U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Maria Cantwell
Chair
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Chair Cantwell:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

Sections 205(a) and (b) directed the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration to assess the implementation of Pipeline Safety Management Systems (PSMS) by gas distribution operators and provide guidance and recommendations to encourage voluntary implementation of PSMS by gas distribution pipeline operators.

I hope this information is helpful. Should you require further information or assistance, please feel free to call me, or have your staff contact Damon Hill, Deputy Director of Governmental, International, and Public Affairs, by phone at 202-366-4424 or by e-mail at damon.hill@dot.gov.

A similar response has been sent to the Ranking Member of the Senate Committee on Commerce, Science, and Transportation; the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure; and the Chair and Ranking Member of the House Committee on Energy and Commerce.

Sincerely,

Tristan H. Brown
Deputy Administrator

Enclosure

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Ted Cruz
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Ranking Member Cruz:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

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Deputy Administrator

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U.S. Department
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**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Cathy McMorris Rodgers
Chair
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chair McMorris Rodgers:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

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Sincerely,

Tristan H. Brown
Deputy Administrator

Enclosure

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Frank Pallone Jr.
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Ranking Member Pallone:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

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A similar response has been sent to the Chair of the House Committee on Energy and Commerce; the Chair and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure.

Sincerely,

Tristan H. Brown
Deputy Administrator

Enclosure

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Sam Graves
Chairman
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Graves:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

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Sincerely,

Tristan H. Brown

Tristan H. Brown
Deputy Administrator

Enclosure

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 2, 2024

The Honorable Rick Larsen
Ranking Member
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Ranking Member Larsen:

Enclosed please find the report titled Implementation of Safety Management Systems by Gas Distribution Pipeline Operators, in fulfillment of the requirement outlined in sections 205(a) and (b) of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020.

Sections 205(a) and (b) directed the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration to assess the implementation of Pipeline Safety Management Systems (PSMS) by gas distribution operators and provide guidance and recommendations to encourage voluntary implementation of PSMS by gas distribution pipeline operators.

I hope this information is helpful. Should you require further information or assistance, please feel free to call me or have your staff contact Damon Hill, Deputy Director of Governmental, International, and Public Affairs, by phone at 202-366-4424 or by e-mail at damon.hill@dot.gov.

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Sincerely,

Tristan H. Brown

Tristan H. Brown
Deputy Administrator

Enclosure

U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

Report to Congress:

Implementation of Safety Management Systems by Gas Distribution Pipeline Operators

Contents

1. Executive Summary

The U.S. Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) submits this report to Congress regarding Pipeline Safety Management Systems (PSMS). This report, titled "Implementation of Safety Management Systems by Gas Distribution Pipeline Operators" (Report), is submitted as required by section 205 of the Leonel Rondon Pipeline Safety Act, part of the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2020 (Pub. L. 116-260) (the Act).[1]

As directed in section 205(a), the Report describes the:

1) The number of operators of natural gas distribution systems who have implemented a PSMS in accordance with the American Petroleum Institute (API) Recommended Practice (RP) 1173, "Pipeline Safety Management System Requirements";[2]
2) The progress made by operators of natural gas distribution systems who have implemented, or are in the process of implementing, a PSMS; and
3) The feasibility of an operator of a natural gas distribution system implementing a PSMS based on the size of the operator as measured by the following:
    (A) Number of customers the operator has; and
    (B) Amount of natural gas the operator transports.

Additionally, in accordance with section 205(b) of the Act, the report provides guidance and recommendations that would further the implementation of safety management systems in accordance with API RP 1173.

Based on information gathered via a voluntary information collection from gas distribution pipeline operators, PHMSA determined that commitment to implementing a safety management system generally tracks with the size of operators—i.e., the larger the operator, the higher the likelihood of PSMS implementation. Smaller operators do not represent the majority of gas distribution mileage, but they do represent the majority of operators. In addition, there is a clear trend for larger operators' PSMS efforts to be reported as "on-track," but more than half of the smallest category of operators reported that their PSMS efforts are "stalled."

Based on the information collection results, PHMSA estimates that gas distribution operators with fewer than 6,000 customers and 1.3 billion cubic feet (BCF) of gas transported have less than a 50 percent likelihood of implementing a safety management system at this time.[3]

One potential means to increase PSMS implementation by smaller gas distribution operators is for a "scaled" PSMS approach that reflects the inherent organizational differences between large and small operators. PHMSA and its state partners will continue to encourage gas

[1] https://www.congress.gov/116/bills/s2299/BILLS-116s2299es.xml#toc-id81d056df-e695-4576-b608-3f34f33cb1cb
[2] ANSI/API Recommended Practice 1173, Pipeline Safety Management Systems, First Edition, July 2015 (https://www.api.org/~/media/files/publications/whats%20new/1173_e1%20pa.pdf).
[3] The PSMS information collection collected volume of gas transported information in units of MCF (thousands of standard cubic feet); BCF is equal to 1 million MCF, or 1 billion cubic feet.

distribution operators to voluntarily implement API RP 1173 or other equivalent safety management systems. PHMSA will also encourage, through the API standards development process that is currently underway, the updating of API RP 1173 to include clear guidance for scaling PSMS to better fit the operational context of smaller-sized operators.

2. Introduction

In response to Congress' directive in section 205 of the PIPES Act of 2020, titled "Pipeline Safety Management Systems," the Secretary of Transportation (the Secretary) shall submit to the appropriate congressional committees this report describing the progress of gas distribution pipeline operators with respect to implementation of API RP 1173, "Pipeline Safety Management System Requirements," and the feasibility of natural gas distribution system operators implementing a PSMS based on the size of the operator. The Secretary has delegated responsibility under the authorities in chapter 601 of title 49 of the U.S. Code to PHMSA per Title 49, Code of Federal Regulations (49 CFR) § 1.97(a)(1), to prepare this report.

3. PHMSA Mission

PHMSA's mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. Gas distribution pipeline systems represent more than 72 percent of the 3.3 million miles of regulated pipeline mileage in the United States.

The amount of gas distribution pipeline mileage and the associated number of operators in the United States is relatively stable, growing by approximately four percent from 2018 to 2022,[4] as reflected in Table 3-1. Note: Numbers for 2023 are not yet available as operators have until March 15, 2024, to submit data for the previous calendar year.

Table 3-1 Gas Distribution Pipeline Miles and Operator Count

Calendar Year	Total Miles	Operator Count
2022	2,321,498.1	1,341
2021	2,300,948.6	1,338
2020	2,284,686.9	1,353
2019	2,264,520.6	1,368
2018	2,239,206.6	1,378

4. Regulatory Oversight of Gas Distribution Pipeline Systems

Pursuant to its authority under the pipeline safety statutes (49 U.S.C. § 60101, *et seq.*), PHMSA is responsible for developing, issuing, and enforcing minimum federal safety regulations for pipelines, underground natural gas storage, and liquefied natural gas (LNG)

[4] Data and Graphics Source: US DOT Pipeline and Hazardous Materials Safety Administration Portal Data (last accessed October 31, 2023, 9:44:58 p.m. EST).

facilities. The pipeline safety statutes allow for states to assume safety authority over intrastate gas pipelines, hazardous liquid pipelines, LNG, and underground natural gas storage through annual Certifications and Agreements with PHMSA under 49 U.S.C. §§ 60105 – - 60106. The District of Columbia, Puerto Rico, and all states except Alaska and Hawaii participate in the pipeline safety program and provide safety oversight of intrastate gas distribution pipeline systems.

To participate in PHMSA's pipeline safety program, states must implement the minimum federal pipeline safety regulations; however, states may promulgate more stringent state regulations applicable to intrastate pipeline facilities in their states, provided they are not incompatible with the federal regulations. If states do not participate in the pipeline safety program, PHMSA is responsible for the inspection and enforcement of the intrastate pipeline facilities.

A state agency that does not satisfy the criteria for certification may enter into an agreement to conduct compliance inspections of pipeline facilities in their state on behalf of PHMSA. While the state agency under an agreement will inspect to ascertain compliance with the federal safety regulations, any probable violation(s) are reported to PHMSA for enforcement action. In addition, PHMSA may authorize a state to act as its agent to inspect interstate pipelines facilities but retains responsibility for enforcement of the regulations.

5. Safety Management Systems

A Safety Management System (SMS) is an organization-wide approach to managing safety risk through systematic procedures, practices, and policies. The Federal Aviation Administration (FAA) defines an SMS as a "formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety risk controls. It includes systematic procedures, practices, and policies for the management of safety risk."[5] The SMS concept is similar to other types of systematic management approaches, such as Quality Management Systems (QMS) and Occupational Safety and Health Management Systems (OSHMS). A primary difference is that other management systems differ in their primary application. For example, a QMS focuses on achieving quality products and services that meet customer and regulatory requirements,[6] while an OSHMS focuses on employee safety, reducing workplace risks, and creating better working conditions.[7,8]

Another set of systematic approaches to the evaluation and management of process risks are Risk Management (RM) processes, such as ISO 31000, *"*Risk Management–Guidelines," which states the following: "Managing risk is part of governance and leadership and is

[5] FAA Order 8000.369C, *Safety Management System*, June 24, 2020 (https://www.faa.gov/documentLibrary/media/Order/Order_8000.369C.pdf).
[6] American Society for Quality, *What Is ISO 9001:2015–Quality Management Systems?* (https://asq.org/quality-resources/iso-9001).
[7] American Society of Safety Professionals, *OSH Management (Z10)* (https://www.assp.org/standards/standards-topics/osh-management-z10).
[8] ISO 45001:2018, *Occupational health and safety management systems—Requirements with guidance for use*, (https://www.iso.org/standard/63787.html).

fundamental to how the organization is managed at all levels. It contributes to the improvement of management systems."[9]

6. National Transportation Safety Board (NTSB) Safety Recommendation P-12-17

Subsequent to a hazardous liquid pipeline rupture and crude oil release accident that occurred on July 25, 2010, in Marshall, Michigan, NTSB issued Pipeline Accident Report NTSB/PAR-12/0.1.[10] Among the conclusions and recommendations in the report, NTSB outlined the application of SMS to pipeline systems. NTSB stated:

> "In recent years, several transportation modes have implemented SMSs to enhance the safety of their operations, and the NTSB has consistently supported these activities. The NTSB has advocated the implementation of SMSs in transportation systems by elevating SMSs to its Most Wanted List. However, the NTSB has not called for an SMS in pipeline operations. This Marshall accident and the 2010 pipeline accident in San Bruno, California, indicate that SMSs are needed to enhance the safety of pipeline operations.
>
> "Both the San Bruno accident and the Marshall accident involved errors at the management and operator levels in both pipeline integrity and control center operations. The delays in recognizing and responding to the pipeline rupture and the deficiencies in control center team performance were prominent aspects of both accidents.
>
> "SMSs continuously identify, address, and monitor threats to the safety of company operations by doing the following:
>
> - Proactively addressing safety issues before they become incidents or accidents.
> - Documenting safety procedures and requiring strict adherence to the procedures by safety personnel.
> - Treating operator errors as system deficiencies and not as reasons to punish and intimidate operators.
> - Requiring senior company management to commit to operational safety.
> - Identifying personnel responsible for safety initiatives and oversight.
> - Implementing a nonpunitive method for employees to report safety hazards.
> - Continuously identifying and addressing risks in all safety-critical aspects of operations.
> - Providing safety assurance by regularly evaluating (or auditing) operations to identify and address risks.

---

[9] ISO 31000:2018, *Risk management–Guidelines*, Publication date: 2018-02 (https://www.iso.org/standard/65694.html).

[10] National Transportation Safety Board. 2012. *Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release*, Marshall, Mich., July 25, 2010. Pipeline Accident Report NTSB/PAR-12/01. Washington, D.C. (https://www.ntsb.gov/investigations/AccidentReports/Reports/PAR1201.pdf).

> "The evidence from this accident and from the San Bruno accident indicates that company oversight of pipeline control center management and operator performance was deficient. In both cases, pipeline ruptures were inadequately identified and delays in identifying and responding to the leaks exacerbated the consequences of the initial pipeline ruptures.
>
> "Therefore, the NTSB concludes that pipeline safety would be enhanced if pipeline companies implemented SMSs.
>
> "The API facilitates the development and maintenance of national consensus standards for the petroleum and petrochemical industry, including liquid and gas pipelines. In 1990, the API published API RP 750, "Management of Process Hazards," which is an SMS for the refining and chemical industries.
>
> "Because of the improvements to safety that accrue from the use of a comprehensive SMS, the NTSB recommends that the API facilitate the development of an SMS standard specific to the pipeline industry that is similar in scope to the API's RP 750. The development should follow established American National Standards Institute requirements for standard development."

In response to the NTSB recommendation to develop a pipeline-specific SMS standard (Safety Recommendation P-12-17), API formed a multi-stakeholder work group to develop PSMS recommended practice in December 2012, and ultimately issued API RP 1173 (1st edition), on July 8, 2015.

On October 22, 2015, NTSB responded: "The content of API Recommended Practice 1173 exceeds our original intent in issuing Safety Recommendation P-12-17; accordingly, the recommendation is classified Closed—Exceeds Recommended Action."[11]

It should be noted that NTSB Recommendation P-12-17 was issued to API and not PHMSA. While NTSB issued several safety recommendations to PHMSA in NTSB/PAR-12/01, none of the recommendations included making SMS an explicit part of federal pipeline safety regulations.[12] To date, a requirement to implement a PSMS is not part of any federal regulations.

7. API RP 1173 Essential Pipeline Safety Management System Elements

API RP 1173 includes the following 10 "essential elements:"

- Leadership and management commitment.
- Stakeholder engagement.
- Risk management.
- Operational controls.
- Incident investigation, evaluation, and lessons learned.

[11] data.ntsb.gov/carol-main-public/sr-details/P-12-017
[12] https://www.ntsb.gov/investigations/AccidentReports/Reports/PAR1201.pdf

- Safety assurance.
- Management review and continuous improvement.
- Emergency preparedness and response.
- Competence, awareness, and training.
- Documentation and record keeping.

Taken together, these elements address the attributes of a PSMS to continuously identify, address, and monitor safety threats NTSB described in the 2010 Marshall, Michigan, pipeline accident report.

8. Relation of PSMS to Pipeline Integrity Management Programs

Prior to the development of API RP 1173 in 2015, PHMSA promulgated a series of integrity management (IM) rules, including 49 CFR Part 192 Subpart P, "Gas Distribution Pipeline Integrity Management," published on December 4, 2009. Subpart P is also known as the "DIMP" rule. Rather than serving as a replacement for integrity management plans, such as DIMP, API RP 1173 incorporates existing IM practices into the overall PSMS framework. For example, section 5.6 of API RP 1173 (Making Communication, Risk Reduction, and Continuous Improvement Routine) states:

> "Top management shall ensure routine processes are in place to foster deliberate communication, risk reduction, and continuous improvement. Processes shall provide a means to identify when scheduled management system requirements become due and notify management, and top management if appropriate, if not completed. The processes include the following…. [p]ipeline asset integrity management shall be updated by integrity management subject matter experts on known threats, assessment and repair effectiveness, and adequacy of the plan(s)."

