

# **AMI Capable Natural Gas Detector**

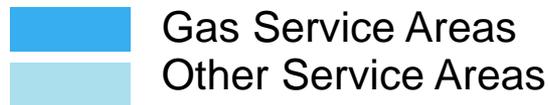
**October 18, 2019**

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Consolidated Edison Company of NY**

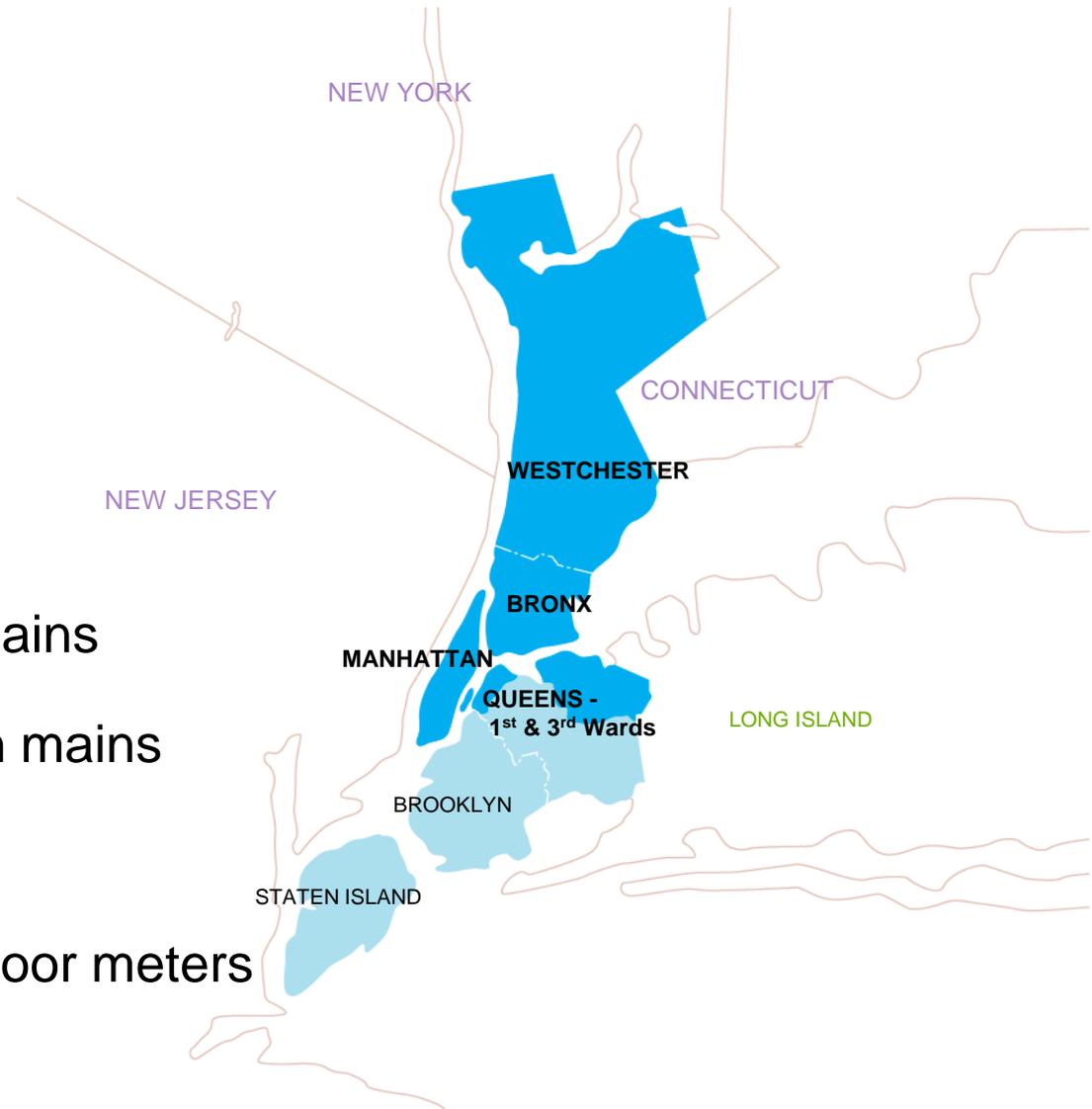
# Agenda

- CECONY overview
- The journey begins
- Lets hear from the NTSB
- Device design and functionality
- Pilot program experiences

# CECONY Gas Franchise



- 1.1 million customers
- 94 miles of transmission mains
- ~4,400 miles of distribution mains
- ~375,000 services
- ~300,000 services with indoor meters



