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by Sidney Davy Miller

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February 14, 2020

Ms. Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Hwy., 3rd Floor
Lansing, MI 48917

Re: Upper Peninsula Power Company
Service Quality Rule Waivers
Case No: U-21586

Dear Ms. Felice:

Enclosed for electronic filing are the Application and Direct Testimony and Exhibits of Jay R. Ringler.

Should you have any questions, please kindly advise.

Very truly yours,

Miller, Canfield, Paddock and Stone, P.L.C.

By: _____
Paul M. Collins

PMC/vs
Enclosures
cc w/enc: Eric Stocking
Jay R. Ringler
Nicholas Evans
Julie Baldwin

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)	
UPPER PENINSULA POWER COMPANY)	Case No. U-21586
for waivers of certain Service Quality and)	
Reliability Standards for Electric Distribution)	
Systems pursuant to R 460.751 and R460.752)	
and related relief.)	
_____)	

APPLICATION

Now comes Upper Peninsula Power Company (“UPPCO” or the “Company”) and hereby applies for waivers of certain Service Quality and Reliability Standards for Electric Distribution, 2004 AACRS.; 2023 MR 7, Rule 460.701 *et seq.* (“Service Quality Rules” or the “Rules”) pursuant to Rule 460.751, as herein requested, and in support thereof respectfully represents to the Michigan Public Service Commission (“MPSC” or the “Commission”) as follows:

1. UPPCO is a Michigan corporation with its principal offices located at 1002 Harbor Hills Drive, Marquette Michigan 49855, and is engaged as a public utility in the generation, purchase, distribution, and sale of electric energy in the Upper Peninsula of Michigan.

2. UPPCO serves certain cities, villages, and townships located in the counties of Alger, Baraga, Delta, Houghton, Iron, Keweenaw, Marquette, Menominee, Ontonagon, and Schoolcraft.

3. UPPCO’s retail business is subject to the jurisdiction of the Commission pursuant to 1909 PA 106, as amended, MCL 460.551 *et seq.*; 1919 PA 419, as amended, MCL 460.51 *et seq.*; and 1939 PA 3, as amended, MCL 460.1 *et seq.* Pursuant to said statutory provisions, the

Commission has power and jurisdiction to regulate UPPCO's retail electric rates for service rendered in the State of Michigan.

4. On March 3, 2022, the Commission issued its order in Case No. U- 21122 *et al.*, directing, among other things, its Staff to work with utilities to develop a template for the reporting additional information relating to distribution system reliability, customer outages, and storm response. UPPCO, as member of the Michigan Electric and Gas Association ("MEGA"), participated in the work groups and collaboratives organized by the Staff pursuant to the Commission's directives. On November 18, 2022, the Staff filed in Case No. U-21122, a Reliability Data Template.

5. On March 24, 2023, the Commission issued its order in Case No. U-20629 formally adopting updated Service Quality Rules¹. UPPCO, as a member of the MEGA, filed comments in Case No. U-20629, as part of the rulemaking process, expressing concern regarding its ability to comply with the updated Rules. The revised Service Quality Rules became effective April 10, 2023.

6. On May 12, 2023, UPPCO filed its application seeking waivers of certain provisions of the Service Quality Rules. The application requested that the Commission grant such waivers on an ex parte basis.

7. On August 30, 2023, the Commission issued its Order in Case No. U-21420 granting waivers of Service Quality Rules 32(h)(i) and (h)(ii), 32(p, and 32(r) (Mich Admin Code, R 460.732(h)(i), (h)(ii), (p), and (r)) on an ex parte basis. In the August 30, 30, 2023, the Commission also denied the Company's request for a temporary waiver of Service Quality Rule

¹ The updated Service Quality Rules, as relating to service outages, are to be reported to the Commission using the Reliability Data Template filed in Case No. U-21222.

46(2) (Mich Admin Code R 460.746(2) because the Commission determined that this request was similar to a request for a waiver of a customer credit, and SQR Rule 52(1) (Mich Admin Code R 460.52(1)) requires that requests for waivers of a customer credit must be handled as a contested case proceeding.

8. UPPCO hereby submits its application for a waiver of SQR 46(1) & (2) supported by the testimony and exhibits of Jay R. Ringler.

9. Rule 51(1) of the Service Quality Rules permits an electric utility to request a permanent or temporary waiver from the Rules “when specific circumstances beyond the control of the electric utility or cooperative render compliance impossible or when compliance would be unduly economically burdensome or technologically infeasible.”

10. Pursuant to Rule 51(1) and Rule 52(1) of the Service Quality Rules, and as further explained in the accompanying Direct Testimony and Exhibits, UPPCO seeks the following waivers:

- a. Rule 46(1) requires that UPPCO provide a bill credit to each customer who experiences six or more sustained interruptions (i.e. a service outage lasting more than five minutes) in a 12-month period. Due to the rural and heavily wooded nature of the Company’s service territory, UPPCO is requesting a limited waiver of Rule 46(1) during catastrophic conditions, such that a single sustained interruption would be recorded during a catastrophic event, even if service was restored and lost multiple times throughout the event that caused the catastrophic conditions. UPPCO seeks a permanent waiver of Rule 46(1), which would allow a single sustained

interruption to be recorded for a customer over the duration of catastrophic conditions.

