Pipeline Safety
Topics of Discussion
2021

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Kansas
Corporation Commission

KCC Pipeline Safety Staff

emails

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Seminar Housekeeping

- **Handouts**
  - **Agenda**
  - **Note-taking material**
  - **Contact List for Inspectors**

  - **Name badge**
  - **Ticket for Drawing**

  - **Feedback Survey**

  - **Certificates will be emailed to those that request them.**

Presentations

- Public version of all presentations will be available on KCC website.
- Link listed on the agenda and on the center of your table.

AGENDA 2021

- Suppliers
- General Sessions
- Items of Interest that you want to discuss…

- Networking!!

KCC Pipeline Safety Training Opportunities

- Kansas Municipal Utilities training center.
- Barton County Community College.
- Municipal/small utility training (anyone can attend)
  - Focus on emergency response and generic tasks.
  - 77 attendees; 32 operators
    - Rozel
    - Chanute
    - Sawyer
    - McLouth
    - Moundridge

KCC Pipeline Safety Training Opportunities

- Pipeline Safety Newsletter.
- Other training opportunities/seminars
  - Quarterly large operator meetings
  - Joint Large Operator meetings?
  - Trade Association Meeting
  - City Councils?

www.kcc.ks.gov

- 2011-2017 Presentations also available.
- Other presentations available from past years, but not on website.

www.kcc.ks.gov

- **Click on Pipeline Safety tab**
- **2014 Presentations**
- **Pipeline Safety Forms**
- Form 1 Pressure test records
- Form 2 Leak investigation and repair
- Form 3 Leak data
- Form 4 Leak summary
- Form 5 P.E. Joining qualification test
- Form 6 Cathodic protection- pipe to soil readings
- Form 7 Monthly odorometer tests
- Form 8 Casing reports
- And more…..

PHMSA Explanation of Concepts: Staff Manuals and Instructions Enforcement Guidance

- **http://www.phmsa.dot.gov/foia/e-reading-room**
  - O-M Enforcement Guidance Part 192 (12 1 2014)
  - Corrosion Enforcement Guidance Part 192 (12 9 2014)
  - Public Awareness Enforcement Guidance Part 195 (11 29 2013)
  - Gas IMP Protocols with Guidance
  - OQ Enforcement Guidance (6 24 2014)
  - And more….

American Public Gas Assn. Security & Integrity Foundation APGA-SIF

- www.apgasif/org
  - SHRIMP Program for Distribution Integrity Management
  - Drug and Alcohol Program
  - Operations and Maintenance Procedures
  - Operator Qualification Training and Evaluations

Discussion of Current Topics Related to Pipeline Safety Regulations

GOALS

- ***Discuss questions derived from Staff field observations related to regulation.***
- ***Receive input from operators.***
- ***Official interpretations will be issued in writing.***
- ***Vetted through operators and PHMSA.***

Renewable Natural Gas (RNG)

Renewable Natural Gas (RNG

- Anaerobic digestion with bacteria in a closed system
- Product is primarily methane (40%-60%) and CO2(40%-50%). Can also have impurities such as siloxanes.
- After treating will be >90% methane, but less BTU/cubic foot than natural gas
- **Value is in Carbon Credits:**
- June 2019 prices $37/mcf. Dairy sources can get $80/mcf.
- Breakeven operations about $11/mcf.

Renewable Natural Gas (RNG

- Operating concerns deal with impurities entering system not getting properly blended.
- Internal corrosion potential issues with CO2
- BTU impact on appliances
- Is operating gas quality equipment a covered OQ task?
- Pipelines from digester to transmission should be considered as production lines; gathering lines?
  - Less stringent regulations as transmission or distribution.
    - Odorization not required; **one call membership not always req**.

