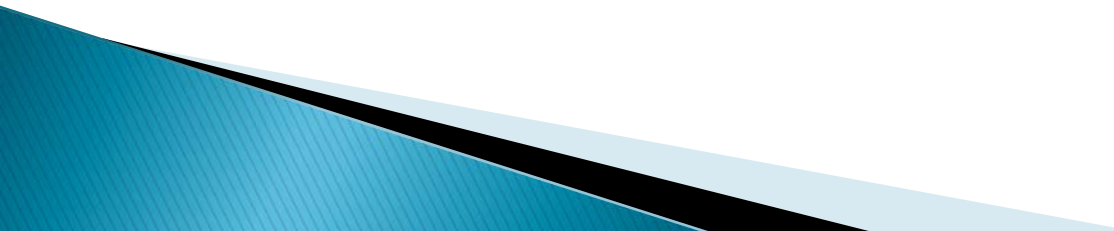


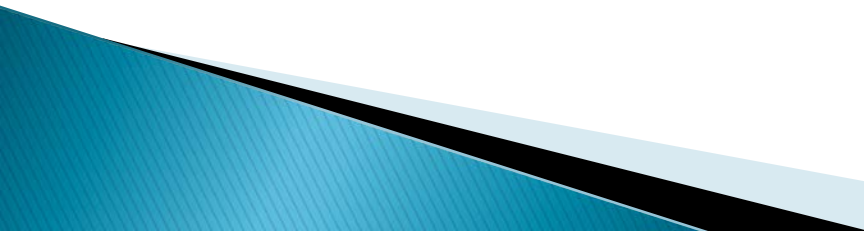
Excess Flow Valves

Revised Rule Effective April 14, 2017

Part 192 – Excess Flow Valves

- ▶ 192.381 Service Lines: Excess Flow Valve Performance Standards
 - ▶ 192.383 Excess Flow Valve Installation
 - ▶ 192.385 Manual Service Line Shut-off Valve Installation
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Definitions

- ▶ **Branched service line** means a gas service line that begins at the existing service line or is installed concurrently with the primary service line but serves a separate residence.
 - ▶ **Replaced service line** means a gas service line where the fitting that connects the service line to the main is replaced or the piping connected to this fitting is replaced.
 - ▶ **Service line serving single-family residence** means a gas service line that begins at the fitting that connects the service line to the main and serves only one single-family residence (SFR).
- 


192.381 Service Lines: Excess flow valve performance standards

- ▶ (a) Excess flow valves (EFVs) to be used on ~~single residence~~ service lines that operate continuously throughout the year at a pressure not less than 10 p.s.i. (69 kPa) gage must be manufactured and tested by the manufacturer according to an industry specification, or the manufacturer's written specification, to ensure that each valve will:

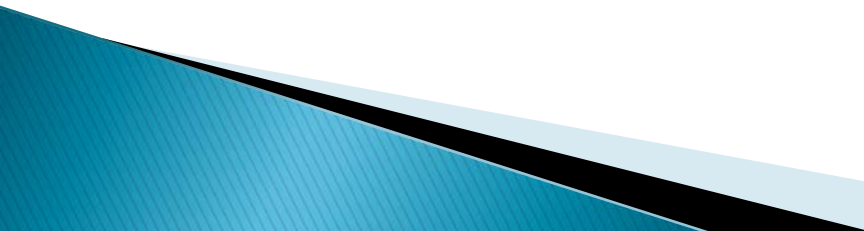
192.383 Where does an excess flow valve need to be installed?

- ▶ Starting April 17, 2016 each operator must install an EFV as follows:
- ▶ All new or replaced services to Single Family Residences
- ▶ All new or replaced branched services to Single Family Residences
- ▶ All multifamily residences with known customer load not exceeding 1,000 SCFH per service. Based on installed meter capacity.
- ▶ A single small commercial service customer served by a single service line with a known customer load not exceeding 1,000 SCFH at the time of meter installation, based on installed meter capacity.


An Excess Flow Valve (EFV) does not need to be installed if:

- ▶ The service line does not operate at a pressure of 10 psig or greater throughout the year.
 - ▶ The operator has prior experience with contaminants in the gas stream that could interfere with the EFV's operation or cause loss of service to a customer.
 - ▶ An EFV could interfere with necessary operation or maintenance activities, such as blowing liquids from the line or
 - ▶ An EFV meeting the performance standards in 192.381 is not commercially available.
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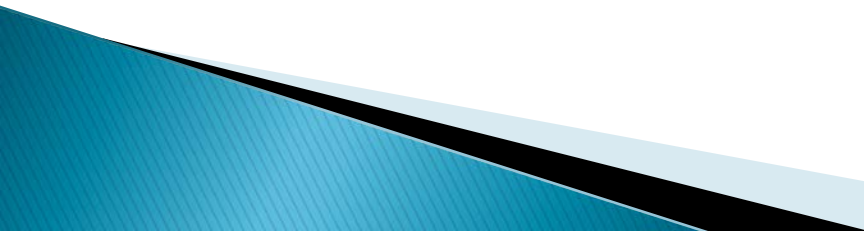
Customer's right to request an EFV.

