Residential Methane Det

Ohio Gas Association Technical Seminar 2023

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Con Edison Company of New York

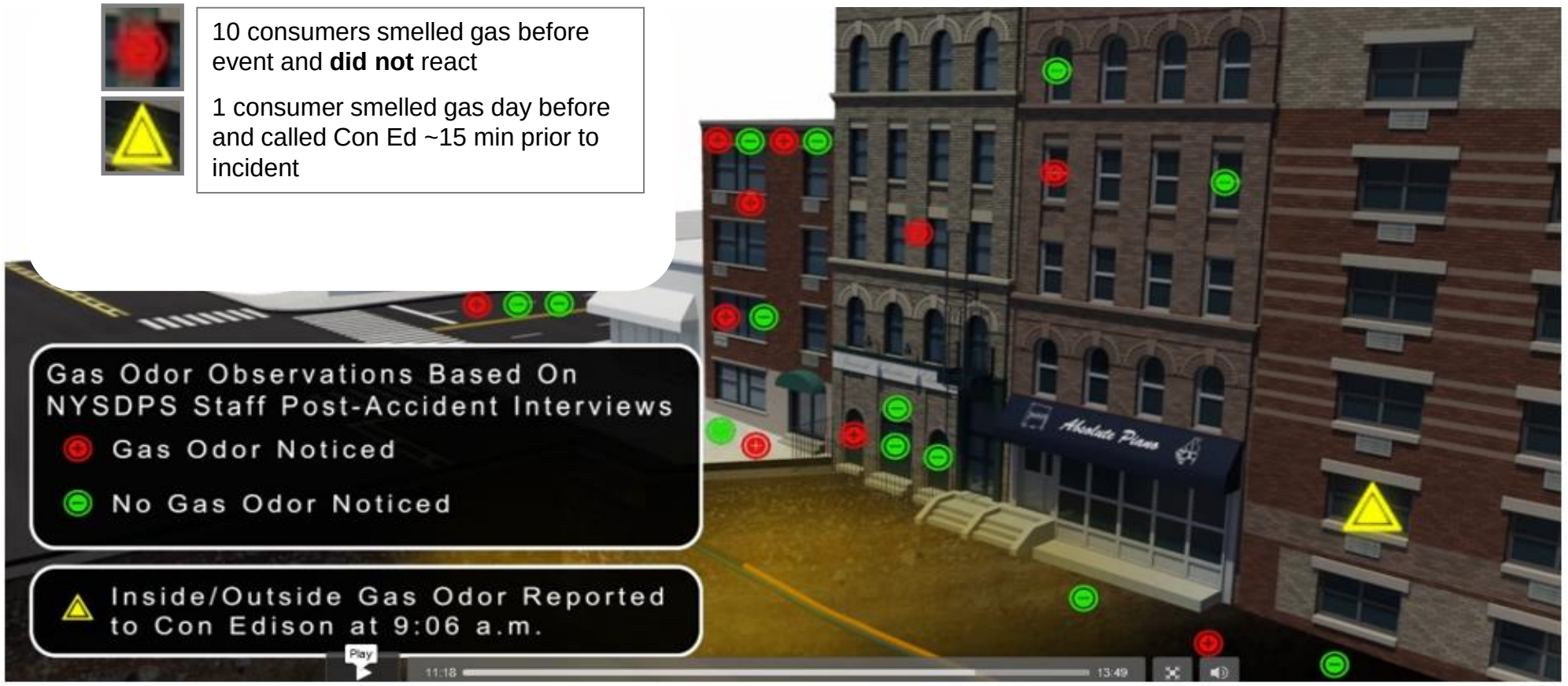
Catalyst Events

- East Harlem explosion 3/12/14

- East Village explosion 3/26/15

Historical Perspective
Findings From the East Harlem Incident (2014)