- b. Rule 46(2) requires that after providing a bill credit to a customer following six or more sustained interruptions, UPPCO must reset the counter for that customer to zero to ensure that the customer will receive another such bill credit “only after the occurrence of another 6 interruptions in a 12-month period.” UPPCO’s existing software does not allow for the resetting of an individual customer’s sustained interruption counter, so UPPCO is requesting a limited permanent waiver of the Rule 46(2), so that it can track sustained interruptions by customer over a single 12-month period, reset all customers’ counters at the end of the 12-month period, and award multiple credits to a customer who experiences more than six sustained interruptions during the single 12-month period.

11. Because compliance with Rule 46(1) & (2) at this time technologically infeasible and/or resource-intensive and economically burdensome, UPPCO requests the Commission to waive compliance and the related reporting of same in lieu of the alternate procedures set forth in this application and supporting testimony and exhibits.

WHEREFORE, Upper Peninsula Power Company respectfully requests that the Commission set an early hearing date on this Application and enter an order:

- A. Granting the requested waiver of Mich Admin Code R 46(1),
- B. Granting the requested waiver of Mich Admin Coder R 46(2) and

C. Granting such other and further relief as may be lawful and proper.

Respectfully submitted,

UPPER PENINSULA POWER COMPANY

Dated: February 14, 2024

By: _____

One of its Attorneys

Paul M. Collins (P69719)

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STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of)	
UPPER PENINSULA POWER COMPANY)	Case No. U-21586
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DIRECT TESTIMONY AND EXHIBITS OF
JAY R. RINGLER
ON BEHALF OF
UPPER PENINSULA POWER COMPANY

1 Q. Please state your name, business address and position.

2 A. My name is Jay R Ringler. My business address is 18494 Canal Rd, Houghton, MI. I am
3 the Director of Distribution Asset Management for Upper Peninsula Power Company
4 (“UPPCO” or the “Company”).

5 Q. For whom are you providing testimony?

6 A. I am providing testimony on behalf of Upper Peninsula Power Company (“UPPCO”) in
7 support of its request for a waiver of service quality and reliability rules 46(1) and 46(2)
8 regarding customer accommodations for repetitive interruptions as permitted under Rule
9 52. Refer to Michigan Administrative Code R460.701-460.752, effective 4/10/2023.

10 Q. Please describe briefly your educational, professional, and utility background.

11 A. I have a Bachelor of Science Degree from Michigan Technological University, in
12 Electrical Engineering and nearly 33 years of experience in the electric utility industry. I
13 began my career with Wisconsin Public Service Corporation (“WPS Corp”) in March
14 1991 at the Kewaunee Nuclear Plant in the Engineering Support Department, as an
15 Electrical Engineer. Thereafter, I worked for WPS Corp in various positions including,
16 Electric Distribution Planning Engineer and Regional Electric Engineer. In April 2000, I
17 transferred to UPPCO as General Foreman, and promoted to Customer Service Manager,
18 then to Technical Services Manager, and later as Manager of Distribution Engineering in
19 May 2015. My current position as UPPCO’s Director of Distribution Asset Management
20 began in April 2023.

21 **PURPOSE OF TESTIMONY**

1 Q. What is the purpose of your testimony?

2 A. The purpose of my testimony is to describe and provide support for UPPCO's request for
3 limited waivers of Rules 46(1) and 46(2) of the Service Quality and Reliability Standards
4 for Electric Distribution Systems as permitted by Rule 52.

5 Q. Why is UPPCO requesting a waiver of Rule 46(1) of the Service Quality and Reliability
6 Standards for Electric Distribution Systems?

7 A. Rule 46(1) requires that UPPCO provide a bill credit to each customer who experiences
8 six or more sustained interruptions (i.e. a service outage lasting more than five minutes)
9 in a 12-month period. Due to the rural and heavily wooded nature of the Company's
10 service territory, UPPCO is requesting a limited waiver of Rule 46(1) during catastrophic
11 conditions, such that a single sustained interruption would be recorded during a
12 catastrophic event, even if service was restored and lost multiple times throughout the
13 event that caused the catastrophic conditions.

14 Q. Why is UPPCO requesting a waiver of Rule 46(2) of the Service Quality and Reliability
15 Standards for Electric Distribution Systems?

16 A. Rule 46(2) requires that after providing a bill credit to a customer following six or more
17 sustained interruptions, UPPCO must reset the counter for that customer to zero to ensure
18 that the customer will receive another such bill credit "only after the occurrence of
19 another 6 interruptions in a 12-month period." UPPCO tracks repetitive service
20 interruptions using a manual process. The company serves approximately 59,000
21 customers, so resetting the service interruption tracking on a customer-specific basis
22 could require the Company to manually monitor up to 59,000 unique trackers. To avoid

1 this resource-intensive and overly burdensome scenario, UPPCO is requesting a limited
2 waiver of the Rule 46(2), so that it can track sustained interruptions by customer over a
3 single 12-month period, reset all customers' counters at the end of the 12-month period,
4 and award multiple credits to a customer who experiences more than six sustained
5 interruptions during the single 12-month period.