- ▶ Existing service line customers who desire an EFV on service lines not exceeding 1,000 SCFH and who do not qualify for one of the exceptions may request an EFV to be installed on their service line.
 - ▶ It must be installed at a mutually agreed upon date.
 - ▶ The operator's rate setter determines how and to whom the cost are distributed.
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Operator Notification of Customers concerning EFV installation.

- ▶ Operators must notify customers of right to request an EFV in written or electronic notifications.
 - ▶ The notification must include an explanation of the potential safety benefits of installing an EFV.
 - ▶ The notification must include a description of installation and replacement costs.
- 

Customer Notification – continued

- ▶ The notice must alert the customer that the costs for maintaining and replacing an EFV may later be incurred, and what those costs will be to the extent known.
 - ▶ The notification must indicate that if a service line customer requests installation of an EFV and the load does not exceed 1,000 SCFH and the conditions of paragraph (c) are not present, the operator must install an EFV at a mutually agreeable date.
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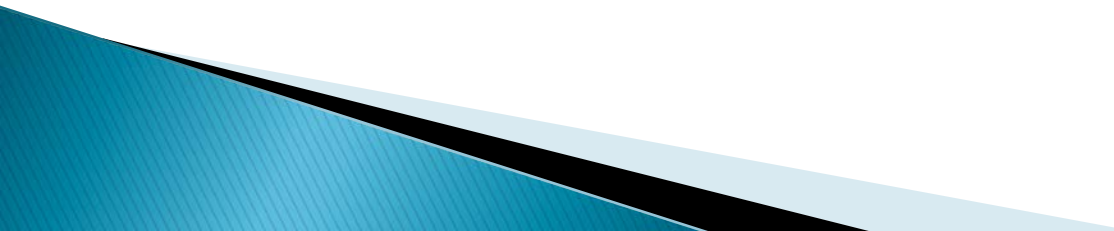
Customer Notification Evidence

- ▶ An operator must make a copy of the notice or notices currently in use available during inspections.

Reporting

- ▶ Except for operators of master-meter systems and LPG operators with fewer than 100 customers, each operator must report the EFV measures detailed in the annual report required by § 191.11.

192.385 Manual service line shut-off valve installation – Definition

- ▶ **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.
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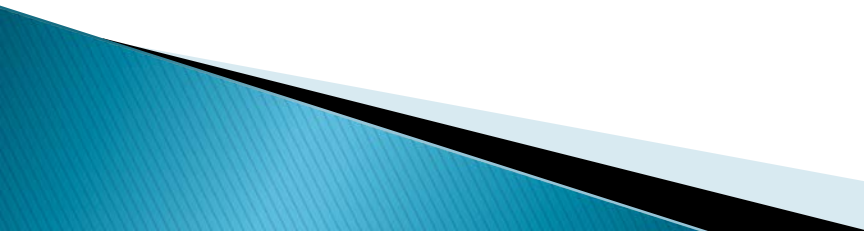
192.385 Manual service line shut-off valve installation

Installation requirement.

- ▶ The operator must install either a manual service line shut-off valve or, if possible, based on sound engineering analysis and availability, an EFV for any new or replaced service line with installed meter capacity exceeding 1,000 SCFH.

Manual service line shut-off valve installation

Accessibility and maintenance.