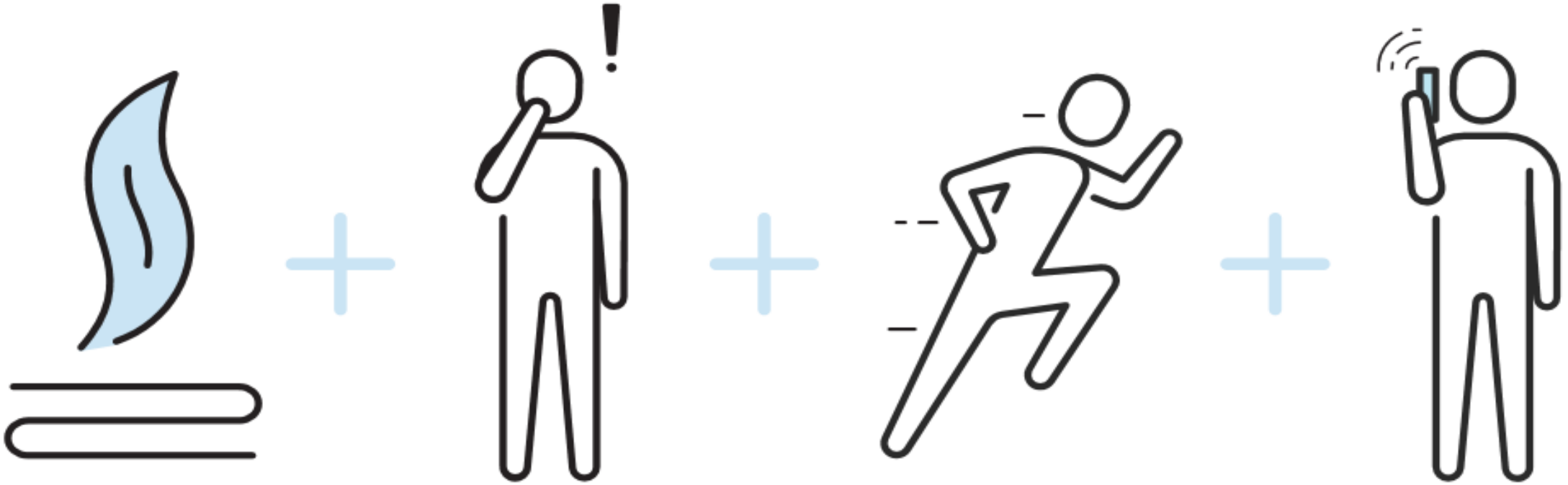
Numerous residents noticed the odor of gas and failed to report it. An AMI-enabled NGD likely would have prevented this incident.



Historical Perspective

Post Incident Public Awareness Campaign: Smell Gas. Act Fast.

Prior to the AMI enabled Natural Gas Detector, we solely relied on our public awareness campaigns and customer calls to report indoor gas odors.



Don’t assume someone else will report it.

Device and Communication System Parameters

The system makes natural gas detection in buildings very reliable and facilitates response within minutes.

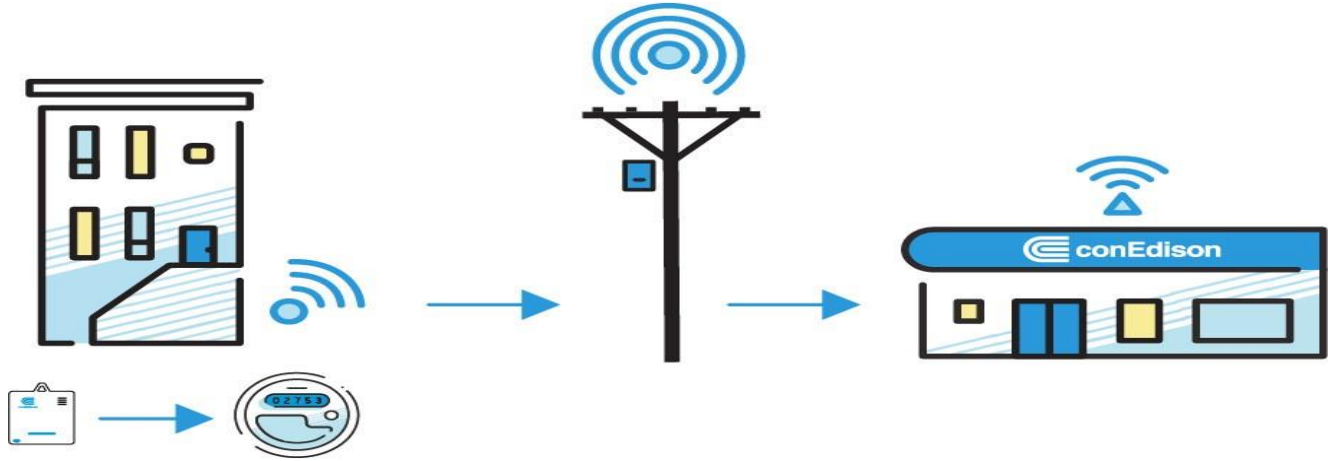
Internal components

AMI enabled Natural Gas Detector Attributes

- UL and FCC certified
- Technology improvements will extend battery and sensor life from five to ten years by 2023
- Has local audible alarm and communicates through AMI network:
  - Detects and alarms for gas levels at 10% of lower explosive limit (very sensitive) and provides continuous messaging
  - Reports heartbeat (every 8 hours)
  - Reports warnings for low battery and sensor issues
- No customer maintenance required

AMI Communication System

- Low powered radio frequency (RF) for battery applications
- Electric Smart Meter to AMI communication network



Project Overview

We expect to complete installations at CECONY by the end of 2025. ORU began their deployment in 2022.