6 Q. Are you sponsoring any Exhibits in this proceeding?

7 A. Yes. I am sponsoring the following Exhibits, which were either prepared by me or under
8 my direct supervision:

9 Exhibit No. A-1 (JRR-1), GIS map to 12500 County Rd CF, Ely Township

10 Exhibit No. A-2 (JRR-2), Photo from May Day Storm

11 Exhibit No. A-3 (JRR-3), Photo from May Day Storm

12 Exhibit No. A-4 (JRR-4), NWS Weather Almanac May 1-4, 2023

13 Exhibit No. A-5 (JRR-5), OMS Outage Report for 12500 CR-CF

14 Exhibit No. A-6 (JRR-6), AMI Outage Report for 12500 CR-CF

15 Exhibit No. A-7 (JRR-7), GIS map to 19089 County Rd CL, Ely Township

16 Exhibit No. A-8 (JRR-8), OMS Outage Report for 19089 County Rd CL

17 Exhibit No. A-9 (JRR-9), AMI Outage Report for 19089 County Rd CL

18 **Distribution System Conditions**

19 Q. Please provide an overview of UPPCO's distribution system conditions.

20 A. UPPCO serves approximately 59,000 meters with a service territory of approximately
21 4,500 square miles in 10 of the 15 counties in the Upper Peninsula. UPPCO's distribution
22 system includes approximately 4,500 line-miles of overhead and underground conductor

1 routed primarily in non-urban areas. Much of UPPCO's rural distribution system is
2 routed off the road right-of-way, along lakes, and in cross-country areas that are difficult
3 to access. The result is approximately 13 meters per line mile of distribution system over
4 a heavily wooded service territory.

5 **Background**

6 Q. Prior to April 10, 2023, how were repetitive outage credits provided to UPPCO
7 customers?

8 A. Under the previous version of the Service Quality and Reliability Standards, effective
9 2004, a customer that experienced and notified the utility of more than 7 interruptions in
10 a 12-month period due to a same-circuit repetitive interruption was entitled to a billing
11 credit. Since 2014, UPPCO received an average of only 5 requests per year for a
12 repetitive outage credit. UPPCO manually reviewed outage events captured in its Outage
13 Management System ("OMS") to confirm the interruptions the customer reported. This
14 manual review process is time-consuming and resource-intensive but manageable due to
15 the small number requests received annually.

16 Q. Please describe UPPCO's existing OMS.

17 A. UPPCO's existing OMS was provided by a company called Hexagon using the InService
18 software. An outage event is created in OMS when (i) a call is received by a customer
19 reporting a service interruption or, more recently, (ii) via notification by UPPCO's
20 Automated Meter Infrastructure ("AMI") system of a service interruption. The OMS
21 software automatically groups the notifications to predict the outage event location and
22 groups the customers who are predicted to be affected into a single outage event. Crews

1 are then dispatched to the outage location to either (i) confirm the predicted outage
2 location or (ii) perform further patrolling to determine the outage location. The outage
3 location is typically an overcurrent protection (“OCP”) device, such as a fuse or recloser.
4 After the crew locates and clears the source of the fault, the crew restores service to
5 customers downline of the outage location. The crew or the dispatcher then closes the
6 event in OMS. This system works well when there is a single cause of the service
7 interruption, like when a single tree falls on a line.

8 Q. What are “catastrophic conditions” and how do they occur in UPPCO’s service territory?

9 A. Catastrophic conditions are defined in the Service Quality Rules as either of the
10 following: (i) severe weather conditions that result in sustained service interruptions for
11 10% or more of an electric utility's customers or (ii) events of sufficient magnitude that
12 result in issuance of an official state of emergency declaration by the local, state, or
13 federal government. Although rare, catastrophic conditions are most likely to occur
14 during a large storm event. Catastrophic conditions will occur when snow and/or wind
15 from the large storm event creates numerous faults on the distribution system due to
16 wires slapping, broken poles, wires down, and trees falling. For UPPCO, wet, heavy
17 snows occurring around 30° are very damaging to the system. As mentioned previously,
18 UPPCO serves very rural areas with long distribution circuits, which inherently results in
19 more susceptibility to weather and tree-related events. Longer lines are protected by
20 several layers of overcurrent protection devices, such as multiple fuse and recloser
21 locations.

22 Q. How does OMS function during catastrophic conditions?

1 A. During these conditions, OMS cannot determine if there are multiple outage causes
2 affecting a single group of customers. For example, if a tree falls on the mainline, OMS
3 predicts the nearest upstream OCP device is open. However, if another tree falls on a tap
4 line off of that mainline, those customers' service will continue to be interrupted, even
5 after the mainline is restored. Additional outage notifications will then be created for the
6 customers whose service continues to be interrupted. OMS will then create additional
7 outage events for those same service interruptions, etc. This situation is further
8 exaggerated during large storm events because different groups of customers can be
9 affected by common upline causes and/or causes very close to the customer up to their
10 service line. Due to the random nature of outage causes during catastrophic conditions,
11 OMS can sometimes create numerous outage events which overlap each other and which
12 overlap various groups of customers – while from the customer's perspective, only a
13 single outage event is being experienced.

