  
Provider Performance During  
the 2021 Winter Storm**

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# Local Electricity Utility Provider Performance During the 2021 Winter Storm: Better Performance by Regulated Electric Cooperatives than Unregulated Commercials

## Introduction

Winter Storm Uri began to hit parts of Texas on February 13, 2021 and its onslaught left close to 4.5 million homes and businesses without power at its peak. The preliminary number of deaths attributed to the storm is nearly 200, including 66 in Harris County alone, and the storm's economic toll is estimated to be as high as \$295 billion. And all the while, people continued to live under pandemic conditions wrought by COVID-19.

In order to study Winter Storm Uri's impact on Texas, the Hobby School of Public Affairs at the University of Houston conducted an online survey of residents 18 and older who live in the 213 counties (91.5% of the state population) served by the Texas Electrical Grid, which is managed by the Electrical Reliability Council of Texas (ERCOT). The survey documents Texans' experiences during the storm and explores preferences among potential changes in policies regarding electricity and energy more generally. The survey also examines opinions about the lifting of statewide COVID-19 restrictions. The survey was fielded by YouGov between March 9-19, 2021 with 1,500 YouGov respondents, resulting in a confidence interval of +/-2.5. The respondents were matched to a sampling frame on gender, age, ethnicity/race, and education and are representative of the adult population in these 213 counties.

## Executive Summary

The distribution of the respondents (75%) served by the principal utility providers in the deregulated market is Oncor (38%), CenterPoint (21%), American Electric Power (AEP) Central and North combined (12%), and other providers (4%).

The distribution of the respondents served by utility providers in the regulated market is 23% through a municipal-owned utility or an electric cooperative and 2% by a private company.

69% of the respondents surveyed lost power at some point during the week of the 2021 winter storm (February 14 through February 20), while 31% did not lose power at any point during this period.

Among residents who lost power, those who reside in a deregulated electricity market had a significantly more negative evaluation of the *overall* performance of their local electric utility during the week of the winter storm than was the case for residents who reside in a regulated utility market.

Among residents who lost power, those who reside in an area served by AEP, Oncor and CenterPoint had a significantly more negative evaluation of the overall performance of their local electric utility during the week of the winter storm than was the case for residents who are served by an electric cooperative.

When rating the performance of their local utility in *managing the rolling blackouts* during the week of February 14, residents who lost power and reside in a deregulated electricity market had a significantly more negative evaluation of their local electricity utility than was the case for residents who reside in a regulated utility market.

Regarding the management of rolling blackouts, those who lost power and reside in an area served by AEP, CenterPoint and Oncor had a significantly more negative evaluation of the performance of their local electric utility in managing the rolling blackouts during the week of February 14 than was the case for residents who are served by an electric cooperative. CenterPoint customers were also significantly more likely to have a negative evaluation of their local utility's performance in managing the rolling blackouts than did municipal utility customers.

Among residents who lost power, those who reside in a deregulated electricity market were significantly less likely than those residents who live in a regulated market to agree that the power cuts in their local area during the winter storm were carried out in an equitable manner.

Among residents who lost power, those who reside in an area served by AEP, CenterPoint and Oncor were significantly less likely than those served by an electric cooperative to agree that the power cuts in their local area during the winter storm were carried out in an equitable manner.

Among the five principal electricity providers, electric cooperatives were the only one with a net positive evaluation in regard to its overall performance during the winter storm, management of the rolling blackouts, and carrying out power cuts in an equitable manner.

There did not exist any significant differences among residents in regulated or deregulated markets or among residents served by private companies or a municipal-owned utility or an electric cooperative in regard to their evaluation (all very negative) of the Electric Reliability of Council of Texas's (ERCOT) overall performance during the winter storm.

Overall, electric cooperatives significantly outperformed their rivals in the eyes of their customers during the winter storm of 2021. Future analysis is however required to empirically evaluate different hypotheses presented for the superior performance of electric cooperatives compared to both municipal utilities, but especially to private electricity providers within Texas's deregulated electricity market.

## The Texas Electrical Grid's Electricity Market

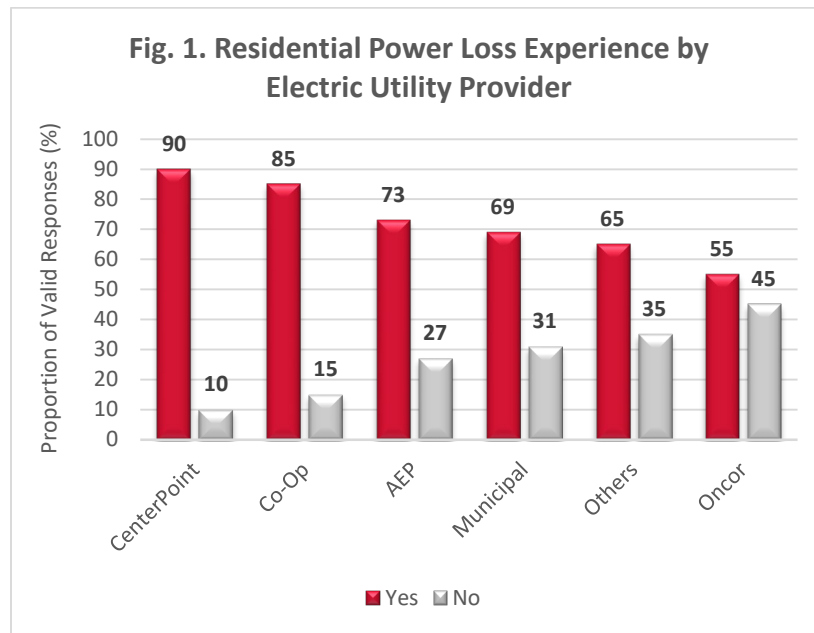
Three-quarters of the survey population (75%) lives in areas of the state with a deregulated utility market, where a specified transmission and delivery utility by region is responsible for delivering the electricity (purchased from one of a myriad of private companies by the consumer) to homes and businesses. The five main utility providers are Oncor, CenterPoint, American Electric Power (AEP) North, American Electric Power (AEP) Central and Texas-New Mexico Power (TNMP), along with the Nueces Electric Cooperative (the only deregulated co-op in Texas).

The other 25% of the survey population live in areas of the state with regulated markets, where a single company is responsible for both delivering the electricity to homes and businesses as well as serves as the only source from which electricity is purchased. Municipal-owned and operated utilities (e.g., Austin Energy, Bryan Texas Utilities, Burnet Electric Department, Denton Municipal Electric, New Braunfels Utilities, San Antonio's CPS Energy) serve 73% of the regulated market. However, cooperatives (e.g., Bluebonnet Electric Cooperative, Central Texas Electric Cooperative, Guadalupe Valley Cooperative, Lamb County Electric Cooperative, Pedernales Electric Cooperative, Wood County Electric Cooperative) serve one-fifth of this market (21%), with private companies (e.g., Entergy, Southwestern Electric Power, Xcel Energy) accounting for 6% of the regulated market.

The overall distribution of the survey population by utility providers is as follows: Oncor (38%), Municipal-Owned Utilities/Cooperatives (24%), CenterPoint (21%), AEP Central & AEP North combined (12%), other providers in the deregulated market (4%), and other providers in the regulated market (1%). Due to the small number of respondents in these latter two categories, these cases are not examined in most of the remaining analysis.

## Provider Type and Power Loss

Figure 1 provides the portion of the respondents served by the five most prominent providers (along with a combined “others” category) that lost power at some point during the winter storm of February 2021. The proportion that lost power ranges from a high of 90% in the CenterPoint distribution area to a low of 55% in the Oncor distribution area, with Cooperatives (85%), AEP (73%), Municipal Utilities (69%), and Other providers (65%) in between. There were no noteworthy differences between the proportion of respondents in the deregulated markets who lost power (68%) and the proportion in the regulated market who lost power (71%).



