Excess Flow Valve Frequently Asked Questions

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PHMSA published the Pipeline Safety: Expanding the Use of Excess Flow Valves in Gas Distribution Systems to Applications Other Than Single-Family Residences final rule on October 14, 2016, with an effective date of April 14, 2017 (81 FR 70987). PHMSA amended the regulations in 49 CFR Part 192 regarding the use of excess flow valves and manual-service-line shut-off valves on gas service lines after considering comments from industry, stakeholders, and members of the public. This Excess Flow Valve Frequently Asked Questions (FAQs) guidance document provides additional information on excess flow valves. PHMSA provides FAQs to help the public understand how to comply with the existing requirements under the regulations. FAQs are not substantive rules, are not meant to bind the public in any way, and do not assign duties, create legally enforceable rights, or impose new obligations not otherwise contained in the existing regulations. However, an operator who can demonstrate compliance with the FAQs is likely to be able to demonstrate compliance with the relevant regulations.

Glossary

Term	Acronym
American Gas Association	AGA
British Thermal Unit	BTU
Cubic Feet per Hour	CFH
Excess Flow Valve	EFV
Manual-service-line Shut-off Valve	MSLV
Multi-family Residence	MFR
Operations and Maintenance	O&M
Pounds per Square Inch Gauge	PSIG
Standard Cubic Feet per Hour	SCFH
Single-family Residence	SFR

1. **How can an operator recover the costs of installing EFVs on existing service lines?**

   Customer-requested EFVs on existing service lines are covered by 49 CFR 192.383(d). That provision states that "[t]he operator's rate-setter determines how and to whom the costs of the requested EFVs are distributed."

2. **Does PHMSA require operators to complete installations if a customer cannot or will not pay for an EFV that the rate setter (e.g. a state regulatory authority) determined should be the customer's responsibility?**

   49 CFR 192.383(d) states that "[t]he operator's rate-setter determines how and to whom the costs of the requested EFVs are distributed." Operators should address questions related to payment to the pertinent rate-setting authority, which may, in some cases, be the state regulatory authority.

3. **Can an operator install an EFV closer to the riser if such an installation site is less expensive than installing the EFV close to the main?**

   No. 49 CFR 192.381(d) requires each operator to install EFVs "as near as practical to the fitting connecting the service line to its source of gas supply." Additionally, EFVs provide protection only downstream from the location of their installation; therefore, installation at the service riser would limit the utility, effectiveness, and safety benefits of installing an EFV in most cases.

4. **Can an operator install MSLVs on service lines to SFRs rather than EFVs? What about other smaller intake consumers such as MFRs and small, commercial customers?**

No. Pursuant to 49 CFR 192.383(b)(1)-(3), an operator does not have the option to install an MSLV in place of an EFV on service lines to SFRs or branched service lines.[1] Similarly, pursuant to 49 CFR 192.383(b)(4)-(5), an operator does not have the option to install an MSLV in place of an EFV on service lines for MFRs or single, small, commercial customers served by a single service line, each with a known customer load at the time that the meter was installed of no more than 1,000 SCFH.

5. Will PHMSA require an operator to install an MSLV on a service line that qualifies for an exception pursuant to 49 CFR 192.383(c)?

The exceptions in 49 CFR 192.383 apply to EFVs, not MSLVs, which are covered by 49 CFR 192.385. Please see 49 CFR 192.385 for determinations regarding MSLV installation.

6. Do the requirements in 49 CFR 192.383(b)(2)-(5) allow an operator to install a single EFV on a branched service line that leads to multiple commercial services?

The requirements in 49 CFR 192.383(b)(2)-(3) apply only to SFRs, not commercial services. Similarly, 49 CFR 192.383(b)(4) applies to MFRs, not commercial services. While 49 CFR 192.383(b)(5) is applicable to commercial services, it does not allow a single EFV on a branched line and requires an operator to install an EFV on each individual commercial service line if the known customer load did not exceed 1,000 SCF at the time of meter installation.

[1] Per 192.385, "manual service line shut-off valve" means "a curb valve or other manually operated valve located near the service line that is safely accessible to operator personnel or other personnel authorized by the operator to manually shut off gas flow to the service line, if needed."

7. **Can an operator install an MSLV at the main of a branched, small, commercial service line for which the connected load exceeds 1,000 SCFH rather than installing an EFV on each service line?**

   Yes. Pursuant to 49 CFR 192.383(b)(5), operators must install an EFV on any new or replaced single service line that serves a single, small, commercial customer and has a known customer load that, based on installed meter capacity, did not exceed 1,000 SCFH at the time of meter installation. However, pursuant to 49 CFR 192.385, an operator may choose instead to install an MSLV at the main of a branched, small, commercial service line where the connected load exceeds 1,000 SCFH.