14 Q. Please provide an example of how a single customer can be served by multiple OCP
15 devices.

16 A. Please refer to Exhibit A-1, which is a GIS map of UPPCO's distribution system to a
17 customer located at 12500 County Rd CF in Ely Township, which is approximately 15
18 miles from the Barnum Substation located in the City of Ishpeming. This customer is
19 protected by the substation reclosure, a 125A mainline fuse, two sets of 3-phase line
20 reclosures, and a 40A tap fuse as well as the service transformer fuse -- a total of 6 OCP
21 devices. In addition, switches are located along the line where crews can manually open
22 the distribution system to create smaller areas to patrol and restore power to groups of
23 customers.

1 Q. How does UPPCO use OMS to determine repetitive outage credits?

2 A. UPPCO must track the number of “sustained interruptions” for each customer to comply
3 with the Service Quality Rules. To do this, UPPCO commissioned the OMS software
4 provider, Hexagon, to develop a tool within its reporting portal, which queries OMS data
5 to provide a list of customers experiencing multiple sustained interruptions over a given
6 period of time. This tool was finalized in January 2023. This is useful for tracking
7 sustained interruptions per customer, but the software cannot distinguish between outage
8 reports generated for the same customer due to multiple outage causes during
9 catastrophic conditions. Therefore, OMS may overreport the number of sustained
10 interruptions per customer during catastrophic conditions.

11 Q. Is it possible to confirm the accuracy (or inaccuracy) of the OMS repetitive sustained
12 interruption data?

13 A. Yes, UPPCO recently implemented an Automated Meter Infrastructure (“AMI”) system.
14 AMI meters capture both momentary and sustained interruption information as detected
15 by the meter. This data can be used to confirm OMS sustained interruption data on a
16 meter-by-meter basis. This confirmation, however, is resource-intensive and overly
17 burdensome because to obtain accurate sustained interruption event data, an UPPCO
18 Meter Technician must manually download the data from each individual meter.

19 Q. How does AMI sustained interruption data differ from OMS data?

20 A. The AMI meter only captures sustained interruptions occurring at the meter. AMI cannot
21 provide the cause of the interruption, nor can it provide the location of the device that

1 created the outage event. AMI data only provides the date and time a service interruption
2 was detected and the date and time power was restored for that one meter.

3 Q. Has UPPCO used AMI data to confirm the accuracy or inaccuracy of OMS repetitive
4 outage data?

5 A. Yes. Through a recent analysis of repetitive outage data from OMS, UPPCO has been
6 able to use AMI meter data to confirm OMS outages on a limited basis.

7 Q. What were the results?

8 A. In general, there is very good correlation between OMS and AMI data. However, during
9 catastrophic conditions, a direct one-for-one relationship cannot be determined between
10 OMS data and AMI data due to the nature of how OMS creates events, which sometimes
11 results in overlapping events due to numerous outage cause locations during major storm
12 restorations.

13 Q. Please describe the most recent catastrophic conditions experienced by UPPCO.

14 A. The most recent storm to result in catastrophic conditions at UPPCO began on April 30,
15 2023, with restoration to the last customers on May 4. UPPCO calls this event the “May
16 Day Storm.” The May Day Storm affected 23,359, or nearly 40%, of UPPCO’s
17 customers. The extreme weather conditions consisted of heavy snow and high winds.
18 Refer to Exhibits A-2 and A-3, photos from the May Day Storm, which indicate the depth
19 of snow and a broken pole, as well as an impassible road due to a tree falling on the
20 distribution line from the other side of the road. Refer also to Exhibit A-4 from the
21 National Weather Service, indicating 20 inches of snowfall on May 1 and another 6

1 inches on May 2, 2023, in Marquette County occurring at a temperature near 32°F. See
2 <https://www.weather.gov/wrh/Climate?wfo=mqt>.

3 Q. Can you provide an example of OMS outage data compared to AMI sustained
4 interruption data during catastrophic conditions?

5 A. Yes, please refer to the aforementioned Exhibit A-1 for a customer located at 12500
6 County Rd CF and Exhibit A-5, OMS Customer Outages Report. Based on OMS portal
7 data, it appears this customer experienced 8 separate outage events during the May Day
8 Storm. While the AMI Customer Outages Report in Exhibit A-6 indicates only one
9 sustained interruption from May 1 to May 3. Please note the start time of the first OMS
10 event and the restore time of the last OMS event correlate very well with the AMI Power
11 Outage Detected and Power Restoration Detected times on May 1 and May 3,
12 respectively.