## Overall Performance of the Local Electric Utility During the Winter Storm

The respondents were asked to evaluate the overall job performance (including communication with the public) during the winter storm of 11 elected officials and institutions, one of which was their local electric utility. The affirmative response options were strongly approve, somewhat approve, neither approve nor disapprove, somewhat disapprove and strongly disapprove. Figure 2 provides the results for residents who did not lose power and who did lose power living within both a deregulated market and a regulated market. The only significant difference between those living in regulated and deregulated zones is for those who lost power, residents in the deregulated markets who lost power were significantly more likely to have a negative evaluation of their local utility's overall performance during the winter storm than those residents who live in a regulated market and also lost power. For example, while 59% of the residents in the deregulated markets who lost power either somewhat or strongly disapproved of the performance of their local electric utility during the winter storm, only 40% of those residing in a regulated market had a similarly negative opinion.

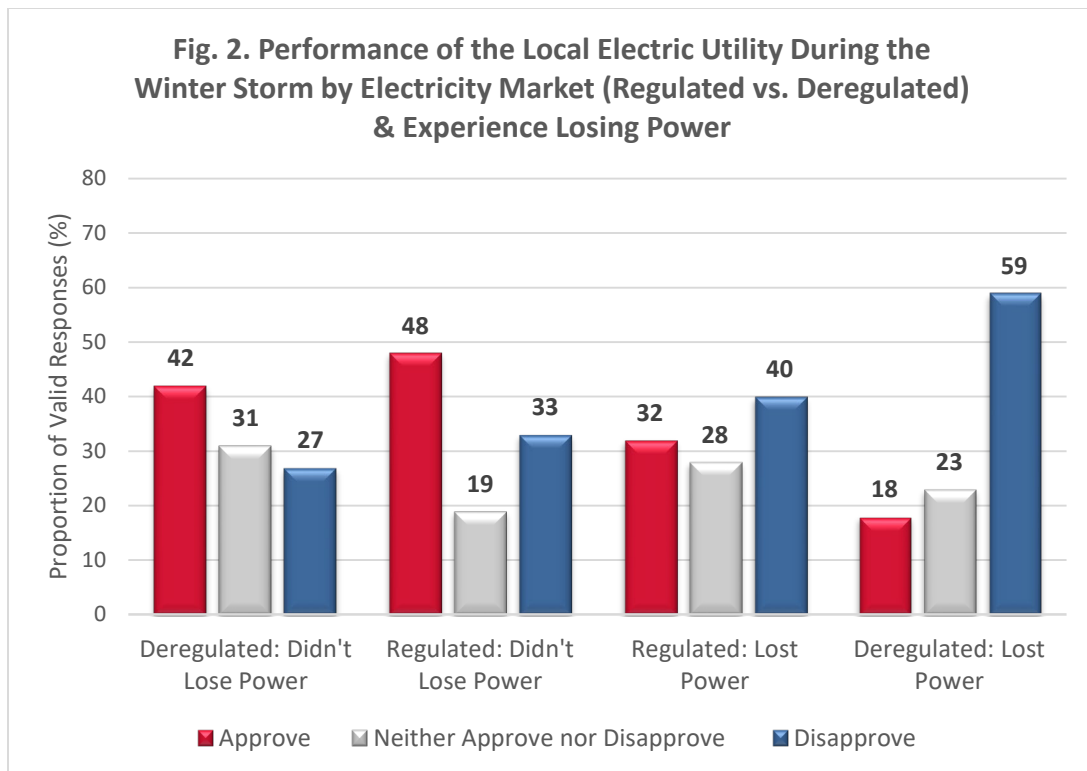


Figure 3 provides the distribution of the responses to the same question, except broken down by the specific utility provider that serves the respondent, divided between those respondents who didn't lose power and those who lost power. The only significant difference among the different electricity providers is found among those Texans who lost power between the two largest private providers in the deregulated market, Oncor and CenterPoint, on one hand, and the municipal/cooperative providers in the regulated market on the other hand. The respondents served by the two private companies were significantly more likely to have a negative evaluation of their local electricity utility's general performance during the winter storm than was the case for the respondents served by a municipal-owned electricity company or an electric cooperative. For example, while more than half of the residents served by CenterPoint (61%) and Oncor (56%) who lost power either strongly or somewhat disapproved of their local electric utility's performance during the winter storm, only four-fifths (42%) of the respondents served by municipal owned or cooperative electric utilities shared this same negative opinion about their local electricity's overall performance during the same period.

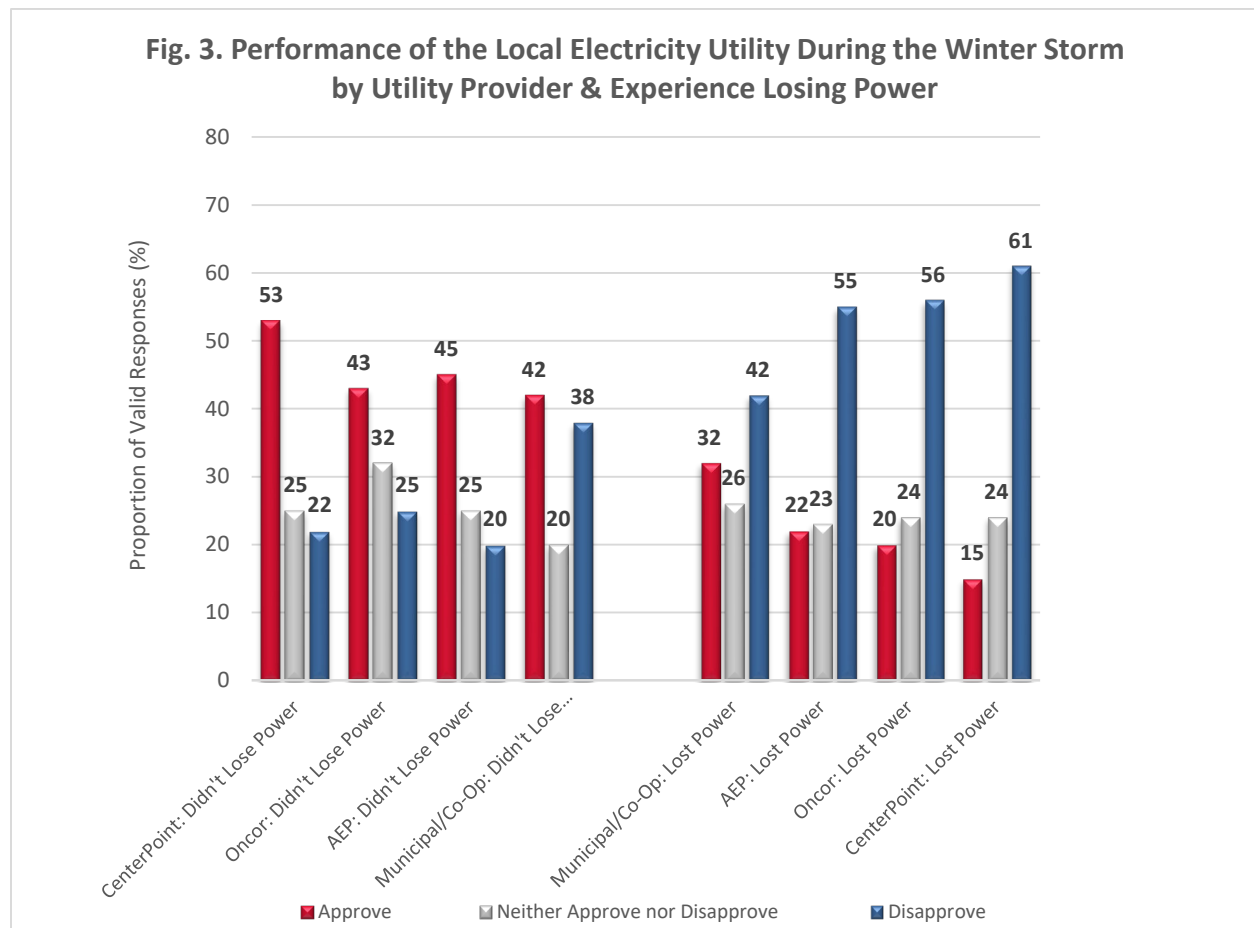
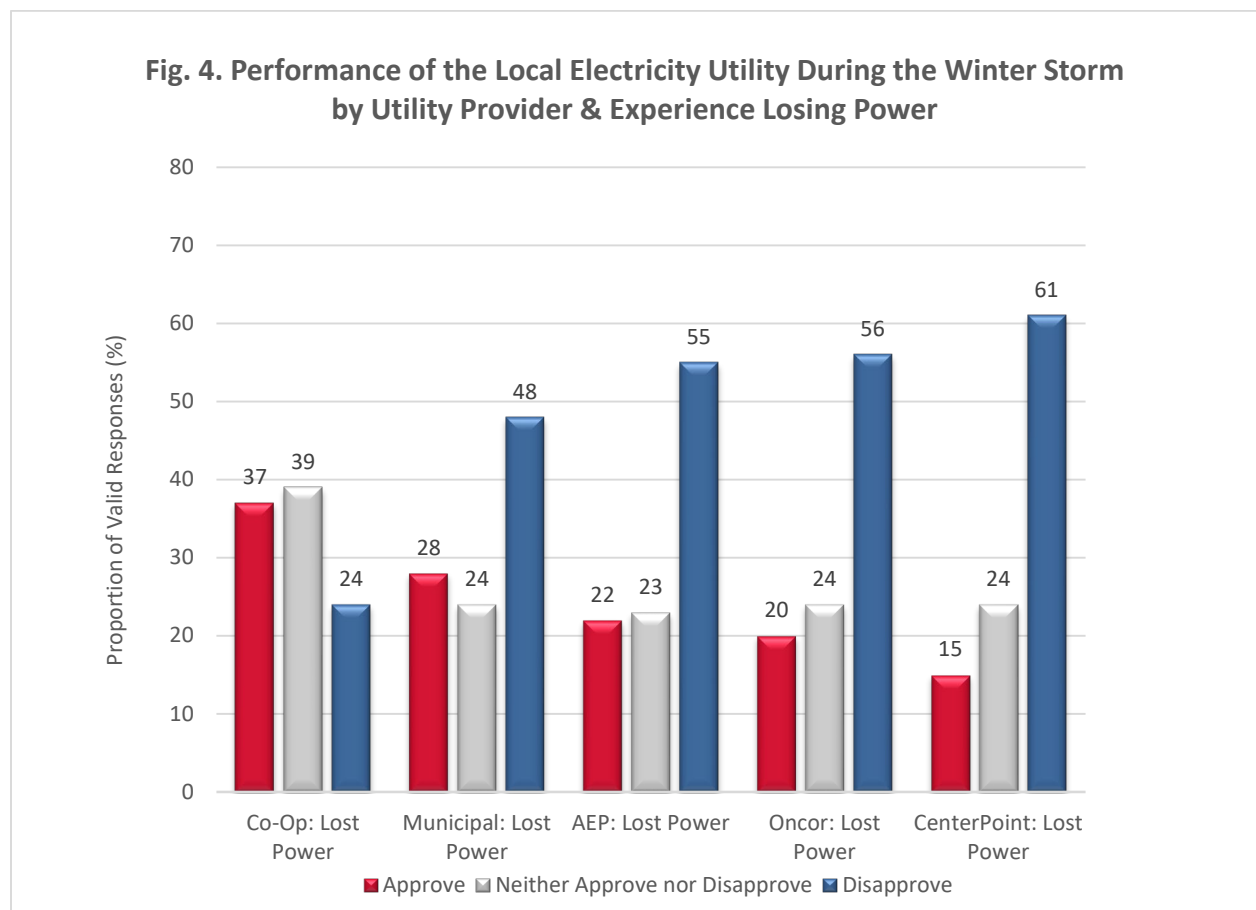