2016 – 2017
Industry research
GTI Testing

- Technology/Vendor selection
- GTI testing
- Code review

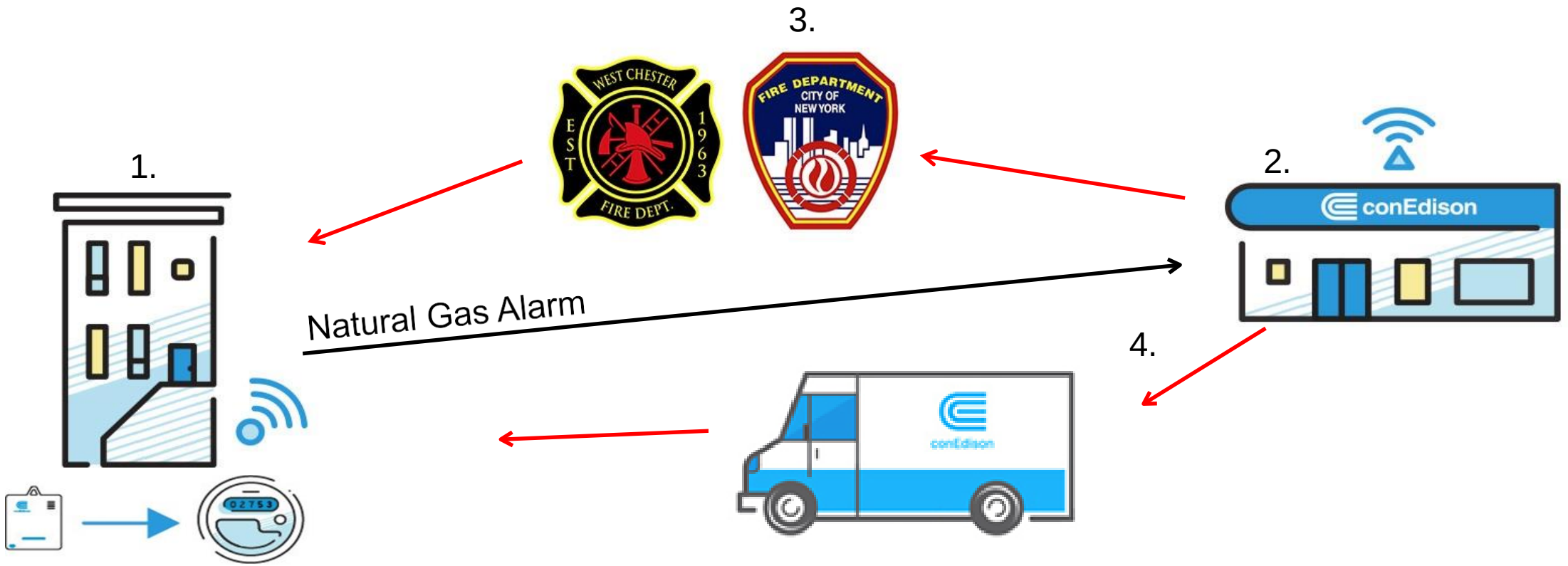
2018-2019
Pilot Program
9,000 units installed

- Plan and coordinate program
- Install at building point of gas service entry
- Ensure all systems work
- Review procedures
- Monitor, gain feedback, continuously improve

2020 - 2025
Implementation

- Procure and train workforce
- Educate stakeholders, emergency responders, and customers
- Install NGDs pursuant to AMI rollout
- Install NGDs bundled with service line inspections
- Improve technology to 7- and 10-year units

Response & Coordination



Internal & External Communication

- Open communication with DPS Staff, FDNY & Westchester County FD
  - Town Hall Meetings with agencies
  - Developed emergency response protocols
  - Discussed concerns
  - Thorough explanation of technology in use
- Critical/landmark locations and field meets

