September 28 , 2023

VIA ELECTRONIC MAIL

Scott Stacey
Deputy Staff Counsel
Missouri Public Service Commission
scott.stacey@psc.mo.gov

Mr. Marc Poston
Public Counsel
Office of the Public Counsel
marc.poston@opc.mo.gov

RE: Case No. GE-2018-0193 2022 Meter Sampling Test Program Annual Report

Dear Mr. Stacey and Mr. Poston:

Below please find Summit Natural Gas of Missouri, Inc.'s ("SNGMO") Meter Sampling Program Annual Report, pursuant to the *Order Approving Stipulation and Agreement* issued on September 5, 2018, *Order Approving Variance* issued on September 23, 2021, and *Order Approving Variance* issued on March 1, 2023, in Case No. GE-2018-0193.

As required by SNGMO's Meter Sampling Test Program, included as Appendix A to the *Non-Unanimous Stipulation and Agreement* approved in Case No. GE-2018-0193, SNGMO implemented a Meter Sampling Test Program to test in-service American AC-250 gas meters during a four-year test period beginning on January 1, 2019. During the four-year test period, SNGMO is to report its test results for the previous calendar year to Staff and OPC annually. In accordance with the *Order Approving Variance* issued March 1, 2023, this report is to be submitted annually by September 30. Such report is to also include a progress update for the field verification four-year program.

If you have any questions, please contact me at (207)621-8000 ext. 1429.

Sincerely,

/s/David Weeden

David Weeden
Measurement Program Manager

Cc: Helen Ayotte
David Weeden
Micah Edwards
Goldie Bockstruck
Dean Cooper

Summit Natural Gas

SNGMO's 2022 Meter Test Sampling Program Report

Meter lots were identified in SNGMO's system and sample sizes were identified using the tables and charts specified in ANSI / ASQ Z1.4-2003 (R2013) as shown below in Figure 1.

Test Yr 2022	AC-250 Statistical Program		
Year Set	POP	CODE	SAMPLE
1996	1		1
1998	3	A	2
1999	20	C	5
2000	21	C	5
2001	13	B	3
2002	17	C	5
2003	14	B	3
2004	29	D	8
2005	55	E	13
2006	61	E	13
2007	42	D	8
2008	180	G	32
2009	214	G	32
2010	518	J	80
2011	360	H	50
2012	466	H	50
	2014		310

Figure 1

The summary of test results by lot are outlined below in Figure 2.

Test Yr 2022	AC250 Statistical Program			
Year Set	Tests Required	Tests Completed	Tests Failed	Lot Fail Level
1996	1			1
1998	2			1
1999	5	1	0	1
2000	5	5	0	1
2001	3	2	0	1
2002	5	4	0	1
2003	3			1
2004	8	6	1	2
2005	13	13	3	3
2006	13	13	0	3
2007	8	8	0	2
2008	32	7	2	6
2009	32	32	3	6
2010	80	80	10	11
2011	50	50	12	8
2012	50	2	1	8
	310	223	32	

Figure 2

An analysis of the lot test data shows the following:

Based on completed testing for the 2005 and 2011 lots, they are considered failed.

An analysis of the failures in the two lots is shown in Figure 3 below.

AC-250 Statistical Program Lot Failure Analysis				
Test Yr 2022	Manufacture Year			
AC-250	1998	2005	2009	2011
Lot 2005	2	1		
Lot 2011			1	9
Total	2	1	1	9

Figure 3

In the 2005 lot, there is no indication of a particular year of manufacture with excessive failures.

In the 2011 lot, most of the failed meters are manufactured in 2011. This is the first year that this year of manufacture was troublesome. The Company will conduct additional testing in 2024 to determine if the trend of failures for this year of manufacture continues.

In 2022, the Company removed 19 of 78 meters identified in the four (4) year AC-250 meter remediation program and tested 614 meters that were not part of the AC-250 four (4) year sampling plan.

SNGMO's 2023 Meter Test Sampling Program Report

For 2023, SNGMO is conducting a two-part program. Part 1 is an AC-250 Statistical Test program and Part 2 is a program to test other identified meters that are overdue for testing. Pursuant to the Order Approving Variance dated March 1, 2023 in Docket No. GE-2018-0193, SNGMO will test a minimum of 2,600 meters combined for both programs.