Figure 4 focuses on the significant difference in the overall performance evaluation by respondents who lost power served by municipal utilities and electric cooperatives. The figure is identical to Figure 3, with the exception that the respondents in the municipal/co-op category are divided into two distinct groups: those served by municipal utilities and those served by electric cooperatives. The data in Figure 4 underscore that while residents (who lost power) served by electric cooperatives and municipal utilities both had a more favorable evaluation of their local utility’s overall performance during the winter storm of 2021 than did those respondents served by one of the three main private companies in the deregulated market, the difference was only significant for those served by electric cooperatives, whose overall performance was evaluated to be significantly more positive than that of Oncor, AEP, and CenterPoint in the eyes of their respective customers.





## Performance of the Local Electric Utility in Managing the Rolling Blackouts

The respondents were asked to rate the performance of their local electricity utility in managing the rolling blackouts. The affirmative response options were very good, good, neither good nor poor, poor and very poor. Figure 5 provides the distribution of the responses for the respondents based on whether or not they were in a regulated or deregulated market and whether or not they lost power or did not lose power during the storm. The only significant difference present in the figure between respondents in the regulated and deregulated markets is that among the respondents who lost power, those living in a deregulated market had a significantly more negative evaluation of the performance of their local electricity utility in managing the rolling blackouts than did those who live in a regulated market. For instance, 63% of those who live in a deregulated market rated their local electricity provider's management of the rolling blackouts as either poor or very poor, compared to only 45% of those who live in a regulated market.

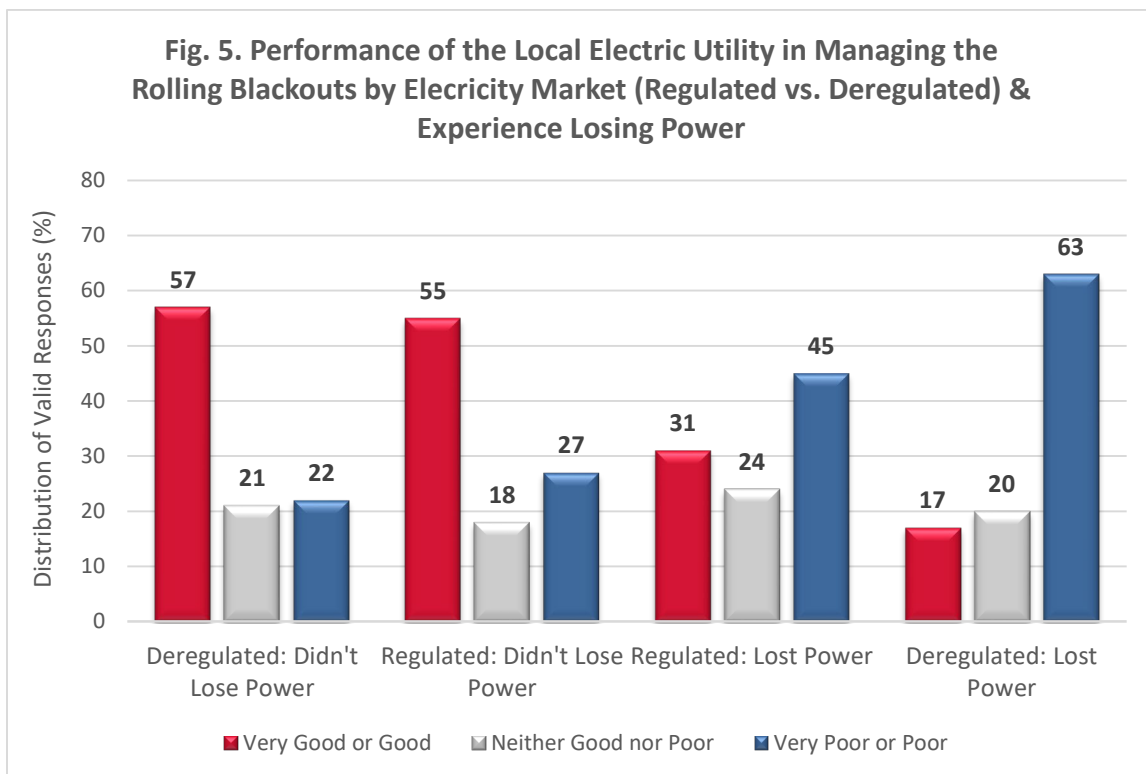


Figure 6 provides the distribution of the responses to the same question, except broken down by the specific utility provider that serves the respondent, divided between those respondents who didn't lose power and those who lost power. The only significant difference among the different providers present in Figure 3 is that among those who lost power, respondents served by AEP and by CenterPoint were significantly more likely to have a negative evaluation of the performance of their local utility in managing the rolling blackouts than was the case for respondents served by a municipal utility or an electric cooperative. For example, 70% of CenterPoint residents who lost power and 61% of AEP residents who lost power evaluated the performance of their local utility in managing rolling blackouts as either poor or very poor, compared to only 46% of respondents served by a municipal utility or cooperative.