Section 10.4 of API RP 1173 (Performance Measurement and Analysis of Data) further states:

> "The pipeline operator shall establish and maintain a procedure for the identification, collection, and analysis of data generated from operations and maintenance, integrity management, audits and evaluations (see [section] 10.2), management reviews (see [s]ection 11), and other relevant sources related to the suitability and effectiveness of the PSMS."

The API RP 1173 PSMS approach can thus incorporate previously established pipeline operator processes, such as IM plans, into the required essential elements of an overall PSMS framework.

9. NTSB Investigation of Merrimack Valley, Massachusetts, Natural Gas Distribution Pipeline System Incident

On September 13, 2018, an incident occurred that over-pressured a low-pressure gas distribution system in Lawrence, Andover, and North Andover, Massachusetts (Merrimack Valley), owned and operated by Columbia Gas of Massachusetts. This incident resulted in a

series of structure fires and explosions causing one fatality, 22 injuries, 131 structures destroyed or damaged, and approximately 11,000 customers without gas service for months.

The NTSB investigated the incident and determined the probable cause of this incident was Columbia Gas of Massachusetts' weak engineering management. NTSB stated that Columbia Gas did not adequately plan, review, sequence, and oversee the construction project that led to the abandonment of a cast iron main without first relocating regulator sensing lines to the new polyethylene main.[13] The NTSB also noted, "[c]ontributing to the accident was a low-pressure natural gas distribution system designed and operated without adequate overpressure protection."

The NTSB Merrimack Valley pipeline accident report included specific discussion of PSMS, including Safety Recommendation P-12-17 and the resulting establishment of API RP 1173 in 2015. NTSB noted that Columbia Gas of Massachusetts' parent company, NiSource, had begun its SMS efforts several years prior to the overpressurization accident, but that API RP 1173 had yet to be implemented in Massachusetts at the time of the accident. NTSB also noted that following the accident, the Massachusetts Department of Public Utilities ordered Columbia Gas of Massachusetts to implement API RP 1173.

10. Pipeline SMS Report to Congress

After the Merrimack Valley incident, Senator Ed Markey (MA) hosted a Senate Commerce Committee field hearing on November 26, 2018, with Senator Elizabeth Warren (MA), Senator Maggie Hassan (N.H.), then-Congresswoman Niki Tsongas (MA–03), Congressman Seth Moulton (MA–06), and Congresswoman Lori Trahan (MA–03).[14] In April 2019, Senators Markey and Warren and Representative Lori Trahan introduced the "Leonel Rondon Pipeline Safety Act."[15] The bill aimed to establish regulations that would improve gas pipeline operators' risk management plans; improve emergency response coordination with the public and first responders; institute best industry practices for holistic safety management; and mandate use of accurate and reliable maps and records.

Section 205 of the Act, which was enacted in Title II of the PIPES Act of 2020, directed PHMSA to submit this Report to Congress on the implementation of PSMS by gas distribution pipeline operators. Additionally, section 205(b) of the PIPES Act of 2020 required the Report to provide guidance or recommendations that would further the implementation of safety management systems in accordance with API RP 1173.

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[13] National Transportation Safety Board. 2019. *Overpressurization of Natural Gas Distribution System, Explosions, and Fires in Merrimack Valley, Massachusetts, September 13, 2018*. Pipeline Accident Report NTSB/PAR-19/02. Washington, D.C.

[14] https://www.commerce.senate.gov/2018/11/pipeline-safety-in-the-merrimack-valley-incident-prevention-and-response

[15] https://www.markey.senate.gov/news/press-releases/senator-markey-rep-trahan-merrimack-valley-leaders-and-rondon-family-announce-federal-leonel-rondon-pipeline-safety-act/

11. PHMSA and Industry Actions Related to API RP 1173

11.1 PHMSA Actions Related to Implementation of API RP 1173

After the publication of API RP 1173 in July of 2015, an SMS Working Group was established under the Technical Hazardous Liquid Pipeline Safety Standards Committee, informally known as the Liquid Pipeline Advisory Committee (LPAC),[16] to encourage and support implementation of PSMS across the pipeline industry, including both liquid and gas pipeline systems. In addition, PHMSA encouraged implementing an SMS program at a variety of meetings, conferences, and public workshops, including, but not limited to the following:

- Technical Pipeline Safety Standards Committee, informally known as the Gas Pipeline Safety Advisory Committee (GPAC) and LPAC Meeting, Arlington, Virginia, June 1, 2016.[17]
- GPAC and LPAC Meeting, Arlington, Virginia, December 13, 2017.[18]
- GPAC and LPAC Meeting, Washington, D.C., November 14, 2019.[19]
- PHMSA Office of Pipeline Safety Operators Meeting, Sugar Land, Texas, February 25, 2020.[20]
- PHMSA Safety Management System/Safety Culture Workshop, Sugar Land, Texas, February 26, 2020.[21]
- GPAC and LPAC Meeting, Virtual, October 20, 2021.[22]
- All annual National Association of Pipeline Safety Representatives (NAPSR) Regional and National meetings.
- American Gas Association's PSMS Workshops.

Throughout these meetings and workshops, PHMSA continued to strongly encourage industry implementation of API RP 1173.

11.2 Industry Actions Related to Implementation of API RP 1173

In response to API RP 1173, the Pipeline SMS Group was formed by organizations representing the hazardous liquid pipeline industry to "educate stakeholders and enhance safe pipeline operations through the implementation and use of pipeline safety management systems."[23]

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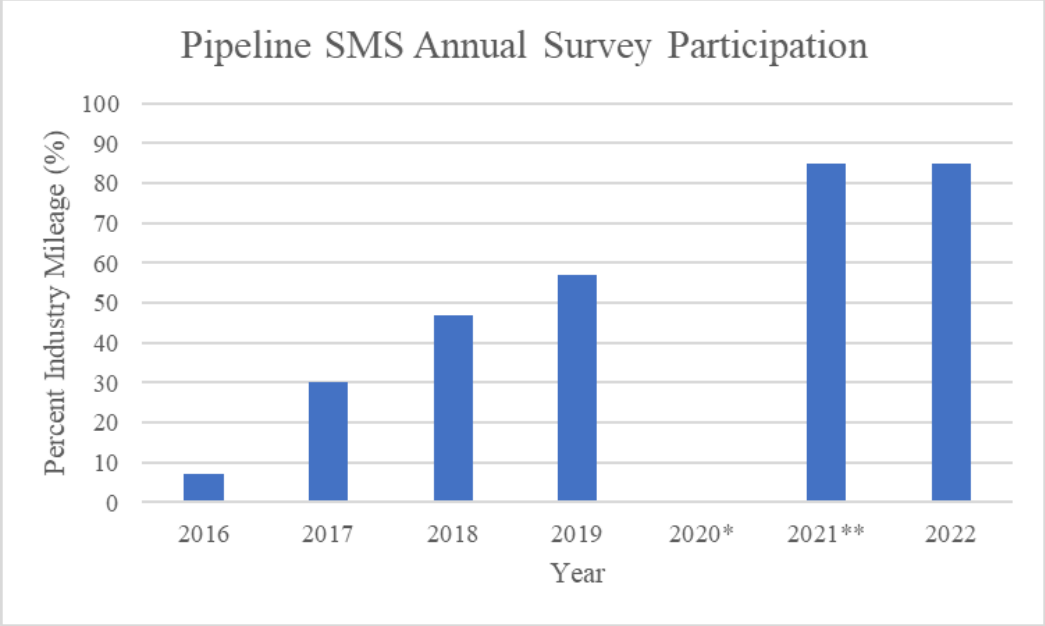
[16] https://www.phmsa.dot.gov/standards-rulemaking/pipeline/pipeline-advisory-committees
[17] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=113
[18] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=127
[19] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=144
[20] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=148
[21] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=146
[22] https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=154
[23] https://pipelinesms.org/wp-content/uploads/2018/04/API-Pipeline-SMS-Annual-Report-2016.pdf

This effort was expanded in 2017 via consolidation of additional industry PSMS activities into a singular Pipeline SMS Industry Team with participation by the major pipeline trade associations representing gathering, transmission, and distributions sectors of the natural gas and liquid pipeline industries.[24] The Pipeline SMS Industry Team and associated website hosted by API serve as a focal point of industry implementation initiatives.[25] The Pipeline SMS website includes links to implementation tools, such as the API RP 1173 Evaluation Guidance and associated spreadsheet tool. Pipeline SMS annual reports have been posted by the Pipeline SMS Industry Team starting with calendar year 2016 activities.[26]

In 2020, the Pipeline SMS Industry Team launched the API Pipeline SMS Third-Party Assessment Program "as a tool to assist operators with measuring progress and the maturity of safety systems, and to facilitate identification of good practices and information sharing across the pipeline industry."[27] This program includes a benchmarking system that aims to provide participating operators with blind results in order to benchmark their business units against themselves and their peers. As of the end of 2022, assessments of 12 operators' PSMS programs had been completed.[28]

The Pipeline SMS Industry Team performs a voluntary annual survey of operators to help ascertain overall progress in the implementation of API RP 1173 throughout the pipeline industry (Figure 11-1). While the results of these surveys are not publicly available, Pipeline SMS Industry Team annual reports indicate the overall degree of industry PSMS implementation at any level based on the percentage of pipeline mileage operated by those operators.



[24] https://pipelinesms.org/wp-content/uploads/2018/04/2017-Pipeline-SMS-Annual-Report.pdf
[25] www.pipelinesms.org
[26] https://pipelinesms.org/annual-reports/
[27] Pipeline Safety Management Systems 2022 Annual Report (https://pipelinesms.org/2022-pipeline-sms-annual-report/)
[28] https://pipelinesms.org/2022-pipeline-sms-annual-report/

Figure 11-1 Pipeline SMS Annual Survey Participation (Percent Industry Mileage)

* Percentage reported as "more than half the pipeline industry"

** Value aligned with PHMSA reporting criteria for pipeline mileage

12. 2023 PHMSA Data Collection

In order to complete the report mandated by section 205 of the PIPES Act of 2020, PHMSA needed to collect certain information from operators of natural gas distribution systems on a voluntary basis and in accordance with the Paper Reduction Act. Accordingly, a draft information collection form was published in the *Federal Register* on September 6, 2022, for public comment.[29] During the 60-day comment period, PHMSA received comments from the Pipeline SMS Industry Team, Atmos Energy Corporation, American Gas Association, Distribution Contractors Association, Natural Gas SMS Collaborative, NiSource Inc., MDU Utilities Group, American Public Gas Association, Southwest Gas Corporation, and CMS Energy Corporation. Commenters were overall supportive of the intent of section 205.

After PHMSA considered the comments, an updated version of the information collection form was published in the *Federal Register* on April 11, 2023, with a 30-day comment period.[30] PHMSA implemented this final version, with no additional changes, as Form PHMSA GD-SMS-2022.[31] Form PHMSA GD-SMS-2022 is included as Appendix B to this report.

In order to collect industry information, PHMSA established a data portal to automate the process of data collection and aggregation. Operators of gas distribution pipelines were requested to provide their information within a 30-day window that concluded on September 20, 2023. However, due to the low number of responses, the response window was extended. During this extension, PHMSA reached out to state partners and industry associations to encourage operators to submit their data. By October 11, 2023, enough operators had submitted their data to form a representative sample of the gas distribution operators and the information collection was closed.

A total of 629 responses were initiated by gas distribution operators in the portal. Of these, 105 were never finalized ("submitted") by operators and were therefore not used in PHMSA's analysis. In addition, 21 submittals were screened out due to the lack of essential data, such as number of customers or volume of natural gas transported. This resulted in a total of 503 submitted responses to the information collection questions analyzed for this report. PHMSA cannot know with certainty about the activities of those operators who did not respond to the information collection. In order to get data on all gas distribution operators, a mandatory information collection would be required by statute or regulation.

Appendix C summarizes the responses for all questions and briefly describes the results.

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[29] 87 FR 54590 (https://www.regulations.gov/document/PHMSA-2022-0060-0004)

[30] 88 FR 21742 (https://www.regulations.gov/document/PHMSA-2022-0060-0016)

[31] Form PHMSA GD-SMS-2022 , Voluntary Adoption of American Petroleum Institute Recommended Practice 1173 for Gas Distribution Systems, OMB No: 2137-0642, Expiration Date 6/30/2026 (https://www.phmsa.dot.gov/forms/gd-sms-2022-form-voluntary-adoption-american-petroleum-institute-recommended-practice-1173-for-gas-distribution-systems)

13. Industry PSMS Implementation, Progress, and Scalability Results

As noted previously, section 205(a) of the PIPES Act of 2020 specifies three areas of interest with respect to PSMS implementation by gas distribution operators:

> "(1) the number of operators of natural gas distribution systems who have implemented a [PSMS] in accordance with… [API RP] 1173 ["Pipeline Safety Management System Requirements"];
>
> "(2) the progress made by operators of natural gas distribution systems who have implemented, or are in the process of implementing, a [PSMS]…; and
>
> "(3) the feasibility of an operator of a natural gas distribution system implementing a [PSMS]…based on the size of the operator as measured by – (A) the number of customers the operator has; and (B) the amount of natural gas the operator transports."

Prior to addressing each of these specific areas, it is important to characterize the size of gas distribution operators in the United States for the purposes of this report.

13.1 Size Spectrum of Natural Gas Distribution Operators

As noted in Section 3 of this report, there are more than 1,300 operators of the 2.3 million miles of gas distribution pipeline in the United States.[32] The size of these operators, however, ranges from those with very few customers and low volumes of gas transported annually, to those with millions of customers that deliver hundreds of billions of cubic feet of gas per year.

For the operators that responded to PHMSA's information collection, the number of customers ranged from one customer to approximately six million, and the annual volume of gas transported ranged from 4,000 cubic feet to approximately 955 billion cubic feet.

Given the wide range of system sizes and for the purposes of this Report only, respondents were divided into five category ranges for both the number of customers and the volume of gas transported based on a qualitative binning of the data, as shown in Figures 13-1 and 13-2, and associated Tables 13-1 and 13-2. The orange horizontal lines on the figures show division points between the different bins. These separation points were made where the slope of the line changes significantly, indicating that the difference in size between operators on either side of the line are more significant.

The goal of this binning is to provide granularity for which differences in data could be sorted and compared across the wide spectrum of gas distribution system sizes. Category 1 represents the largest operators, while Category 5 represents the smallest operators. The smallest operators, as categorized by both number of customers and volume of gas transported, represent the largest grouping of operators.

[32] "Operator" in the context of this report means unique PHMSA-issued Operator Identification Numbers (OPIDs), as consistent with the reporting basis for Form PHMSA GD-SMS-2022 PSMS.

