



# CITY OF MILPITAS

## OFFICE OF BUILDING SAFETY

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### Earthquake Preparedness Tips Natural Gas Safety and Shut-off Valves

In an earthquake, the shaking of a home or apartment can cause damage to gas piping and appliances. This damage can result in releases of natural gas that can lead to fires or even explosions. Structural weaknesses, the absence of appliance anchors, seismic activity, and a lack of flexible pipe connectors can all contribute to a greater possibility of natural gas leaks. This problem is so prevalent that natural gas contributes to one of every four fires after an earthquake.

#### **Reduce the Possibility of Gas Leaks**

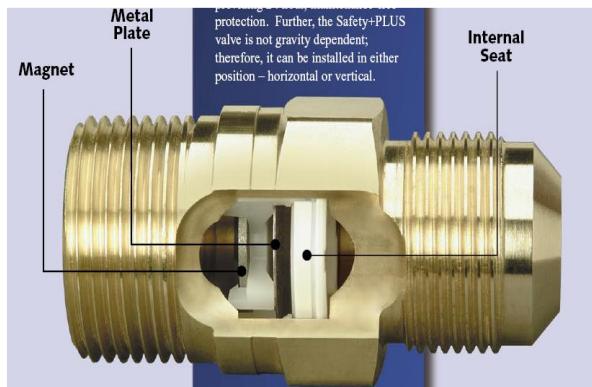
An effective way of **REDUCING** many natural gas leaks in the first place is to make sure that your water heater and all other appliances using natural gas are properly anchored, have flexible pipe connections, and automatic gas shut-off devices. This handout addresses installation of Automatic Gas Shut-off Devices. See the City's separate handout on Water Heater Strapping for anchoring your water heater.

Automatic Gas Shut-off Devices are recommended to be installed to provide protection should a leak occurs. The Devices are required to be installed in the situations noted below (MMC II-170-2.00). There are two types of devices. An Excess Flow Device detects a sudden increase in the flow of gas or overpressure surges which can occur when a pipe breaks. A Seismic Shut-off Device activates automatically when motion occurs, such as during an earthquake.

An approved Excess Flow Gas Shut-off Device (non-motion sensitive) shall be installed at the gas fuel appliance outlet when replacing any existing or installing any new gas fuel appliance. The Excess Flow Device shall be installed between the shutoff valve and the connector (*note the location of the sediment trap is not correct in the photo below*).



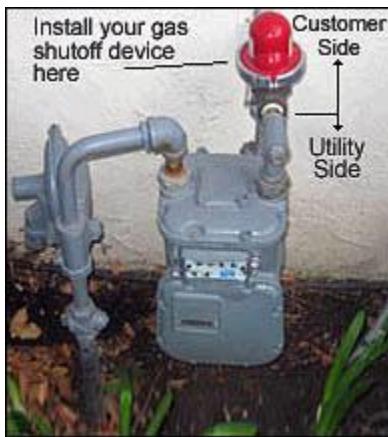
Close up view of an excess flow device:



An approved Seismic Gas Shut-off Device (motion sensitive) *or* an approved Excess Flow Gas Shut-off Device (non-motion sensitive) shall be installed downstream of the gas utility meter (after PG&E service tee), but upstream of any appliances, when providing alteration or addition to the existing gas fuel line.



"California Valve"



Automatic Gas Shut-off Devices shall be installed by a contractor licensed in the appropriate classification by the State of California and in accordance with the manufacturer's instructions.

Seismic Gas Shut-off Devices (motion sensitive) must be mounted rigidly to the exterior of the building or structure containing the fuel gas piping. This requirement need not apply if the Office of Building Safety determines that the Seismic Gas Shut-off Device (motion sensitive) has been tested and listed for an alternate method of installation.

Both Seismic Gas Shut-off Devices (motion sensitive) and Excess Flow Gas Shut-off Devices (non-motion sensitive) must be certified by the Office of State Architect and be listed by an approved listing and testing agency such as IAS, IAPMO, UL or the Office of State Architect.

Both Seismic Gas Shut-off Devices (motion sensitive) and Excess Flow Gas Shut-off Devices (non-motion sensitive) must have a thirty (30) year warranty which warrants that the valve or device is free from defects and will continue to operate properly for thirty (30) years from the date of installation.

Where Automatic Gas Shut-off Devices are installed voluntarily or as required by code, they shall be maintained for the life of the building or structure or be replaced with a valve or device complying with the requirements of this section.

Installation of Automatic Gas Shut-off Valves requires a permit from the City. A permit may be obtained either online at [www.ci.milpitas.ca.gov/citydept/building](http://www.ci.milpitas.ca.gov/citydept/building) or in person at the Permit Center in City Hall.

## Should a Leak Occur

At a minimum, you should know how to turn off the natural gas supply to your home. Make sure that you have an appropriate wrench easily accessible. You may also want to join a neighborhood preparedness group or make arrangements with your neighbors so that they can turn off your gas if you are not home and if they smell gas.