Examples - Installation Locations

Warning Tag

WARNING

This device detects the presence of NATURAL GAS, which can IGNITE or EXPLODE, CAUSING SERIOUS INJURY or DEATH. NEVER IGNORE ANY ALARM.
DO NOT TAMPER WITH THIS DEVICE OR ITS BATTERY OR MOVE OR RELOCATE THE GAS DETECTOR FROM WHERE IT IS INSTALLED.
Doing so could disable this device, cause it to malfunction, and/or result in serious injury or death.
A yellow blinking light indicates that the Gas Detector may not be functioning properly or that its battery may be running low. CONTACT CON EDISON IMMEDIATELY AT THE PHONE NUMBER BELOW IF YOU OBSERVE A YELLOW BLINKING LIGHT.

Read and follow the other Important Safety Information & Warnings for this Gas Detector available at:
conEd.com/NaturalGasDetector
or by scanning this QR code:

EVACUATION PROCEDURE

If at any time you SMELL NATURAL GAS or THE ALARM ON THIS DEVICE SOUNDS:
1. EVACUATE IMMEDIATELY and take others with you.
2. Do NOT use a phone, light a match, or turn on or off any light switches, flashlights, or appliances. Doing so could IGNITE a FIRE or EXPLOSION.
3. CALL 911 once you are safely outside the premises.
4. Do NOT reenter until told to do so by authorities.

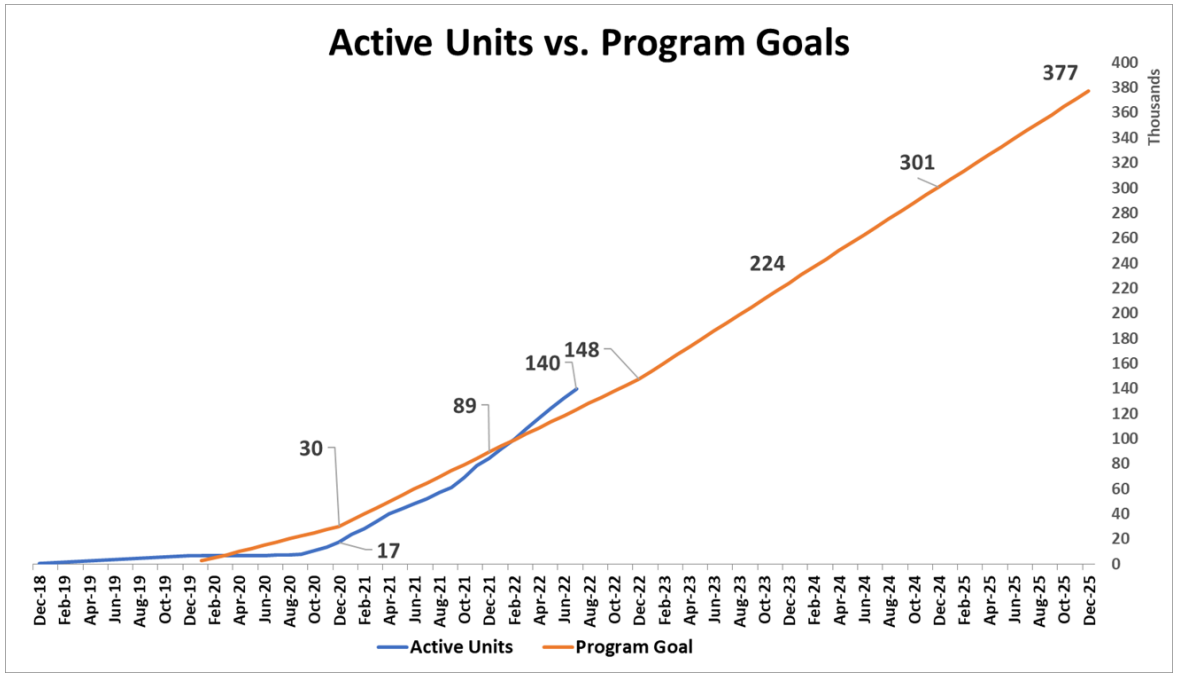
conEdison

Natural Gas Detector
For information or questions, call 1-800-75-CONED (1-800-752-6633).
Mira el otro lado para español.
中文请见其他标签
다른 한국어 태그 참조
См. другую метку с русским текстом
বাংলার জন্য অন্য ট্যাগ দেখুন