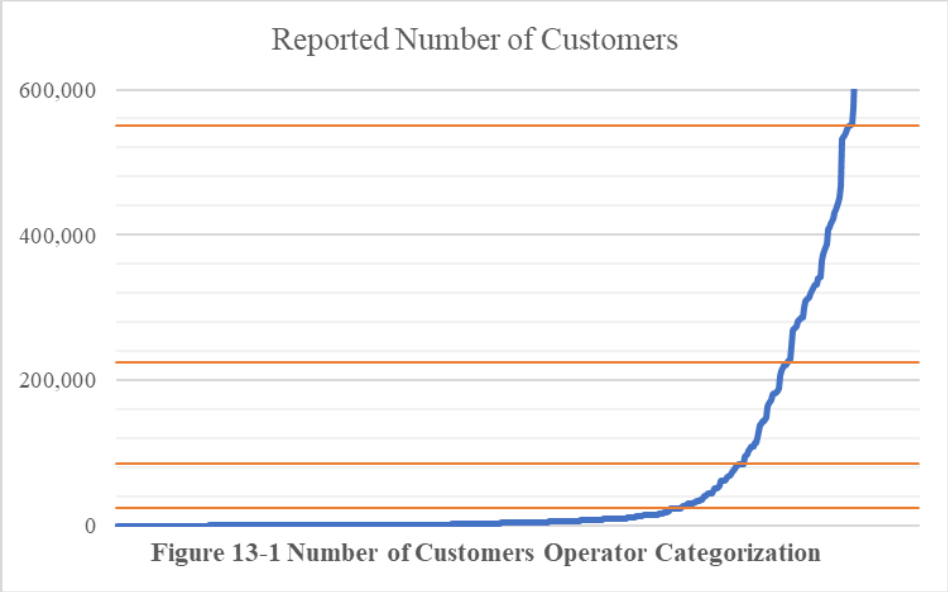


Figure 13-1 Number of Customers Operator Categorization

Table 13-1 Operator Categorization–Number of Customers

Number of Customers	Operator Category	Number of Operators Who Responded to Information Collection
1–25,000	5	354
25,001–85,000	4	39
85,001–225,000	3	28
225,001–55,0000	2	39
550,000+	1	43
	Total:	503

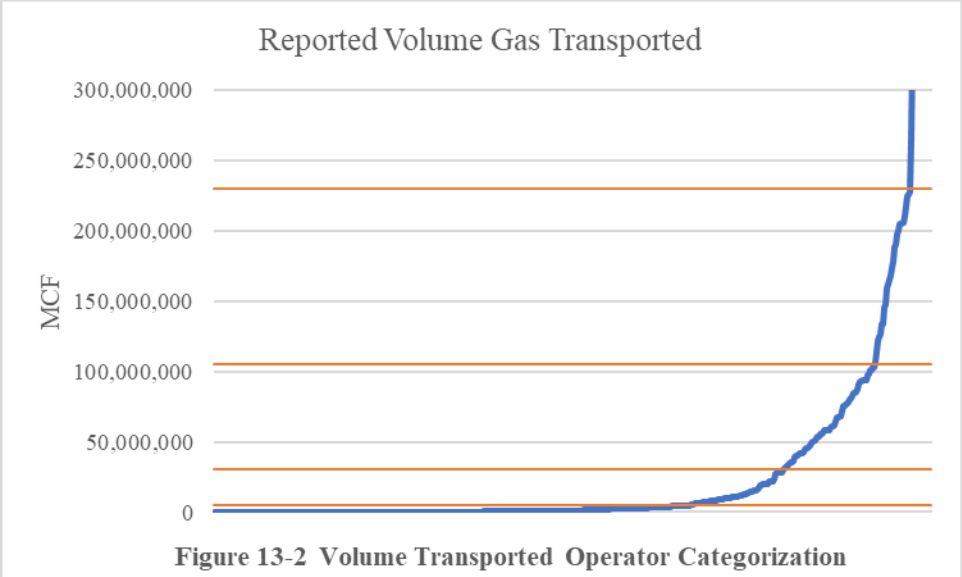


Figure 13-2 Volume Transported Operator Categorization

Table 13-2 Operator Categorization–Volume Gas Transported

Volume Transported (MCF)	Operator Category	Number of Operators Who Responded to Information Collection
0–4,750,000	5	333
4,750,001–30,000,000	4	67
30,000,001–105,000,000	3	64
105,000,001–230,000,000	2	25
230,000,001+	1	14
	Total:	503

13.2 Degree of PSMS Implementation by Gas Distribution Operators

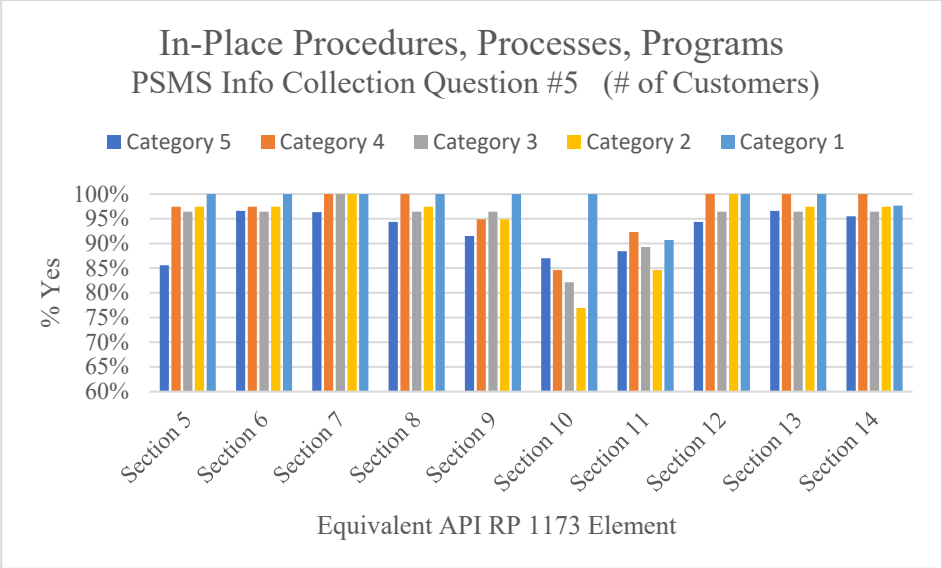
As noted previously, 503 out of approximately 1,340 gas distribution operators submitted adequate responses to PHMSA's voluntary information collection. The information collection did not directly ask operators if they had implemented a PSMS program based on API RP 1173, as operators may have elected to use SMS processes or programs other than one based on API RP 1173. Instead, the information collection asked operators about their use and experience with various safety management systems.

Question #5 of the information collection asked, "*[d]o you have procedures, processes, or programs in place to address…*[any or all of the actions noted as response options shown below in Table 13.2-1]?" The response options were not PSMS-specific but involved programmatic elements that are relatable to the elements of a PSMS program based on API RP 1173. Table 13.2-1 relates the information collection question response options to the API RP 1173 elements.

Table 13.2-1 API RP 1173 Element Equivalency

Information Collection: Question #5 Response Options	API RP 1173 Elements
a. Promoting a positive safety culture	Section 5: Leadership and Management Commitment
b. Communicating and educating employees, contractors, and/or the public regarding pipeline safety	Section 6: Stakeholder Engagement
c. Reducing risk and maintaining integrity to your pipeline assets	Section 7: Risk Management
d. Developing and maintaining safe work practices	Section 8: Operational Controls
e. Investigating incidents and near-misses on your pipeline system to identify and implement corrective actions	Section 9: Incident Investigation, Evaluation, and Lessons Learned
f. Verifying existing operations and safety practices are improving pipeline safety	Section 10: Safety Assurance
g. Reviewing your safety performance to determine if additional actions are necessary to improve pipeline safety	Section 11: Management Review and Continuous Improvement
h. Responding effectively to pipeline incidents	Section 12: Emergency Preparedness and Response
i. Assuring personnel are competent in tasks that impact the integrity of your system	Section 13: Competence, Awareness, and Training
j. Maintaining documentation needed to ensure pipeline safety	Section 14: Documentation and Record Keeping

As seen in Figure 13.2-1, most operators, even those in smaller size categories 4 and 5, indicated they largely have existing processes in place for elements analogous to those in API RP 1173. This is of particular note for the smaller operators who, as will be shown, are much less likely to have implemented PSMS programs, and may not perceive that implementing a PSMS program adds value to the existing safety requirements and practices.



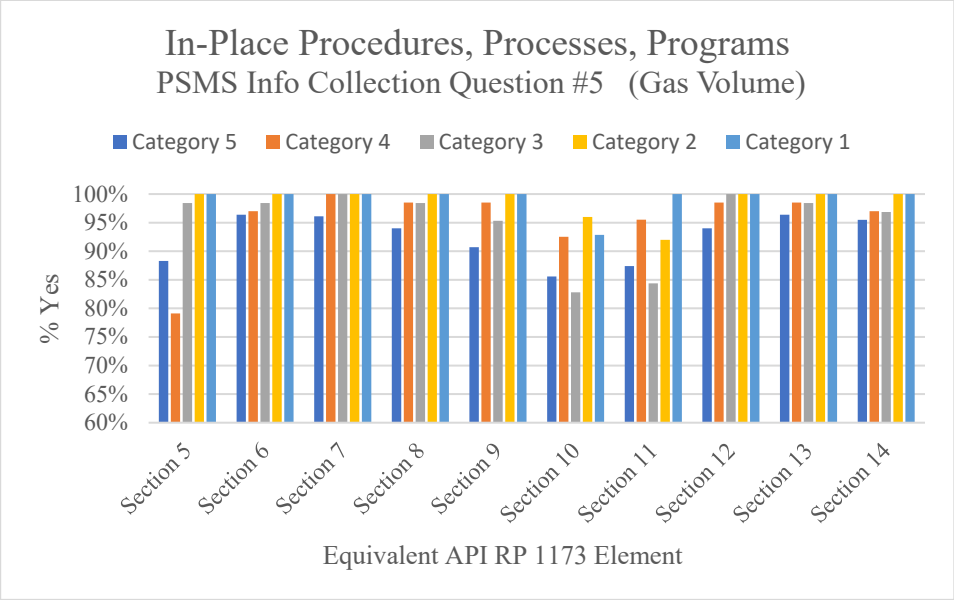
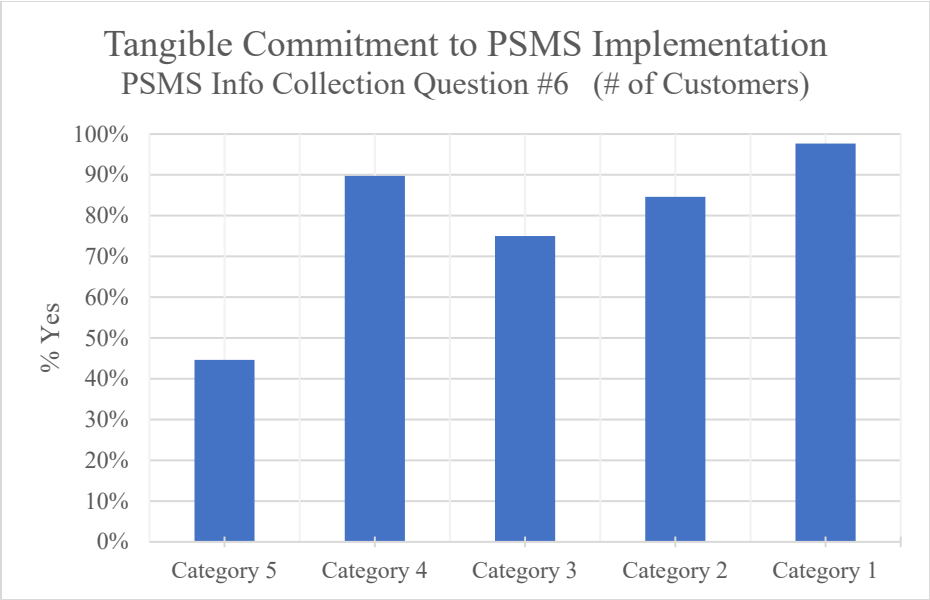


Figure 13.2-1 In-Place Procedures, Processes, and Programs

The information collection question most likely to indicate that operators are pursuing a PSMS is question #6, "*[h]as your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?*"[33] Figure 13.2-2 summarizes the responses to this question based on both the number of customers and gas volume transported operator size categorizations.



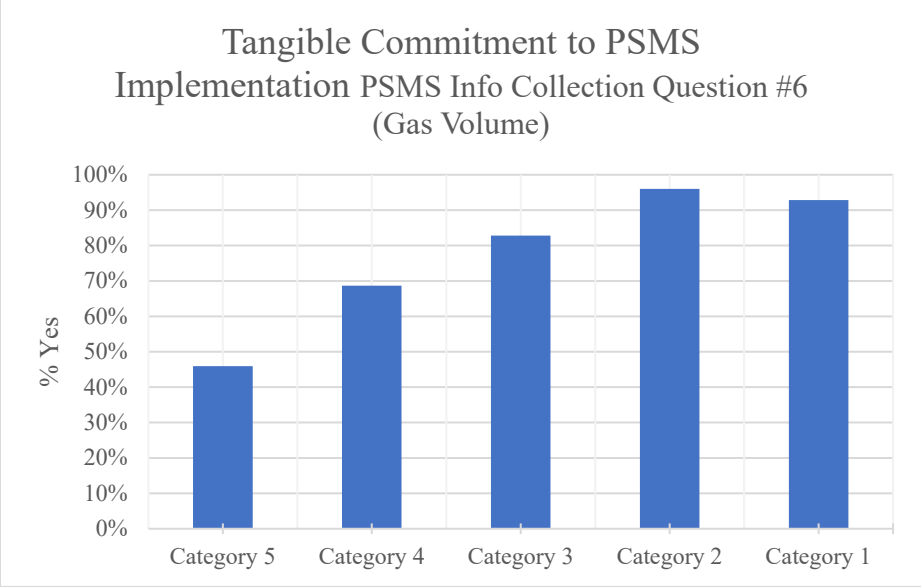


Figure 13.2-2 Tangible Commitment to PSMS Implementation

[33] The instructions for the information collection does not define "tangible" but gives the following examples: a commitment statement from leadership; an assignment of PSMS responsibilities to an employee; the dedication of resources; or the hiring of a PSMS consultant.

Based on the responses to question #6, 289 of the 503 operators who responded to the information collection indicated their leadership had committed to implementing a PSMS. The data further indicates that most of the operators who responded that their leadership had committed to implementing a PSMS were in the two largest size bins. Specifically, 69 percent of the operators in the largest size bins by volume of gas and 67 percent of the operators in the largest size bins by number of customers indicated that their leadership had committed to implementing a PSMS.

It should be noted that the 289 operators whose leadership have committed to implementing a PSMS represent 22 percent of the approximately 1,340 gas distribution operators and operate 86 percent of all gas distribution pipeline mileage.

To determine the challenges and barriers that are preventing operators from implementing a PSMS program, the responses submitted for question #9, "*[w]hat barriers are preventing you from implementing an SMS program per API RP 1173 or other SMS?"* were analyzed. As shown in Table 13.2-2, larger operators reported fewer barriers to implementing a PSMS program.

