

STATE OF MICHIGAN  
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of	)	
<b>CONSUMERS ENERGY COMPANY</b>	)	
for approval of a waiver of Rule 460.2351,	)	Case No. U-20945
an alternative statistical quality sampling	)	
program under Rule 460.2351a, and an	)	
API Standard 1164 implementation process	)	
under Rule 460.2345.	)	
_____	)	

At the March 19, 2021 meeting of the Michigan Public Service Commission in Lansing,  
Michigan.

PRESENT: Hon. Daniel C. Scripps, Chair  
Hon. Tremaine L. Phillips, Commissioner  
Hon. Katherine L. Peretick, Commissioner

**ORDER**

On December 22, 2020, Consumers Energy Company (Consumers) filed an application, with supporting attachments, seeking an *ex parte* waiver of the meter testing requirements in Mich Admin Code, R 460.2351 (Rule 51), approval of an alternative statistical quality sampling program under Mich Admin Code, R 460.2351a (Rule 51a), and approval of a proposed process for implementing American Petroleum Institute Standard 1164 (API 1164) under Mich Admin Code, R 460.2345 (Rule 45), all of which are a part of the Commission's Technical Standards for Gas Service.

Rules 51 and 51a govern the testing of natural gas meters. Rule 51 requires that all meters removed from service must be inspected and tested and that periodic tests of meters, associated

devices, and instruments be conducted in accordance with that rule unless otherwise authorized by the Commission. *See*, Rule 51(b) and (e). With Commission approval, a utility may implement the statistical sampling and quality control of in-service natural gas diaphragm meters contained in Rule 51a as an alternative to the meter testing requirements in Rule 51. *See*, Rule 51a(1). Rule 51a permits certain American National Standards Institute (ANSI) statistical quality control testing, but also provides for the use of an alternative statistical quality sampling program if approved by the Commission. *See*, Rule 51a(2) and (3). The Commission may also waive requirements of the Technical Standards for Gas Service where the Commission “determines the waiver will further the effective and efficient administration of these rules and is in the public interest.” Mich Admin Code, R 460.2302(5).

In its application, Consumers indicates that it obtained a waiver of R 460.2352 and approval of an alternative natural gas diaphragm meter testing procedure in Case Nos. U-17668 and U-20626, with the waiver and approval most recently approved through December 31, 2022. After the Commission’s most recent approval in Case No. U-20626, the Commission formally adopted the revised Technical Standards for Gas Service in the August 20, 2020 order in Case No. U-20608. Among other things, the revised Technical Standards for Gas Service amended Rule 51, rescinded Rule 52, and adopted the new Rule 51a. To ensure that the previously approved alternative testing procedures for diaphragm meters remain in effect, Consumers requests that the Commission waive Rule 51(b) through December 31, 2022, and approve the alternative testing procedures for diaphragm meters as an authorized alternative testing procedure under Rule 51a(3).

Consumers’ application explains that the requested natural gas diaphragm meter testing procedures, as provided in Attachment 1 to Consumers’ December 22, 2020 application, will utilize meter lots that group meters according to specific characteristics such as type, make, size,

purchase year, or other similar characteristics. On an annual basis, Consumers will determine lot sample test quantities based on ANSI/American Society for Quality (ASQ) Z1.9 table A-2, with the exception of smaller lots of meters where sampling will be conducted at a higher quantity than required by table A-2, ANSI/ASQ Z1.9. After these meters are removed from service, Consumers will use a point system to determine the average test points for each meter lot. In addition to these testing procedures, Consumers will also designate certain meter lots as obsolete due to accuracy issues, defect issues, age, and functional obsolescence and retire those meters from service. Consumers' proposed alternative meter testing procedure differs from the ANSI/ASQ Z1.9 tables in that the company's methodology accelerates the removal of obsolete meters by requiring 10% of meters to be removed from lots deemed obsolete rather than removing the minimum number of meters, which reduces the time for elimination of obsolete meters from 50 years to 10 years.