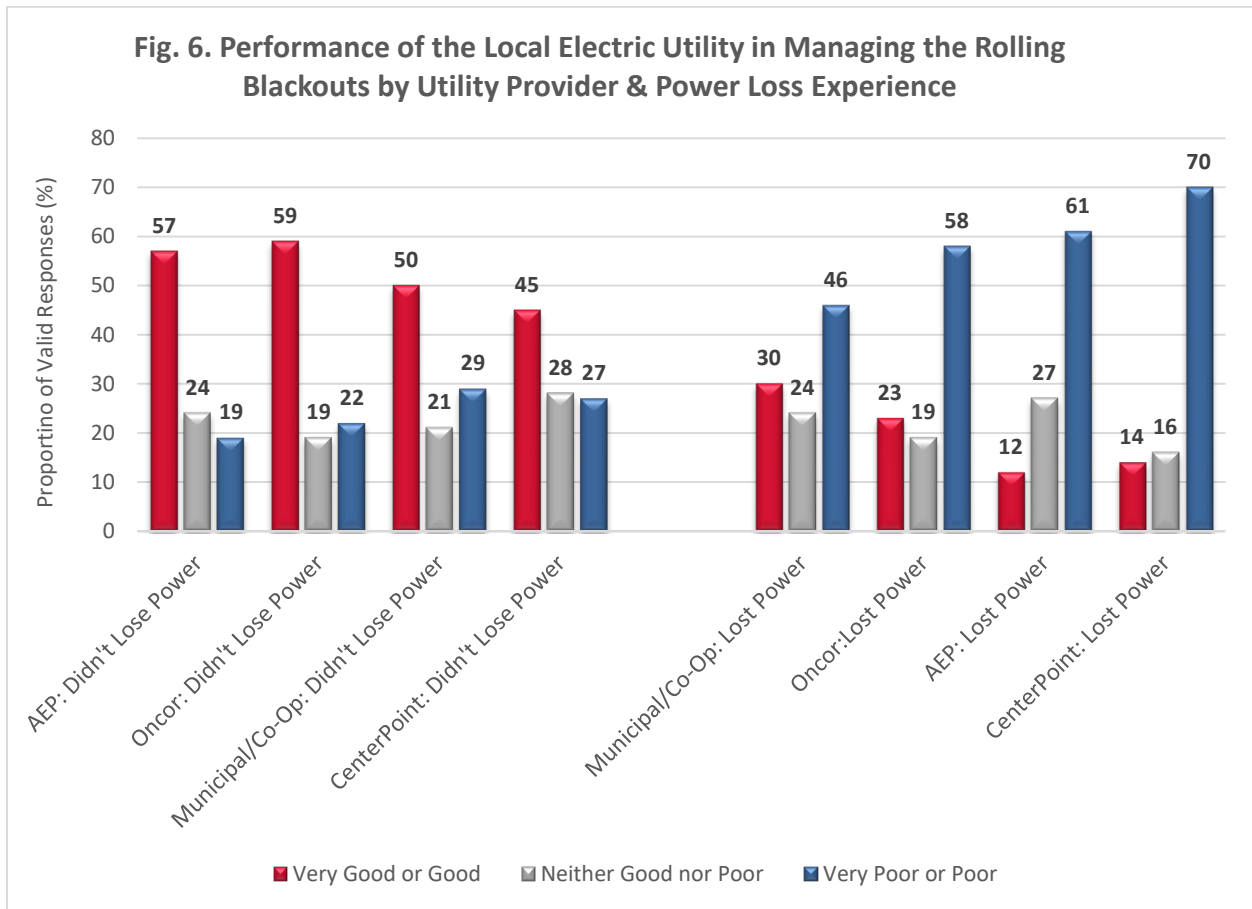
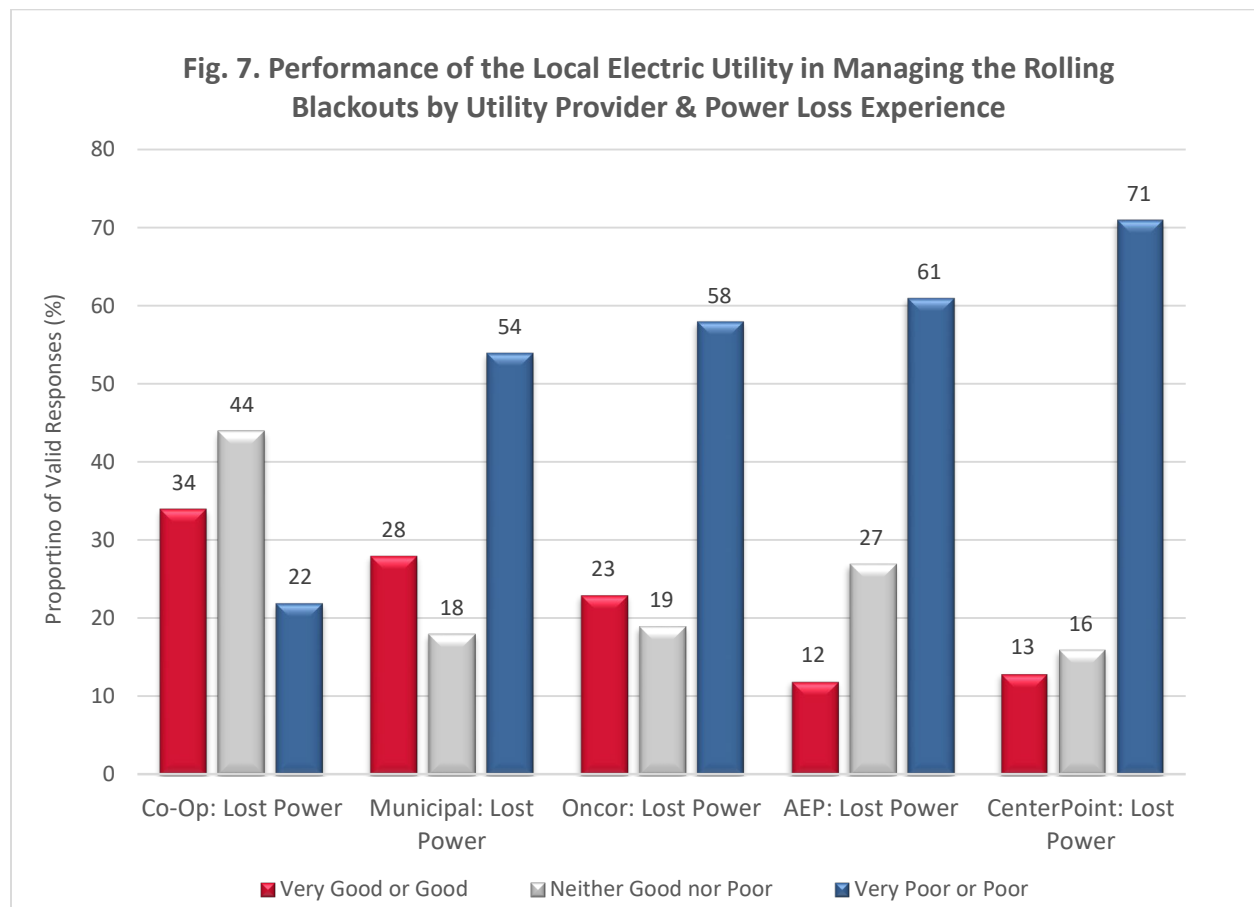


Figure 7 focuses on the significant difference in the performance evaluation of the utility's management of rolling blackouts during the winter storm by respondents who lost power served by municipal utilities and electric cooperatives. The figure is identical to Figure 6, with the exception that the respondents in the municipal/co-op category are divided into two distinct groups: those served by municipal utilities and those served by electric cooperatives. The data in Figure 7 underscore that while residents (who lost power) served by electric cooperatives and municipal utilities both had a more favorable evaluation of their local utility's performance in managing the rolling blackouts during the winter storm of 2021 than did those respondents served by one of the three main private companies in the deregulated market, the difference was, with one exception, only significant for those served by electric cooperatives, whose overall performance was evaluated to be significantly more positive than that of Oncor, AEP, and CenterPoint in the eyes of their respective customers. The one exception is that the respondents served by a municipal utility had a significantly more positive evaluation of their local utility's management of rolling blackouts than did the respondents served by CenterPoint.