Table 13.2-2 Barriers to PSMS Implementation (Question #9)

Number of Customers (top two responses—highlighted below—for each size category)						
Category	**Size of Company**	**Limited Staff**	**Financial Considerations**	**Unfamiliar with SMS Principles**	**N/A**	**Other**
5	**64%**	**63%**	48%	28%	19%	6%
4	15%	**44%**	23%	10%	**49%**	8%
3	7%	**57%**	25%	0%	**43%**	25%
2	10%	**28%**	18%	5%	**67%**	10%
1	9%	**16%**	5%	0%	**84%**	14%

Gas Volume (top two responses—highlighted below—for each size category)					
Size of Company	**Limited Staff**	**Financial Considerations**	**Unfamiliar with SMS Principles**	**N/A**	**Other**
62%	**67%**	50%	29%	19%	6%
34%	**34%**	16%	6%	**42%**	9%
16%	**38%**	20%	3%	**61%**	16%
4%	**12%**	12%	4%	**84%**	0%
7%	14%	7%	0%	**79%**	**29%**

In addition, 13 operators included text information to complement their responses to question #9. Table 13.2-3 shows a few examples of "barriers" to implementing a PSMS program.

Table 13.2-3 "Other" Barriers to SMS Implementation (Question #9) for Operators Indicating "No" to a Tangible Commitment to Implement a PSMS (Question #6)

Category (Gas Volume)	Category (Customers)	Text Information
5	4	Our team has heard of PSMS but has not seen "real world" examples of a PSMS.
3	5	While barriers do exist, we are planning to implement API RP 1173 within the next five years.
4	3	An SMS would be redundant to our current procedures.
5	5	Safe operation of our system is currently achieved by implementation of pipeline regulations.
1	3	Lack of prioritization.
3	3	Lack of prioritization.
5	2	Not mandated and currently have procedures and practices in place that essentially mimic API RP 1173.
5	5	Too many regulations and or requirements NOW!!!
4	5	We think we meet the requirements of API RP 1173 without needing another formal plan.
5	5	Three-person operation.
5	5	We use our O&M plan, Emergency Plan, and DIMP for gap assessment and safety culture.
5	5	Two-person operation.
5	5	I just took over the position two months ago. I have a lot to learn and catch up on.

Overall, a review of the data summarized in Appendix C indicates that commitment to a PSMS program generally tracks with the size of operators—i.e., the larger the operator, the higher the likelihood of PSMS implementation.

13.3 Progress of Gas Distribution Operators Implementing PSMSs (PIPES 2020 section 205(a)(2))

Information collection question #11 asked, "*[i]s the implementation of your PSMS: (a) on track with the plan; (b) slower than planned; (c) faster than planned; (d) stalled for the moment*," and provides insight into the progress of operators who are implementing PSMS. As indicated by Figure 13.3-1, larger operators reported their PSMS efforts to be "on-track" for completion (roughly two-thirds of the largest category of operators). Over one-half of the smallest category of operators reported that their PSMS efforts best fit the "stalled" response option.

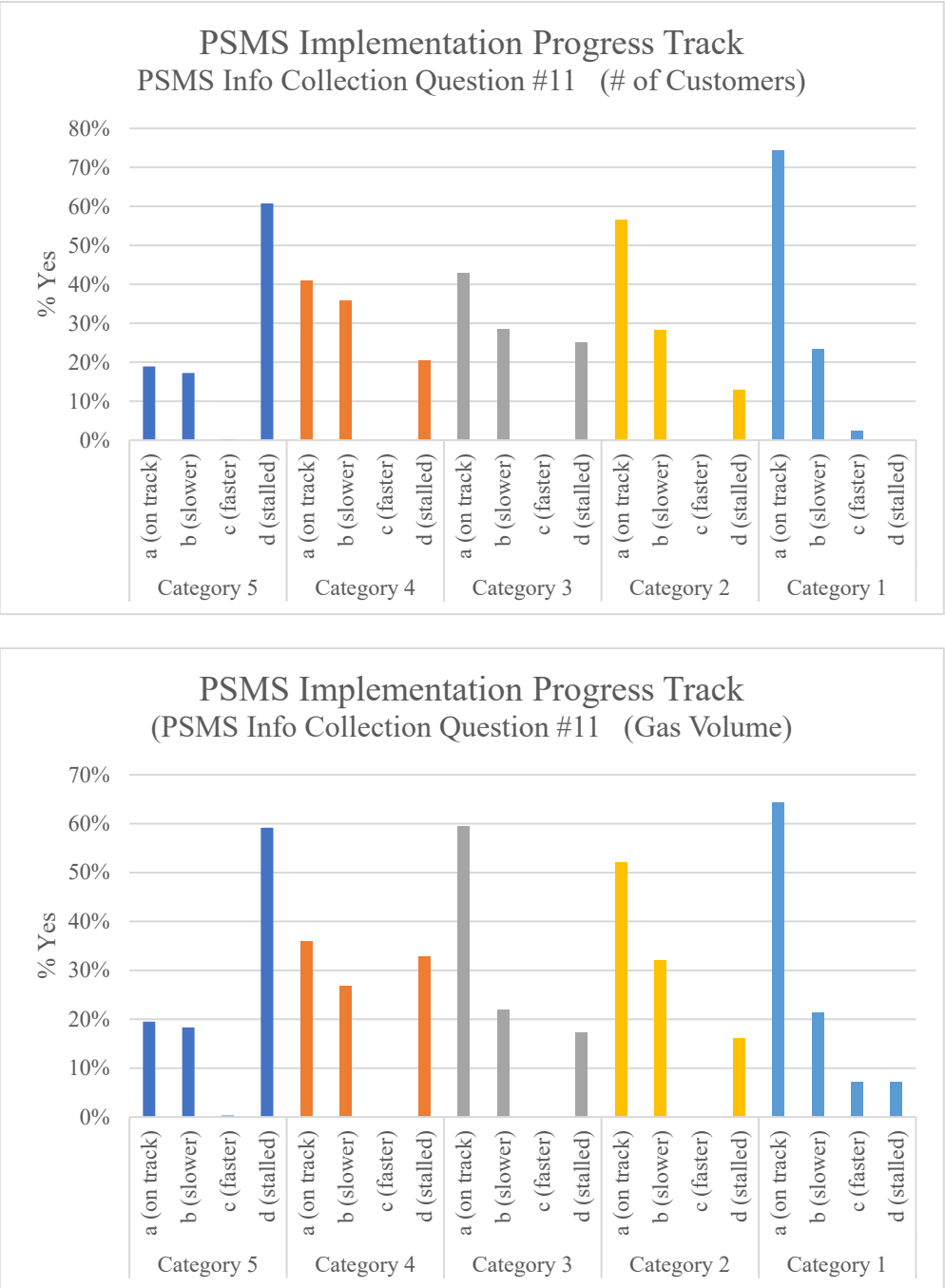
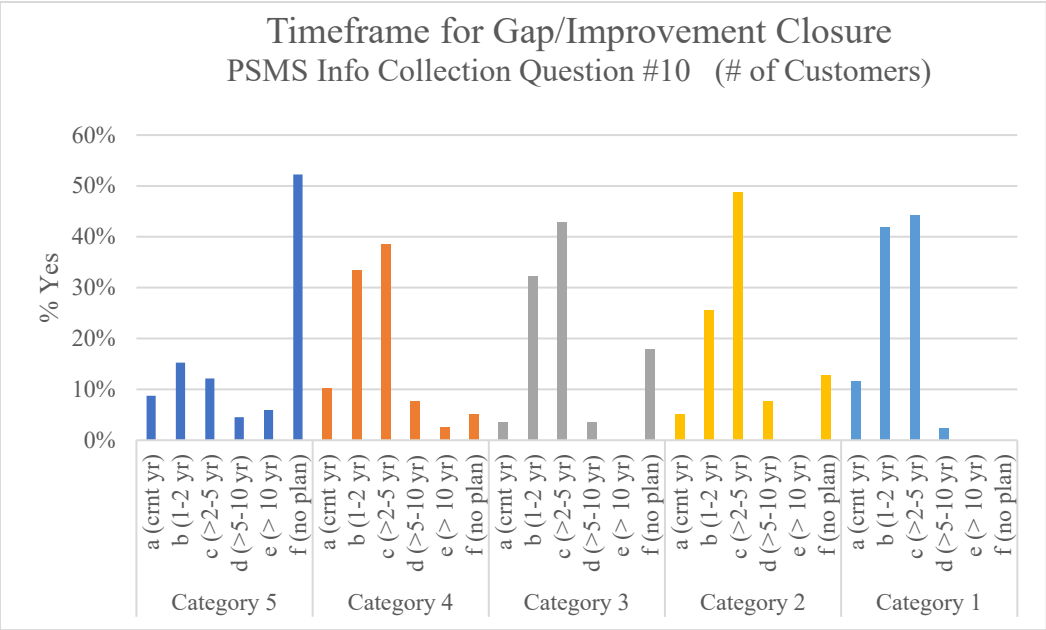


Figure 13.3-1 PSMS Implementation Rate of Progress

With respect to anticipated overall timeframe to address identified gaps, question #10 asked "*[w]hat is the timeframe for closing initially identified gaps or addressing improvement opportunities? (a) current year; (b) next year to 2 years;(c) more than 2 years to 5 years; (d) more than 5 years to 10 years; (e) more than 10 years; and (f) no plan.*" Figure 13.3-2 shows a clear trend for larger operators to have nearer-term plans to complete/improve their PSMS programs. Approximately one-half of the smallest category of operators reported no plans to complete the development of a PSMS program.



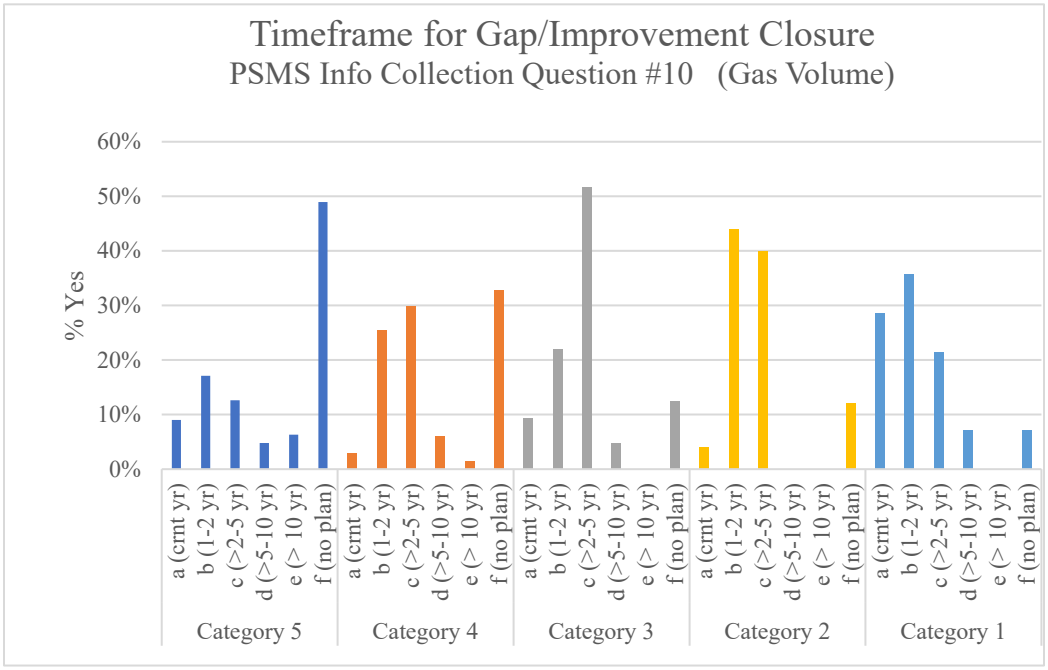


Figure 13.3-2 PSMS Timeframe for Gap/Improvement Closure

With respect to operator progress on PSMS implementation, question #13 asked, "*[w]hat elements have been the most challenging to implement?*" and provided the full list of API RP 1173 program elements as options. As shown in Figure 13.3-3, although the data is largely scattered across the respective elements of the RP, Section 6 element, "Stakeholder Engagement," and Section 8 element, "Operational Controls," had somewhat higher percentages of reported challenge. However, the noted areas of challenge ranged across all of

the elements. As with responses to previous questions, there is a clear trend for larger operators to be actively focusing on the RP elements.