Consumers states that its proposed meter testing procedure will allow the company to efficiently test meters while maintaining the testing accuracy achieved by the Rule 51a(2) statistical testing requirements and will allow it to efficiently identify poorer performing lots of meters for the purposes of removing those meters from service at an accelerated rate. Consumers indicates that the requested meter-testing approach will reduce the cost and time burdens associated with the Rule 51(b) meter testing requirements by eliminating the testing of obsolete meters that will be retired from service. Any lot of obsolete meters that has more than 10% of the meters test with an accuracy greater than 102% will have 100% of removed meters tested. This will allow Consumers to focus efforts on those meters performing most poorly in accordance with the proposed testing procedures. Consumers indicates that its proposed meter testing procedures are at least as effective as the standards listed in Rule 51a(2) because the methodology results in a higher quantity of sampling for smaller lots of meters, the accelerated removal of obsolete meters,

and the testing of all meters deemed obsolete where sample testing indicates that such testing is warranted.

Consumers will continue to file annual reports no later than March 1 of each year that address: (1) the meters that have been tested during the preceding calendar year; (2) the test plan for the preceding year, including actual quantities removed and tested during that year; and (3) the proposed test plan for the subsequent calendar year.

The revised Technical Standards for Gas Service also contain a new requirement in Rule 45 that states: “Unless otherwise approved by the commission, all utilities utilizing supervisory control and data acquisition systems shall implement API Standard 1164 Ed. 2 (2009/R2016), as adopted by reference in R 460.2344.” Consumers states that API 1164 seeks to provide a means to improve the security of the pipeline supervisory control and data acquisition (SCADA) operation. The standard is robust, with 198 individual controls to implement at each location with natural gas SCADA systems, such as natural gas compression stations. API 1164 recognizes that implementation of the standard is a “continuous process” that “could take years to implement correctly depending on the complexity of the SCADA system.”

Consumers indicates that it intends to implement API 1164 as part of its SCADA system technology modernization. The standard will require time to implement, particularly because Consumers’ ability to perform these types of technology and process changes is limited during the winter months. Consumers expects to be able to perform the testing, make the upgrades, and complete the construction necessary to implement API 1164 by December 31, 2023. Because the company is working toward implementation of API 1164, Consumers believes it is complying with the requirement in Rule 45 to implement API 1164. In the alternative, Consumers seeks Commission approval of the company’s plan to work toward implementing API 1164 by

December 31, 2023, to allow Consumers to continue to work toward the efficient implementation of API 1164 without rushing into changes that could have an adverse impact on system operations.

In order to implement Consumers' proposed natural gas diaphragm meter testing procedures and API 1164, Consumers requests that the Commission approve its proposed amendment to Section B, Parts 4, 5, and 6, as set forth in Attachment 2 to the December 22, 2020 application filed in this docket.

The Commission, having considered Consumers' application, finds the company's requested relief reasonable and in the public interest and will further the effective and efficient administration of the Commission's rules. The Commission finds that the requested relief will permit the company to continue to test and exchange its natural gas diaphragm meters and implement API 1164 in an efficient manner. The Commission further finds that, because granting the requested relief will not affect rates or rate schedules resulting in an increase in the cost of service to customers, *ex parte* approval is appropriate pursuant to MCL 460.6a(3).

THEREFORE, IT IS ORDERED that:

A. Consumers Energy Company's request for a waiver of the requirement in Mich Admin Code, R 460.2351(b) to test all meters removed from service for obsolescence through December 31, 2022, is approved.

B. Consumers Energy Company is authorized to implement its proposed natural gas diaphragm meter testing procedures, as provided in Exhibit A to this order, as an alternative statistical quality sampling program.

C. Consumers Energy Company shall file annual reports no later than March 1 of each year as described in Exhibit A to this order.

D. Consumers Energy Company is authorized to work toward implementing American Petroleum Institute Standard 1164 by December 31, 2023.