# Incidents Do Happen

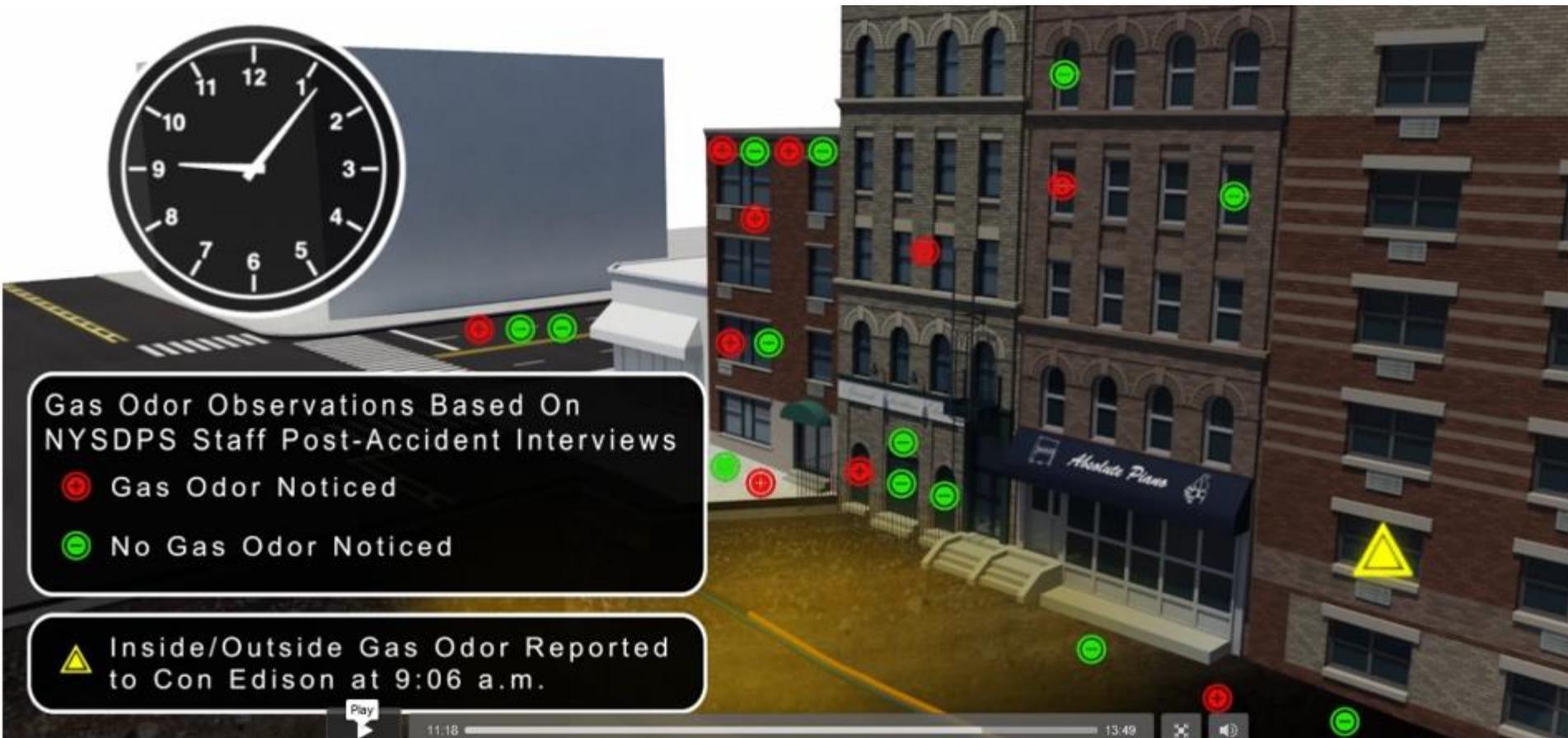


- Harlem explosion 3/12/14



- East Village explosion 3/26/15

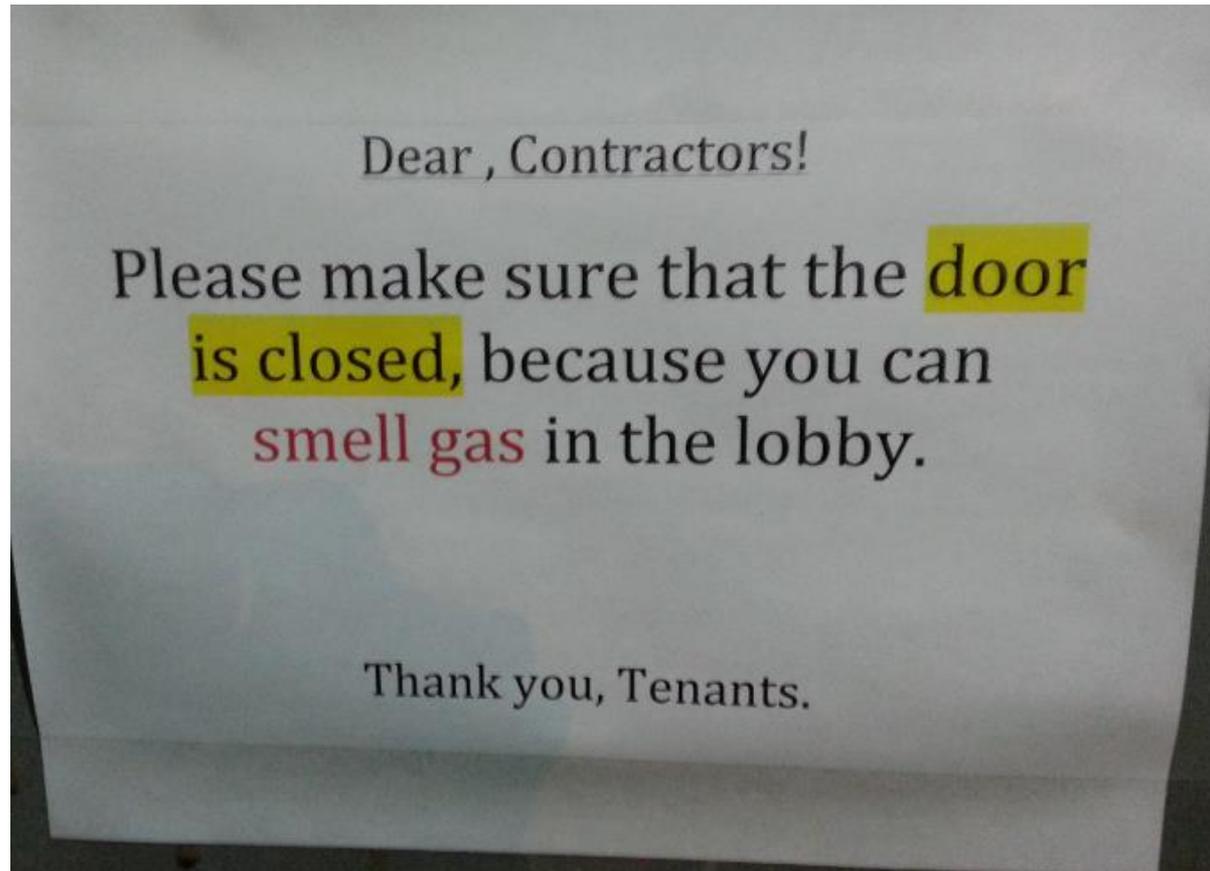
# Findings From the Harlem Incident



- 10 consumers smelling gas and **did not** react
- 1 consumer smelling gas day before called Con Ed ~15 min prior to incident

# And if you think people are responsive to odors.....*well, think again!*

- Sign posted in a NYC building



# NTSB Natural Gas Detector Recommendations

- April 22, 1974 – 305 E 46<sup>th</sup> St, NYC (Con Ed)
  - “The **Department of Housing of Urban Development** to **investigate the practicability** and availability of gas vapor detection instrumentation in strategic placement in buildings. Based on the results of this investigation, **recommend guidelines to appropriate State and local government agencies for regulations of gas detection instruments in buildings.**” <sup>(1)</sup>
- June 9, 1994 – 1339 Allen St, Allentown PA (UGI)
  - “The **Allentown Housing Authority** to **evaluate the safety benefits** of using gas detectors in buildings that it owns or manages that are served with gas as a means of providing emergency-response agencies with early notice of released gas within buildings; **install gas detectors in buildings in which it is determined that they would be cost effective and beneficial.**” <sup>(2)</sup>
- August 10, 2016 – 8701 Arliss St, Silver Springs MD (Washington Gas)
  - “To the **National Fire Protection Association**:.....**revise the NFG Code**, NFPA 54, to **require methane detection systems for all types of residential occupancies with gas service**. At a minimum, the provisions should cover the installation, maintenance, placement of the detectors, and testing requirements.” <sup>(3)</sup>