## Equitable or Inequitable Power Cuts

The survey respondents were asked the extent to which they agreed or disagreed with the statement that the electrical power cuts in their area were carried out in an equitable manner. The affirmative response options were strongly agree, somewhat agree, somewhat disagree, and strongly disagree.

Figure 8 contains the results for the residents of the regulated and deregulated electric utility zones, split between those residents who lost power at some point between February 14 and February 20, and those who did not lose power at any time during this period. The only significant difference between the respondents in the regulated and deregulated markets is that those respondents in the deregulated markets who lost power were significantly more likely to disagree (and significantly less likely to agree) with the statement that the power cuts in their area during the winter storm were carried out in an equitable manner than were those respondents in the regulated markets who lost power. While both sets of respondents disagreed with the statement, 76% of the respondents in the deregulated markets disagreed with the statement compared to 60% of those similarly affected respondents in the regulated markets.

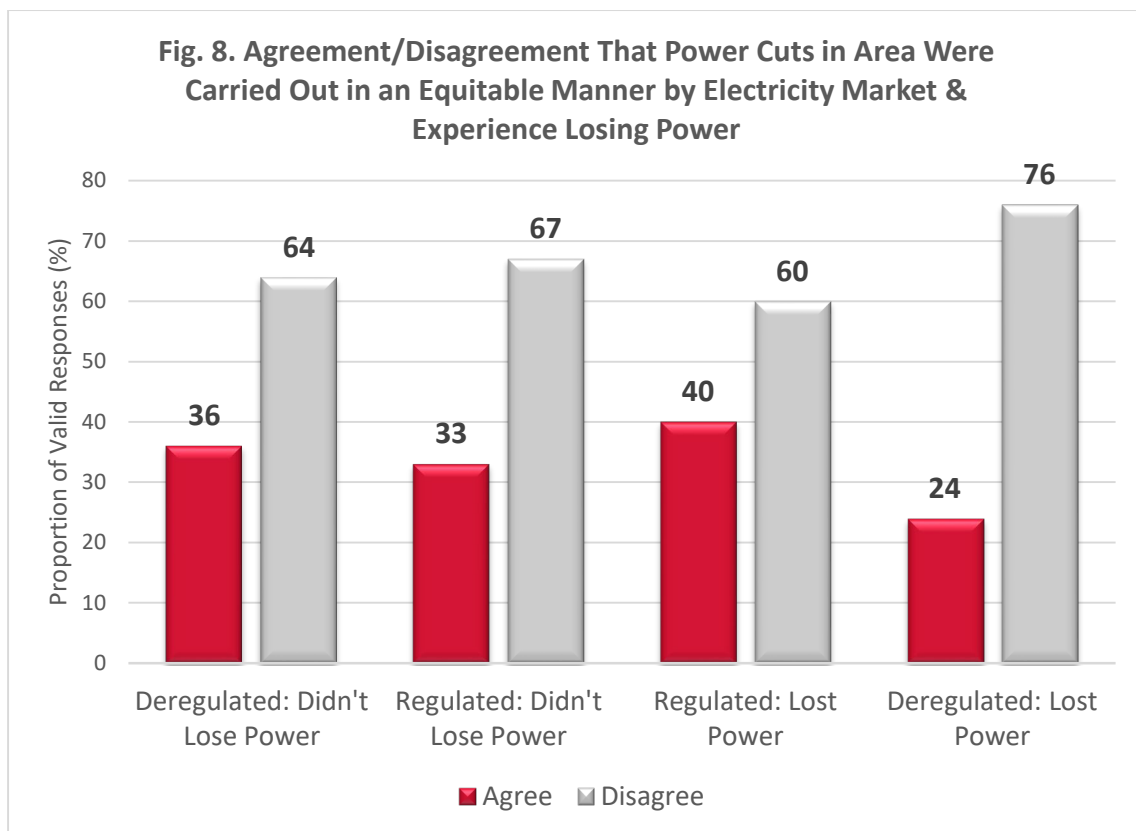


Figure 9 provides the distribution of the responses to the same question, except broken down by the specific utility provider that serves the respondent, divided between those respondents who didn't lose power and those who lost power. The only significant differences among the four different electricity providers is that respondents living in the CenterPoint (77%) and AEP (77%) service areas who lost power were significantly more likely to disagree with the statement that power cuts in their area were carried out in an equitable manner than were respondents from areas served by municipal electric utilities or electric cooperatives (59%).