Deployment Schedule and Budget

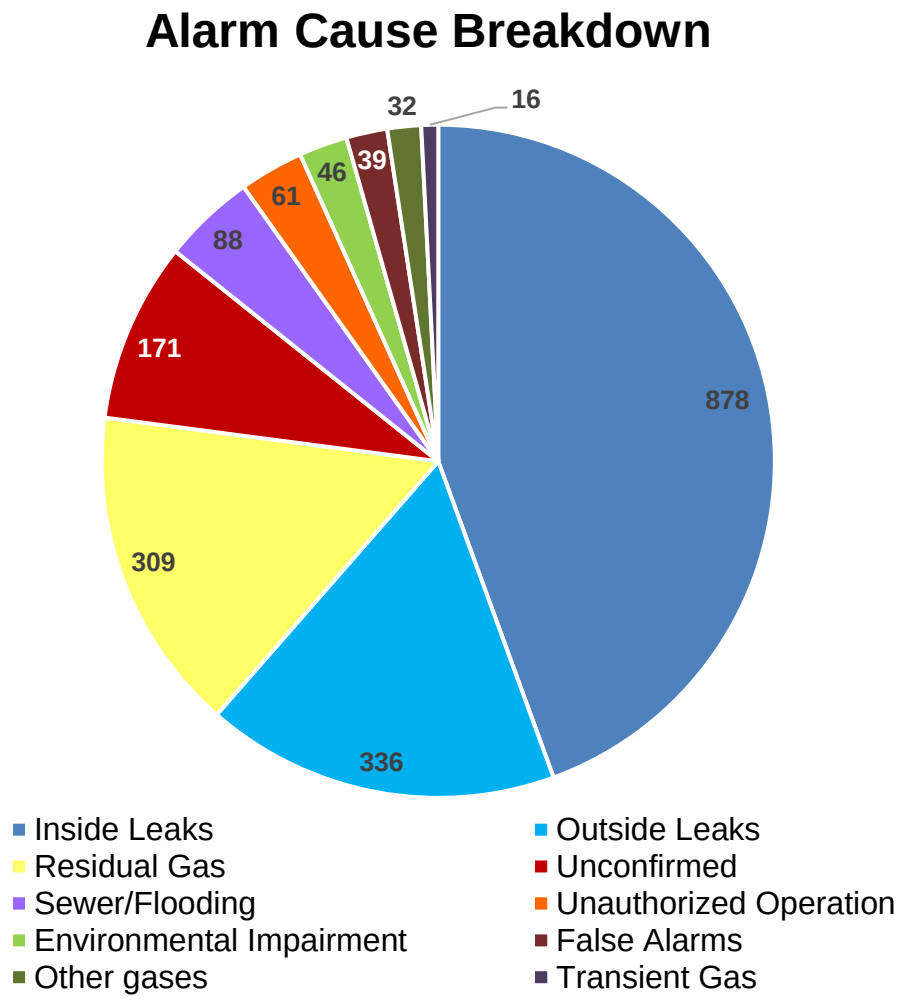
We are on schedule and on budget to complete the baseline program by the end of 2025 at CECONY (377,000 units) and at ORU (15,000) by the end of 2024.

- Mass deployment started September 2020 at CECONY and in July 2022 at ORU
- 170,000 units installed system-wide since program inception



- CECONY has spent $70M program to date and forecasts total expenditures of $160M through 2025.
- ORU has spent about $1M program to date and forecasts a total expenditure of $10.5M through 2024.

Gas Leak Alarm (GLA) Results – Dec ‘22



- Over 1900 alarms received program to date on almost 170,000 NGDs installed
- Expect to receive ~2000 GLAs annually once deployment is fully completed
- Mostly inside *and outside* leaks detected