(1) NTSB PAR 76-2; (2) NTSB PAR 96-1; (3) NTSB/PAR-19/01

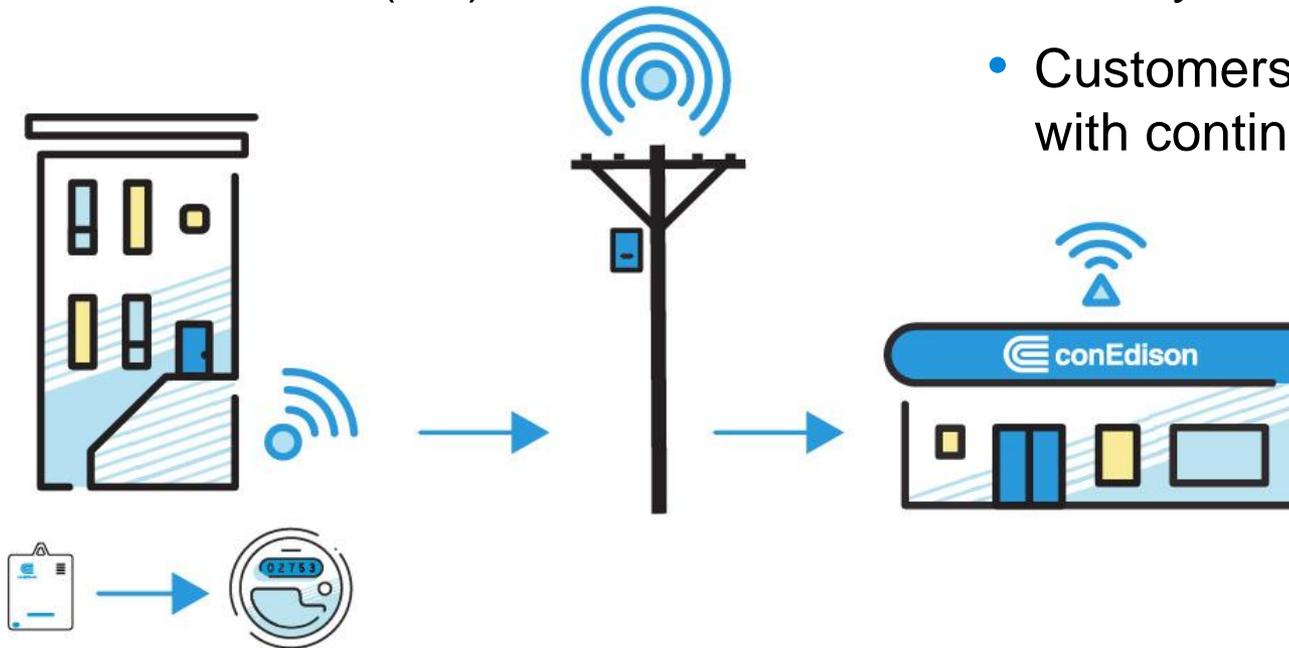
# AMI Capable NGDs – Design & Functionality



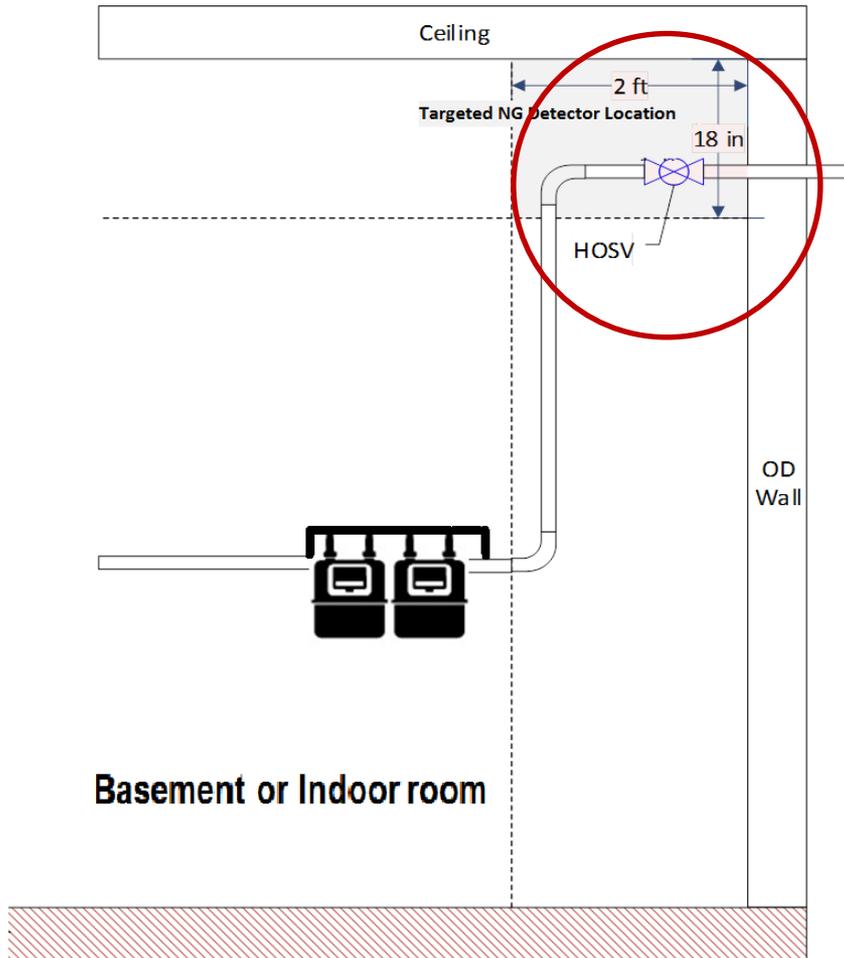
- Microelectromechanical system (MEMS) technology
- Base unit UL-1484 certified
- Battery operated
- 5 year life, 7 year life pending
- Communications
  - Continuous alarming @10%LEL
  - Heartbeat every 8 hours
  - Sensor failure