8. **How does meter capacity impact the installation requirements for EFVs on SFR service lines?**

   Operators must install EFVs on service lines for SFRs and SFR branched services even if their known customer loads exceed 1,000 SCFH (49 CFR 192.383(b)(1)-(3)). PHMSA does not expect the loads of SFRs or SFR branched service lines to regularly exceed 1,000 SCFH; therefore, PHMSA did not include any capacity measures for EFV installation requirements for SFRs and SFR branched service lines. PHMSA does not require operators to install EFVs if no commercially available EFVs meet the 49 CFR 192.381 performance standards for that specific line (*see* 49 CFR 192.383(c)(4)). In such instances, operators should document the justification for any exception regarding the installation of an EFV. Note: On SFRs or SFR branched services, an operator does not have the option to install MSLVs instead of EFVs (49 CFR 291.383(b)(1)-(3)).

9. **Do PHMSA regulations require an operator to install an MSLV on a service line that: 1) either is attached to a single SFR or that is a branched service line that supplies gas to a residential customer; 2) had a known customer load at the time the meter was installed that exceeded 1,000 SCFH; and 3) on which the operator had already installed an EFV?**

   No. Pursuant to 49 CFR 192.385(b), an MSLV is not required if an operator has already installed an EFV on the line in question.

10. **Does PHMSA have a preference regarding whether an operator installs EFVs or MSLVs on service lines for which the known customer load at the time that the meter was installed exceeded 1,000 SCFH?**

    In situations where 49 CFR 192.385 requires an operator to install either an EFV or an MSLV, the operator may install an EFV if the operator is able to obtain an EFV, if such an installation is possible and supported by an engineering analysis, and if the meter capacity exceeds 1,000 SCFH or if the known customer load in CFH at the time that the meter was installed exceeded 1,000 SCFH.

11. **What is the frequency with which 49 CFR 192.383(e) states that an operator must notify customers of their right to request installation of EFVs?**

    Notification frequency is not defined in the regulations. An operator must notify all customers that they have a right to request EFVs as required by 49 CFR 192.383(e). Initially, all operators were required to notify their customers of this right by April 14, 2017.

As customers may change over time, each operator is responsible for determining the notifications needed to satisfy 49 CFR 192.383(e) to alert their evolving customer base.

One way that an operator could notify their customers is by creating a webpage or posting to a social-media site that is accessible to all applicable customers and that includes sufficient information to help customers make informed decisions regarding whether they would like to request EFVs. Each operator should adhere to 49 CFR 192.383(e)(1)-(4) to ensure that their webpage satisfies all notification requirements. An operator could ensure that they reach all applicable customers by using other methods in combination with the webpage, including incorporating information into new-customer packets, providing inserts in customers' bills, and adding statements on billing materials. An operator could employ electronic methods of communication—such as websites and social media—as long as the methods allow the operator to reach all customers who have the right to request EFVs.

12. Can an operator employ a website notification as the sole method they use to notify customers of their right to request installation of EFVs?

Operators who rely solely on a website or social media to educate customers regarding their right to request EFVs should also provide all customers—including customers who receive only paper bills—with information that details how to access the website or social media page(s). This is consistent with 49 CFR 192.383(e)(1), which states that operators must provide written or electronic notification to customers regarding their right to request installation of an EFV.

13. What are the maintenance requirements for maintenance-free ball valves used as MSLVs?

An operator who uses maintenance-free ball valves as MSLVs must comply with the requirements in 49 CFR 192.385(c). Specifically, the operator should consult their Operations and Maintenance (O&M) manuals and the manufacturer's instructions, as both could contain additional maintenance requirements. MSLVs installed pursuant to 49 CFR 192.385 are subject to regular scheduled maintenance, as documented by the operator and as specified by the valve manufacturer. Operators should incorporate procedures into their maintenance plans that include detailed requirements for regularly scheduled maintenance.

14. What is the meaning of the phrase "regular scheduled maintenance" in 49 CFR 192.385?

The meaning of "regular scheduled maintenance" should be documented in the operator's O&M plans and procedures and should consider and incorporate the valve manufacturer's specifications for proper maintenance. Maintenance and inspection interval procedures should also be documented in each operator's O&M procedures. Note that 49 CFR 192.385(c) states that "[m]anual service shut-off valves installed under this section are subject to regular scheduled maintenance, as documented by the operator and consistent with the valve manufacturer's specification." Therefore, all MSLVs must be regularly inspected and maintained.

Operator personnel can satisfy the requirements of 49 CFR 192.385(c) by ensuring that their valves are accessible and free of debris that could inhibit operation, as well as by confirming

that the valves can turn and operate (*see* 81 FR at 70993). Operators must take all necessary actions to ensure that their valves are accessible during an emergency.

15. Do the exemptions for EFV installation apply to MSLV installation? Should an operator install an MSLV on a service line that had a known customer load at the time that the meter was installed of more than 1,000 SCFH if that service line also operates at less than 10 PSIG or meets another of the 49 CFR 192.383(c) exception criteria?

