

FILE

PUCO EXHIBIT FILING

Date of Hearing: 10/11/2023

Case No. 23-23-EL-550 | 23-24-EL-AAM

PUCO Case Caption: In the Matter of the application of Ohio Power
Company for Authority To Establish a Standard Service Offer
Pursuant to R.C. 4928.143, in the form of an Electric Security Plan
In the Matter of the Application of Ohio Power Company for
Approval of Certain Accounting Authority.
Volume II

List of exhibits being filed:

AEP Ohio 485

PUCO

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Reporter's Signature: Karen Sue Gibson
Date Submitted: _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

In the Matter of the :
Application of Ohio Power :
Company for Authority to :
Establish a Standard :
Service Offer Pursuant to : Case No. 23-23-EL-SSO
R.C. 4928.143, in the Form:
of an Electric Security :
Plan. :

In the Matter of the :
Application of Ohio Power :
Company for Approval of : Case No. 23-24-EL-AAM
Certain Accounting :
Authority. :

- - -

PROCEEDINGS

before Ms. Greta See and Ms. Megan Addison, Attorney
Examiners, at the Public Utilities Commission of
Ohio, 180 East Broad Street, Room 11-A, Columbus,
Ohio, called at 9:14 a.m. on Wednesday, October 11,
2023.

- - -

VOLUME II

- - -

ARMSTRONG & OKEY, INC.
222 East Town Street, Second Floor
Columbus, Ohio 43215-5201
(614) 224-9481

- - -

OHIO POWER COMPANY

2nd Revised Sheet No. 450-1
Cancels 1st Revised Sheet No. 450-1

P.U.C.O. NO. 21

GENERATION ENERGY RIDER

Effective June 1, 2023, all customer bills subject to the provisions of this Rider, including any bills rendered under special contract, shall be adjusted by the Generation Energy charge as follows:

Schedule	Summer (Jun-Sep)	Winter (Oct-May)
	¢/KWH	¢/KWH
Residential RS, RSDM, RS-TOD, RS-TOU	10.58900	10.58900
PIPP Residential RS, RSDM, RS-TOD, RS-TOU	7.21600	7.21600
Non Demand Metered GS-1, GS Recreational Lighting, GS-TOD, GS-TOU, EHS, SS	10.58900	10.58900
Demand Metered Secondary GS, EHG	10.58900	10.58900
Demand Metered Primary GS	10.23400	10.23400
Demand Metered Subtransmission/Transmission GS	10.04900	10.04900
Lighting AL, SL	10.58900	10.58900

Filed pursuant to Order dated May 17, 2023 in Case No. 23-482-EL-RDR

Issued: May 18, 2023

Effective: June 1, 2023

Issued by
Marc Reitter, President
AEP Ohio



an AEP Company

AEP Ohio 2021 Customer Reliability Survey

Summary of Results

March 2022





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Appendix A: Questionnaire



Key Findings

- AEP Ohio residential and non-residential customers were randomly sampled from AEP Ohio's Customer Information System and surveyed by email. Surveys were fielded continuously throughout 2021 with quarterly quotas of 200 completed surveys for both residential and non-residential customers.
- 51% of residential and 50% of non-residential respondents reported that they were very satisfied with their reliability. Additionally, 77% of residential and 77% of non-residential respondents reported that they were not dissatisfied with their reliability.
- Residential and Non-residential customers experienced the same amount of brief outages (five minutes or less in duration) on average.
- 56% of residential and 54% of non-residential customers reported 2 or less brief outages, while a reduced percentage of residential customers reported a 5 or more brief outages as compared to the 2018 survey.
- A significant percentage of residential and non-residential customers consider 2 or less brief outages per year to be acceptable.
- 65% of residential and 63% of non-residential customers reported 2 or less sustained outages, while there was a slight increase in the percentage of residential and non-residential customers reporting 5 or more sustained outages as compared to the 2018 survey.
- A significant percentage of residential and non-residential customers consider 2 or less sustained outages per year to be acceptable.
- 42% of residential and non-residential customers reported that the longest outage they had was less than 5 hours, while only 3% of residential and 4% of non-residential customers report that the longest outage they had was over 24 hours. Additionally, 13% of residential and 14% of non-residential customers reported that they were not aware of any lengthy power outages in the last 12 months.
- The average time that a customer finds acceptable for non-storm and storm related outages is nearly identical between both residential and non-residential customers, both of which are willing to accept longer outages due to storms.