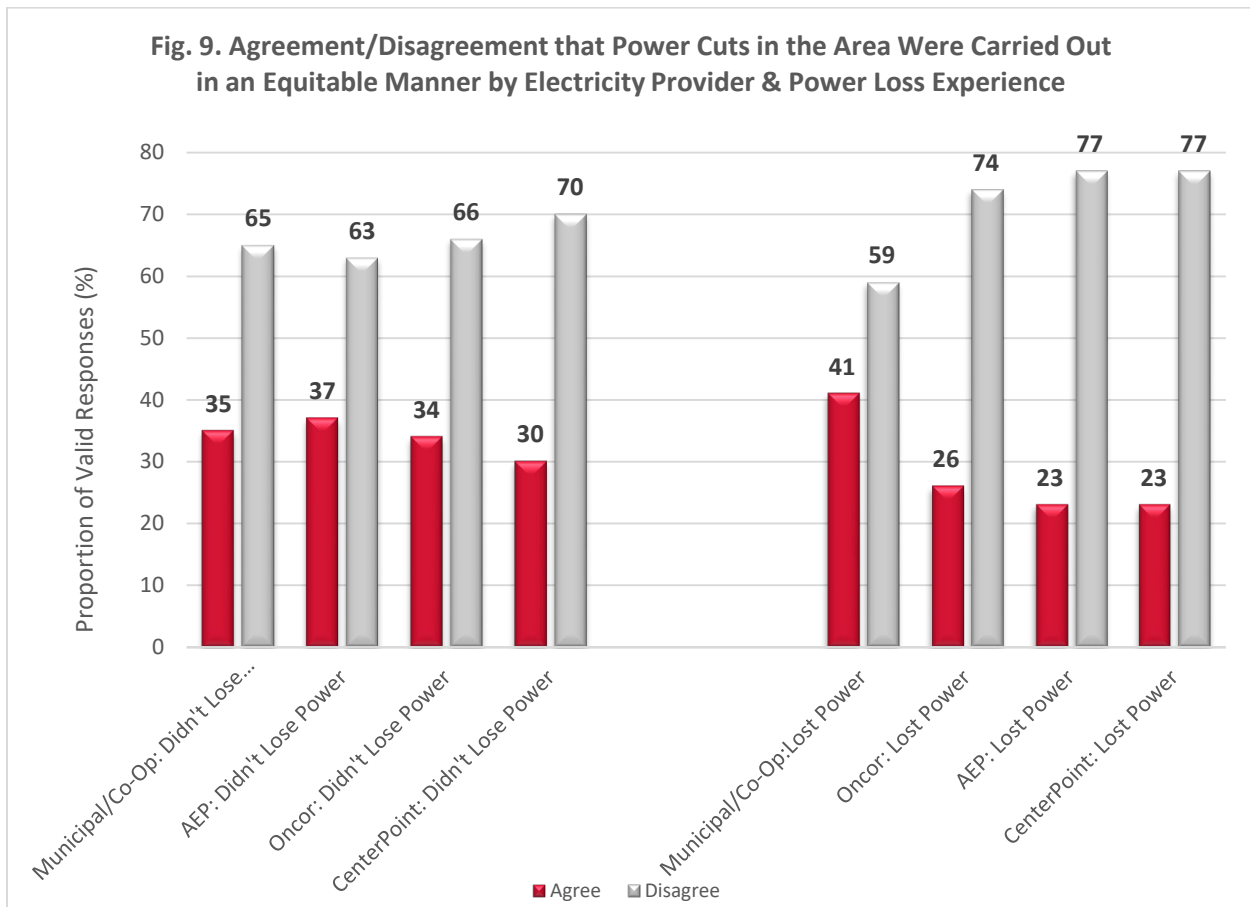
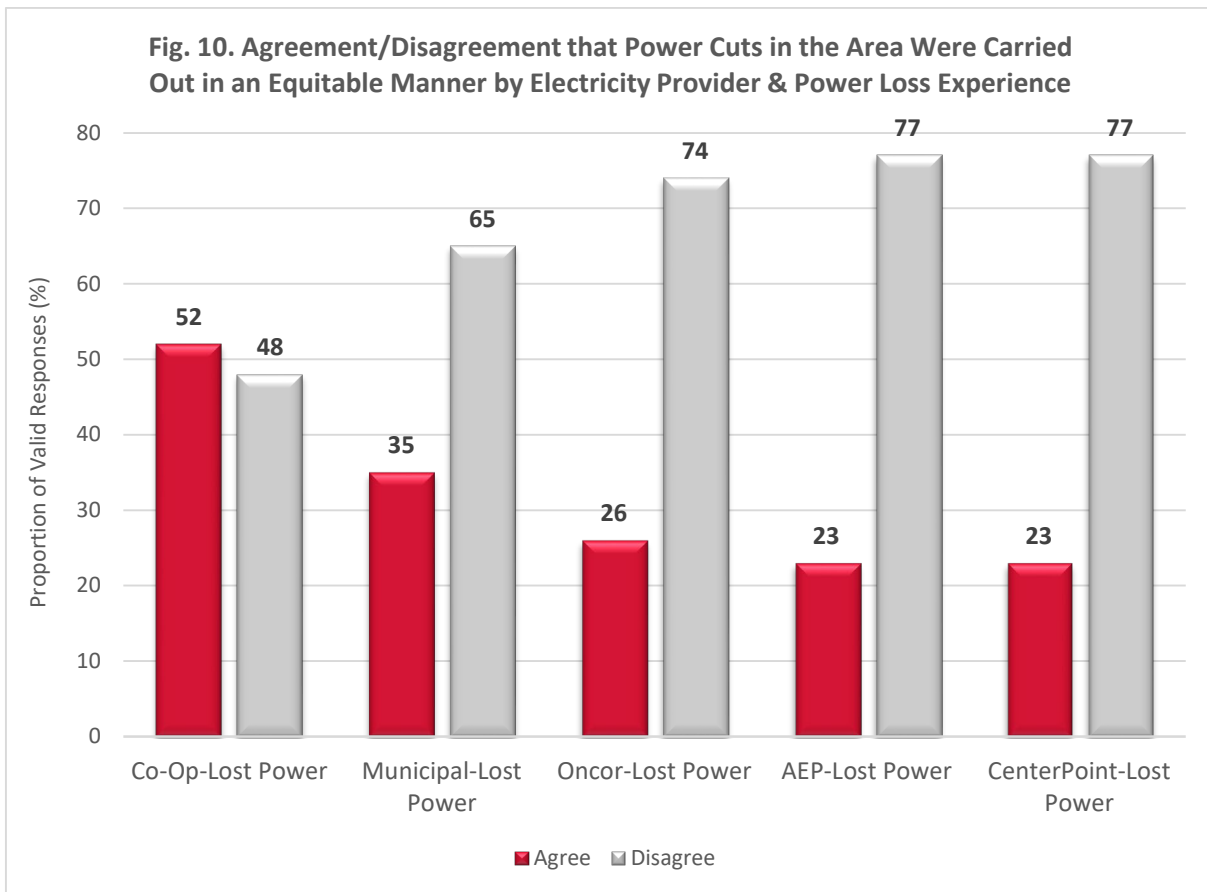
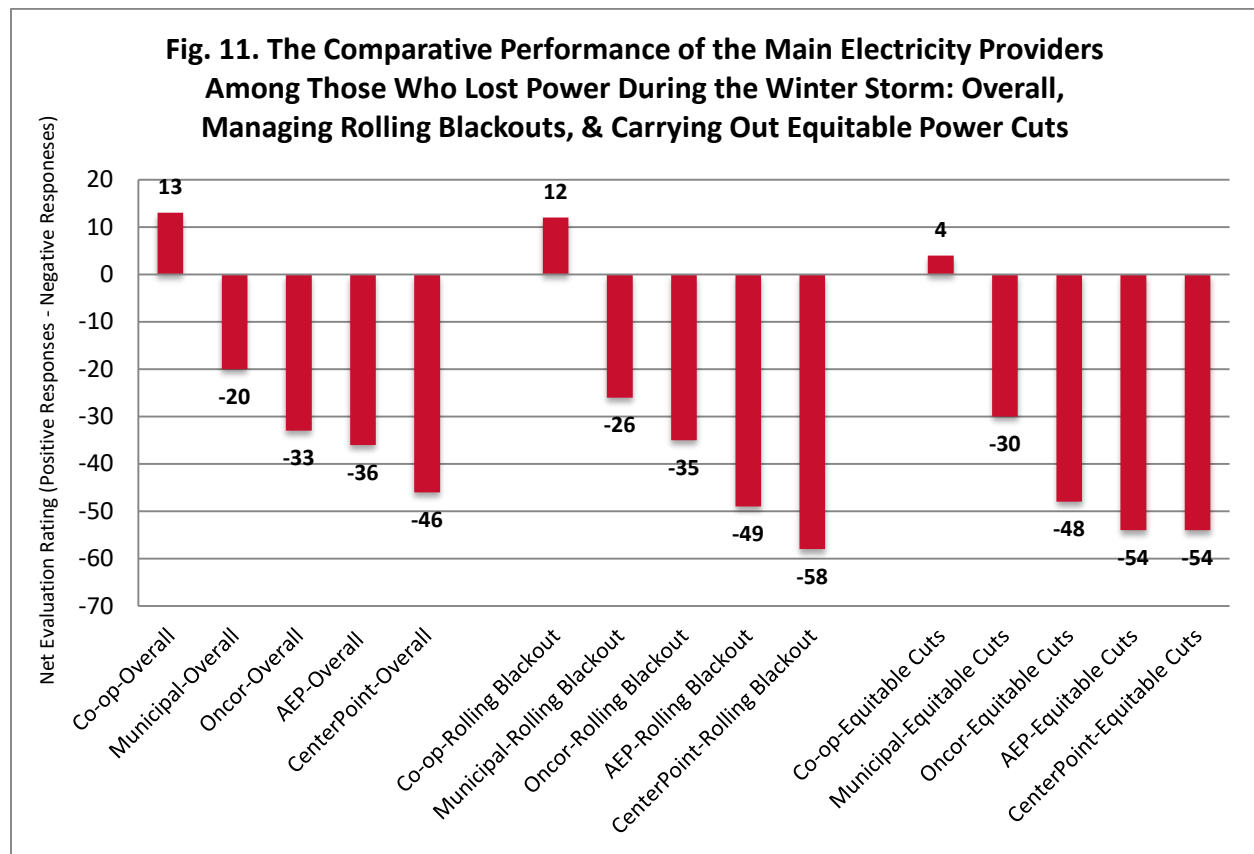


Figure 10 focuses on the significant difference in the evaluation of the equity in how the utility carried out of rolling blackouts during the winter storm by respondents who lost power served by municipal utilities and electric cooperatives. The figure is identical to Figure 9, with the exception that the respondents in the municipal/co-op category are divided into two distinct groups: those served by municipal utilities and those served by electric cooperatives. The data in Figure 10 underscore that while residents (who lost power) served by electric cooperatives and municipal utilities both had a more favorable evaluation of their local utility’s performance in managing the rolling blackouts during the winter storm of 2021 than did those respondents served by one of the three main private companies in the deregulated market, the difference was only significant for those served by electric cooperatives, a majority of whose respondents (52%) agreed that the power cuts in their area were carried out in an equitable manner, compared to only 35% of those served by the municipal utilities, 26% served by Oncor, and 23% served by both AEP and CenterPoint.