# AMI Capable NGDs – Design & Functionality

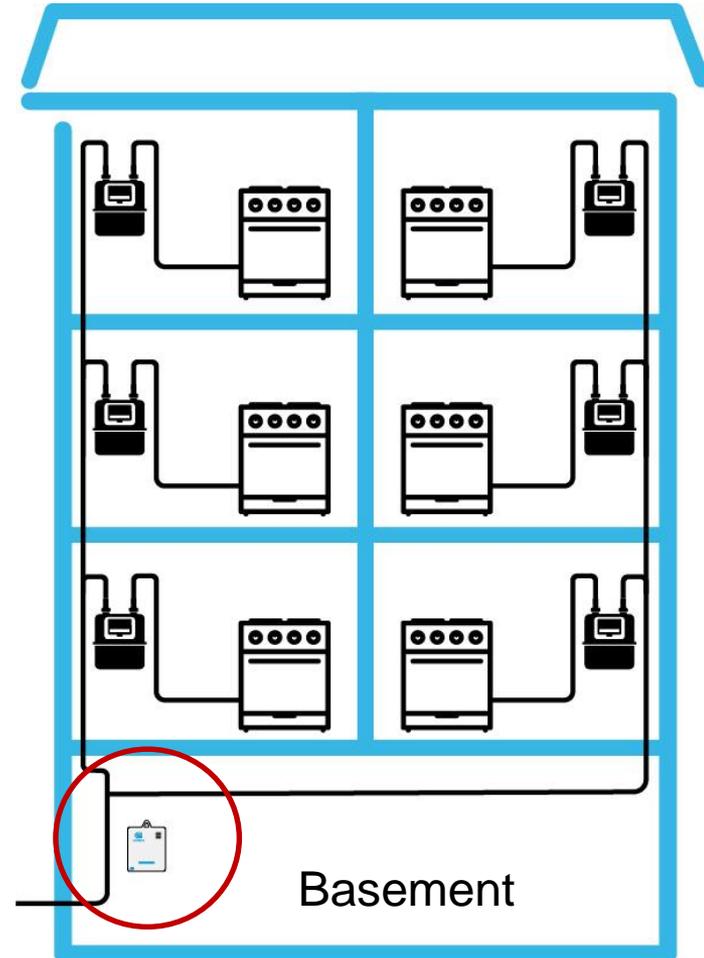
- Low powered RF radio for battery applications
- Electric Smart Meter serves as Access Point (AP)
- Local audible alarm always available
- Con Ed receives sensor & low battery faults, silent to customer
- Customers only hear gas alarm with continuous voice messaging