The following represents SNGMO's progress as of September 7, 2023:

Part 1: AC-250 Statistical Program

SNGMO identified meter lots and sample sizes were identified using the tables and charts specified in ANSI / ASQ Z1.4-2003 (R2013) as shown in Figure 4.

Test Yr 2023	AC-250		
Year Set	POP	CODE	SAMPLE
1996	2	A	2
1998	7	A	2
1999	48	D	8
2000	38	D	8
2001	41	D	8
2002	25	C	5
2003	32	D	8
2004	139	F	20
2005	54	E	13
2006	52	E	13
2007	41	D	8
2008	54	E	13
2009	118	F	20
2010	393	H	50
2011	463	H	50
2012	367	H	50
2013	2240	K	125
	4114		403

Figure 4

The summary of test results by lot are shown in Figure 5.

Test yr 2023	AC250			
Year Set	Tests Required	Tests Completed	Tests Failed	Lot Fail Level
1996	2	2	0	1
1998	2	2	1	1
1999	8	8	0	2
2000	8	8	0	2
2001	8	8	0	2
2002	5	5	0	1
2003	8	8	0	2
2004	20	20	3	4
2005	13	13	5	3
2006	13	13	2	3
2007	8	8	1	2
2008	13	13	9	3
2009	20	20	1	4
2010	50	50	5	8
2011	50	50	12	8
2012	50	50	7	8
2013	125	125	6	15
	403	403	52	

Figure 5

An analysis of the lot test data shows the following:

Based on completed testing, the 2005, 2008, and 2011 lots are considered failed.

An analysis of the failures in the lots is shown in Figure 6 below.

AC-250 Statistical Program Lot Failure Analysis					
Test yr 2023	Manufacture Year				
AC-250	2000	2004	2005	2008	2011
Lot 2005	2	2	1		
Lot 2008				10	
Lot 2011				1	11
Total	2	2	1	11	11

Figure 6

In the 2005 lot, there is no indication of a particular year of manufacture with excessive failures.

In the 2008 lot, most of the failed meters are manufactured in 2008.

In the 2011 lot, most of the failed meters are manufactured in 2011.

The current analysis of the 2008 lot failures indicates that the majority of the meters with 2008 manufacture dates will be removed as part of the 4-year Remediation program.

The current analysis of the 2011 lot failures indicates that the majority of the meters with 2011 manufacture dates will be removed as part of either the 2024 AC-250 Statistical program or the 2024 Catch Up Program.

The Company will review any remaining meters in the 2008 and 2011 manufacture dates at the end of the 2024 program and develop a plan to remediate any remaining meters.

2023 Program Progress

Missouri Meter Test Program Summary

Description	Part 1: AC-250 Program	Part 2: Catch Up Program			Grand Total
		250 Class	400 Class	>500 Class	
2023 Goal	**403**	**1975**	**90**	**133**	**2601**
YTD Removed	403	2287	82	155	2927
Remain to Remove	**0**	**-312**	**8**	**-22**	**-326**
YTD Tested	403	1631	84	132	2250
Remain to Test	**0**	**344**	**6**	**1**	**351**

2008 Manufacture Date 4 Year Remediation Program			
4 Year Need	78	**2023 Goal**	20
Total Removed	67	**YTD Removed**	30
Total Remaining	**11**	**Goal Remaining**	**-10**

Revised Date: 9/7/2023

Figure 7

Figure 7 represents total program progress as of September 7, 2023.

All meters (403) in the AC-250 Statistical Test program have been tested. Other identified meters (labeled Catch-Up Program) indicates that 2524 meters have been removed and 1847 meters have been tested. This brings the total program to 2927 meters removed and 2250 meters tested. SNGMO will continue to test meters until a minimum of 2,600 meters are tested in 2023. At this time, we do not anticipate any conflicts with reaching our 2023 testing goals.

As identified in previous reports, AC-250 meters with 2008 manufacture dates were entered into a 4-year remediation program that will end in 2024. Year To Date ("YTD") totals are 30 meters removed. Overall, 67 of 78 remediation meters have been removed. Currently, we expect to complete this remediation program on time.

Meter Data Correction Project: As of December 31, 2022, the Company has completed its' review of meter data in our CIS System and corrections have been implemented.