January 6, 2017

Hello everyone,

Several months ago the Clear Hills Board asked me to serve as our Emergency Preparedness Chairperson. I will be making a presentation to all of you at our annual meeting next Wednesday regarding a proposal to install seismic shutoff valves on our gas meters. I am hoping you will take a moment before that meeting to read the attached short issue paper that outlines our current situation and a proposal to increase our earthquake preparedness.

As we all know and have discussed before, the Portland area faces two earthquake threats – one generated by a local fault and the other generated by the subduction zone off our coastline. The first could result in a magnitude 6.5 quake lasting 15 seconds or so. The second **will** generate a 9.0-9.5 magnitude earthquake (with ground shaking here in Portland 6.0-6.5) lasting 4-5 minutes. To stress the point, this is expected to be the largest natural disaster in American history.

The number one threat to homes following an earthquake is fire – fire (or explosion like recently on NW 23rd Ave) caused by gas leaking from broken or loosened gas lines running through a home. And fire departments, during such periods of crisis, are simply overwhelmed and unable to respond to most requests for help. Often, too, water lines are broken – making it impossible to fight the resulting fires. An important goal of earthquake preparedness, then, is to minimize the chance that a fire ever begins. Since our homes here at Clear Hills are so close together and/or attached and since so many of our residents are away from Clear Hills for weeks or months at a time, we are all especially vulnerable to this hazard. In the event of an earthquake, it is likely that many residents simply won't be available following a quake to ensure that their and their neighbor's gas lines are secure**.**

I believe, then, that we have a community hazard and am hoping that we can frame a community response to that hazard.

As you will be able to discern from the attached, I very much support an effort to install seismic shutoff valves on all of our homes. This can be accomplished at a modest cost to each of us. I made a presentation to the board at last month's meeting asking that they consider including this project in our strategic plan, putting away money in our reserve account so that the cost would be paid for out of our HOA dues. Unfortunately, it is my understanding that our HOA's attorney has recommended that the HOA itself not take on this responsibility as it is beyond the purview of our HOA (deals with the internal workings of each home) and potentially exposes the HOA itself to questions of liability. So, because I believe the seismic shutoff valves are a very good idea, I am asking each of you to strongly consider individually funding the installation of a seismic shutoff valve in each of your homes. It will enhance the safety of your home and that of your neighbor. Notably, these valves are required by cities and counties throughout California as part of that state's effort to enhance public safety following an earthquake.

To confirm that this can be accomplished at a modest price, I have obtained one estimate ($400.00 per home) for a "group discount" from a seismic retrofit firm that I trust. Once I understand how many of you are interested in participating, I will obtain additional estimates and do my best to determine which of the many seismic shutoff valves now on the market would be best meet the needs of our Clear Hills community and who we can trust to install them properly.

Again, please take a moment to read the attached.

Thanks.

Paul Cofer

SEISMIC SHUTOFF VALVES FOR CLEAR HILLS HOA

Issue: Is it in the best interest of the members of the Clear Hills HOA that each home with natural gas service be equipped with a seismic shutoff valve?

Background: In the event of an earthquake, one of the first activities of homeowners will be to check on the health and safety of neighbors and to determine whether there are any gas line breaks. If gas is found to be leaking, gas must be shut off at a home's meter to assure that there is no danger of fire or explosion. A challenge for the Clear Hills HOA is that many of its members spend weeks or months at a time away from their homes here at Clear Hills and will not be available in the event of an earthquake to determine whether they or their neighbors are experiencing a natural gas leak. This puts all homes in the HOA at increased risk for fire or explosion. The risk is even higher here because so many of our homes are either attached or built in very close proximity to a neighbor.

Discussion: There are two devices that will automatically shut off gas service to a home in the event of an earthquake.

> **Excess Flow Valve (EFV):** NW Natural has installed EFVs in about one-third of Portland's neighborhoods. The valves are located in the underground lines running from the street to a home's gas meter. In the event of a line break within a home caused by an earthquake (or any other cause), the EFV will notice that too much gas is running through the line and will automatically shut down gas service to that home. NW Natural says that the EFVs are calibrated, so that each EFV knows how many appliances/fireplaces are run on natural gas and that the EFV shuts off when that particular volume is exceeded. Here at Clear Hills, all but four gas lines running to our homes are equipped with EFVs.
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> **Seismic Shutoff Valve (SSV):** SSVs are small metal boxes about the size of a person's hand that are attached to the gas lines running into a home (immediately after the meter and before the gas line enters the house). These valves automatically shut off gas service when the valve registers an earthquake of 5.1 or greater magnitude. No line break need occur for the valve to be activated. These valves must be installed by a licensed contractor. The installation of a SSV is an integral part of all home seismic retrofit projects.

Findings: The value of an EFV is that gas service to a home is shut off automatically whenever it registers that more gas is running into a home than is appropriate for that particular home's service. However, there are three reasons why a SSV provides better protection to homeowners than an EFV:

1. By shutting off service before a line break, it prevents the EFV from shutting off (making it easier to restore service once gas lines are checked for breaks and leaks). It is notable that most earthquake-prone cities and counties in California require installation of SSVs on single family homes whenever one is built, remodeled or bought and sold.

2. EFVs do not notice leaks in a home that are less than the combined gas required for all the appliances/fireplaces operated in the home. Since such smaller leaks can cause fires and/or an explosion, the SSV provides greater protection.
3. Some SSVs allow **the homeowner** to restore gas service to a home without calling in a professional. (Of course, care must be taken to assure that any gas leaks have been professionally corrected and all pilot lights re-lit). As for restoring gas service by re-setting the EFV, NW Natural reports that this process is automatic but no one has been able to explain to me how this works. The process contains an essential contradiction: The re-set must occur after appliances are again operational but they cannot be made operational until the valve is re-set! All of this tells me it's possible that these valves may require a manual re-set, which would of course dramatically slow our ability to re-establish gas service.

There is one down-side to SSVs: If you bump into one, it may shut off your gas. You would then need to turn the knob on the SSV and carefully re-light your non-electronic pilot lights. In our last home our gas meter (and the SSV) were on a narrow walkway by the side of the house and I hit it with my wheel barrow any number of times, causing the gas to shut off…..**Update:** I have learned that some installers now include a bumper guard for gas meters to ensure that people like me don't unintentionally run into their meter and cause the gas to shut off.

Conclusion: We are fortunate that NW Natural has installed EFVs in our neighborhood. Should the worst happen and all gas lines completely rupture under our homes, gas service will be automatically shut off, thereby dramatically reducing the risk of fire or explosion.

Because SSVs provide the additional important protections noted above and make it easier for us to reestablish service following a quake, I personally think it makes sense to install these devices on each of our homes with gas service.

I have only obtained a bid for one type of SSV. It is the Northridge 2000 and the bid is from NW Seismic. The charge is normally $495 per home but NW Seismic has offered to do the work for $400 per home. They **do install** the bumper guard noted above. If there is sufficient interest among Clear Hills residents, additional bids could be obtained to assure that we're getting the best possible SSV at the best possible price.