13 Q. Can you provide another example comparison of OMS outage data to AMI data under
14 catastrophic conditions?

15 A. Yes, please refer to Exhibits A-7, A-8, and A-9 for a customer located at 19089 County
16 Rd CL in Ely Township. OMS indicates this customer experienced 5 separate outage
17 events May 1-4; however, AMI data indicates this customer meter only experienced 3
18 sustained interruptions with two periods of restoration of 5½ and 7 hours each on May 1
19 and May 2, respectively. UPPCO feels that the customers along County Rd CL preferred
20 these limited power restorations rather than one 75½-hour long-sustained interruption.

1 Q. Please explain why UPPCO is requesting permanent waiver of Rule 46(1) to count
2 multiple outage events created in OMS during catastrophic conditions as a single
3 sustained interruption for the purpose of Rule 46(1).

4 A. As mentioned earlier, catastrophic conditions are due to an unusual, infrequent, and
5 significant weather event, which is so severe that at least 10% of utilities customers
6 experience sustained outages, and therefore should be counted as THE singular
7 contributing cause of all sustained interruptions during the catastrophic event.

8 UPPCO's service territory is extremely rural with long circuits that are exposed to
9 significant tree cover, ice, and snow which inherently result in more potential outages
10 along those lines during catastrophic conditions.

11 Additionally, SQR Rule 44(1) states that a sustained interruptions during catastrophic
12 conditions may extend for up to four days as the Rule requires a customer bill credit for
13 sustained interruptions lasting longer than 96 hours under catastrophic conditions.

14 UPPCO makes every attempt to restore customers as soon as possible, including calling-
15 in outside crews using mutual aid procedures. Restoration during catastrophic conditions
16 are the most hazardous conditions to UPPCO employees due to heavy snow and ice on
17 roadways, impassable roads and driveways due to downed trees, downed wires, visibility
18 issues, chain saw use, wet clothing and gloves, etc. UPPCO understands that customers
19 who experience multiple sustained interruptions during catastrophic conditions prefer
20 periods of service restoration versus a single long-duration outage because these periods
21 of service restoration can allow the affected customer to heat or cool a home, charge cell
22 phones, allow well pumps to refresh water supplies, cook food, cool refrigerators and

1 freezers, operate sump pumps, etc. UPPCO should not be penalized for attempting to
2 restore service before the storm clears, and UPPCO does not hold our crews back from
3 restoring service to avoid repetitive sustained interruption counts, as such a practice
4 would be contradictory to standard outage restoration procedures.

5 **Sustained Interruption Counter**

6 Q. Please describe why UPPCO is requesting a temporary waiver of Service Quality Rule
7 46(2), which would allow the Company to reset the customer sustained interruption
8 counter on January 1 each year.

9 A. As mentioned previously, UPPCO uses a manual process to confirm sustained
10 interruptions. The examples provided above demonstrate that data within OMS can be
11 inaccurate during catastrophic conditions. With 59,000 meters, UPPCO could
12 theoretically have 59,000 different sustained interruption counters.

13 UPPCO proposes resetting the sustained interruption counters for all customers to zero on
14 January 1st each year with the provision of a prorated credit to customers who experience
15 more than 6 outages over the calendar year.

16 UPPCO would monitor and confirm sustained interruptions on a monthly basis and
17 provide the credit as required by the Service Quality Rules for customers who experience
18 6 sustained interruptions. Any customers experiencing additional sustained interruptions
19 prior to January 1 of the next calendar year, would receive another pro-rated credit based
20 on the number of additional outages above 6. For example, if a customer experienced 6
21 outages from January 1 through June 30, UPPCO would credit the customer's account
22 with the credit required by Rule 46(1). If that customer then experienced 3 more