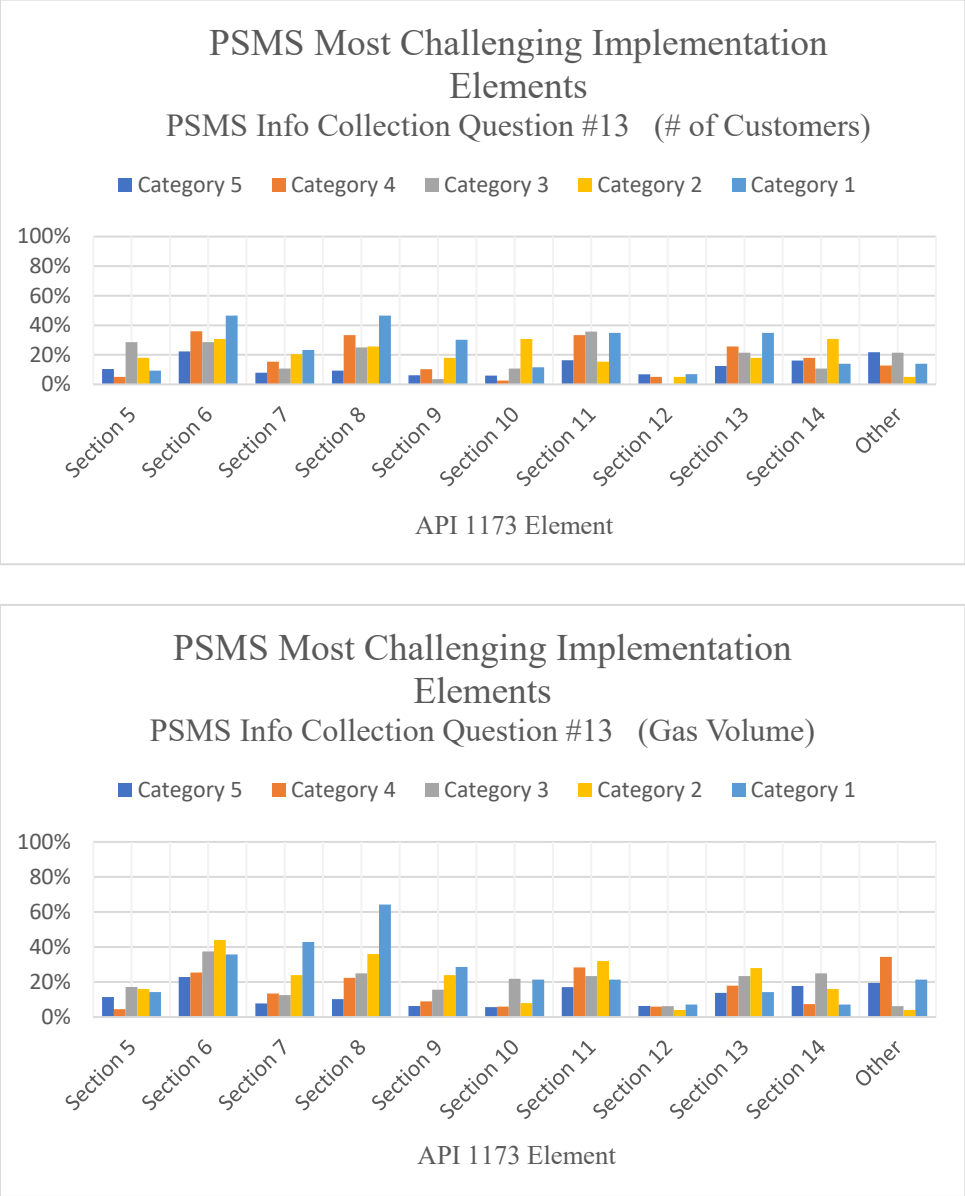
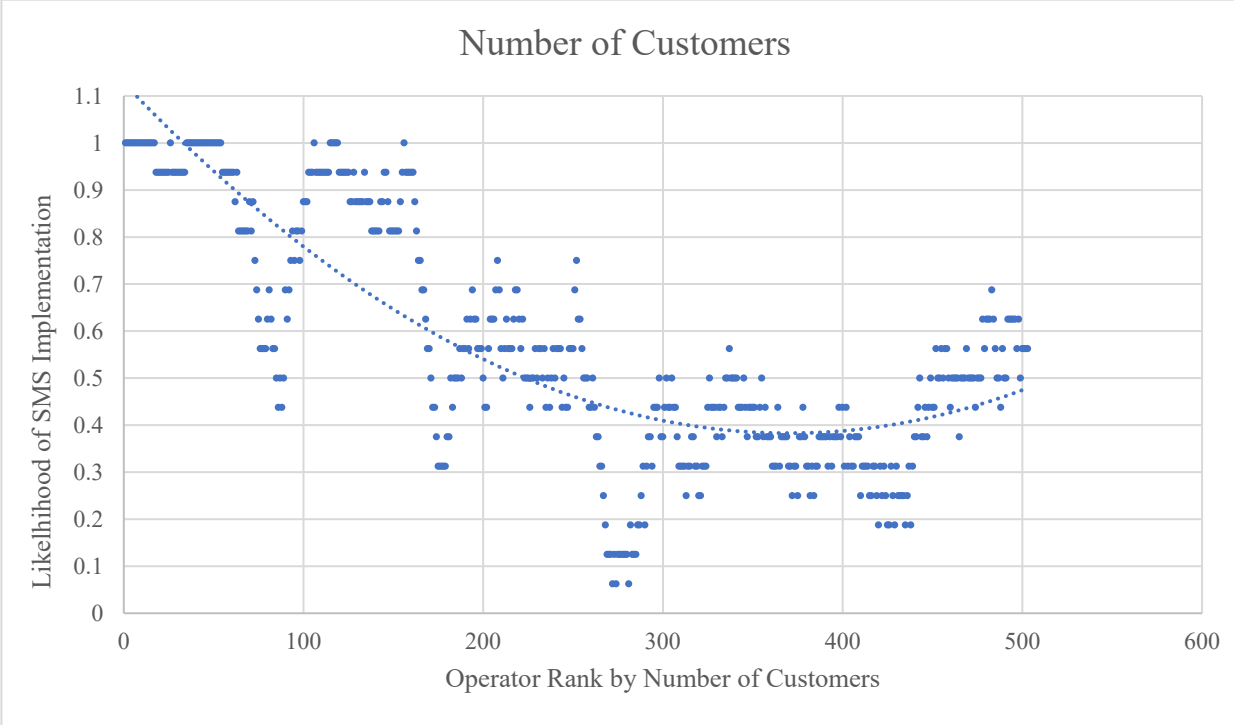


Figure 13.3-3 PSMS Most Challenging Implementation Elements

13.4 PSMS Feasibility for Gas Distribution Operators Based on Operator Size (PIPES 2020 section 205(a)(3))

Determining the feasibility of any given gas distribution operator implementing API RP 1173 from the information collected is an inferred, rather than explicit, process. The approach taken to estimate feasibility was to determine at what point the majority (50 percent) of similarly sized operators reported implementing PSMS. In other words, at what size did fewer than one-half of operators reporting appear to be implementing a PSMS? This was done both from the number of customers and volume of gas transported perspectives.

To accomplish this, question #6 "*[h]as your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?*"—was utilized as a yes/no criterion to determine which operators were pursuing a PSMS. Next, each operator who responded to the voluntary information collection was ranked twice, based on their number of customers and the amount of gas they transport, with rank 1 being the largest in both categories. The PSMS composite implementation rate of the closest 16 (+/-8) peers in rank for each operator was then calculated to provide a "likelihood of implementation" value that indicates whether an operator of that size would implement a PSMS. These values were then applied to the ranked lists of operator size and used to plot a trendline for the whole group to determine the 0.5 size cut-off where it was more likely that an operator would or would not implement a PSMS. This is done by determining where the trend line in each graph passes the 0.5 Likelihood of SMS Implementation line. Figure 13.4-1 shows the resulting data scatter and best-fit trendline from this approach.



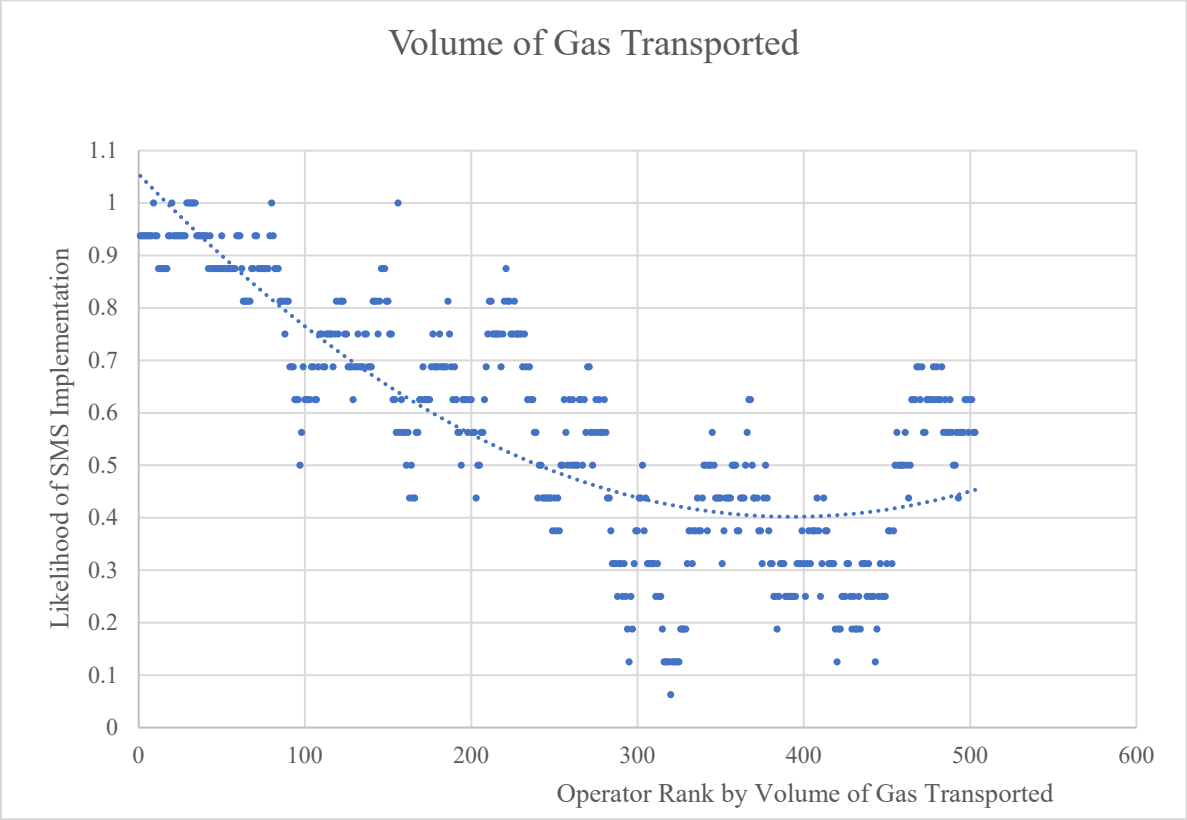


Figure 13.4-1 PSMS Feasibility Based on Reported Gas Distribution Operator Size

Using this process, PHMSA determined that the 230th ranked operator by number of customers and the 242nd ranked operator by volume of gas were the smallest operators with a greater than 50 percent likelihood of implementing a PSMS. The operators at these ranks had 5,907 customers and 1,335,216 MCF (1.34 BCF) of gas transported respectively. Operators with values below these levels have a likelihood of less than 50 percent to have implemented PSMS, and those with higher values for those measures were likely to have a greater than 50 percent likelihood to implement a PSMS.

Given the data scatter in the reported data, these values can be interpreted as there being less than a 50 percent likelihood of implementing a PSMS by gas distribution operators with less than 6,000 customers and 1.3 BCF of gas transported. It is therefore reasonable to believe it feasible for operators above both of these thresholds to implement a PSMS.

Obviously, some operators below these size thresholds have implemented PSMS. The feasibility thresholds should be understood as the size at which we can expect that an operator should be able to implement PSMS, but not that operators underneath it cannot.

14. Guidance and Recommendations for Further Implementation of PSMSs

PHMSA will continue to encourage all pipeline operators to recognize the value of PSMS and to voluntarily implement API RP 1173 or other equivalent safety management systems.

As most gas distribution operators are regulated by states, PHMSA has engaged with these operators primarily through the state pipeline safety programs. PHMSA has also used venues, such as the National Association of Pipeline Safety Representative meetings, trade association meetings and conferences, and direct operator contacts, to encourage implementation of PSMSs.

The API RP 1173 framework is "intended to be scalable for pipeline operators of varying size and scope" and the "essential elements comprising the framework apply to organizations of any size and sophistication." Although, for very small operators with few employees, adoption of all provisions within the RP may not be practical, these operators can build on selected provisions of API RP 1173. Therefore, PHMSA recommends that the American Gas Association and the American Public Gas Association—the two largest trade associations for gas distribution operators—continue to promote PSMS implementation and provide guidance to their members, particularly the smaller operators, to help them realize the value of implementing a PSMS program. In addition, PHMSA will continue to work with its state partners to promote PSMS implementation by all operators. PHMSA believes that PSMS programs, underpinned by a strong commitment to safety, will help achieve our goal of zero pipeline incidents. API has a task group that is currently reviewing API RP 1173. This group plans to revise the recommended practice and provide additional guidance to assist smaller operators. This revision will enable small operators to implement a size-scaled PSMS program. PHMSA is a participant on API's task group.

15 Conclusion

There is a wide range in the size of natural gas distribution operators, from systems with very few customers and low volumes of gas transported annually, to those with millions of customers that deliver hundreds of billions of cubic feet of gas per year. Since API RP 1173 was published in 2015, PHMSA has strongly encouraged, and continues to encourage, all pipeline operators to implement a PSMS program underpinned by a strong safety culture in order to reach PHMSA's and the industry's common goal of zero pipeline accidents.

In response to section 205 of the PIPES Act of 2020, PHMSA issued a voluntary information collection related to the implementation of PSMS by gas distribution pipeline operators. A total of 503 operator submissions were analyzed. These submissions represent 22 percent of the approximately 1,340 gas distribution operators, but approximately 86 percent of all gas distribution pipeline mileage.

Overall, the information submitted indicates that commitment to a PSMS generally tracks with the size of operators—i.e., the larger the operator, the higher the likelihood of PSMS implementation. Smaller operators do not represent the majority of gas distribution mileage, but they do represent the majority of operators.

With respect to operators whose leadership has demonstrated a tangible commitment to implementing a PSMS, there is a clear trend for larger operator's PSMS efforts to be reported as "on-track," which accounts for roughly two-thirds of the largest category of operators. However, more than one-half of the smallest category of operators reported that their PSMS efforts best fit the "stalled" characterization.

Based on the data indicating that small operators are much less likely to implement a PSMS than large operators, an approach was developed to estimate the operator size where PSMS

implementation is feasible. This approach indicates that it is feasible for gas distribution operators with more than 6,000 customers and 1.3 BCF to implement a PSMS at this time.

Although the API RP 1173 framework is intended to be scalable for pipeline operators of varying size and scope, and the essential elements of the framework apply to organizations of any size or sophistication, it appears that very small operators need additional guidance to realize the benefits of implementing a PSMS. PHMSA recommends that the American Gas Association and the American Public Gas Association continue to promote the implementation of a PSMS and provide guidance to their members, particularly the smaller operators to assist them in realizing the value of implementing a PSMS program.

PHMSA will continue to work with its state partners to promote PSMS implementation by all operators. PHMSA will also continue participating on API's task group reviewing the current API RP 1173 to develop a revision that provides additional guidance to smaller operators, enabling them to implement a size-scaled PSMS program.

Appendix A – Natural Gas State Program Certification/Agreement Status[34]

State Agencies Under Section 60105(a) Certification (51)

Alabama	Louisiana	Ohio
Arizona	Maine	Oklahoma
Arkansas PSC	Maryland	Oregon
Arkansas Oil and Gas	Massachusetts	Pennsylvania
California PUC[1]	Michigan	Puerto Rico
Colorado	Minnesota	Rhode Island
Connecticut	Mississippi	South Carolina
Delaware	Missouri[2]	South Dakota
District of Columbia	Montana	Tennessee
Florida PSC[3]	Nebraska	Texas
Georgia	Nevada	Utah
Idaho	New Hampshire	Vermont
Illinois	New Jersey	Virginia[4]
Indiana	New Mexico	Washington
Iowa	New York	West Virginia
Kansas	North Carolina	Wisconsin[5]
Kentucky	North Dakota	Wyoming

State Agencies Under Section 60106(a) Agreement (2)

Virginia (Municipal operators)
California PUC (Municipal operators)

State Agencies Acting as Interstate Agents (8)

Arizona	Michigan	Ohio
Connecticut	Minnesota	Washington
Iowa	New York	

[1] California PUC does not exercise jurisdiction over operators of non-utility owned intrastate gas transmission pipelines, gathering pipelines, any offshore facilities and Master Meter facilities that do not serve Mobile Home Parks. California PUC has a 60106 agreement for oversight of operators of Municipal facilities.
[2] Missouri PSC does not exercise jurisdiction over LPG operators
[3] Florida PSC does not exercise jurisdiction over LPG operators
[4] Virginia SCC has a 60106 agreement for oversight of operators of Municipal facilities
[5] Wisconsin does not exercise jurisdiction over LPG operators

[34] [Note: From https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-09/2022-Appendix-F-State-Program-Certification-Agreement-Status.pdf]

Appendix B – Form PHMSA GD-SMS-2022: Voluntary Adoption of American Petroleum Institute Recommended Practice 1173 for Gas Distribution Systems

OMB No: 2137-0642
Expiration Date 6/30/2026

		DOT USE ONLY
U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	Voluntary Adoption of American Petroleum Institute Recommended Practice 1173 for Gas Distribution Systems	Initial Date Submitted _____ Report Submission Type _____ Date Submitted _____

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0642. Public reporting for this collection of information is estimated to be approximately 3 hour per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are voluntary. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from https://www.phmsa.dot.gov/forms/pipeline-compliance-forms.*