Renewable Natural Gas (RNG)

PIPES Act of 2020

Self Executing Provision

(AKA Legislative Mandate)

Kansas Corporation Commission

PHMSA Advisory Bulletin 6-10-2021

- Section 114(b) of the PIPES Act of 2020 contains self-executing provisions that apply directly to pipeline operators.
- Requires each pipeline operator to **update its inspection and maintenance plan** required under 49 U.S.C. 60108(a) no later than one year after the date of enactment of the PIPES Act of 2020
- **(i.e., by December 27, 2021).**

PHMSA Advisory Bulletin 6-10-2021

- **The plans must in be:**
  - **in writing,**
  - **tailored to the operator's pipeline facilities,**
  - **supported by technical analysis where necessary, and**
  - **sufficiently detailed to clearly describe the manner in which each requirement is met.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **Section 113 of PIPES Act**
  - **Requires certain classes of operators to conduct leak detection and repair programs to:**
    - **(a) meet the need for gas pipeline safety**
    - **(b) protect the environment**
  - **Section 114 of PIPES Act**
    - **Minimize releases of natural gas from pipeline facilities**
    - **Operator compliance by December 27, 2021**
    - **State inspector evaluation of compliance plans no later than December 28, 2022.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **Section 114(b) of PIPES Act**
  - **Update O&M plan by 12-27-21**
    - **Address elimination of hazardous leaks**
      - **Minimize release of natural gas**
      - **Address intentional venting**
    - **Address remediation of pipelines known to leak because of type of material**
      - **Unprotected steel; historic plastics**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS ELIMINATION OF HAZARDOUS LEAKS** with current KCC regulations

  - (c) Each segment of pipeline that becomes unsafe shall be replaced, repaired or removed from service within five days of the operator being notified of the existence of the unsafe condition. Minimum requirements for response to each class of leak are as follows:
  - (1) A class 1 leak requires immediate repair or continuous action until the conditions are no longer hazardous. **After conditions are no longer hazardous, a class 1 leak shall be replaced, repaired, or removed from service within five days of the operator being notified of its existence**.
  - **(d) Each operator shall inspect and classify all reports of gas leaks within two hours of notification**.

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS MINIMIZING RELEASES OF NATURAL GAS** with current KCC regulations

  - (c) Each segment of pipeline that becomes unsafe shall be replaced, repaired or removed from service within five days of the operator being notified of the existence of the unsafe condition. Minimum requirements for response to each class of leak are as follows:
  - (1) A class 1 leak requires immediate repair or continuous action until the conditions are no longer hazardous. **After conditions are no longer hazardous, a class 1 leak shall be replaced, repaired, or removed from service within five days of the operator being notified of its existence**.
  - (2) **A class 2 leak shall be repaired within six months after detection**. Under adverse soil conditions, a class 2 leak shall be monitored weekly to ensure that the leak will not represent a probable hazard and that it reasonably can be expected to remain nonhazardous.
  - (3) **A class 3 leak shall be rechecked at least every six months and repaired or replaced within 30 months**.
  - **(d) Each operator shall inspect and classify all reports of gas leaks within two hours of notification**.

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS MINIMIZING RELEASES OF NATURAL GAS** *need to include*…..
- **Plans to minimize fugitive emissions**
  - **Small aboveground leaks from meter spuds or aboveground piping.**
  - **Track number of odor complaints to demonstrate effectiveness of fugitive emissions?**
  - **Respond to odor complaints within 2 hours of notification mitigates the length of time of a possible fugitive emission?**
- **Definition of Fugitive Emissions**
  - **Common sources of vented emissions include pneumatic device bleeds, blowdowns, incomplete combustion, or overpressure protection venting (e.g., relief valves).**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS MINIMIZING RELEASES OF NATURAL GAS** ***need to address purging AIR by use of GAS***
- **§192.629 Purging of pipelines.**
- **(a) …gas must be released into one end of the line in a moderately rapid and continuous flow.**
- **Current regulations do not address when purging should end..**