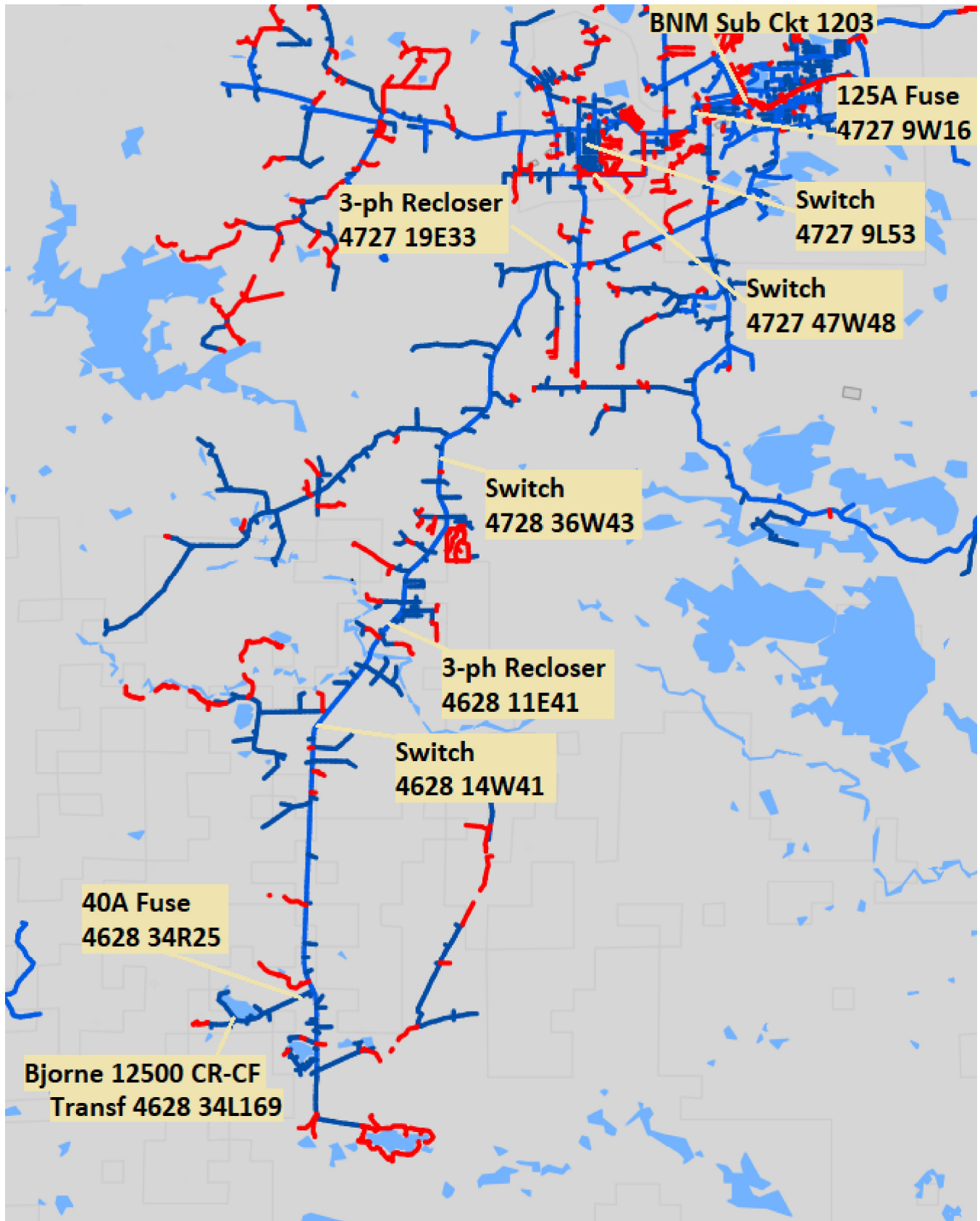
1 sustained interruptions during the remainder of the calendar year, then UPPCO would
2 credit the account with an additional 3/6 of the credit required by Rule 46(1). In other
3 words, the customer who had already received a credit due to six sustained interruptions
4 would be entitled to an additional 1/6 credit for each additional sustained interruption for
5 the remainder of the calendar year.

6 Q. Please describe the advantages or disadvantages to customers of UPPCO's proposal
7 versus the counter required by Rule 46(2).

8 A. Customers who experience five or fewer sustained interruptions in the 12 months of a
9 given calendar year would not receive a credit, and their sustained outage calendar would
10 be reset to zero on January 1 of the following year. Conversely, customers who
11 experience a significant number of sustained interruptions would likely receive more
12 credits or portions of credits under UPPCO's proposal. UPPCO believes that its proposal
13 will properly incentivize the utility to address areas that are experiencing numerous
14 sustained interruptions of service over a shorter period of time, while focusing the
15 providing of credits to those customers who experience the most sustained interruptions
16 over the same period.

17 Q. Does this complete your direct testimony in this proceeding?

18 A. Yes.







NOWData - NOAA Online Weather Data

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Climatological Data for Marquette County Area, MI (ThreadEx) - May 2023

[Click column heading to sort ascending](#), [click again to sort descending](#).

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2023-05-01	33	31	32.0	-12.1	33	0	2.98	19.8	7
2023-05-02	34	30	32.0	-12.5	33	0	0.86	6.4	20
2023-05-03	47	31	39.0	-6.0	26	0	0.00	0.0	19
2023-05-04	56	34	45.0	-0.5	20	0	0.02	0.0	13