1. Research Methodology

AEP Ohio worked with the PUCO Staff to develop the survey questions. AEP Ohio used Medallia, an online survey tool, to measure residential and non-residential customer perceptions of AEP Ohio's electric service reliability. Each quarter, online surveys, via links sent by Medallia, were conducted to gain a required random selection of 200 residential and non-residential customers. The respondent goal was met or exceeded each quarter, ending 2021 with 1,097 residential and 1,588 non-residential surveys completed. All surveys were sent to respondents at least 18 years of age, and all but 1 respondents indicated that they were 18 years or above.

Table 1: Sample Design		
Quarter	Residential Customers	Non-Residential Customers
Q1 2021	276	374
Q2 2021	332	491
Q3 2021	249	369
Q4 2021	240	354
Total 2021	1,097	1,588



an AEP Company

100 EAST 1ST STREET, CLEVELAND, OHIO 44114

2. Satisfaction with Reliability

For residential customers, 51% of the respondents reported that they are very satisfied with their reliability, while only 13% of respondents reported that they are very dissatisfied. 77% of residential respondents reported that they were either satisfied or neither satisfied or dissatisfied with their reliability.

For non-residential customers, 50% of the respondents reported that they are very satisfied with their reliability, while only 13% of respondents reported that they are very dissatisfied. 77% of non-residential respondents reported that they were either satisfied or neither satisfied or dissatisfied with their reliability.

Table 2: Satisfaction with Reliability		
Satisfaction with Reliability	Residential Customers (n=930)	Non-residential Customers (n=1,420)
Very Satisfied	51%	50%
Somewhat Satisfied	19%	18%
Neither Satisfied or Dissatisfied	7%	9%
Somewhat Dissatisfied	8%	8%
Very Dissatisfied	13%	13%
Don't Know	2%	2%



3. Brief Interruptions

A brief interruption is defined as an outage of five minutes or less (IEEE standard) within the past twelve months.

56% percent of residential customers reported that they had 2 or less brief outages in 2021. This is an improvement when compared to the results shown in the 2018 Customer Satisfaction Survey, when 48% of residential respondents reported 2 or less brief outages. Additionally, the number of respondents reporting 5 or more brief outages have decreased by 4% from the 2018 survey

54% percent of non-residential customers reported that they had 2 or less brief outages in 2021. This is a slight improvement when compared to the results shown in the 2018 Customer Satisfaction Survey, when 50% of residential respondents reported 2 or less brief outages. Additionally, the number of respondents reporting 5 or more brief outages have held consistent with what was reported on the 2018 survey

Non-residential and Residential customers have little to no difference in the number of brief outages they are reporting for 2021

Table 3A: Brief Outages by Customer Type		
Number of Brief Outages in the Past 12 Months	Residential Customers (n=1,097)	Non-Residential Customers (n=1,588)
No Outages	22.4%	23.0%
One or Two	33.5%	30.8%
Three or Four	17.2%	17.6%
Five or More	12.8%	13.9%
Don't Know (DK)	14.0%	14.7%

When considering how many brief power outages are acceptable throughout the year, there is little difference between Non-residential and Residential customers. Approximately, 70% of residential and non-residential customers would consider 2 outages or less during the year to be acceptable. In the 2018 Customer Satisfaction Survey, approximately 50% of residential and non-residential customers considered 2 brief outages or less to be acceptable.

Table 3B: Acceptable Brief Outages by Customer Type		
Number of Brief Outages Considered Acceptable in the Past 12 Months	Residential Customers (n=1,092)	Non-Residential Customers (n=1,583)
No Outages	22.3%	24.6%
One or Two	51.2%	47.0%
Three or Four	16.2%	15.9%
Five or More	3.3%	3.3%
Don't Know (DK)	7.1%	9.2%



4. Sustained Interruptions

A sustained interruption is defined as an outage lasting longer than five minutes (IEEE standard) within the past twelve months. Common causes of these longer interruptions are severe weather, such as high wind, tornadoes, hurricanes, ice, and snowstorms, as well as automobile and construction accidents, animals getting into the power system and equipment failure.