# AMI Capable NGDs – Installation on Indoor Meters Only



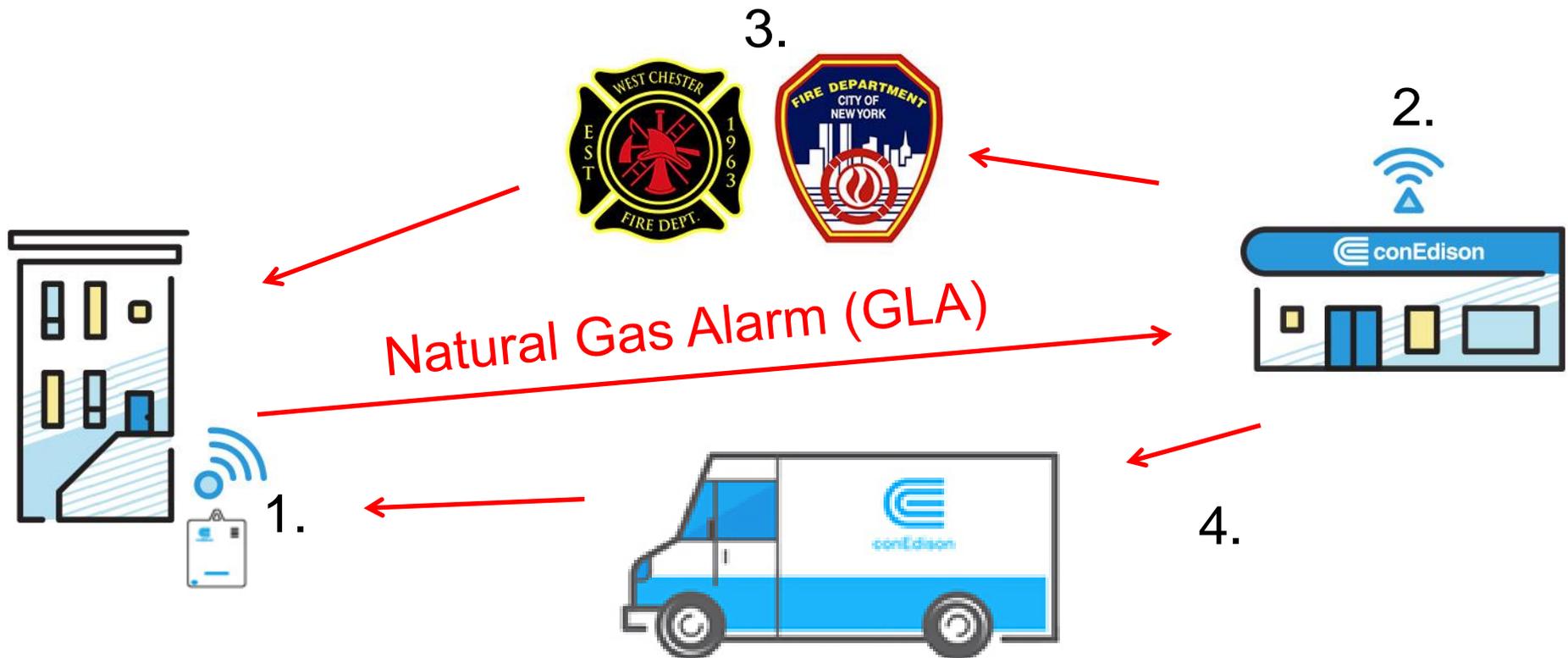
Gas  
POE



Gas  
POE

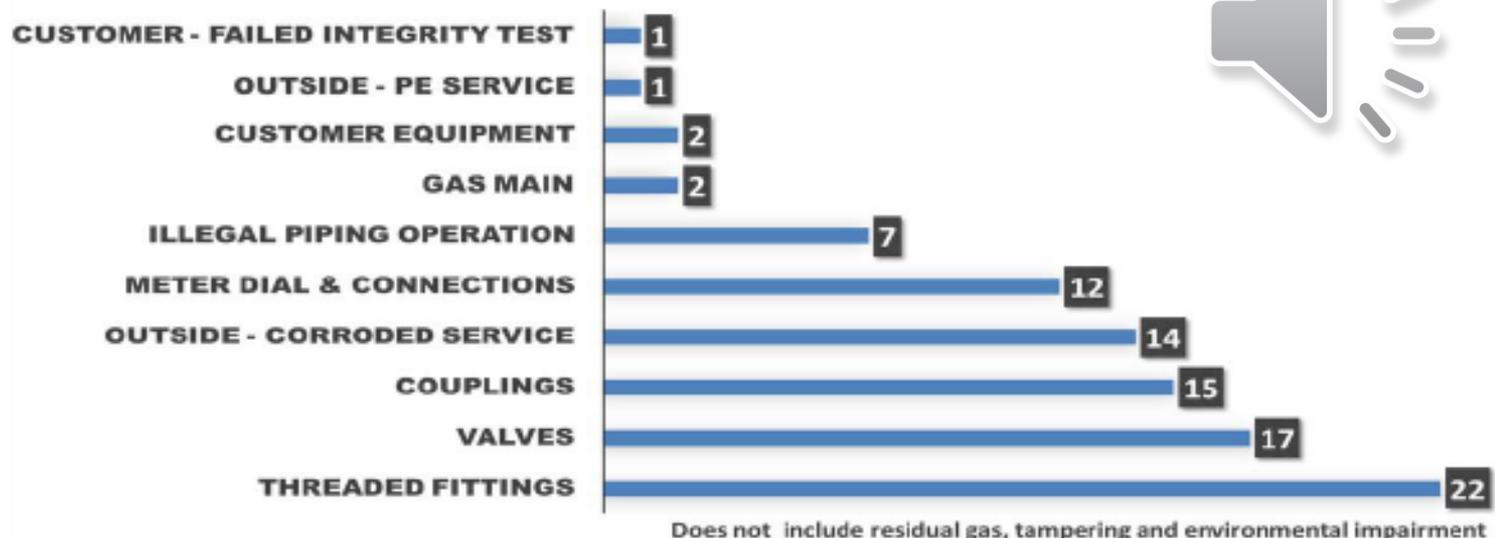
# Fire Department Coordination

- Solicited Fire Department feedback and input
- Developed emergency response protocols