- **May add sentence to O&M that states purging with gas will end when testing at purge point indicates approximately 100% gas is exiting the pipeline.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS MINIMIZING RELEASES OF NATURAL GAS**
  need to address purging GAS by use of AIR or venting
- **§192.629 Purging of pipelines.**
- **(b) When a pipeline is being purged of gas by use of air, the air must be released into one end of the line in a moderately rapid and continuous flow.**
- **Current regulations do not address capture of venting methane or minimizing it.**
- **For smaller lines, venting may be the best we can do to accomplish the task safely.**
- **May add statement to minimize the amount of pipe to be vented by isolating through valving or squeeze off tools.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS MINIMIZING RELEASES OF NATURAL GAS**
  need to address purging GAS by use of AIR or venting
- **For larger lines, possible alternatives?**
  - **Use compressor to reduce pressure of blowdown section as to minimize the amount of gas to vented?**
    - **Example: take 100 psi section of line to 3 psi before initiating venting.**
  - **Use vapor recovery unit to take pressure to near zero.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **ADDRESS REPLACEMENT OR REMEDIATION OF PIPELINES *THAT ARE KNOWN TO LEAK* BASED ON THE TYPE OF MATERIAL**
- **Evaluate how the piping material and O&M history OF THE SYSTEM contribute to the leaks that occur on the system.**
  - **If few leaks due to corrosion, piping *material* may have minimal impact on system leakage.**

KCC Staff Summary

- **K.A.R. 82-11-4(bb) addresses minimizing emissions from leaks.**
- **K.A.R. 82-11-4(i) requires each operator to conduct electrical surveys of unprotected service line or yard lines or conduct annual leak surveys and develop a replacement plan based on number of lines that are leaking.**
- **K.A.R. 82-11-4(p) requires each operator to develop an unprotected bare steel main replacement plan based on the pipeline's leak history.**

KCC Staff Summary

- **No regulation for replacement of undesirable vintage plastics based on leak history.**
- **No regulation on minimizing emissions from venting or purging pipelines.**
- **No regulation on minimizing aboveground nuisance leaks such as meter spuds or pneumatic equipment.**

O&M Plan Revisions
December 20, 2021 Deadline

- **K.A.R. 82-11-4 (w): … This plan and future revisions shall be submitted to the gas pipeline safety section.**
- **Revisions to O&M to be completed by December 21, 2021.**
- **Submit copy of O&M revisions to KCC Staff by February 1, 2021.**

2021 New Enforceable Initiative:

Advisory Bulletin issued 6-10-2021

- **PHMSA and state inspections will include an evaluation of how the material present in the pipeline system, design of the system, as well as the past O&M history of the system, contribute to the leaks that occur on the system.**
- **PHMSA and states will evaluate whether the plans adequately address reducing leaks on operators' pipeline systems due to the aforementioned factors.**
- **State inspections to be completed by December 2022.**

Natural Gas Pipeline Safety Act

2021 Reauthorization

Kansas
Corporation Commission

PIPES Act Directives to PHMSA

- **DIMP plans must evaluate risks that could lead to over-pressurization.**
  - **Consider factors other than history of failure.**
- **Emergency response plan procedures for communicating with first responders for**
  - **Unscheduled release of gas**
  - **Shutdown of service to a significant number of customers.**
- **Update O&M with**
  - **procedures for responding to possible over-pressurization.**
  - **Qualified personnel to review and certify construction plans.**

PIPES Act Directives to PHMSA

- **States to assess operator's Pipeline Safety Management Systems frameworks.**
- **Distribution operators to have traceable, reliable, and complete records for proper pressure controls.**
  - **(may impact supplier provided records?)**
- **Upgrade district regulator stations to minimize risk of over-pressurization from common mode of failure.**

PIPES Act Directives to PHMSA

- **Erin Kurilla with APGA presentation tomorrow will provide more detail.**

NTSB Advisory P-19-001

- **mercury service regulator, located inside an apartment building, with an unconnected vent line.**
- **Incident resulted in 7 fatalities, 65 residents and 3 fire fighters injured.**
- **The NTSB investigation identified:**
  - **serious flaws in the inspection of service regulators,**
  - **there was no notification to the gas company of a gas odor**

Silver Spring MD
August 2016

NTSB Advisory P-19-001

- NTSB recommended:
  - **Require that all new service regulators be installed outside occupied structures.**
  - **Require existing interior service regulators be relocated outside occupied structures whenever the gas service line, meter, or regulator is replaced.**
  - **Prioritize multifamily structures over single-family dwellings.**