## Summarizing the Performance of the Five Main Utility Providers During the Winter Storm

Figure 11 provides a summary of the comparative evaluation by Texans who lost power of the two principal providers in the Lone Star State’s regulated electricity market (municipal utilities and electric cooperatives) and the three principal providers in the state’s deregulated electricity market (AEP, CenterPoint, Oncor). The net approval rating is calculated by summing together all of the positive responses for each of the three questions discussed above (strongly approve, somewhat approve; very good, good; strongly agree, somewhat agree) and then respectively subtracting from this value the sum all of all of the negative response to these three questions (strongly disapprove, somewhat disapprove; very poor, poor; strongly disagree, somewhat disagree).

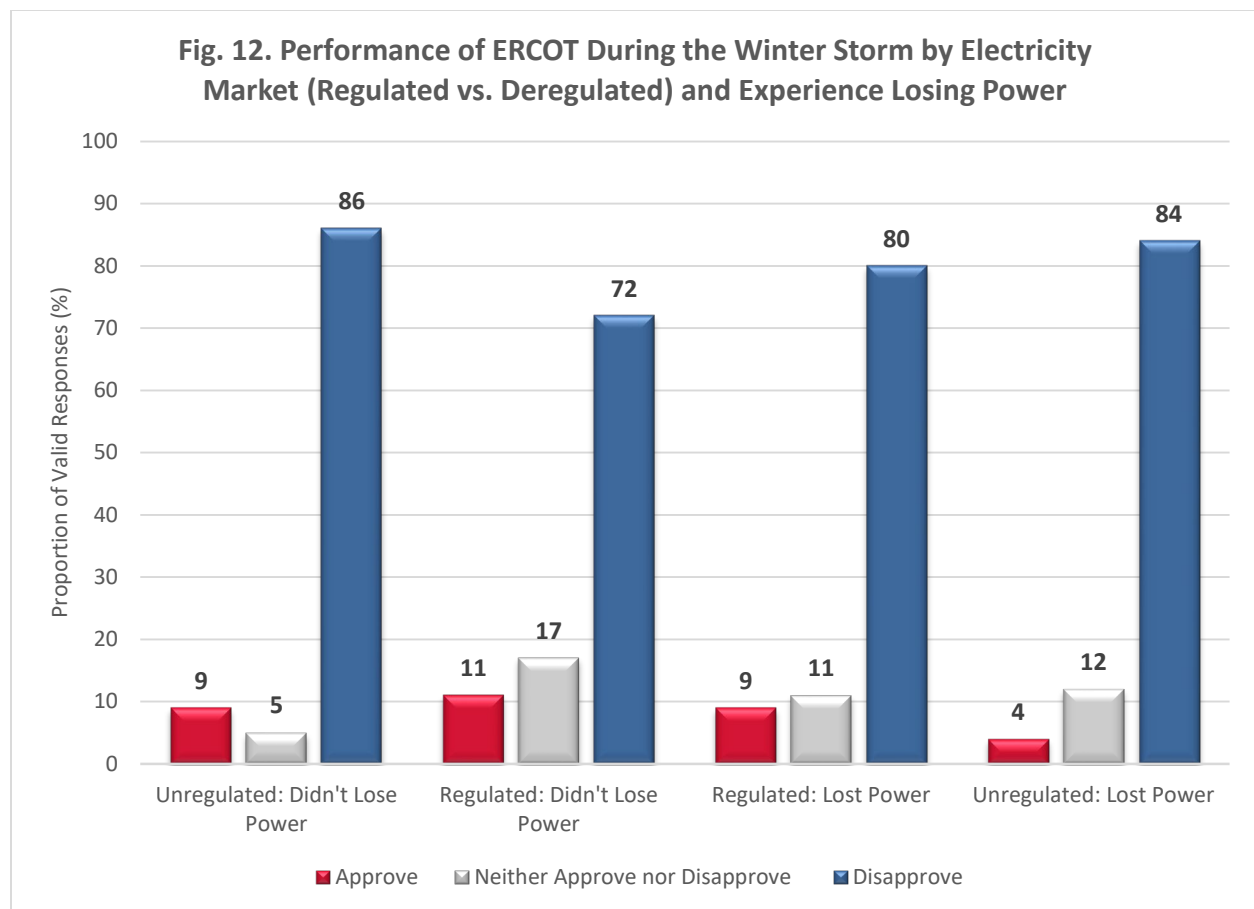


The principal conclusion from Figure 11 is that the only electricity providers to receive a net positive evaluation for its performance during the winter storm of 2021 were the electric cooperatives, with a +13 for their overall performance during the storm, a +12 for their performance in managing the rolling blackouts, and a +4 for their carrying out their power cuts in an equitable manner. All of the other providers had negative ratings for each one of these categories, ranging from a -20 (municipal) to a -46 (CenterPoint) for the overall performance rating, a -26 (municipal) to a -58 (CenterPoint) for their performance managing the rolling