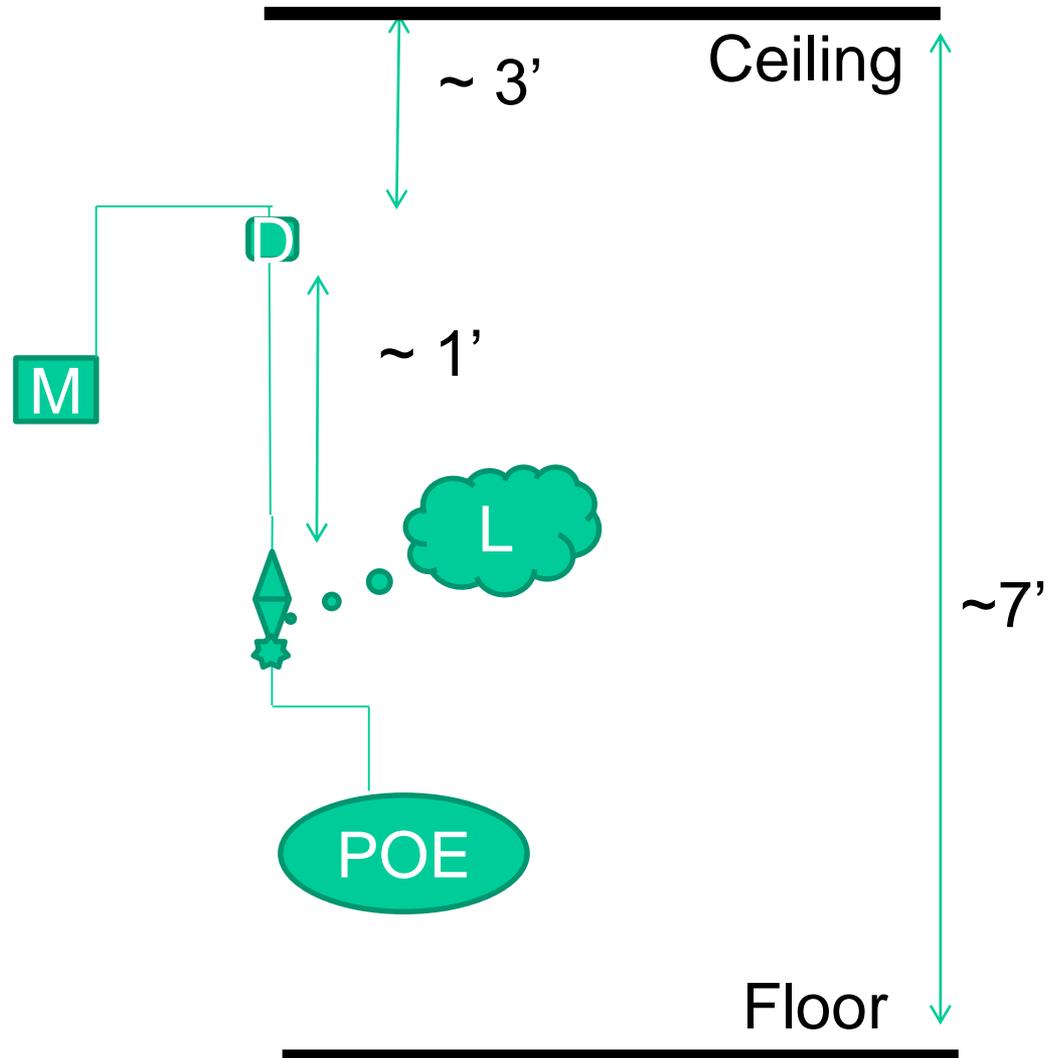


# AMI Capable NGDs – Pilot Status & Performance

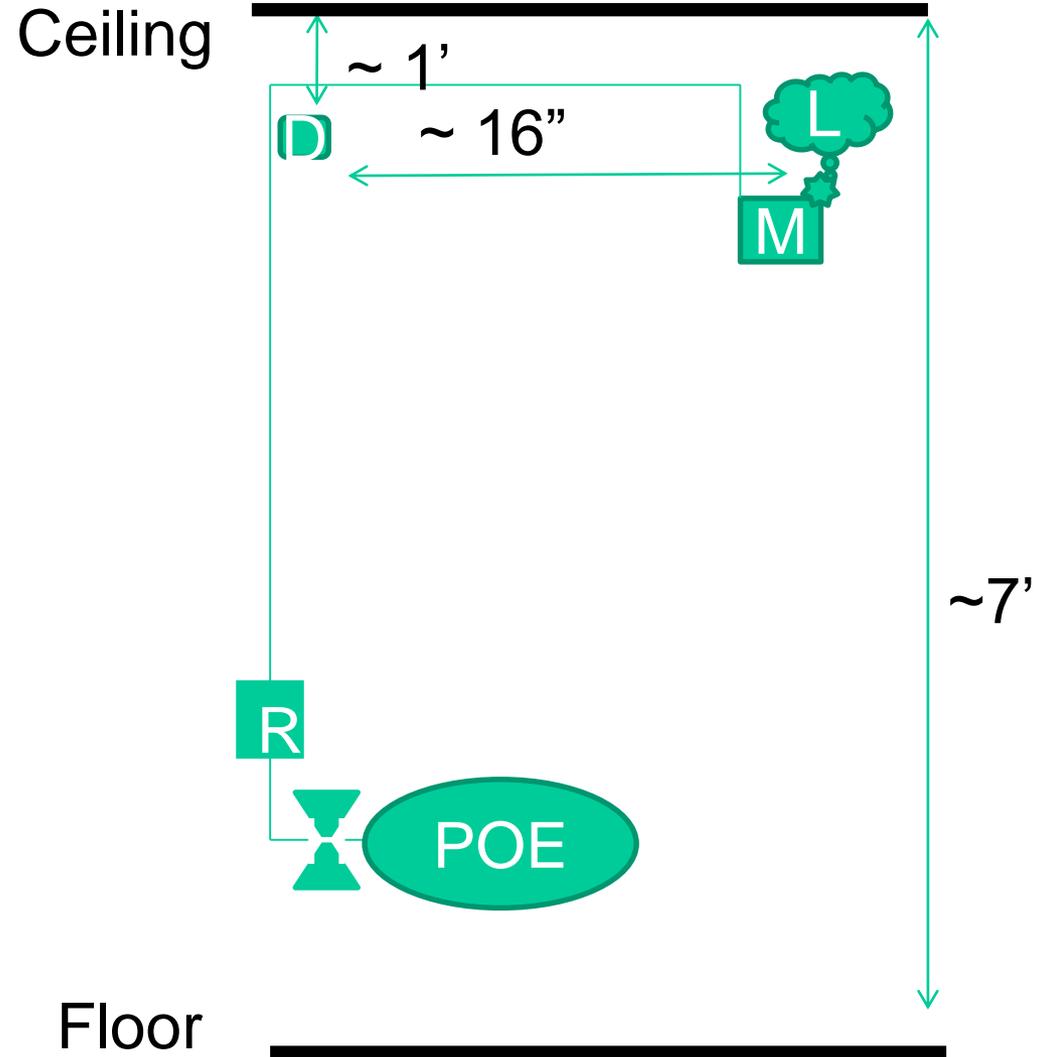
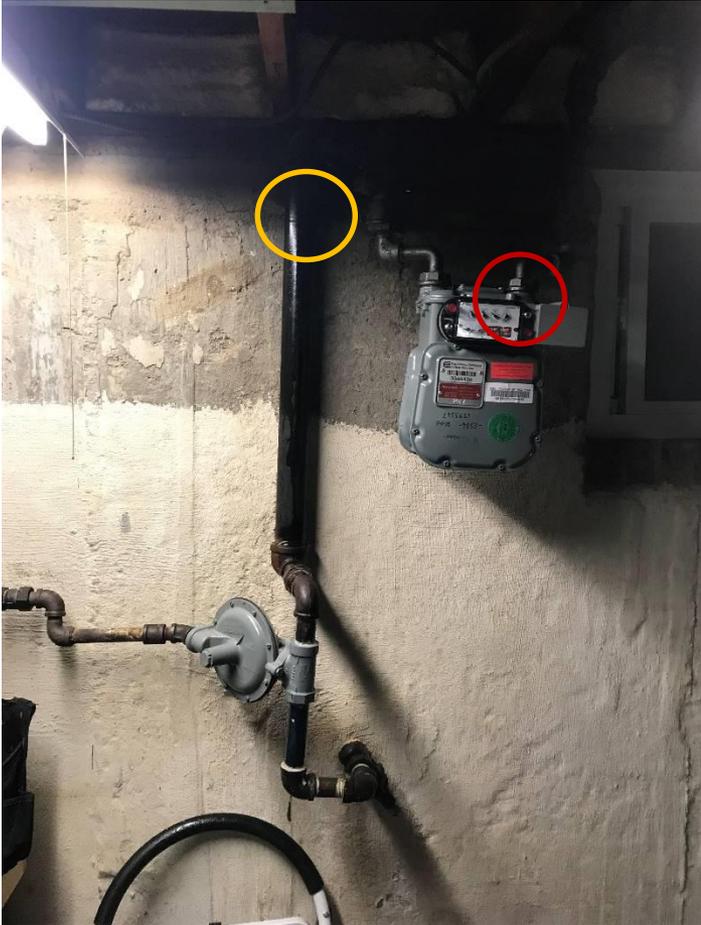
- Pending Rate Case plans for 375,000 units
- Pilot 9,000 units and 8,752 installed as of 9/30/19
- 104 GLAs, 25 Type 1 leaks
- ***No false alarms!***