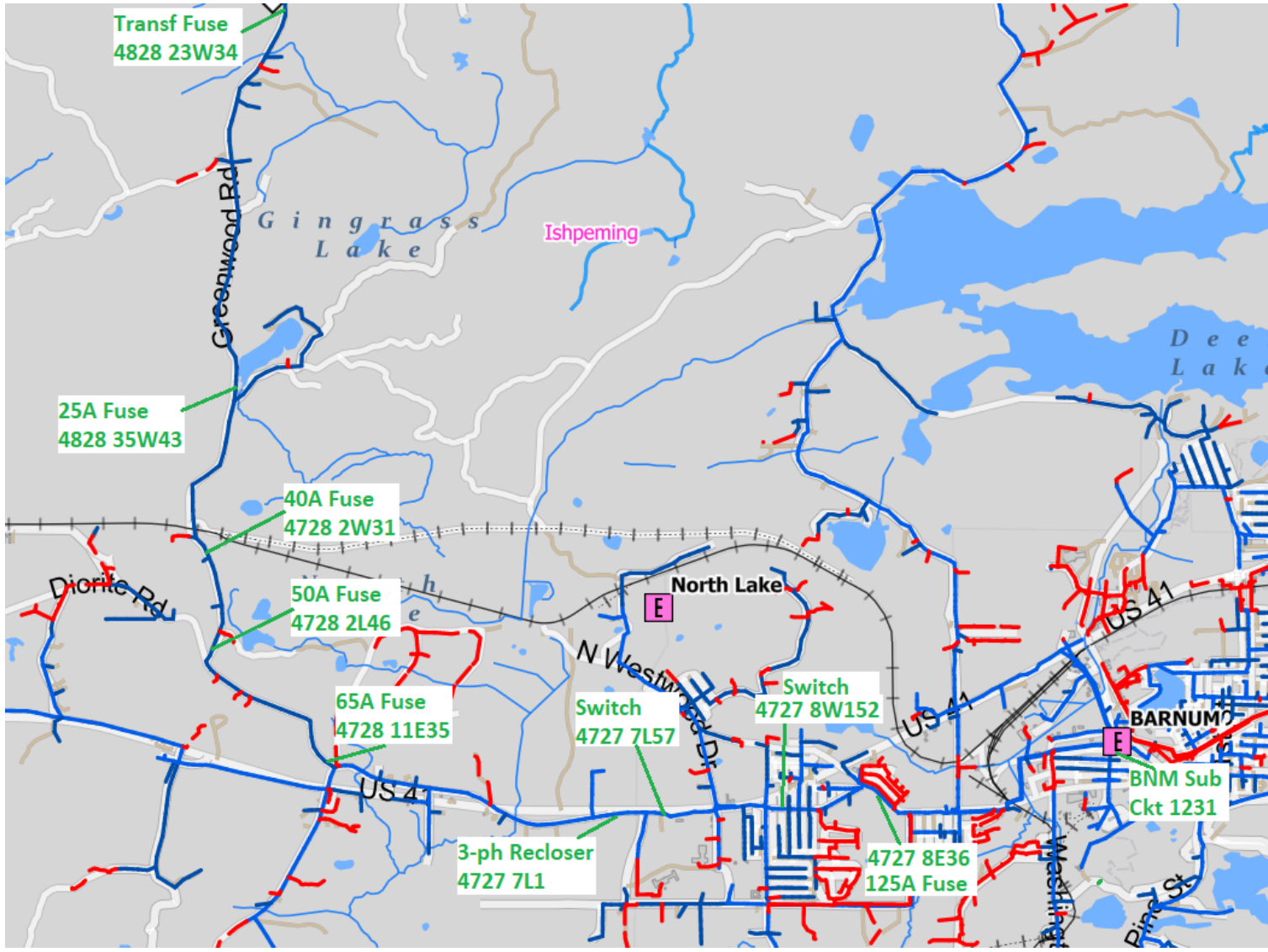
OMS Data for Customer located at 12500 County Rd CF, Ely Township

Event Numb...	Step	Event Type	Feeder	Device Name	Cause Code	Cause Description	Customers Out	Duration (Mins)	Off Time	Restore Time
I23050100060	1	FUSE	1203	4727 9W16-W	900	Unknown	1,069	139	May 1 2023 5:23AM	May 1 2023 7:43AM
I23050100060	2	FUSE	1203	4727 9W16-W	900	Unknown	40	140	May 1 2023 5:23AM	May 1 2023 7:43AM
I23050100109	1	DISCONNECT	1203	4727 9L53-S	102	Tree in ROW_Snow/Ice	132	161	May 1 2023 5:23AM	May 1 2023 8:21AM
I23050100109	2	DISCONNECT	1203	4727 9L53-S	102	Tree in ROW_Snow/Ice	937	179	May 1 2023 5:23AM	May 1 2023 8:21AM
I23050100135	1	RECLOSER	1203	4727 19E33	201	Weather_Snow/Ice	581	271	May 1 2023 8:24AM	May 1 2023 12:56PM
I23050100135	2	RECLOSER	1203	4727 19E33	201	Weather_Snow/Ice	102	272	May 1 2023 8:24AM	May 1 2023 12:56PM
I23050100245	1	DISCONNECT	1203	4728 36W43-S	201	Weather_Snow/Ice	581	757	May 1 2023 8:24AM	May 1 2023 9:01PM
I23050200086	1	FUSE	1203	4727 9W16-W	112	Tree outside ROW_Snow/Ice	880	141	May 2 2023 4:54AM	May 2 2023 7:18AM
I23050200086	2	FUSE	1203	4727 9W16-W	112	Tree outside ROW_Snow/Ice	210	144	May 2 2023 4:54AM	May 2 2023 7:18AM
I23050200096	1	DISCONNECT	1203	4727 17W48-W	201	Weather_Snow/Ice	291	988	May 1 2023 4:13PM	May 2 2023 8:42AM
I23050200096	2	DISCONNECT	1203	4727 17W48-W	201	Weather_Snow/Ice	589	989	May 1 2023 4:13PM	May 2 2023 8:42AM
I23050200102	1	DISCONNECT	1203	4628 11E39-N	102	Tree in ROW_Snow/Ice	291	870	May 1 2023 9:41PM	May 2 2023 12:11PM
I23050300024	1	FUSE	1203	4628 34R25-W	111	Tree outside ROW_Wind	45	1,511	May 2 2023 8:10PM	May 3 2023 9:21PM