E. Consumers Energy Company's request to amend Section B, Parts 4, 5, and 6 of the company's Rate Book for Natural Gas Service, attached as Exhibit B to this order, is approved.

F. Within 30 days of the date of this order, Consumers Energy Company shall file, with the Commission, revised tariffs substantially similar to those contained in Exhibit B of this order.

The Commission reserves jurisdiction and may issue further orders as necessary.

Any party desiring to appeal this order must do so in the appropriate court within 30 days after issuance and notice of this order, pursuant to MCL 462.26. To comply with the Michigan Rules of Court's requirement to notify the Commission of an appeal, appellants shall send required notices to both the Commission's Executive Secretary and to the Commission's Legal Counsel.

Electronic notifications should be sent to the Executive Secretary at [mpscedockets@michigan.gov](mailto:mpscedockets@michigan.gov) and to the Michigan Department of the Attorney General - Public Service Division at [pungpl@michigan.gov](mailto:pungpl@michigan.gov). In lieu of electronic submissions, paper copies of such notifications may be sent to the Executive Secretary and the Attorney General - Public Service Division at 7109 W. Saginaw Hwy., Lansing, MI 48917.

MICHIGAN PUBLIC SERVICE COMMISSION

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Daniel C. Scripps, Chair

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Tremaine L. Phillips, Commissioner

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Katherine L. Peretick, Commissioner

By its action of March 19, 2021.

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Lisa Felice, Executive Secretary

**Consumers Energy  
Natural Gas Diaphragm Meter Testing Procedures**

**Meter Lots**

“Lot” means a group of meters as assigned by the utility according to specified meter characteristics, such as type, make, size, purchase year, or other similar characteristics. All Diaphragm meters will belong to one and only one lot, and will remain in that group until the meter is retired. Lots may be created using different combinations of characteristics within the meter population such as:

- Lot 1 example - All meters regardless of manufacturer or model with a capacity of 500 cubic feet per hour or less purchased prior to 1970
- Lot 2 example - All American 175 meters purchased between 1980 and 1989
- Lot 3 example - All Itron 250RMM meters purchased in 1999
- Lot 4 example – Specific serial number range
- Lot 5 example - All meters between 501 cubic feet and 1000 cubic feet purchased between 2000 and 2010

**Meter Testing**

On an annual basis, sample test quantities will be determined based on ANSI/ASQC Z1.9 table A-2, except for lots of smaller quantity which will be sampled at a higher quantity than required by the standard. In addition, for the duration of the Advanced Metering Infrastructure (“AMI”) and Automated Meter Reading (“AMR”) project deployments, the exchange and testing requirements for lots in which meters reside that are incompatible with an AMI/AMR Gas Communication Module, will comprise the entire removal and testing requirement for those lots, independent of ANSI/ASQC Z1.9 table A-2. Sample quantities required per lot will be as follows:

- Lot size 50 -1,000 - test 50
- Lot size 1,001-10,000 - test 75
- Lot size 10,000 – 75,000 – test 150

If a lot is smaller than 50 meters and over 10 years old the utility will remove and retire all meters from the lot. Lots will not exceed 75,000 meters.

All meters removed from service from each lot, independent of the reason for removal (i.e. for-cause, companion work order, other CE program etc.), may be utilized to meet the required sample quantities.

Non-registering meters or meters damaged affecting accuracy shall not apply to the sample results.



A meter or an associated metering device, or both, shall be tested after it is removed from service unless it is deemed obsolete. Meters removed from service in excess of the required samples for the lot, due to functional obsolescence, will be retired unless they are returned to service after testing.

A meter test will consist of the following:

- **Open Accuracy test** requires testing the meters at 80% - 100% capacity
- **Check Accuracy test** requires testing the meter at 20% - 35% capacity

The “overall average accuracy” result is calculated as the result of the open accuracy test plus the result of the check accuracy test divided by two. This value will be used to determine a point value for the test.