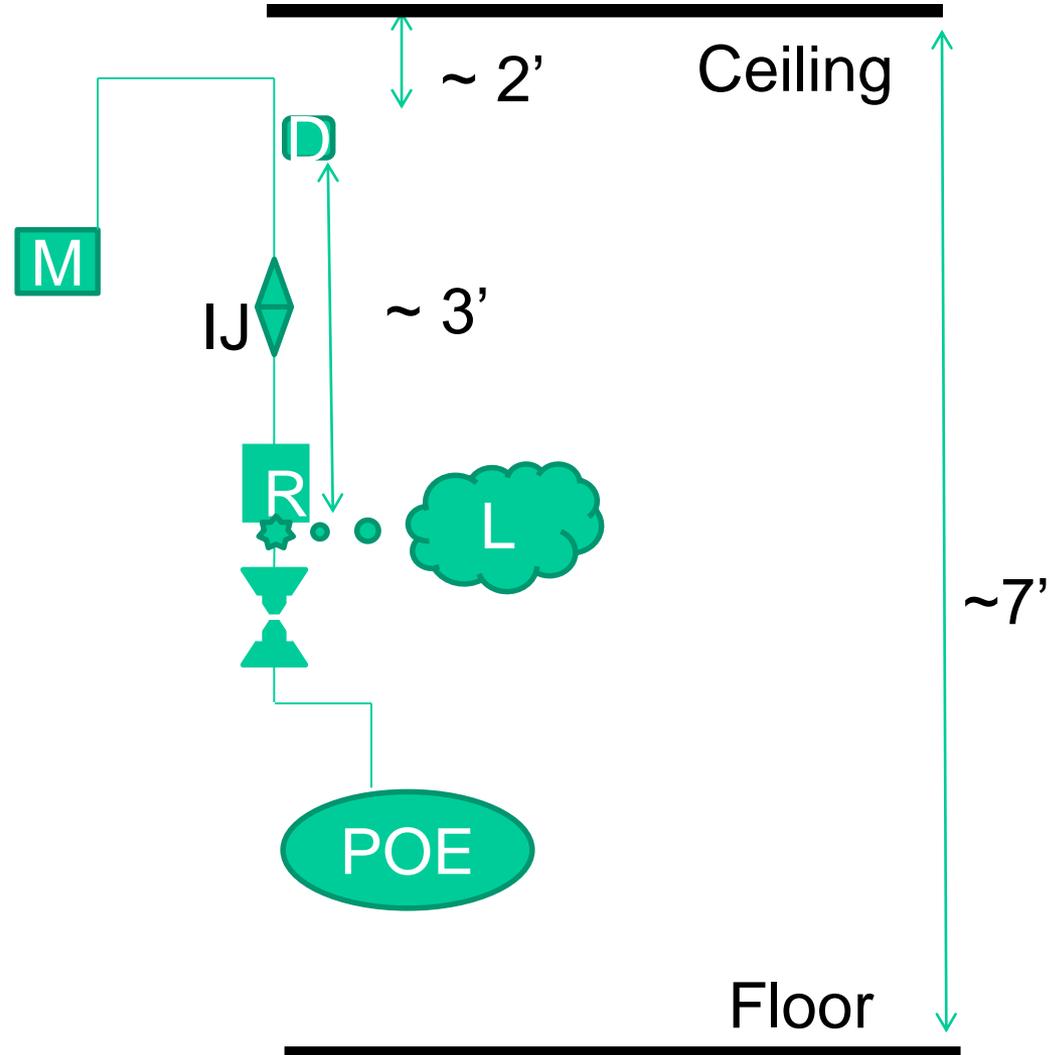
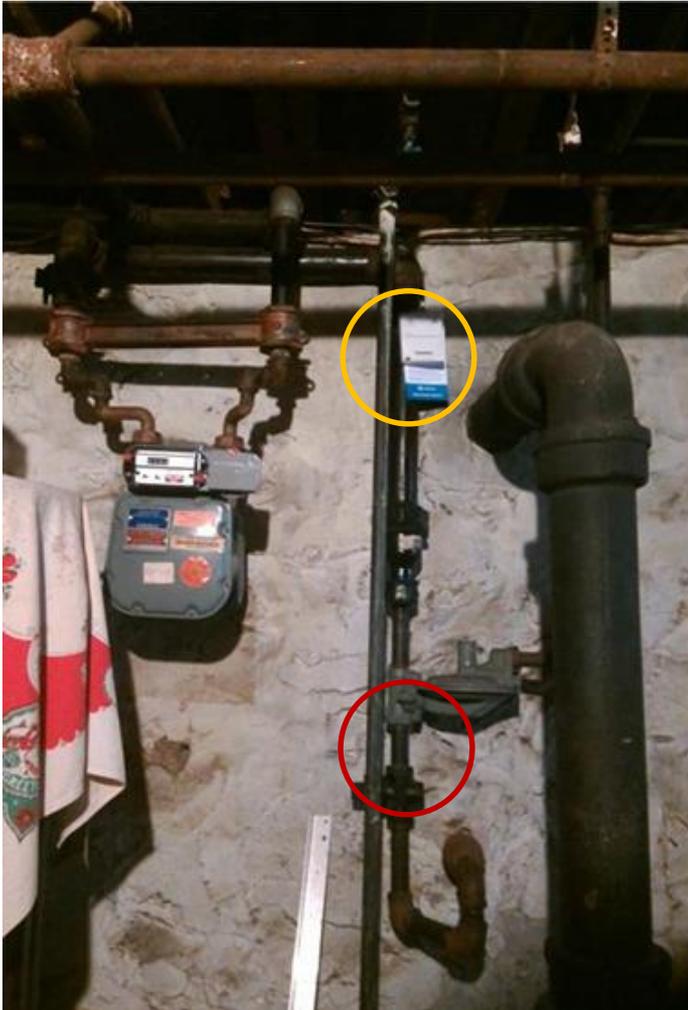
# Example GLAs - Leak on Coupling