65% percent of residential customers reported that they had 2 or less sustained outages in 2021. This is a reduction when compared to the results shown in the 2018 Customer Satisfaction Survey, when 70% of residential respondents reported 2 or less brief outages. Additionally, the number of respondents reporting 5 or more brief outages have decreased slightly by 1% from the 2018 survey

63% percent of residential customers reported that they had 2 or less sustained outages in 2021. This is consistent with the results shown in the 2018 Customer Satisfaction Survey, when 64% of residential respondents reported 2 or less brief outages. Additionally, the number of respondents reporting 5 or more brief outages went from 7% from the 2018 survey to 9% in 2021.

Non-residential and Residential customers have little to no difference in the number of sustained outages they are reporting for 2021

Table 4A: Number of Lengthy Outages by Customer Type		
Number of Lengthy Outages in the Past 12 Months	Residential Customers (n=1,091)	Non-residential Customers (n=1,576)
No Outages	22.5%	21.8%
One or Two	42.8%	40.7%
Three or Four	15.1%	15.7%
Five or More	7.8%	8.6%
Don't Know (DK)	11.7%	13.1%

When considering how many sustained power outages are acceptable throughout the year, there is little difference between Non-residential and Residential customers. Approximately, 85% of residential and non-residential customers would consider 2 outages or less during the year to be acceptable. In the 2018 Customer Satisfaction Survey, 63% of residential and 55% of non-residential customers considered 2 or less sustained outages to be acceptable.

Table 4B: Acceptable Number of Lengthy Outages by Customer Type		
Number of Lengthy Outages Considered Acceptable in the Past 12 Months	Residential Customers (n=1,088)	Non-residential Customers (n=1,588)
No Outages	34.4%	33.3%
One or Two	50.6%	50.6%
Three or Four	6.9%	5.9%
Five or More	0.7%	1.6%
Don't Know (DK)	7.4%	8.6%

5. Longest Power Outage

For residential customers, 13% of respondents reported that they were not aware of any power outages in the last 12 months, and an additional 4% of respondents reported that they did not incur a sustained outage as defined by IEEE standards. In conclusion, 67% of respondents reported that their longest outage was less than 5 hours while 89% of the residential customers had their longest power outage was less than 24 hours.

For non-residential customers, 14% of respondents reported that they were not aware of any power outages in the last 12 months, and an additional 3% of respondents reported that they did not incur a sustained outage as defined by IEEE standards. In conclusion, 64% of respondents reported that their longest outage was less than 5 hours while 86% of the non-residential customers had their longest power outage was less than 24 hours.

8% of residential and 11% of non-residential respondents reported that they did not know the length of their longest power outage in the prior 12 months.

Table 5: Longest Outage by Customer Type		
Length of Outage	Residential Customers (n=906)	Non-residential Customers (n=1,320)
Less than five minutes	4%	3%
Five minutes to less than one hour	8%	7%
One hour to less than five hours	42%	42%
Five hours to less than 24 hours	22%	21%
24 hours or more	3%	4%
Not aware of any power outages in the last 12 months	13%	14%
Don't Know (DK)	8%	11%



6. Acceptable Duration of Outages

Prolonged outages that are not storm related:

For residential customers, 17% of the respondents deem a non-storm related outage of less than 30 minutes acceptable, while an additional 4% of respondents do not know what an acceptable duration of an outage would be. For outages that last longer than 2 hours, 39% of respondents answered that it would be an acceptable duration. This is up from the 2018 Customer Satisfaction Survey by approximately 20%.

For non-residential customers, 17% of the respondents deem a non-storm related outage of less than 30 minutes acceptable, while an additional 4% of respondents do not know what an acceptable duration of an outage would be. For outages that last longer than 2 hours, 44% of respondents answered that it would be an acceptable duration. This is up from the 2018 Customer Satisfaction Survey by approximately 23%.

For non-storm related outages, both non-residential and residential customers are more accepting of longer durations of outages.

Table 6A: Acceptable Non-Storm Outage Duration by Customer Type		
Non-Storm Related Outages	Residential Customers (n=897)	Non-residential Customers (n=1,277)
Less than thirty minutes	17%	17%
Thirty minutes to less than one hour	10%	7%
One hour to less than two hours	30%	28%
Two hours to less than four hours	31%	31%
More than four hours	8%	13%
Don't Know (DK)	4%	4%



Prolonged outages that are storm related:

For residential customers, only 7% of the respondents deem a storm related outage of less than 30 minutes acceptable, while an additional 6% of respondents do not know what an acceptable duration of an outage would be. Over half (54%) of respondents answered that storm related outages lasting 2 to 6 hours would be an acceptable duration. This is up from the 2018 Customer Satisfaction Survey by approximately 22%.