A “normal” test is one for which the overall average accuracy falls within the acceptable meter accuracy range between 98% and 102%.

“Point value” for a meter, is the numerical equivalent of the accuracy variance from normal, with 1 test point equal to a 1% variance. For example, meter accuracy that is between 104.1% and 105.0% or between 95.0% and 95.9% accurate on test is assigned 3 test points. All meter test results greater than 110% or less than 90% will be assigned 9 test points.

The “average test points” per meter for each lot is calculated by dividing the total number of test points by the total number of tests (not including stuck meters).

If a meter lot has an average test point value greater than 0.3, one of the following actions will be initiated:

- Double the sample size from the preceding previous year
- After doubling the sampling size, the utility may continue to test the meters at the same sample quantity until satisfactory results are achieved or the lot is deemed obsolete
- The lot is deemed obsolete

If more than 10% of the meters tested in a lot have an overall average accuracy greater than 102.0%, 100% of the meters removed in the subsequent year will be tested and will continue to be 100% tested until the results of the testing returns to a level of less than 10% of the tests being greater than 102.0%.

### Obsolete Meters

As determined by the utility, a lot of meters may be deemed obsolete due to accuracy issues, defect issues, age or functional obsolescence. If a lot of meters is determined to be obsolete,

the lot will be removed from service on a schedule to be determined by the utility. This removal schedule will be provided to the Commission as part of the annual reporting requirement, defined in the reports section below.

If the age of the meters in a lot is 40 years or greater, the lot will be deemed obsolete.

### Annual Reports

Not later than March 1 of each year, utilities shall file the following reports, in an acceptable electronic format, with the commission of meters that have been tested the previous calendar year:

Meters that have been tested during the preceding calendar year summarizing all test point values for each lot showing total quantities for each point value.

The test plan for the preceding year including actual quantities removed and tested during that year will contain the following information:

- Lot Number
- Lot Characteristics (Example: Model, Manufacturer and Purchase Year)
- Lot Status (Obsolete Planned Removes, Obsolete Sample Tests, Double Sample Tests, Normal Sample Tests)
- Quantity Installed as of January 1<sup>st</sup>
- Number of Sample Tests Required for the Previous Year
- Number of Sample Tests Performed
- Previous Year Test Quantity
- Previous Year Total Points
- Average Points Per Meter
- Previous Year Target Quantity for Removal
- Percentage of Total Installed to be Removed
- Actual Quantity of Meters Removed for the Previous year
- Percentage of Total Installed Meters Removed

The proposed test plan for the subsequence calendar year will be submitted with the following information:

- Lot Number
- Lot Characteristics (Example: Model, Manufacturer and Purchase Year)
- Lot Status (Obsolete Planned Removes, Obsolete Sample Tests, Double Sample Tests, Normal Sample Tests)
- Quantity Installed as of January 1<sup>st</sup>
- Sample Tests Required for the Current Year
- Previous Year Test Quantity
- Previous Year Total Points

- Average Points Per Meter
- Current Year Target Quantity for Removal
- Percentage of Total Installed to be Removed

**SECTION B**  
**ADMINISTRATIVE RULES INDEX**

**B1. TECHNICAL STANDARDS FOR GAS SERVICE (R 460.2301 - R 460.2384) (FOR ALL CUSTOMERS)**  
<https://ars.apps.lara.state.mi.us/AdminCode/DownloadAdminCodeFile?FileName=R%20460.2301%20to%20R%20460.2384.pdf>

**PART 1. GENERAL PROVISIONS**

**R 460.2301 Definitions.**

R 460.14001 (revised to R460.20101) et seq. are the Michigan Gas Safety Standards. See Rule B9.

**R 460.2302 Application, intention, and interpretation of rules; utility rules and regulations.**

**PART 2. RECORDS, REPORTS, AND OTHER INFORMATION**

**R 460.2321 Retention of records.**

R 460.2501 et seq. are the Rules Pertaining to Preservation of Records of Electric, Gas and Water Utilities. See Rule B8.