# Example GLAs – Leak on Meter Outlet



# Example GLAs - Leak on Regulator Inlet Thread



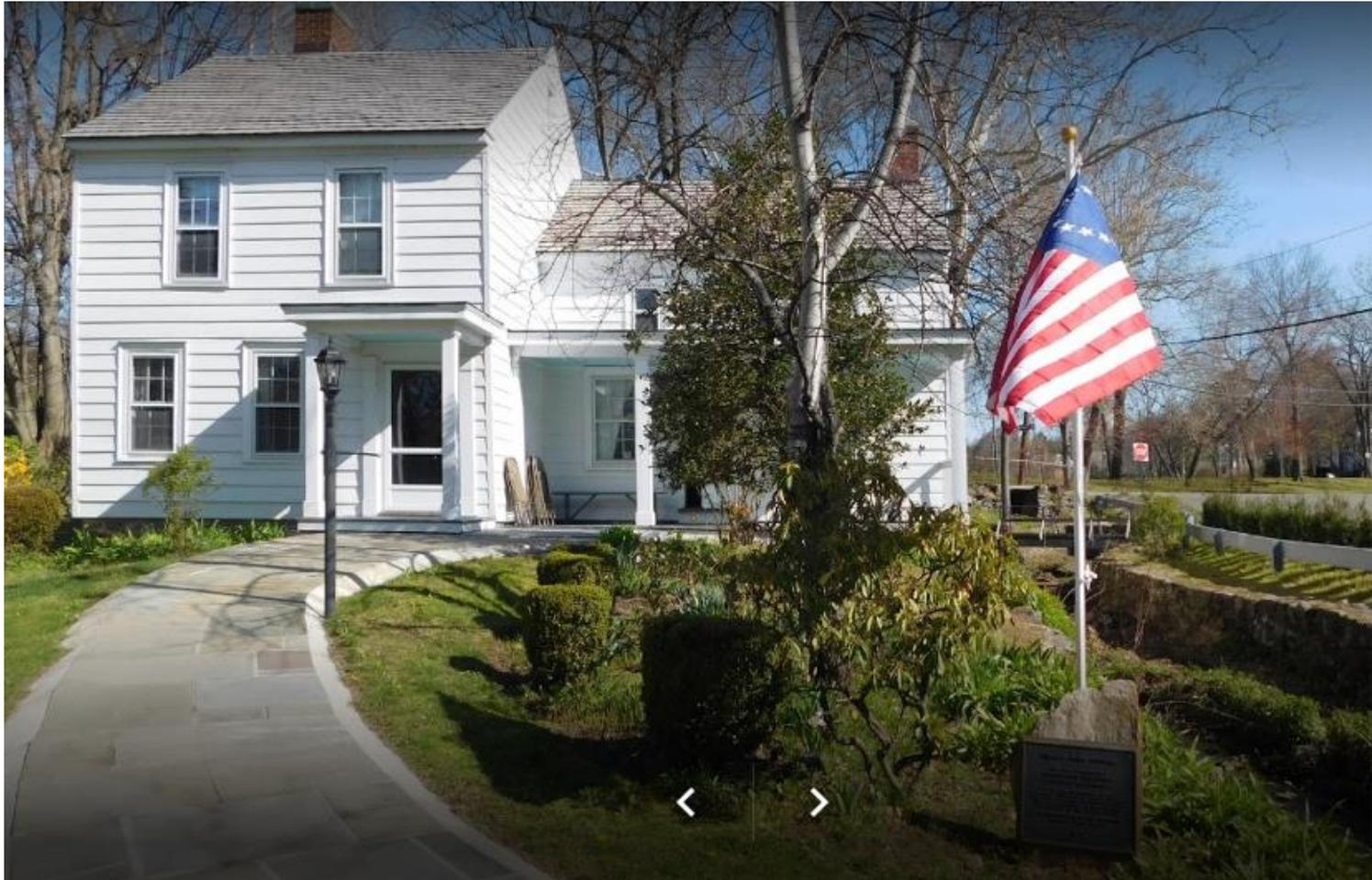
# Example GLAs - Street Leak Entering from Telephone POE (10/8/19 - Manhattan)



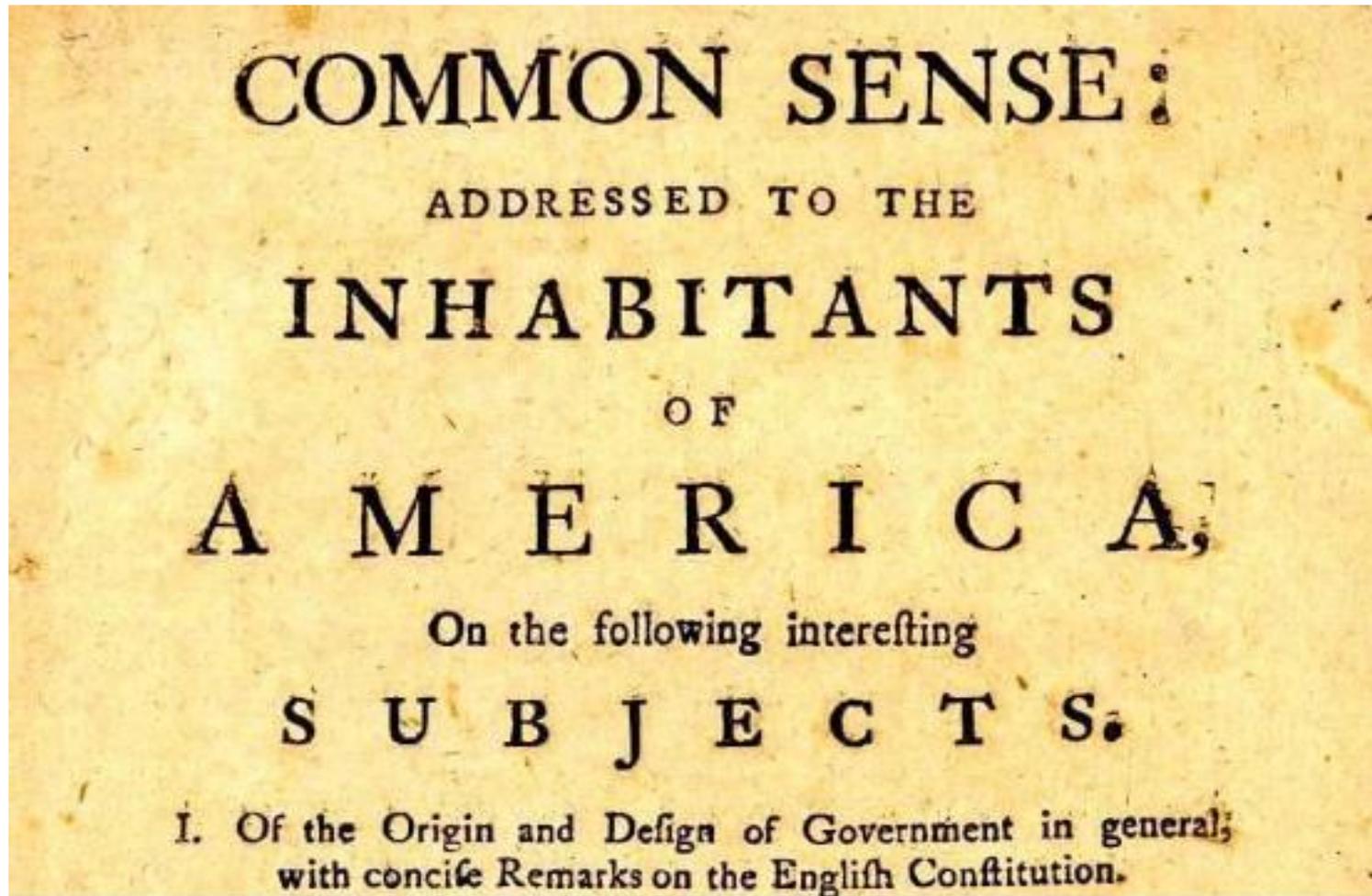
# Examples of GLA Leaks



# GLA 9<sup>th</sup> Alarm – Thomas Paine’s Cottage – New Rochelle NY



# Residential Natural Gas Detectors *Will Save Lives*



# Questions?