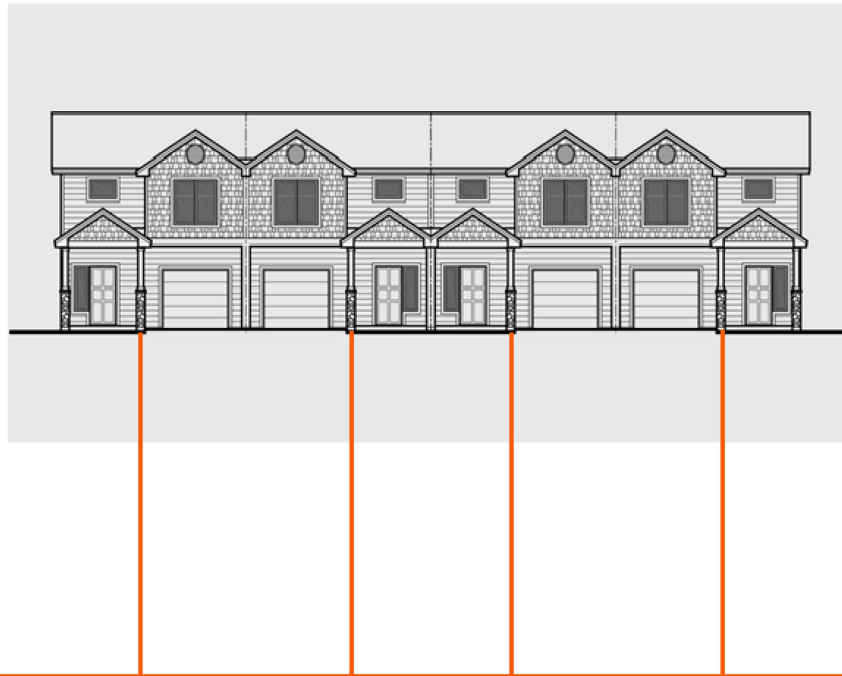
- ▶ Manual service line shut-off valves for any new or replaced service line must be installed in such a way as to allow accessibility during emergencies.
 - ▶ Manual service shut-off valves installed under this section are subject to regular scheduled maintenance, as documented by the operator and consistent with the valve manufacturer's specification.
- 



Examples

- ▶ New service being installed to a new single family residence with a 250 SCFH meter.
 - Does it need an EFV?
 - Does it need a manual shut off valve?

Examples



4-plex building with a service line to each unit.
Load per unit is 325 standard cubic feet per hour (SCFH)

Examples



4-plex building with single service line.

Load per unit is 250 standard cubic feet per hour (SCFH)

What would you as operators propose to do? Install EFV or manual shut off valve?

Example

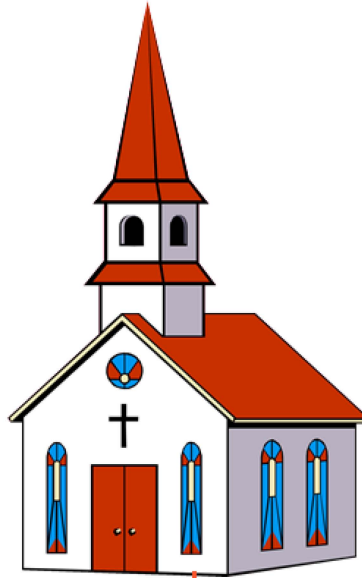


New service installed to three single family residences with a 250 SCFH load per unit.

Is it required to have an EFV?

If so is a single EFV adequate?

Example



New service installed to church with a 450 SCFH load.
Is it required to have an EFV?

Examples



School has a 3000 SCFH load. Is an EFV required?
Is a manual shut off valve required?



Example

- ▶ New service being installed to a new apartment building with 4 apartments and each apartment having a 250 SCFH meter. (load < 250SCFH each)
 - Does it need an EFV?
 - Does it need a manual shut off valve?
- ▶ What if it has 6 apartments with each having a 250 SCFH meter?
 - Does it need an EFV?
 - Does it need a manual shut off valve?



Example

- ▶ New single service being installed to a new strip mall with 4 stores, with each having a 250 SCFH meter (load < 250 SCFH).
 - Does it need an EFV?
 - Does it need a manual shut off valve?
- ▶ What if it has 6 stores, with each having a 250 SCFH meter?
 - Does it need an EFV?
 - Does it need a manual shut off valve?



Example

- ▶ New strip mall being built. Running a separate service to store A, running a joint service to stores B, C, and D and running a service to store E.
- ▶ Store A – 1500 SCFH load
- ▶ Store B – 300 SCFH load
- ▶ Store C – 300 SCFH load
- ▶ Store D – 500 SCFH load
- ▶ Store E – 750 SCFH load
- ▶ What needs an EFV? Manual shut off vavle?