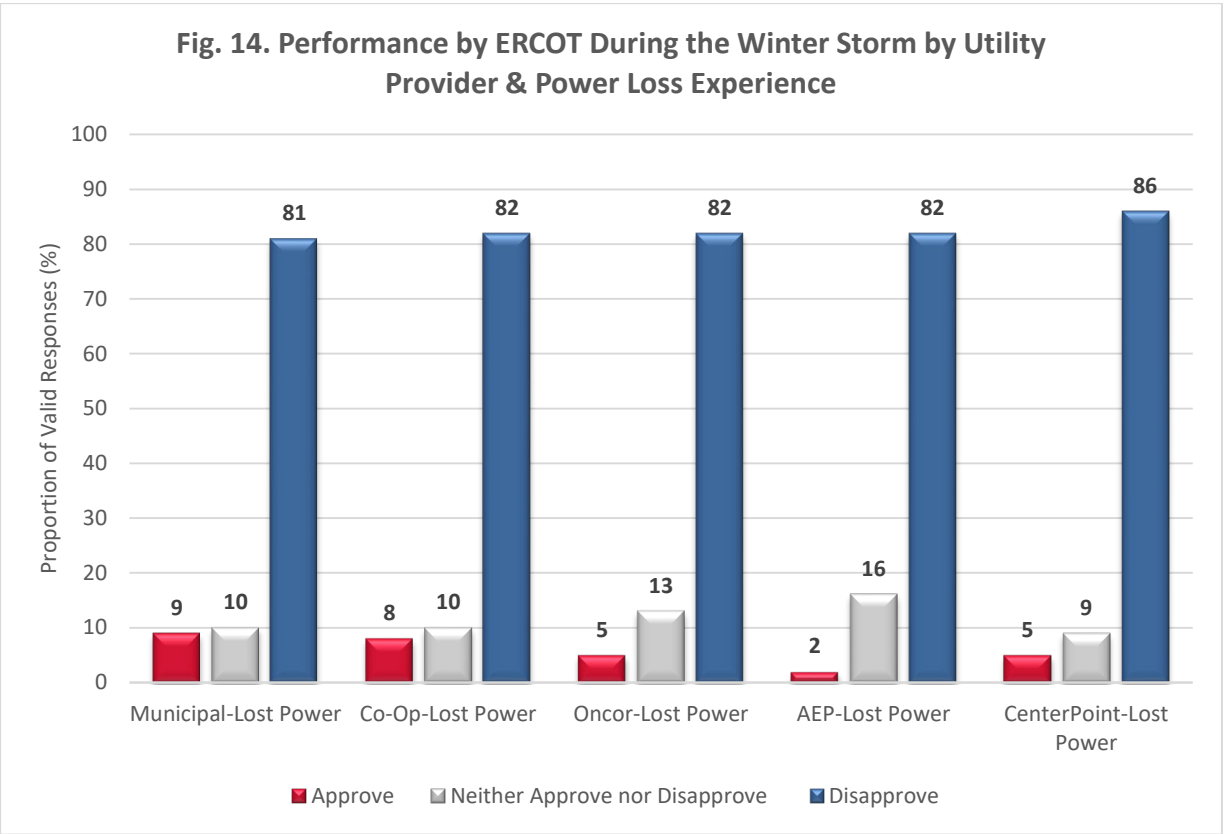
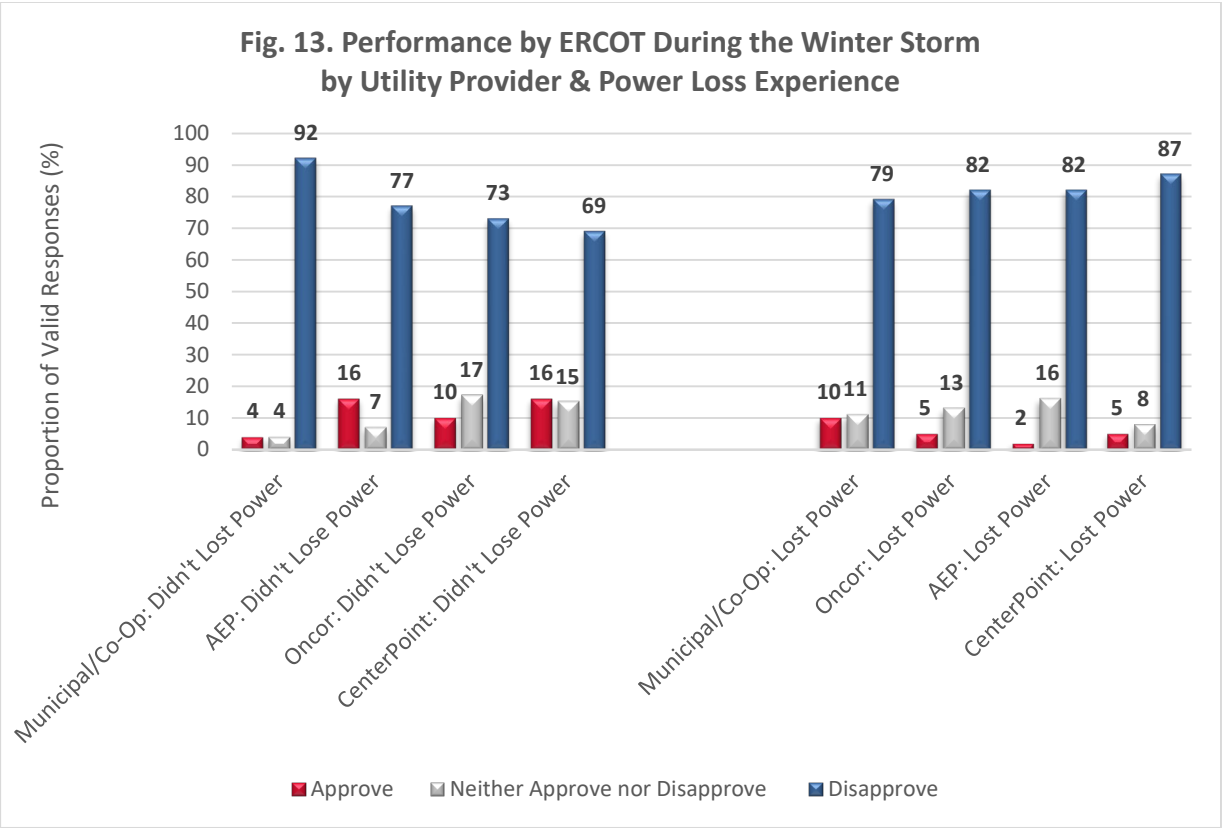
blackouts, and a -30 (municipal) to a -54 (AEP and CenterPoint) for their ability to carry out their power cuts in an equitable manner.

### Overall Performance of ERCOT During the Winter Storm

The survey respondents were asked to evaluate the overall performance of the Electric Reliability Council of Texas (ERCOT) during the winter storm. As Figure 12 and Figure 13 reveal, there are not any significant differences between the two different groups of respondents (those who experienced a loss of power and those who did not experience a loss of power) from regulated and deregulated areas or among respondents who are served by AER, CenterPoint, Oncor, or a municipal-owned utility or electric cooperative. All groups uniformly disapproved of the ERCOT's performance, with no significant intra-group (lost power, didn't lose power) differences in the degree of this overall negative evaluation of ERCOT. A similar finding is gleaned from Figure 14, which follows the previous pattern of splitting the municipal utilities and the electric cooperatives, revealing though no noteworthy difference between the two in regard to their respective respondents' evaluation of ERCOT's performance during the winter storm.







Among those who lost power, the proportion of individuals served by the four principal utilities that disapproves of ERCOT's performance during the winter storm ranges from 79% (Municipal Utilities and Co-ops) to 87% (CenterPoint) while among those who did not lose power the proportion ranges from 69% (CenterPoint) to 92% (Municipal Utility and Co-ops). While this latter gap is large, due especially to the small number of CenterPoint customers who did not lose power, the difference between these two extremes is not significant at the 95% level of confidence utilized as the measure of statistical significance in this report.

### **Regulated & Municipal/Coop vs. Deregulated & Private Electric Utilities**

This analysis reveals no noteworthy differences among Texans who did not lose power in regard to their evaluations of their local electricity provider or their belief that the power cuts in their locale were carried out in an equitable manner. However, it also underscores that among Texans who lost power, those served by private electric utility companies in the deregulated market and those served by electric cooperatives in a regulated market, differed notably in regard to their evaluation of the performance of their local electric utility, both in regard to their management of the rolling blackouts as well as in regard to their overall performance during the winter storm. Those Texans who lost power and are served by private utility companies in the deregulated electricity market had a significantly more negative evaluation of the performance of their local electric utility than did those Texans who lost power and are served by an electric cooperative in a regulated electricity market.

Texans served by electric cooperatives in regulated markets were also less likely to disagree and more likely to agree that the power cuts in their local area were carried out in an equitable manner compared to Texans served by private electricity companies in deregulated markets.

The data do not allow us to provide a conclusive explanation as to why the performance during the winter storm by electric cooperatives (and to a much lesser extent municipal utilities) in the regulated markets was viewed more favorably by their clients than was the performance of the private companies in the deregulated markets viewed by their clients.

One factor that we can rule out though is a difference in the ideological orientation of the residents. On a five point left-right scale where 1 is extremely liberal, 5 extremely conservative, and 3 in the middle, the average ideological score of the residents of the regulated areas of the state were slightly more conservative than those of residents from the deregulated areas, 3.43 to 3.38, although this difference is not significant. Nor are the ideological differences significant among the five principal providers: municipal (3.27), CenterPoint (3.31), Oncor (3.36), AEP (3.46) and electric cooperatives (3.89), although respondents served by electric cooperatives are the most conservative among these five groups.

Three of the more likely, though far from exhaustive, explanations for these findings await future empirical verification via new and more comprehensive studies designed specifically to study electric cooperatives (and hence including an oversample of respondents served by electric cooperatives).

First, electric cooperatives actually performed better (based on objective empirical metrics) during the winter storm, perhaps because they are more committed to their customers (who are also indirectly their bosses) than the commercial utilities are to their customers.

Second, the customers of electric cooperatives are more likely to believe their electric utility has their best interests at heart than do the customers of commercial electric utilities, and therefore even in the case of equal empirical performance, are more likely to rate their electricity utility in a positive manner (e.g., giving them the benefit of the doubt) than are customers of commercial utilities.

Third, regulated electric utilities where a single entity is responsible for the commercialization, transmission and distribution of electricity are better able to respond to the type of environmental and infrastructural challenges like those experienced during the 2021 winter storm than are deregulated electric utilities where one entity is responsible for commercialization and another is responsible for transmission and distribution.

## Research Team

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