1. Operator's OPS-Issued Operator Identification Number (OPID) _____

2. Name of Operator _____

3. Number of Customers Served by the Operator _____

4. Amount of Gas Transported by the operator during Calendar Year 2022 in Thousands of Standard Cubic Feet _____

5. Do you have procedures, processes, or programs in place to address? (select all that apply)
____ a. Promoting a positive safety culture
____ b. Communicating and educating employees, contractors, and/or the public regarding pipeline safety
____ c. Reducing risk and maintaining integrity to your pipeline assets
____ d. Developing and maintaining safe work practices.
____ e. Investigating incidents and near-misses on your pipeline system to identify and implement corrective actions
____ f. Verifying existing operations and safety practices are improving pipeline safety
____ g. Reviewing your safety performance to determine if additional actions are necessary to improve pipeline safety
____ h. Responding effectively to pipeline incidents
____ i. Assuring personnel are competent in tasks that impact the integrity of your system
____ j. Maintaining documentation needed to ensure pipeline safety

6. Has your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?
Yes ____ No ___

7. How did you become aware of RP 1173? (select all that apply)
_____Internal staff
_____Industry Affiliate
_____State regulator
_____Federal regulator
_____Not aware of RP 1173
_____Other (specify, up to 100 characters) _____

OMB No: 2137-0642
Expiration Date 6/30/2026

8. Have you performed a gap assessment or other comparable exercise to compare your pipeline safety and safety culture efforts to the concepts of safety management systems described in API RP 1173?
Yes ____ No ___

9. What barriers are preventing you from implementing an SMS program per API RP 1173 or other SMS? (select all that apply)
____ Size of company
____ Limited Staff
____ Financial Considerations
____ Unfamiliar with SMS principles
____ N/A
____ Other (specify, up to 100 characters) _____

10. What is the timeframe for closing initially identified gaps or addressing improvement opportunities? (select only one)
____ a. current year
____ b. next year to 2 years
____ c. more than 2 years to 5 years
____ d. more than 5 years to 10 years
____ e. more than 10 years
____ f. no plan

11. Is the implementation of your PSMS: (select only one)
_____ a. on track with the plan
_____ b. slower than planned
_____ c. faster than planned
_____ d. stalled for the moment

12. What element(s) are you currently focused on for implementation? (select all that apply)
_____ a. Leadership and Management Commitment
_____ b. Stakeholder Engagement
_____ c. Risk Management
_____ d. Operational Controls
_____ e. Incident Investigation, Evaluation, and Lessons Learned
_____ f. Safety Assurance
_____ g. Management Review and Continuous Improvement
_____ h. Emergency Preparedness and Response
_____ i. Competence, Awareness, and Training
_____ j. Documentation and Record Keeping
_____ k. Other (specify, up to 100 characters) _____

13. What elements have been the most challenging to implement? (select all that apply):
_____ a) Leadership and Management Commitment
_____ b) Stakeholder Engagement
_____ c) Risk Management
_____ d) Operational Controls
_____ e) Incident Investigation, Evaluation, and Lessons Learned
_____ f) Safety Assurance
_____ g) Management Review and Continuous Improvement
_____ h) Emergency Preparedness and Response
_____ i) Competence, Awareness, and Training
_____ j) Documentation and Record Keeping
_____ k) Other (specify, up to 100 characters) _____

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14. Have you conducted a review of your PSMS program?
Yes ____ No___

15. If you answered "Yes" in #14, by whom? (select all that apply)
_____Internal staff
_____Independent third-party evaluator
_____State regulator
_____Federal regulator
_____Other (specify, up to 100 characters) _____

16. Are you maintaining a method to evaluate PSMS maturity?
Yes ____ No ___

Preparer Name: _____

Preparer's E-Mail Address: _____

Preparer's Phone Number: _____

Authorized Person Name: _____

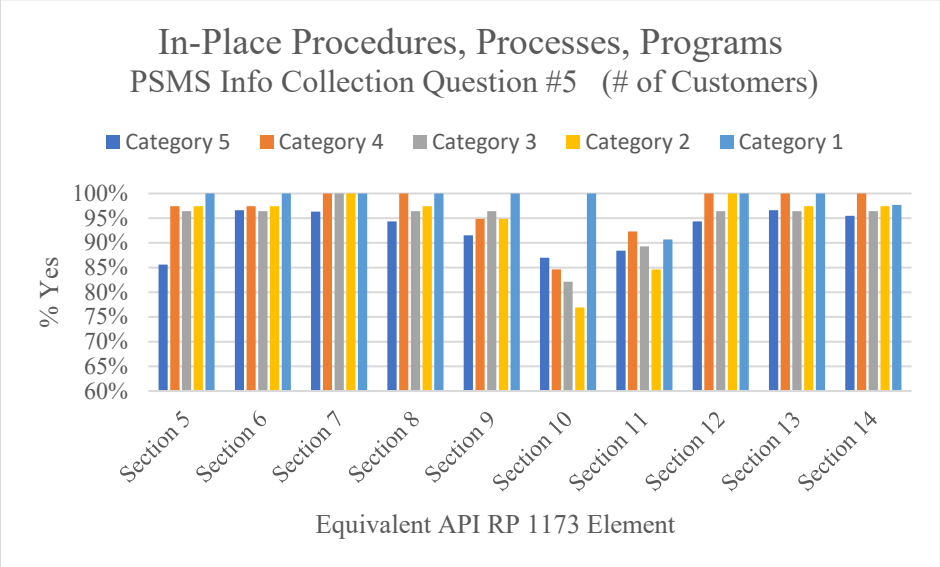
Authorized Person's E-Mail Address: _____

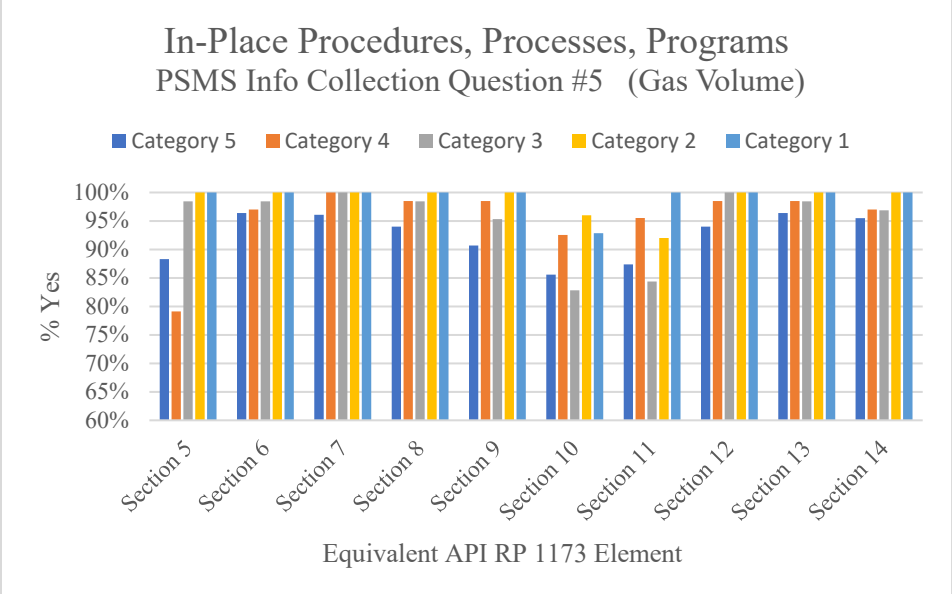
Authorized Person's Phone Number: _____

Appendix C – Results Summary: Form PHMSA GD-SMS-2022: Voluntary Adoption of American Petroleum Institute Recommended Practice 1173 for Gas Distribution Systems

Question #5: *Do you have procedures, processes, or programs in place to address? (Select all that apply.)*

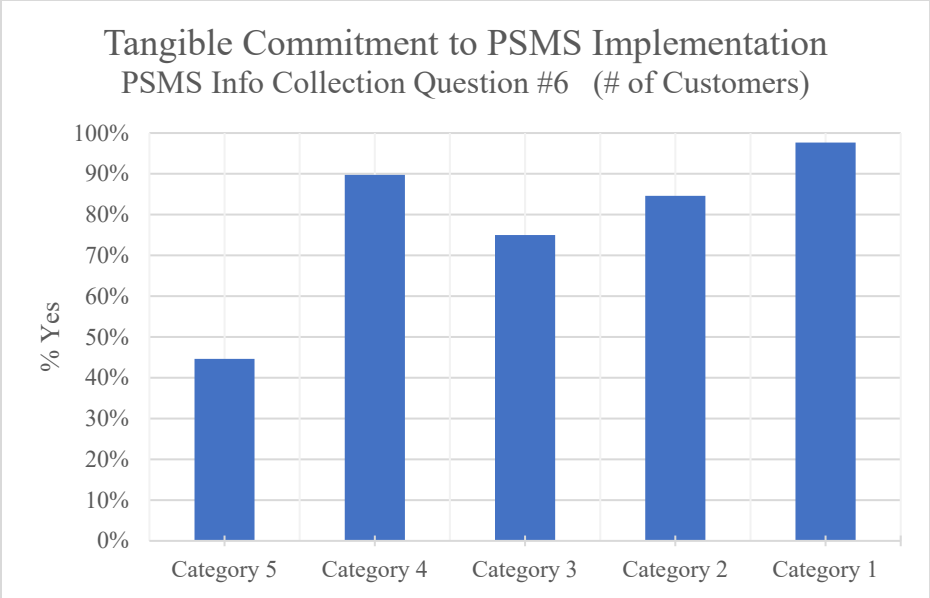
Summary: Most operators, even those in smaller categories 4 and 5, responded that they largely have existing processes in place for elements analogous to those in API RP 1173. Note: This question does not ask if a PSMS/API RP 1173 type of program is in place, but only if procedures, processes, or programs that are similar to those in the RP are present. Report Table 13.2-1 relates the information collection question options to the RP process elements.

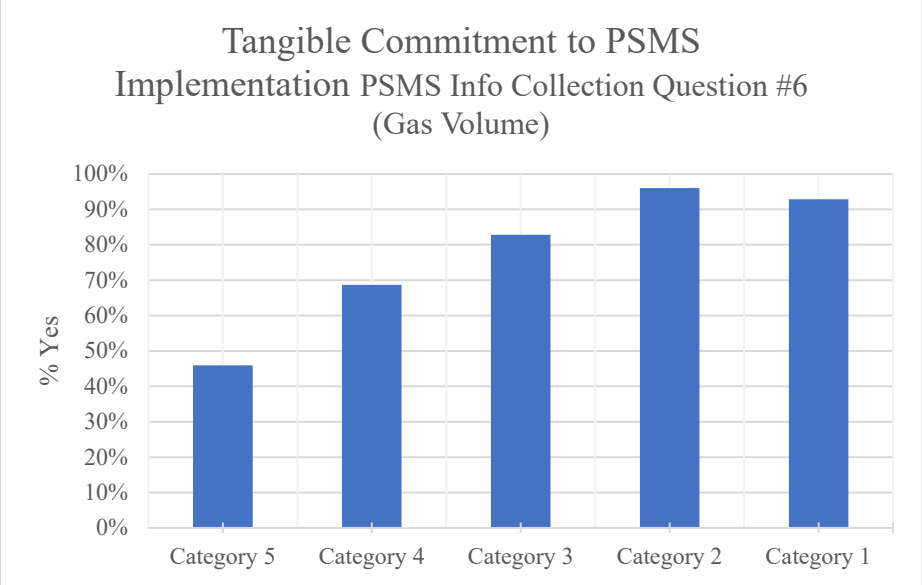




Question #6: *Has your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?*

Based on the responses to the PSMS information collection, there is a distinctly lower PSMS implementation rate by the smallest operators, with approximately 45 percent of the category 5 operators indicating that their organization has a tangible commitment to implementing a PSMS.





For "No" responses (205) to Question #6 (*Has your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?*), 13 included an entry for the "Other" text option of question #9 (*What barriers are preventing you from implementing an SMS program per API RP 1173 or other SMS?*), as shown below. While most are category 4 and 5 operators, this group does include larger size operators.

Category (Volume of Gas)	**Category (Number of Customers)**	**Other Text (**Question 9 **-** *What barriers are preventing you from implementing an SMS program per API RP 1173 or other SMS?***)**
5	4	Our team has heard of PSMSs but have not seen "Real World" examples of a PSMS.
3	5	While barriers do exist, we are planning to implement API RP 1173 within the next five years.
4	3	An SMS would be redundant to our current procedures.
5	5	Safe operation of our system is currently achieved by implementation of pipeline regulations.
1	3	Lack of prioritization.
3	3	Lack of prioritization.
5	2	Not mandated and currently have procedures and practices in place that essentially mimic API RP 1173.
5	5	Too many regulations and or requirement's NOW!!!
4	5	We think we meet the requirements of RPI1173 without needing another formal plan.
5	5	Three-person operation.
5	5	We use our O&M plan, Emergency Plan, and our DIMP for gap assessment and safety culture.
5	5	Two-person operation.
5	5	I just took over the position two months ago; I have a lot to learn and catch up on.

For "No" responses (205) to Question #6 (*Has your company or system's leadership demonstrated a tangible commitment to the implementation of a pipeline safety management system (PSMS)?*), 60 included an entry for the "Other" text option of question #12 (*What element(s) are you currently focused on for implementation?*), as shown below. These were almost entirely categories 4 and 5 operators, although each of the larger categories was also represented.

Category (Volume)	**Category (Customers)**	**Other Text** (Question 12: *What element(s) are you currently focused on for implementation?*)
5	5	Elements have not been determined due to answers for question 9.
5	5	Have not yet implemented API RP 1173.
5	5	Have not yet implemented API RP 1173.
5	5	We are not sure what to focus on first because we do not have a SMS.
5	5	N/A.
5	5	Have not implemented API RP 1173.
5	5	Have not yet implemented a PSMS program.
5	5	N/A. Elements of a PSMS are being implemented through use of other safety and compliance plans.
5	5	Not planning to implement.
4	3	N/A.
5	4	Have not implemented a PSMS plan.
3	3	N/A.
3	2	N/A.
5	5	Have not yet implemented a PSMS.
5	5	Such elements are currently implemented by our system.
5	5	Not currently implementing.
3	2	N/A.
5	4	N/A.
5	5	No plan.
1	3	Participation in NGA PSMS Collaborative.
3	3	Participation in NGA PSMS Collaborative.
5	5	Just starting on an PSMS program per API RP 1173.
5	5	Have not yet implemented a PSMS.
5	5	Have not yet implemented a PSMS.
5	5	Have not formally implemented API RP 1173.
5	5	Have not implemented a PSMS.
5	5	Have not implemented a PSMS plan for API RP1173.
5	5	Have not yet implemented a PSMS.
5	5	Have not yet implemented a PSMS.
5	5	No Implementation Plan. Not focused on any particular element.
5	5	No plan to implement a PSMS. Not focused on these elements.
5	5	Have not implemented a PSMS plan for API RP1173.
4	5	Maintaining compliance with all plans, programs, etc., already required by PHMSA.