**R 460.2323 Reports and records generally.**

**R 460.2324 Security reporting.**

**PART 3. SERVICE REQUIREMENTS**

**R 460.2331 Sale of gas.**

**R 460.2332 Service line tariffs.**

Refer to the Company's approved Rule C8, Customer Attachment Program.

**R 460.2333 Main extension tariffs.**

Refer to the Company's approved Rule C8, Customer Attachment Program.

**R 460.2335 Interruptions of service.**

R 460.2101 (revised to R 460.101) et seq. are the Consumer Standards and Billing Practices for Electric and Natural Gas Service. R 460.14001 (revised to R 460.20101) et seq. are the Michigan Gas Safety Standards. See Rule B9.

**PART 4. ENGINEERING**

**R 460.2341 Gas facilities; construction and installation.**

**R 460.2342 Rescinded.**

**R 460.2344 Adoption of standards by reference.**

**R 460.2345 Security standards.**

*The Commission granted the Company's proposal to work toward implementing the Rule 45 API Standard 1164 requirements by December 31, 2023 in Case No. U-20945. Refer to the procedures approved in the Commission's order dated XXXX XX, XXXX in Case No. U-20945.*

**PART 5. METERS METERING EQUIPMENT INSPECTIONS AND TESTS**

**R 460.2351 Meters and associated metering devices; inspections; tests; and records.**

The Commission granted the Company a waiver of the Rule 51 meter testing requirements for natural gas rotary meters with capacities of less than 15,000 cubic feet per hour and *for natural gas diaphragm meters* ~~and Rule 52 meter testing requirements for natural gas diaphragm meters in Case No. U-20626~~. Refer to the procedures approved in the Commission's Orders dated May 19, 2020 in Case No. U-20626 *and dated XXXX XX, XXXX in Case No. U-20945* for the testing requirements. Pursuant to the Commission's Orders in Case No. U-20626 *and Case No. U-20945*, the Company's waiver of the Rule 51 testing requirements ~~and Rule 52 meter testing requirements~~ shall terminate on December 31, 2022. ~~The requirements of Rule 52 as approved by Commission Order dated December 18, 1984 in Case No. U-8000 shall be in effect after the termination of the waiver granted by the Commission in Case No. U-20626. After the termination of the Company's Rule 51 and Rule 52 waivers, refer to Rule 51 for rotary meters and Rule 52 in conjunction with diaphragm-type meters.~~ Refer to the Company's approved Rule C6, Metering and Metering Equipment.

**R 460.2351a Statistical quality sampling program for diaphragm-type meters.**

*The Commission granted the Company an alternative statistical quality sampling program applicable to natural gas diaphragm meters proposed in Case No. U-20945. Refer to the procedures approved in the Commission's order dated XXXX XX, XXXX in Case No. U-20945.*

**R 460.2352 Rescinded.**

~~The Commission granted the Company a waiver of the Rule 52 meter testing requirements for natural gas diaphragm meters in Case No. U-20626. Refer to the procedures approved in the Commission's Order dated May 19, 2020 in Case No. U-20626 for the testing requirements of the Company's natural gas diaphragm meters. Pursuant to the Commission's Order in Case No. U-20626, the Company's waiver of the Rule 52 meter testing requirements shall terminate on December 31, 2022. The requirements of Rule 52 as approved by Commission Order dated December 18, 1984 in Case No. U-8000 shall be in effect after the termination of the waiver granted by the Commission in Case No. U-20626. After the termination of the Company's Rule 52 waiver, the following Subrule 7(b) as amended and approved by Commission Order dated December 18, 1984 in Case No. U-8000 applies to the Company: "(7)(b) The number of meters in each meter class tested and found within the norm and within each 1% variance from norm between 90% accuracy and 110% accuracy. Meters that are slower than 90% and faster than 110% shall each be grouped separately."~~