For non-residential customers, only 9% of the respondents deem a storm related outage of less than 30 minutes acceptable, while an additional 9% of respondents do not know what an acceptable duration of an outage would be. Nearly half (48%) of respondents answered that storm related outages lasting 2 to 6 hours would be an acceptable duration. . This is up from the 2018 Customer Satisfaction Survey by approximately 21%.

Table 6B: Acceptable Storm Outage Duration by Customer Class		
Storm-Related Outages	Residential Customers (n=905)	Non-residential Customers (n=1,291)
Less than thirty minutes	7%	9%
Thirty minutes to less than one hour	3%	2%
One hour to less than two hours	13%	12%
Two hours to less than six hours	54%	48%
Six hours to less than twelve hours	8%	11%
Twelve hours to less than twenty-four hours	4%	4%
More than twenty-four hours	6%	6%
Don't Know (DK)	6%	9%

7. Satisfaction with Communication

48% of residential customers and 55% of non-residential customers reported that they received communication about an outage they experienced.

Table 7A: Received Communication about with Reliability		
Received Communication	Residential Customers (n=936)	Non-Residential Customers (n=1,421)
Yes	48%	55%
No	39%	34%
Don't Know	12%	11%

For the residential respondents, 42% reported that they were very satisfied with the communication they received about an outage, while 80% of respondents were not dissatisfied with the communication they received about an outage they experienced.

For the non-residential respondents, 39% reported that they were very satisfied with the communication they received about an outage, while 76% of respondents not dissatisfied with the communication they received about an outage they experienced.

Table 7B: Satisfaction with the Communication about with Reliability		
Satisfaction with Communication	Residential Customers (n=504)	Non-residential Customers (n=680)
Very Satisfied	42%	39%
Somewhat Satisfied	28%	25%
Neither Satisfied or Dissatisfied	10%	12%
Somewhat Dissatisfied	8%	10%
Very Dissatisfied	12%	15%



Appendices

Appendix A: Questionnaire



Attachment A: Questionnaire

Survey Administration

- Can be done by phone (cell or home) or email/internet
- The survey must indicate how it was taken
- Sample should be diverse and as representative as possible

Survey Size

- 200 R and 200 Non-R for each of 4 quarters. Non-R should be a mix of small and large commercial/industrial customers.

Questions

1. How many interruptions of **5 minutes or less** have you experienced at your home (or business) in the last 12 months? *(Current question)*
2. How many interruptions of **5 minutes or less** would you consider acceptable during a 12 month period? *(Current question)*
3. How many interruptions of **more than 5 minutes** have you experienced at your home (or business) in the past 12 months? *(Current question)*
4. How many interruptions of **more than 5 minutes** would you consider acceptable during a 12 month period? *(Current question)*
5. How long in hours and minutes would you estimate your longest power outage in the past 12 months to be?
 - Time in minutes
 - Not aware of any power outages in the last 12 months*(Current question – change answers from multiple choice options to simple answer)*
6. How long in hours and minutes would you consider to be an acceptable length of a prolonged outage that was not storm related? *(Current question – change answers from multiple choice options to simple answer)*
7. How long in hours and minutes would you consider to be an acceptable length of a prolonged outage that was storm related? *(Current question – change answers from multiple choice options to simple answer)*



8. How much additional money would you be willing to pay per month to attempt to avoid a single outage of the following lengths?

- One 1 hour outage per year
- One 4 hour outage per year
- One 12 hour outage per year
- One 24 hour outage per year

(New question)

9. How satisfied in general are you with the reliability of the electrical service you receive from <utility>?

- Very dissatisfied
- Somewhat dissatisfied
- Neither satisfied or dissatisfied
- Somewhat satisfied
- Very satisfied
- Don't know

(New question.)

10. Have you or anyone in your household provided appropriate documentation to <utility> stating that an interruption of service would be immediately life-threatening due to use of a medical or life-support system?

- Yes
- No

11) Have you received communication (phone/email/text) from AEP Ohio related to an outage you experienced?

12 If yes, how satisfied were you with the communication provided?

Demographics

Residential:

1. County
2. Age
3. Highest level of education completed
4. Approx. Household Income

Non-Residential:

1. County
2. Business type
3. Number of employees