Category (Volume)	**Category (Customers)**	**Other Text** (Question 12: *What element(s) are you currently focused on for implementation?*)
5	5	No plan to implement so not focused on any of these elements.
3	5	Will continue discussions on the implementation of a PSMS.
5	5	Need more info on the PSMS program.
5	5	All part of current annual review of O&M, IMP, Damage Prevention and Public Awareness Programs.
4	5	Never started.
4	5	Never started.
4	5	Never started.
5	5	Have not yet implemented a PSMS program.
5	5	Not planning to implement so not focused on any of the listed elements.
5	5	Never started.
4	5	Never started.
4	5	Never started.
4	5	Never started.
5	5	None.
5	5	Never started.
5	5	Current regulations.
5	5	We are doing all of these question every day with our O&M, DIMP, and EMERGENCY PLAN.
4	5	Never started.
5	5	Wasn't aware of PSMS.
5	5	Never started.
5	5	Never started.
4	5	Never started.
4	5	Never started.
4	5	Never started.
5	5	Not currently implementing.
5	5	We are implementing all of these through different processes and procedures.
4	5	Never started.

Question #7: *How did you become aware of RP 1173?*

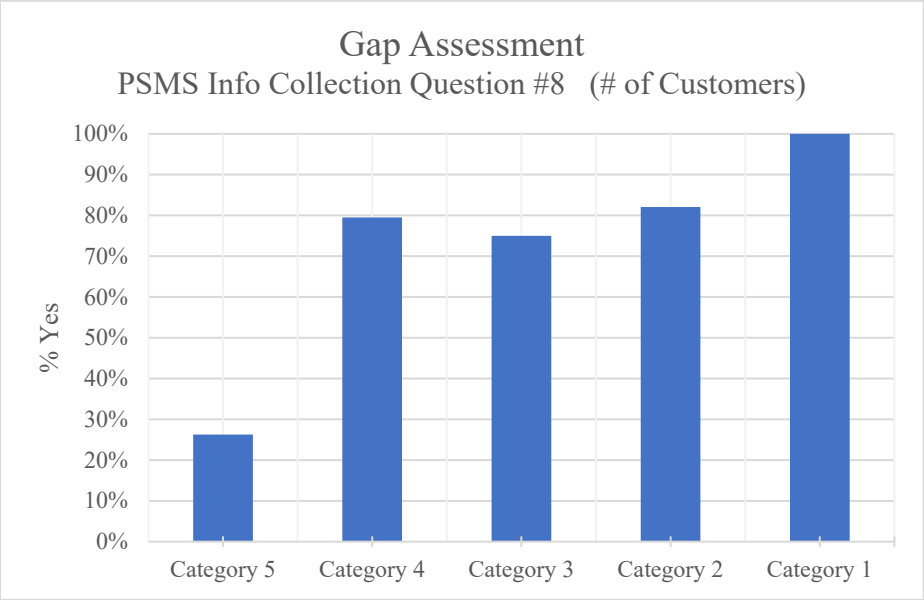
The "top two" barriers for API RP 1173 awareness for each category of operator are highlighted in the respective tables below. The most common "top two" source of API RP 1173 awareness is "Industry Affiliate," with "Internal Staff" awareness being higher for larger operators than smaller.

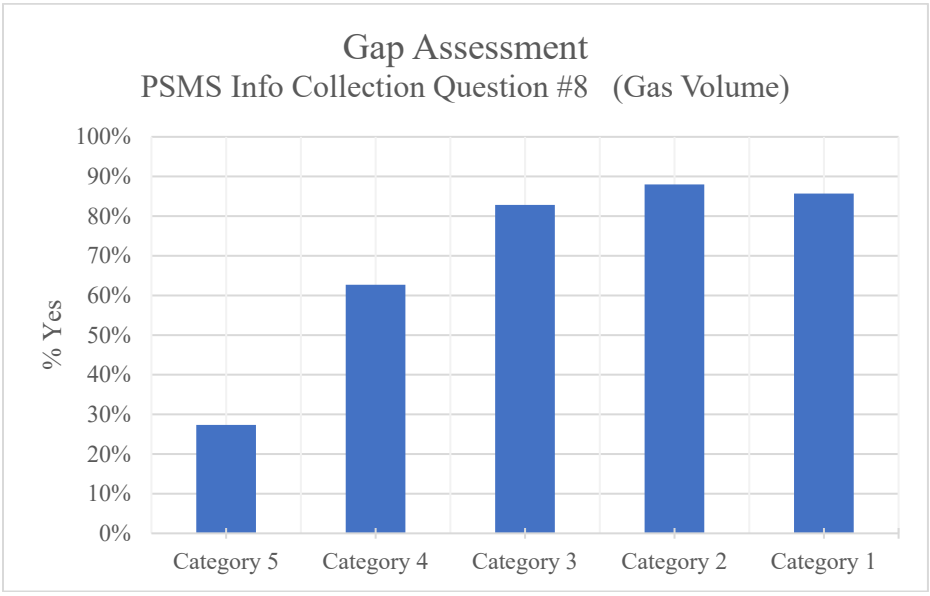
Volume (top two responses—highlighted below—for each size category)						
Category	**Internal Staff**	**Industry Affiliate**	**State Regulator**	**Federal Regulator**	**Not Aware of API RP 1173**	**Other**
5	11%	**41%**	**55%**	32%	8%	34%
4	30%	**60%**	**42%**	24%	18%	16%
3	**55%**	**75%**	50%	39%	2%	19%
2	**60%**	**80%**	40%	32%	0%	20%
1	**93%**	**86%**	79%	57%	0%	29%

Customers (top two responses—highlighted below—for each size category)						
Category	**Internal Staff**	**Industry Affiliate**	**State Regulator**	**Federal Regulator**	**Not Aware of API RP 1173**	**Other**
5	11%	**39%**	**52%**	30%	11%	33%
4	38%	**74%**	**51%**	31%	0%	18%
3	46%	**79%**	**50%**	43%	0%	14%
2	54%	**77%**	**64%**	46%	0%	15%
1	**74%**	**86%**	49%	33%	0%	23%

Question #8: *Have you performed a gap assessment or other comparable exercise to compare your pipeline safety and safety culture efforts to the concepts of safety management systems described in API RP 1173?*

The trend for gap assessment generally follows the same trend as for question #6: the smaller operators generally lag in implementation of API RP 1173, and not all operators that have started implementation have performed a gap assessment.





Question #9: *What barriers are preventing you from implementing an SMS program per API RP 1173 or other SMS?* [Also see previous discussion as related to question #6.]

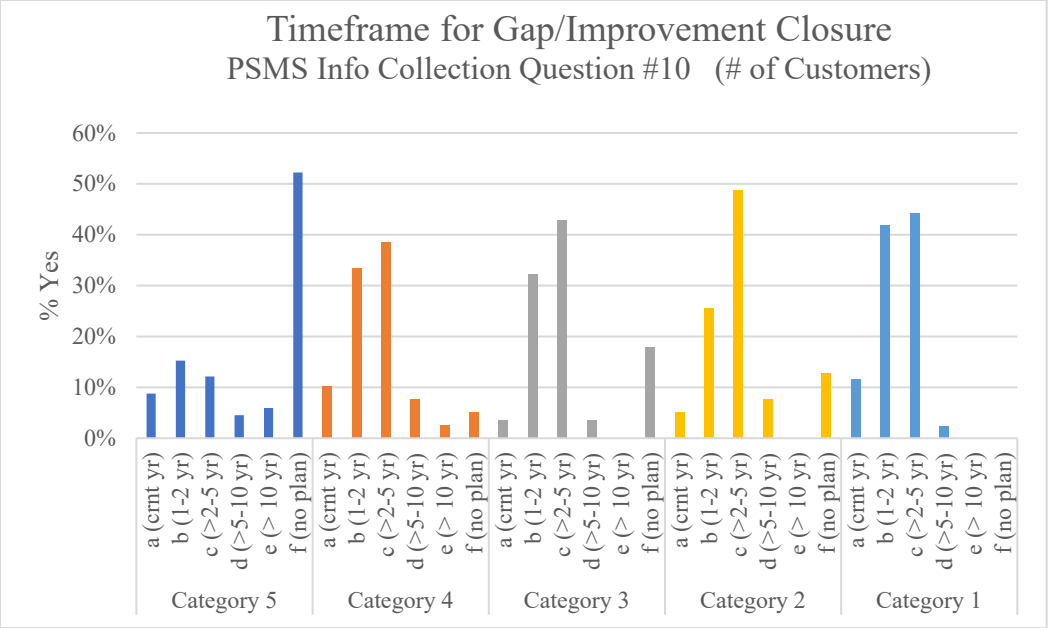
The "top two" barriers for SMS Implementation for each category of operator are highlighted in the respective tables below. The most common "top two" implementation barrier across the operator size spectrum is "Limited Staff," particularly for the smaller operators. In addition, larger operators indicated implementation barriers as being less relevant than for small operators.

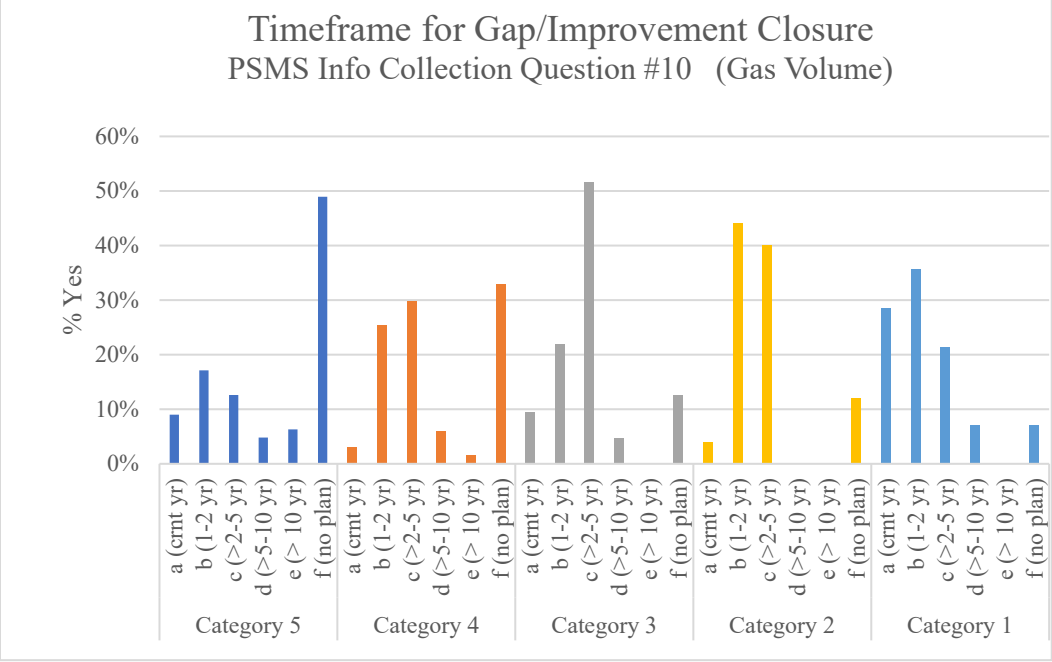
Customers (top two responses—highlighted below—for each size category)						
Category	**Size of Company**	**Limited Staff**	**Financial Considerations**	**Unfamiliar with SMS Principles**	**N/A**	**Other**
5	**64%**	**63%**	48%	28%	19%	6%
4	15%	**44%**	23%	10%	**49%**	8%
3	7%	**57%**	25%	0%	**43%**	25%
2	10%	**28%**	18%	5%	**67%**	10%
1	9%	**16%**	5%	0%	**84%**	14%

Volume (top two responses—highlighted below—for each size category)						
Category	**Size of Company**	**Limited Staff**	**Financial Considerations**	**Unfamiliar with SMS Principles**	**N/A**	**Other**
5	**62%**	**67%**	50%	29%	19%	6%
4	**34%**	**34%**	16%	6%	**42%**	9%
3	16%	**38%**	20%	3%	**61%**	16%
2	4%	**12%**	12%	4%	**84%**	0%
1	7%	14%	7%	0%	**79%**	**29%**

Question #10: *What is the timeframe for closing initially identified gaps or addressing improvement opportunities?*

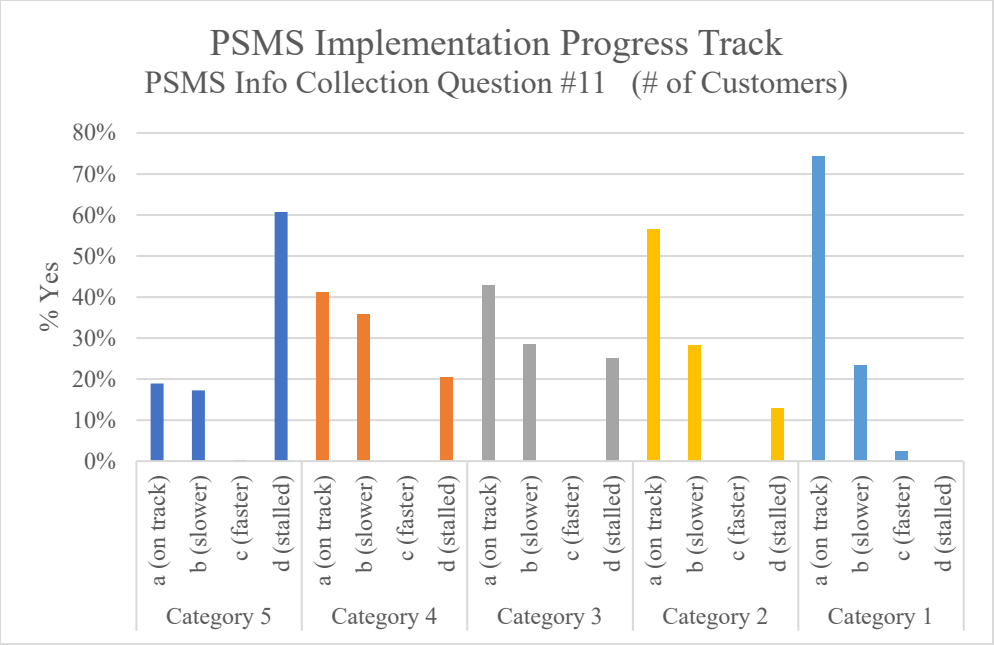
There is a clear trend for larger operators to have nearer-term plans to complete and/or improve their PSMS efforts. However, approximately half of the smallest category of operators report no plan to complete development of a PSMS program.