Table 1 - Meter Connection Capacities

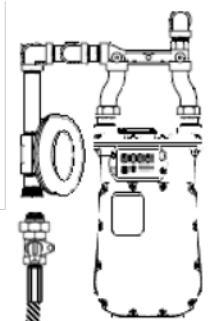
Rated Gas Capacity For 0.60 S.G. Gas			
Meter Size	Inlet Pressure PSIG	Inches W.C. Differential	Capacity SCFH
AC-250	0.25	1/2"	250
AC-250	0.25	2"	565
AC-250	5	2"	656
AC-250	10	2"	742
AL-425-10	0.25	1/2"	425
AL-425-10	0.25	2"	898
AL-425-10	1	2"	920
AL-425-10	2	2"	955
AL-425-10	5	2"	1038
AL-425-10	10	2"	1154
AL-425-25	15	2"	1269
AL-425-25	20	2"	1367
AL-425-25	25	2"	1462
AC-630	0.25	1/2"	630
AC-630	0.25	2"	1320
AC-630	1	2"	1340
AC-630	2	2"	1390
AC-630	5	2"	1515
AC-630	10	2"	1710
AC-630	15	2"	1890
AC-630	20	2"	2010
AC-630	25	2"	2160

Maximum EFV Capacity

- ▶ 1/2" IPS service line
- ▶ SDR 11
- ▶ Minimum Inlet Pressure 35
- ▶ Building Load 750 SCFH meter (AL-425-10)
 - Meter Capacity = 898cfh @ 2" drop

Which EFV would be the appropriate size based on information provided.

- A. EFV Series 800**
- B. EFV Series 1100
- C. EFV Series 1800
- D. EFV Series 2600

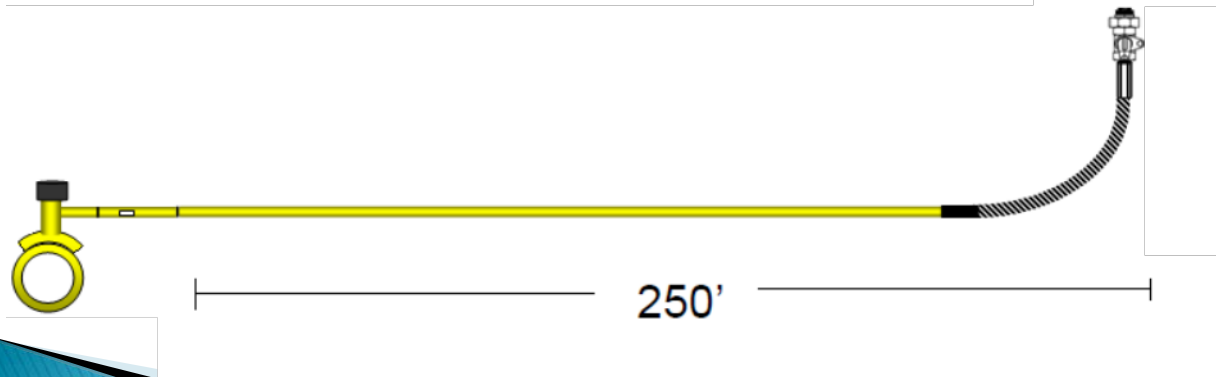
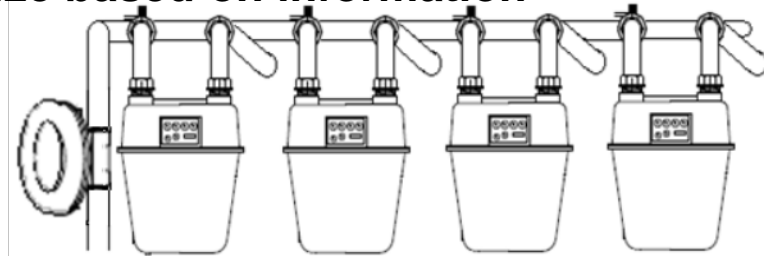


Maximum EFV Capacity

- ▶ 1-1/4" IPS service line
- ▶ SDR 11
- ▶ Minimum Inlet Pressure 20
- ▶ 4 x 250 meter (AC-250)
 - Meter Capacity = 2260cfh @ 2" drop

Which EFV would be the appropriate size based on information provided.

- A. EFV Series 800
- B. EFV Series 1100
- C. EFV Series 1800
- B. EFV Series 2600**



Maximum EFV Capacity

- ▶ 3/4" IPS service line
 - ▶ SDR 7
 - ▶ Minimum Inlet Pressure 20
 - ▶ Load 2000 SCFH meter (AC-630)
 - Meter Capacity = 2010cfh @ 2" drop
- Which EFV would be the appropriate size based on information provided.
- A. EFV Series 800
 - B. EFV Series 1100
 - C. EFV Series 1800
 - B. EFV Series 2600**



Maximum EFV Capacity

- ▶ 2" IPS service line
 - ▶ SDR 7
 - ▶ Minimum Inlet Pressure 10
 - ▶ Load 1200 SCFH meter (AL 425-25)
 - Meter Capacity = 1269cfh @ 2" drop
- Which EFV would be the appropriate size based on information provided.
- A. EFV Series 600
 - B. EFV Series 800
 - C. EFV Series 1100
 - D. EFV Series 1800**