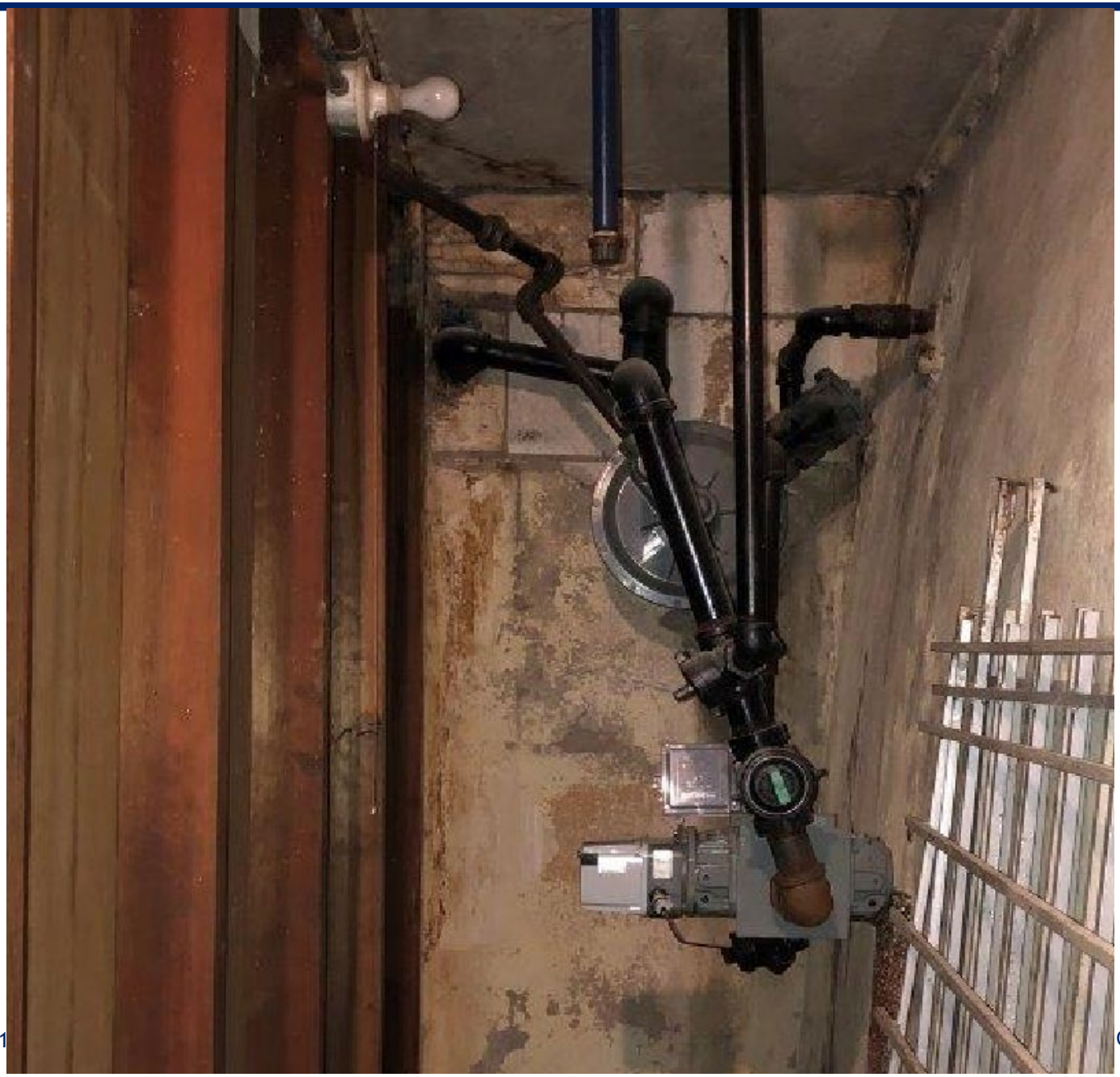
Service Regulators Pipeline Safety Requirements

- **Each service regulator located in a readily accessible location;**
- **If installed in a building they must be located as near as practical to the service line entrance to the building**
- **service regulator vents to terminate outdoors;**
  - **(1) Be rain and insect resistant;**
  - **(2) Be located at a place where gas from the vent can escape freely into the atmosphere and away from any opening into the building; and**
  - **(3) Be protected from damage caused by submergence in areas where flooding may occur.**