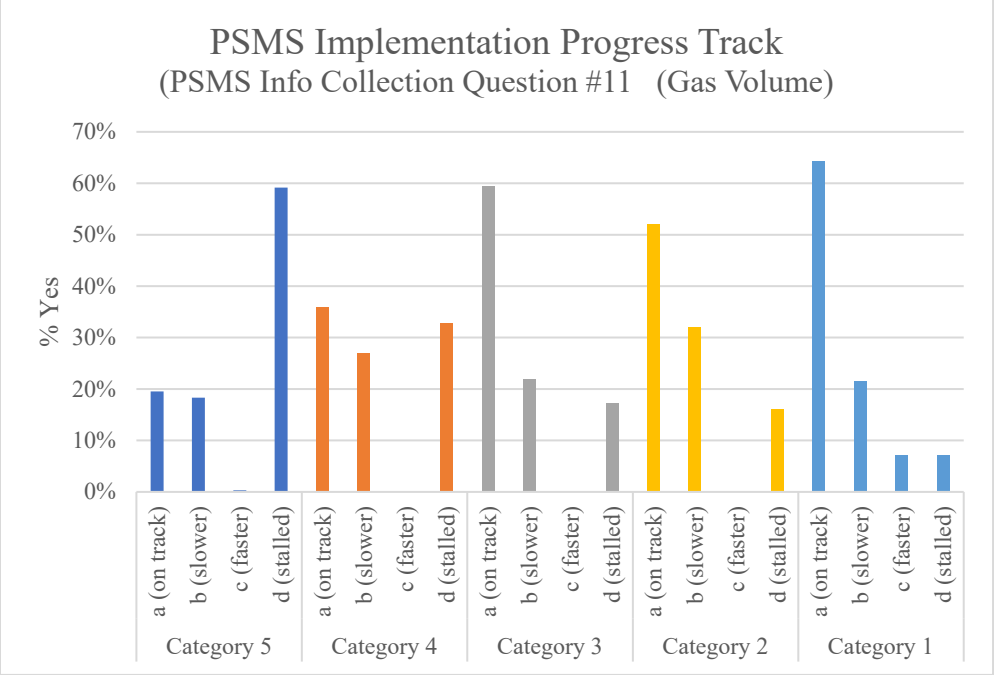




Question #11: *Is the implementation of your PSMS:*

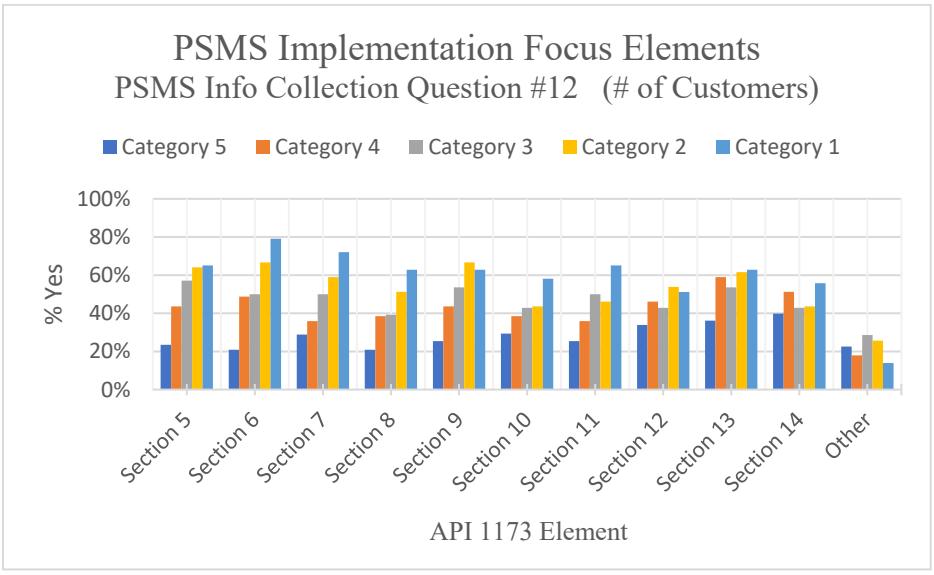
Similar to question #10, there is a clear trend for larger operators to report their PSMS efforts as "on-track" for completion (roughly two-thirds of the largest category of operators). More than one-half of the smallest category of operators reported that PSMS efforts fit the "stalled" response option.

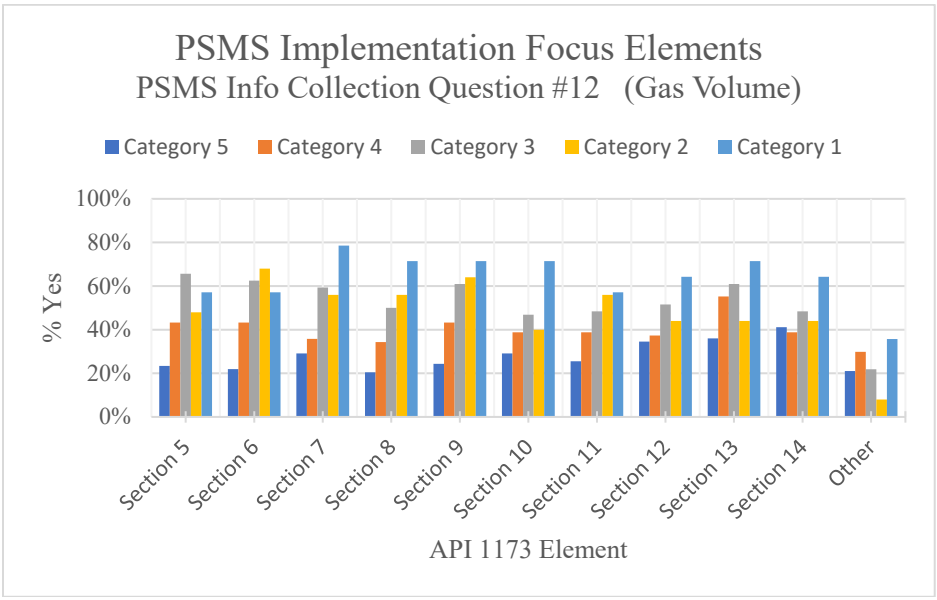




Question 12: *What element(s) are you currently focused on for implementation?*
[Also see previous discussion as related to question #6.]

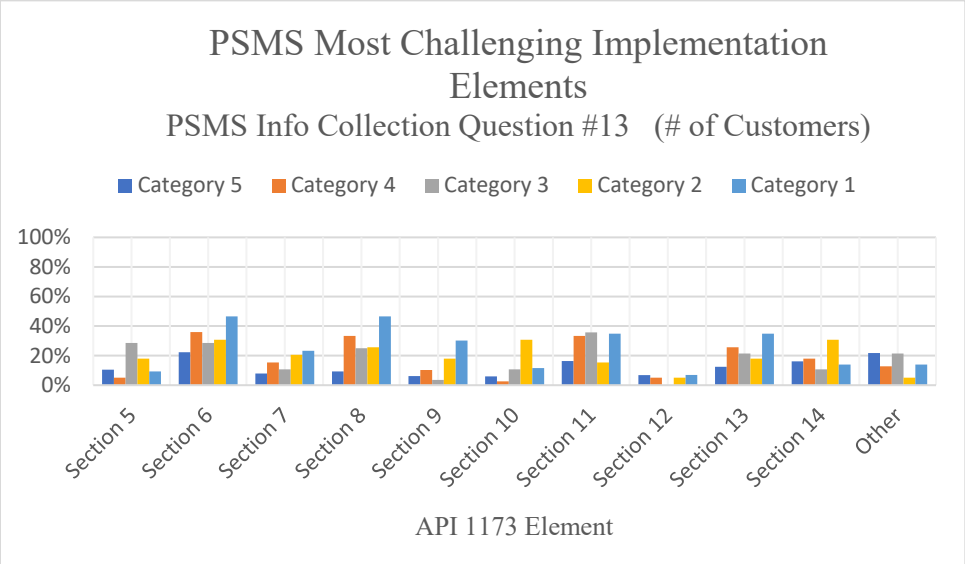
The reported data is largely evenly scattered across the respective elements of API RP 1173 for the same relatively sized operators. However, there is a clear trend for larger operators to be actively focusing on the API RP 1173 elements, with the decreasing level of focus of smaller operators reflecting the decreasing implementation of an SMS as operator size decreases.

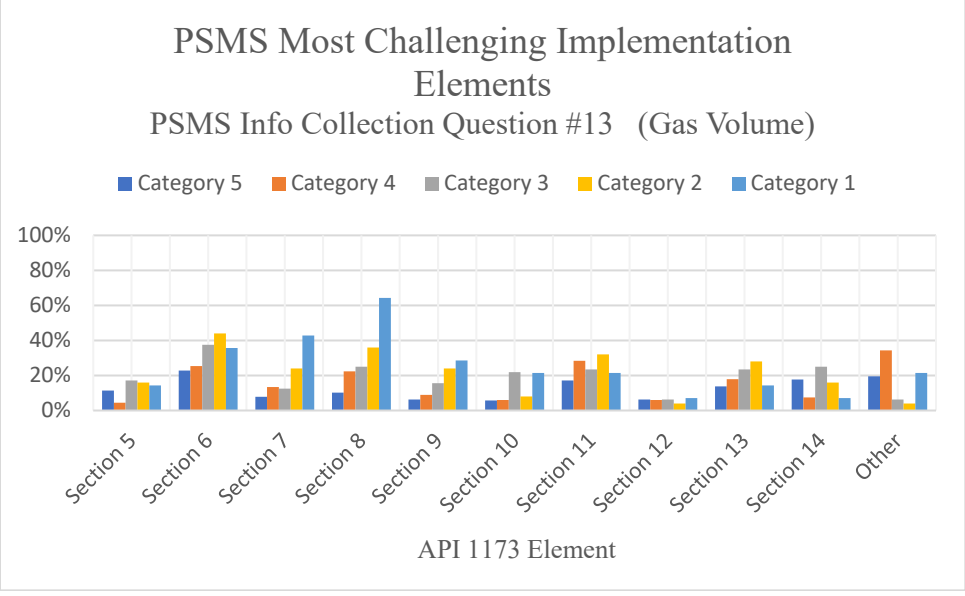




Question 13: *What elements have been the most challenging to implement?*

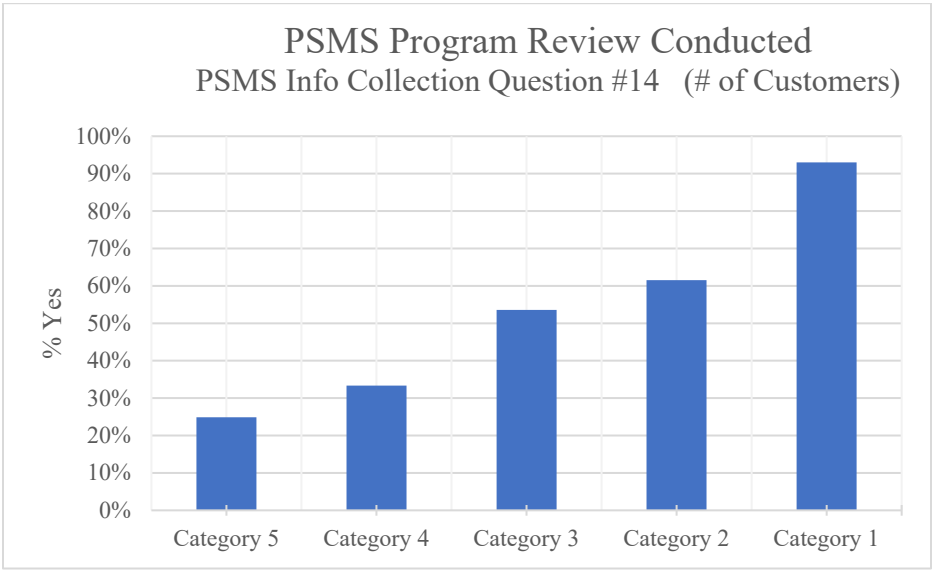
Although the data is largely scattered across the respective elements of API RP 1173, Element 6 (Stakeholder Engagement) and Element 8 (Operational Controls) had somewhat higher percentages of reported challenge than other elements, but the noted areas of challenge ranged across all of the respective RP elements. As with previous questions, there is a clear trend for larger operators to be actively focusing on the API RP 1173 elements, with the decreasing level of focus of smaller operators reflecting the decreasing implementation of an SMS as operator size decreases.

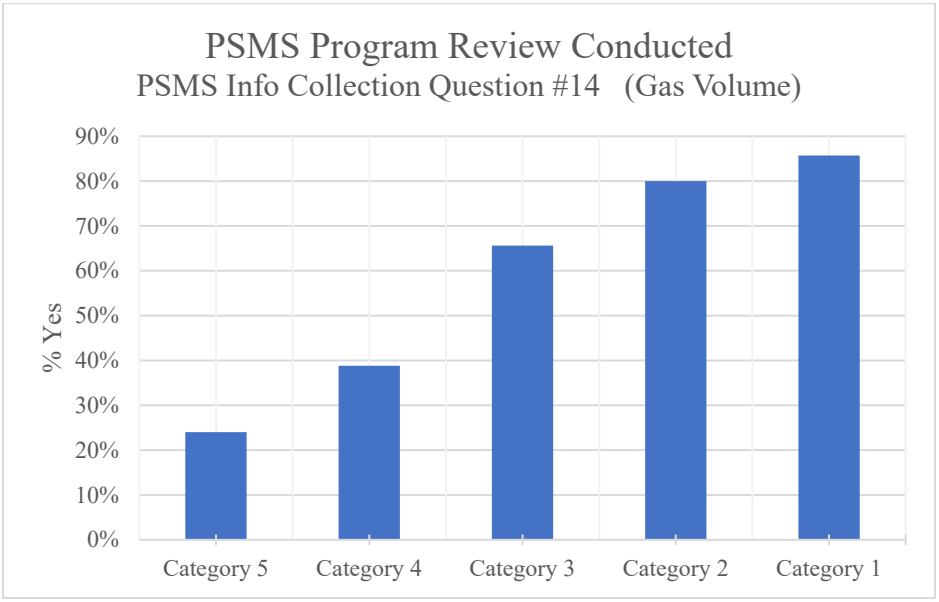




Question 14: *Have you conducted a review of your PSMS program?*

The trend for having performed a PSMS program review follows the same trend as for question #6, with the smaller operators generally lagging in implementation of an SMS, and not all that have started implementation having yet performed a program review.





Question 15: *If you answered "Yes" to #14, by whom?*

The most common "top two" for both customer and volume cases are "Internal Staff" and "Independent Third-Party Party Evaluator" (in that order). Given that an SMS program is not currently a regulatory requirement, the low occurrence of state or federal regulator involvement is expected.

Customers (top two responses—highlighted below—for each size category)					
Category	**Internal Staff**	**Independent Third-Party Evaluator**	**State Regulator**	**Federal Regulator**	**Other**
5	**20%**	5%	**6%**	0%	3%
4	**31%**	**10%**	0%	0%	5%
3	**43%**	**14%**	4%	0%	4%
2	**49%**	**28%**	0%	0%	5%
1	**84%**	**56%**	5%	0%	21%

Volume (top two responses—highlighted below—for each size category)					
Category	**Internal Staff**	**Independent Third-Party Evaluator**	**State Regulator**	**Federal Regulator**	**Other**
5	**20%**	**5%**	**5%**	0%	2%
4	**33%**	**12%**	1%	0%	3%
3	**52%**	**33%**	5%	0%	13%
2	**72%**	**32%**	8%	0%	12%
1	**86%**	**57%**	7%	0%	21%

Question 16: *Are you maintaining a method to evaluate PSMS maturity?*

The trend for maintaining a method to evaluate PSMS maturity follows the same trend as for question #6, with the smaller operators generally lagging in implementation of an SMS, and not all that have started implementation have a method to evaluate PSMS maturity.