The exceptions in 49 CFR 192.383(c) only apply to EFVs that are covered by the requirements in 49 CFR 192.383(b). The exceptions do not apply to MSLVs, which are regulated under 49 CFR 192.385. Even in a situation where there are exceptions regarding the use of an EFV, an operator must install an MSLV if 49 CFR 192.385 requires an MSLV. Please see the following table for additional information:

	Single-Family Residences^	**Multifamily Residences**		**Commercial Customers Served by a Single Service Line**	
	Any Meter Capacity	**Installed Meter Capacity ≤ 1,000 SCFH**	**Installed Meter Capacity > 1,000 SCFH**	**Installed Meter Capacity ≤ 1,000 SCFH**	**Installed Meter Capacity > 1,000 SCFH**
Operating Pressure < 10 PSIG	Nothing Required	Nothing Required	Install MSLV	Nothing Required	Install MSLV
Operating Pressure ≥ 10 PSIG	Install EFV*	Install EFV*	Install EFV or MSLV	Install EFV*	Install EFV or MSLV

** Subject to exceptions listed in 49 CFR 192.383(c)*

^ Includes both single service lines and branched service lines for SFRs

16. Can an operator locate MSLVs on their property lines, or must the operator locate these valves closer to the main?

It depends. Operators must install MSLVs in locations that will allow personnel to safely access the valves to manually shut off gas flow to the service line, if necessary (*see* 49 CFR 192.385(a)). Additionally, each owner and operator must ensure that any MSLVs they install on new or replaced service lines are accessible during emergencies (*see* 49 CFR 192.385(c)). Operators should ensure that each valve is installed in a location that will allow the operator to access the valve to turn it off during an emergency.

17. What is the meaning of the phrase "known customer load" in 49 CFR 192.383(b)(4)-(5)?

A known customer load is based on the load of any natural gas equipment installed at a customer's site at the time the operator installs a gas meter. The operator then uses the known customer load at the time the meter was installed to determine the capacity of the gas meter. An operator can obtain a known customer load in CFH by dividing the input of each gas appliance's average heating value—as expressed in BTUs—by the average BTUs per cubic foot of gas. For example: each gas appliance in a house has an input BTU value. If the house's total BTU load was 250,000 BTUs and the average number of BTUs per cubic foot was 1,000, the total CFH load would be 250 CFH. An operator could provide additional considerations for the customer's meter pressure, gas type, pipe size, and flow range.

18. PHMSA uses both "known customer load" and "meter capacity" in 49 CFR 192.383(b)(4)-(5). How should operators apply these concepts in selection of safety devices (as between EFVs and MSLVs)?

The operator should consider the best available information at the time that the meter was installed. In a properly designed system, the known customer load will be reflected in the selected meter capacity; operators use that meter capacity to identify and install the appropriate safety equipment. However, if the meter capacity is significantly oversized for the customer load (i.e., situations where there is a large gap between the known customer load and the meter capacity), operators should base their decisions on the customer load. This approach would allow operators to select the safety device that is most appropriate and effective for a specific operating environment.

19. Does PHMSA intend to exempt service lines that are longer than the manufacturer's recommendation for the size of a service line?

Operators do not need to install an EFV on a particular service line if there are no EFVs that are commercially available for the line and that meet the performance standards required (*see* 49 CFR 192.383(c)(4)). For example, operators do not need to install an EFV if one is not available to meet the necessary performance standards for the length of a service line. Further, PHMSA does not intend for EFVs to impede necessary O&M activities, and there may be situations in which the installation of an EFV could constitute such an impediment and serve as a basis for an exception (*see* 49 CFR 192.383(c)(3)).

If an operator believes that an EFV exemption is appropriate in a given situation, the operator should assess the situation based on the operator's historical knowledge, justify the determination, and document the situation and the operator's decision.

20. What is the meaning of the phrase "located near the service line" in 49 CFR 192.385?

Much like the purpose of the EFV installation requirements in 49 CFR 192.381 and 192.383, the intent of 49 CFR 192.385 is to protect the service line by adding MSLVs or, if possible, EFVs. MSLVs should be accessible at all times and should also be installed in a location that will protect as much of the service line as possible; this generally means that they should be installed between the main and locations of accessibility such as the curb or sidewalk, depending on the location of the main. Operators should ensure that each valve is installed in a location that will allow the operator to access the valve to turn it off during an emergency.

21. If an operator replaces the majority of a service line, is it acceptable for the operator to install an EFV as close as possible to a main (the source of the gas) that the operator could not replace because the service line was buried under a street?

Yes. If an operator installs an EFV, they should place the EFV as close to the source of gas as they can to ensure that the EFV protects as much of the service line as possible (*see* 49 CFR 192.381(d)). Operators should install EFVs in accordance with the regulation if the operator replaces either a service line that travels from the main to the customer's house or a segment of a service line near the fitting that connects the main to the service line. However, operators are not required to install an EFV if the operator only replaces a short segment of a service line that is far away from the main or the gas source, as EFVs in such locations may not provide protection against pipeline failure.