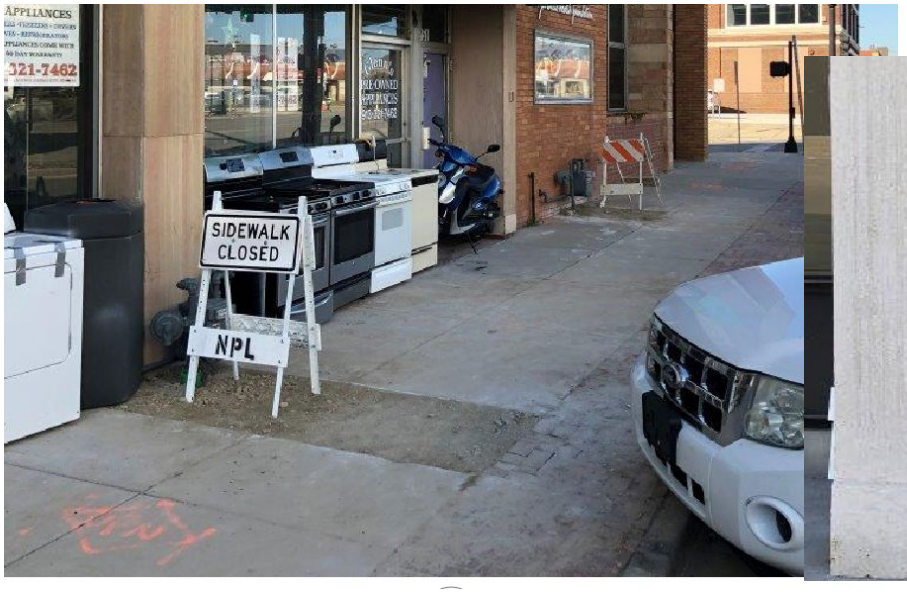
Service Regulators Pipeline Safety Requirements

- **192.723 requires operators conduct leakage surveys of their systems, including service regulators located inside a building, in business districts at least once each calendar year;**
- **Outside business districts:**
  - **Once per year for unprotected steel or PVC**
  - **Once every 3years for protected bare steel;**
  - **Once every 5 years for all other piping.**
- **192.481 requires operators to inspect meters and regulators for atmospheric corrosion at least once every 3 years, at intervals not to exceed 39 months.**

Inside pressure regulator



Meters moved outside

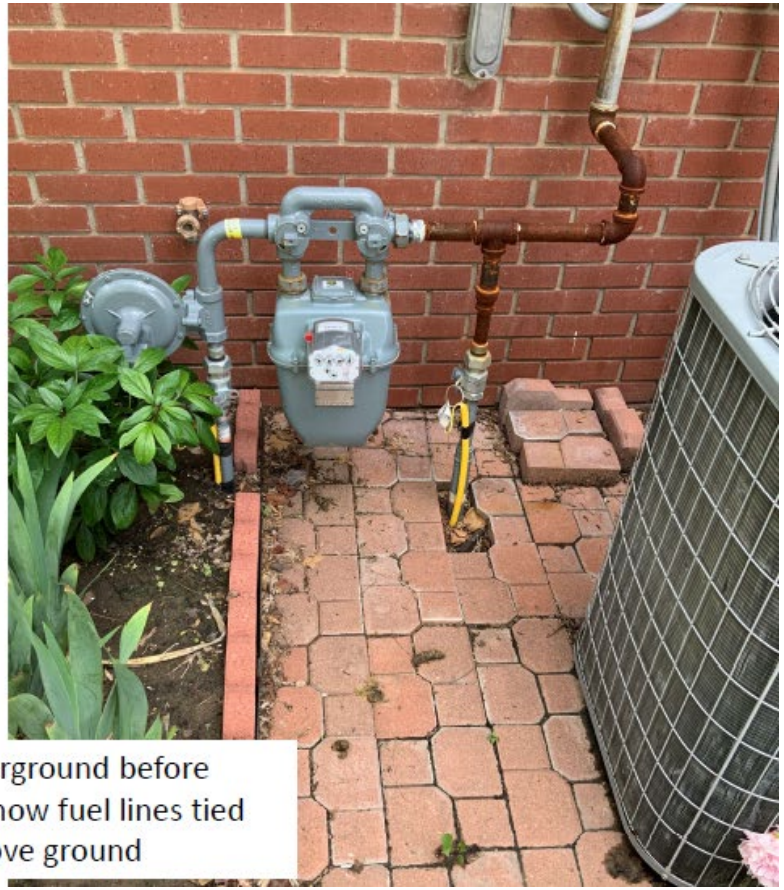


Creative Plumbing

Creative Plumbing

Rear easement. Customer line goes in under the deck. We relocated 5’ North.