AMI Data for Customer located at 12500 County Rd CF, Ely Township

Itron EE		Event By Meter		
Meter ID:	70046205			
Total Event Occurrences:	6			
Meter:	70046205			
Service Point ID:	5054667			
Event Category:	Outage Management			
Event Time	Event Type	Event Code	Event Description	
05/01/2023 05:20:25	Alarm	18696	Power Outage Detected	
05/03/2023 20:55:21	Alarm	18706	Power Restoration Detected	
07/10/2023 17:39:36	Alarm	18696	Power Outage Detected	
07/10/2023 17:39:44	Alarm	18706	Power Restoration Detected	
07/27/2023 20:42:45	Alarm	18696	Power Outage Detected	
07/27/2023 20:42:50	Alarm	18706	Power Restoration Detected	

GIS Map for Customer located at 19089 County Rd CL, Ely Township



OMS Data for Customer located at 19089 County Rd CL, Ely Township

← PremiseMeter 603039870046287

📄 Export to Excel

Event Number...	Step	Event Type	Feeder	Device Name	Cause Code	Cause Description	Customers Out	Duration (Mins)	Off Time	Restore Time
I23010500002	1	FUSE	1231	4828 35W43-N	201	Weather_Snow/Ice	48	321	Jan 5 2023 4:17AM	Jan 5 2023 9:38AM
I23040500019	1	RECLOSER	1231	4727 7L1	201	Weather_Snow/Ice	424	137	Apr 5 2023 12:44AM	Apr 5 2023 3:01AM
I23041600020	1	FUSE	1231	4727 8E36-N	101	Tree in ROW_Wind	1,135	160	Apr 16 2023 10:03AM	Apr 16 2023 12:44PM
I23041600022	1	DISCONNECT	1231	4727 8W152-E	430	Dist Equip Failure Insulator	727	242	Apr 16 2023 10:03AM	Apr 16 2023 2:05PM
I23050100235	1	RECLOSER	1231	4727 7L1	111	Tree outside ROW_Wind	424	140	May 1 2023 12:02PM	May 1 2023 2:22PM
I23050100344	1	RECLOSER	1231	4727 7L1	112	Tree outside ROW_Snow/Ice	30	522	May 1 2023 3:17PM	May 2 2023 1:27AM
I23050100344	2	RECLOSER	1231	4727 7L1	112	Tree outside ROW_Snow/Ice	394	610	May 1 2023 3:17PM	May 2 2023 1:27AM
I23050200221	1	RECLOSER	1231	4727 7L1	111	Tree outside ROW_Wind	300	1,014	May 2 2023 2:06AM	May 2 2023 7:00PM
I23050200221	2	RECLOSER	1231	4727 7L1	111	Tree outside ROW_Wind	73	165	May 2 2023 2:06AM	May 2 2023 7:00PM
I23050200221	3	RECLOSER	1231	4727 7L1	111	Tree outside ROW_Wind	20	165	May 2 2023 2:06AM	May 2 2023 7:00PM
I23050200221	4	RECLOSER	1231	4727 7L1	111	Tree outside ROW_Wind	1	164	May 2 2023 2:06AM	May 2 2023 7:00PM
I23050300002	1	FUSE	1231	4828 35W43-N	111	Tree outside ROW_Wind	48	967	May 3 2023 2:05AM	May 3 2023 6:12PM
I23050400017	1	XFMR_DIST_OH	1231	4828 23W34	201	Weather_Snow/Ice	2	216	May 4 2023 1:12PM	May 4 2023 4:48PM
I23060100008	1	FUSE	1231	4828 35W43-N	620	Animal_Squirrel	47	86	Jun 1 2023 10:12AM	Jun 1 2023 11:38AM
I23070500004	1	FUSE	1231	4828 35W43-N	900	Unknown	47	70	Jul 5 2023 1:20PM	Jul 5 2023 2:29PM
I23072700014	1	FUSE	1231	4828 35W43-N	111	Tree outside ROW_Wind	46	164	Jul 27 2023 8:56PM	Jul 27 2023 11:41PM

AMI Data for Customer located at 19089 County Rd CL, Ely Township

Time	Event
5/1/2023 11:59:07 AM	Power Outage Detected
5/1/2023 11:59:17 AM	Power Restoration Detected
5/1/2023 12:18:23 PM	Power Outage Detected
5/1/2023 1:46:01 PM	Power Restoration Detected
5/1/2023 7:14:44 PM	Power Outage Detected
5/2/2023 6:55:06 PM	Power Restoration Detected
5/3/2023 2:01:55 AM	Power Outage Detected
5/4/2023 4:38:38 PM	Power Restoration Detected