## (Continued From Sheet No. B-1.00)

**B1. TECHNICAL STANDARDS FOR GAS SERVICE (R 460.2301 - R 460.2384) (FOR ALL CUSTOMERS) (Contd)**  
<https://ars.apps.lara.state.mi.us/AdminCode/DownloadAdminCodeFile?FileName=R%20460.2301%20to%20R%20460.2384.pdf>**PART 5. INSPECTION OF METERS (Contd)****R 460.2353** Retirement of meters.**R 460.2354** Accuracy of metering equipment; tests; standards.**R 460.2355** Meter shop; design; meter testing system; standards; handling; calibration cards; calibrated orifices.**PART 6. BILL ADJUSTMENT; METER ACCURACY****R 460.2361** Rescinded.**R 460.2362** Determination of adjustment.**R 460.2363** Refunds.

~~The Company adopted the requirements of Rule 52 as approved by Commission Order dated December 18, 1984 in Case No. U-8000. Pursuant to the Commission's Order in Case No. U-20626, the Company will be considered to have "adopted the requirements of R 460.2352" for the duration of the waiver of the Rule 52 meter testing requirements which was granted in that proceeding.~~

**R 460.2364** Rescinded.

Refer to the Company's approved Rule C5.2I., Meter Error Nonregistering Meter.

**R 460.2365** Consumption data records.**PART 7. SHUTOFF OF SERVICE****R 460.2371** Conditions for establishing gas service; liability; notice and record of inability to establish service; refusal of service to customer using other gaseous fuel; exception; service quality.

Refer to the Company's approved Rule C1.3, Use of Service. Refer to the Consumer Standards and Billing Practices for Electric and Natural Gas Service, R 460.145, Applicability.

**R 460.2373** Shutoff of service.

Refer to the Consumer Standards and Billing Practices for Electric and Gas Residential Service, Rule B2., R 460.136, Emergency Shutoff. Refer to the Company's approved Rule C5.1, Access to Customer's Premises.

**R 460.2374** Rescinded.

Refer to the (1) Consumer Standards and Billing Practices for Electric and Natural Gas Service, Rule B2, R 460.101a, R 460.136, R 460.137, R 460.138, R 460.139, R 460.140, R 460.141, R 460.142, R 460.143, and (2) Company approved Rule C11, Shutoff of Service.

**PART 8. GAS QUALITY****R 460.2381** Gas purity.**R 460.2382** Heating value; authorized variations.**R 460.2383** Heating value records; location and accuracy of measuring equipment; frequency of heating value determination.

(Continued on Sheet No. B-3.00)

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# PROOF OF SERVICE

STATE OF MICHIGAN )

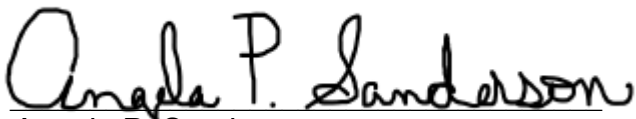
Case No. U-20945

County of Ingham )

Brianna Brown being duly sworn, deposes and says that on March 19, 2021 A.D. she electronically notified the attached list of this **Commission Order via e-mail transmission**, to the persons as shown on the attached service list (Listserv Distribution List).

  
Brianna Brown

Subscribed and sworn to before me  
this 19<sup>th</sup> day of March 2021.



Angela P. Sanderson  
Notary Public, Shiawassee County, Michigan  
As acting in Eaton County  
My Commission Expires: May 21, 2024

**Service List for Case: U-20945**

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Name	Email Address
Consumers Energy Company 1 of 2	mpsc.filings@cmsenergy.com
Consumers Energy Company 2 of 2	michael.torrey@cmsenergy.com
Gary A. Gensch Jr.	gary.genschjr@cmsenergy.com
Michael J. Orris	orrism@michigan.gov
Monica M. Stephens	stephensm11@michigan.gov