Moving Meter to the House



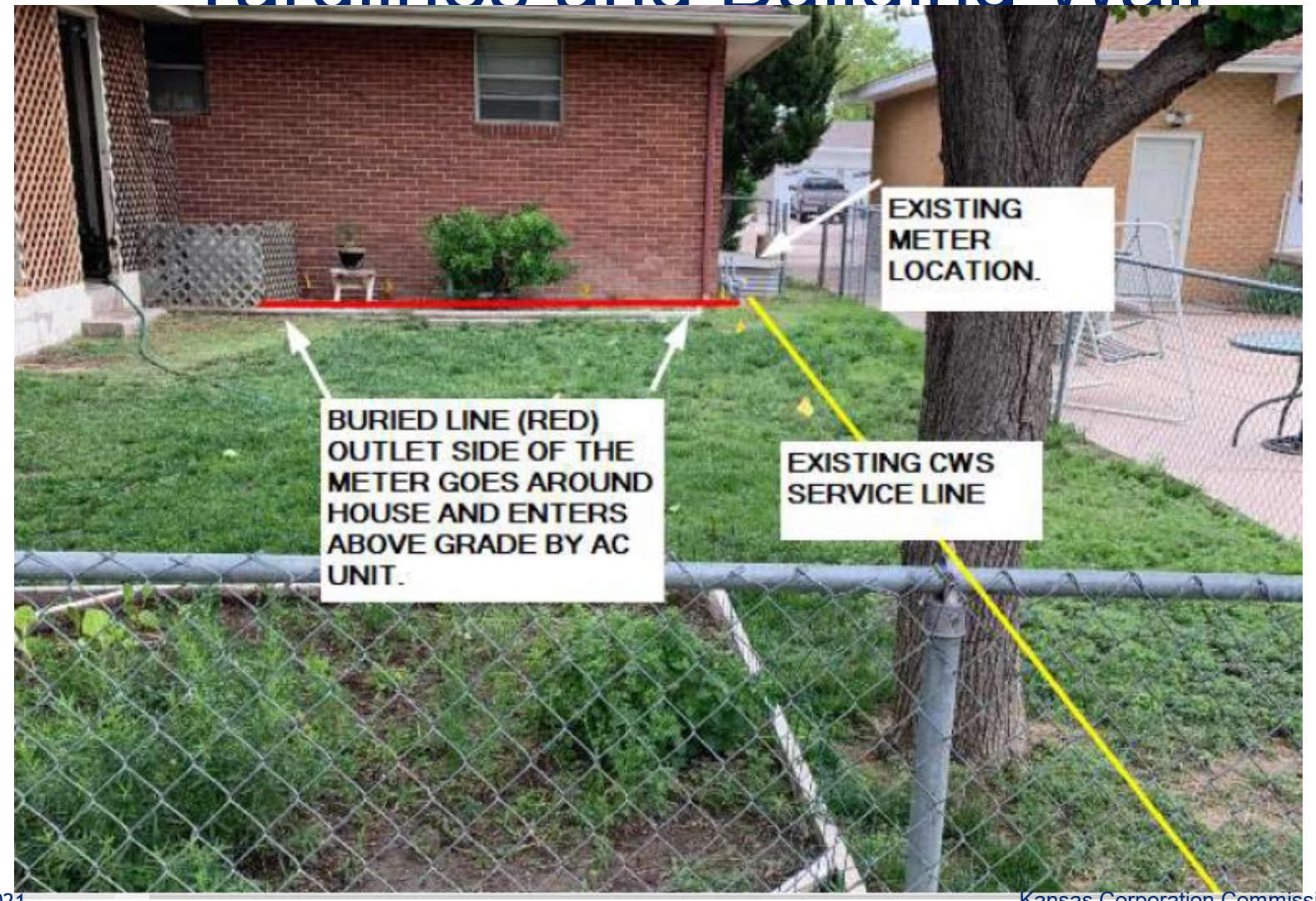
Yard lines tied in underground before replacement and are now fuel lines tied into the meter set above ground

Moving Meter to the House

Yardlines and Fuel Lines

Yardlines to Building Wall

Yardlines and Building Wall



PE Pipe aboveground
external force unlikely?

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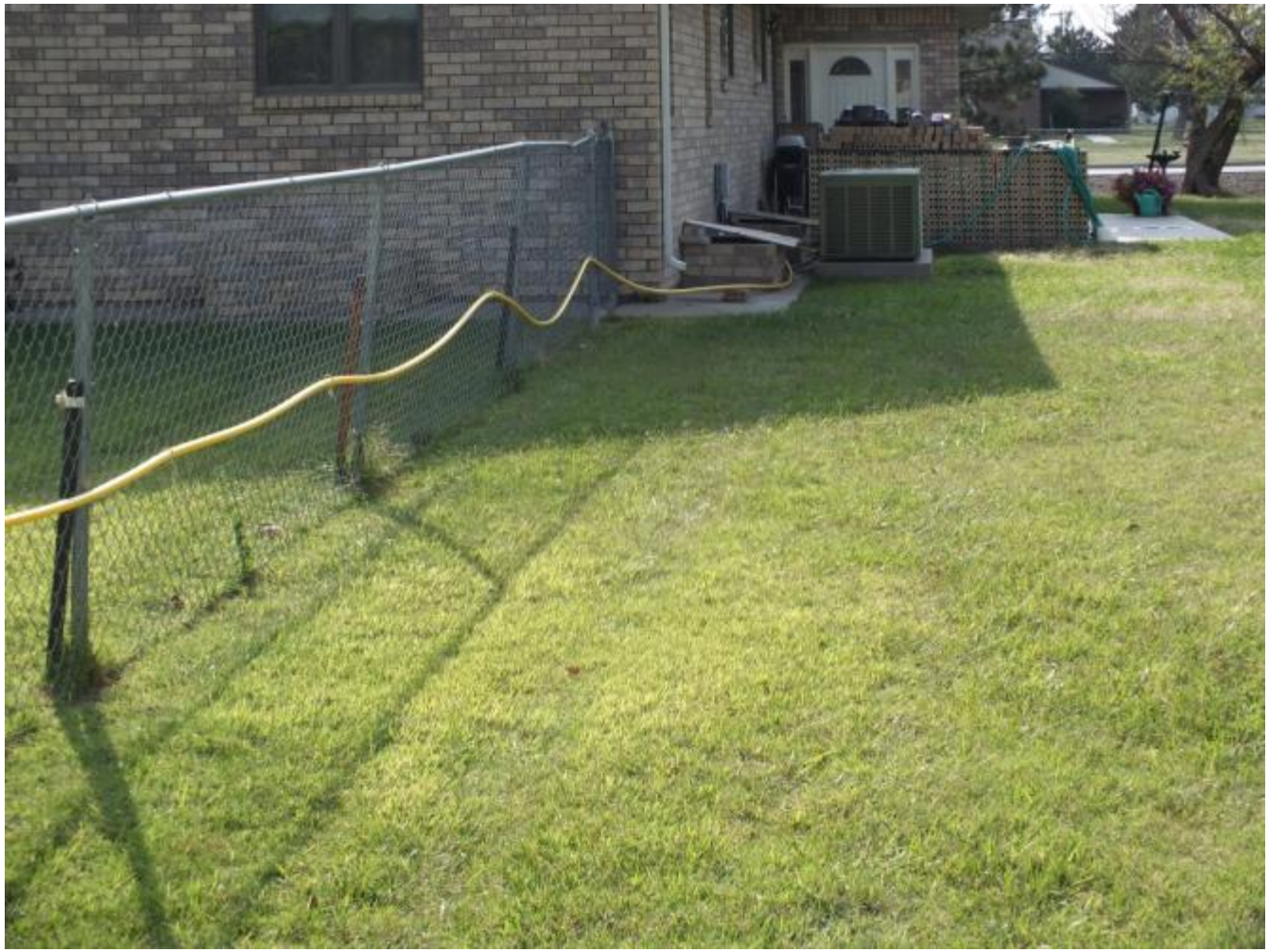
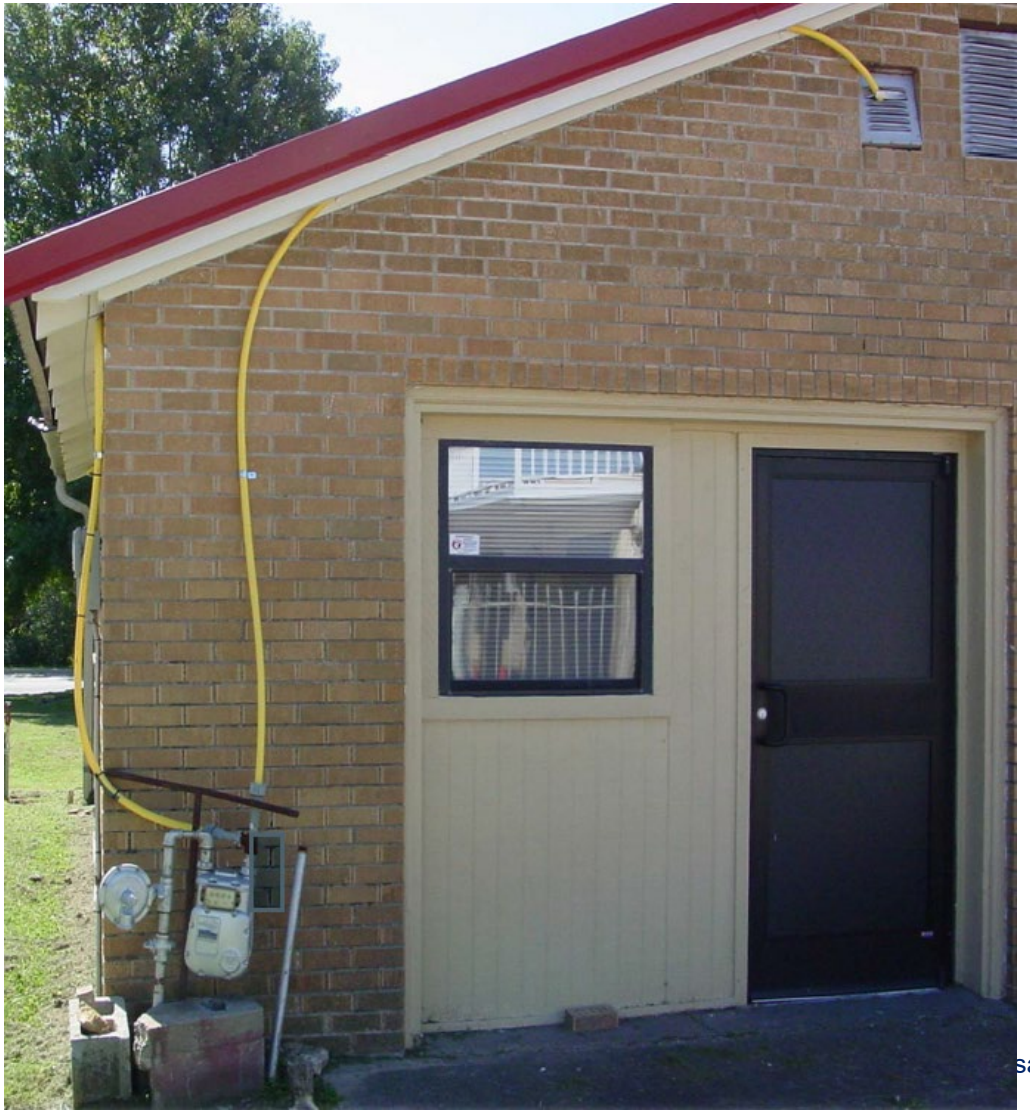
external force unlikely?



Creative Plumbing

Creative Plumbing- Part 2



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