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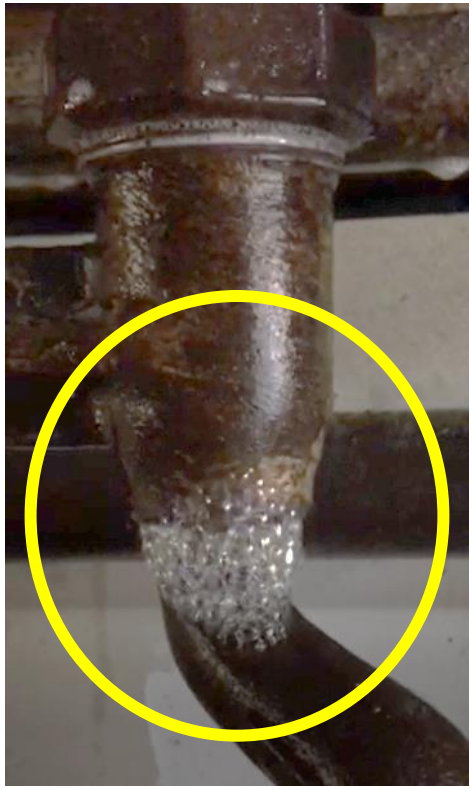
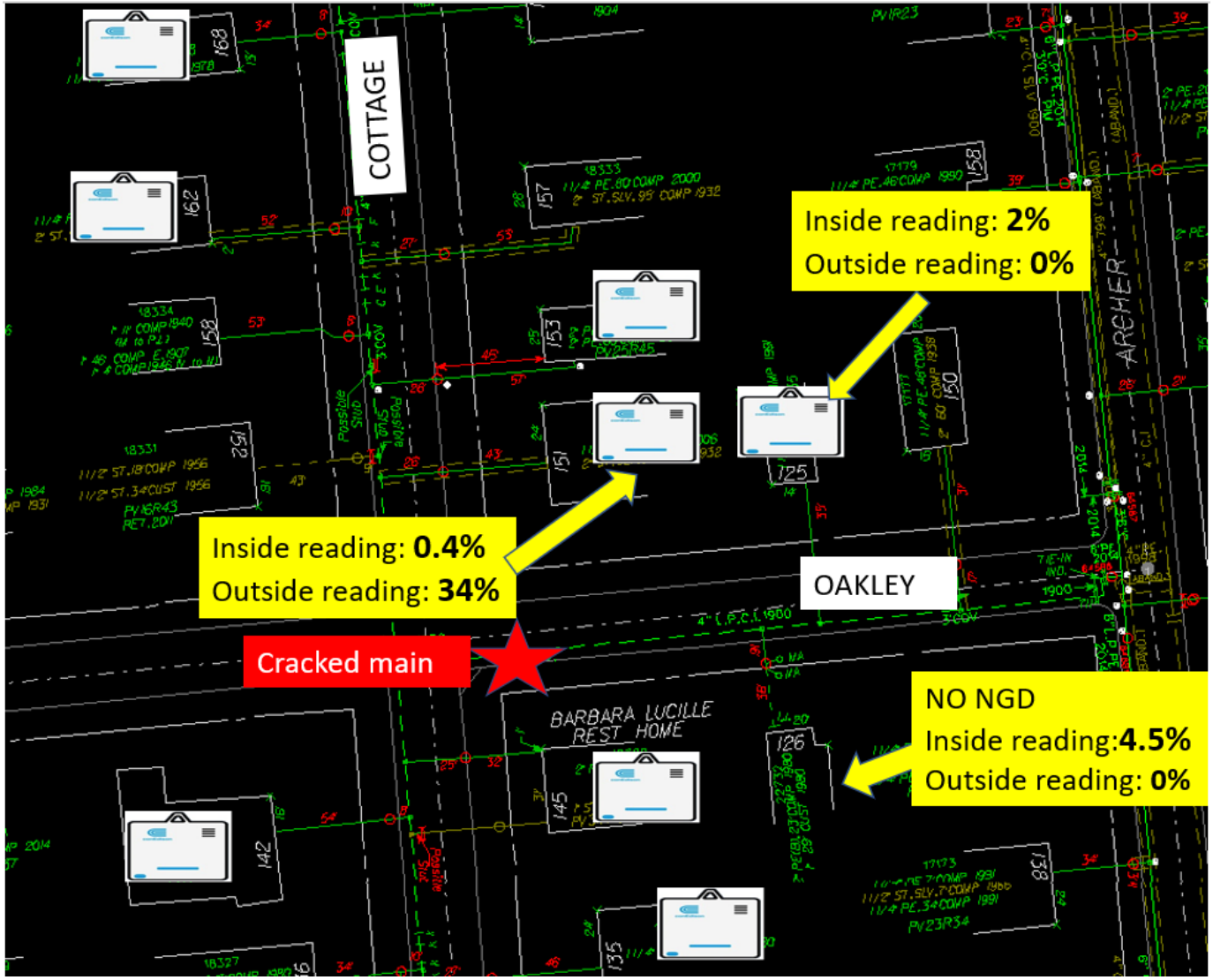
Examples of Inside Pipe Leaks



Example GLA – Street Leak Entering from Telephone Point-Of-Entry

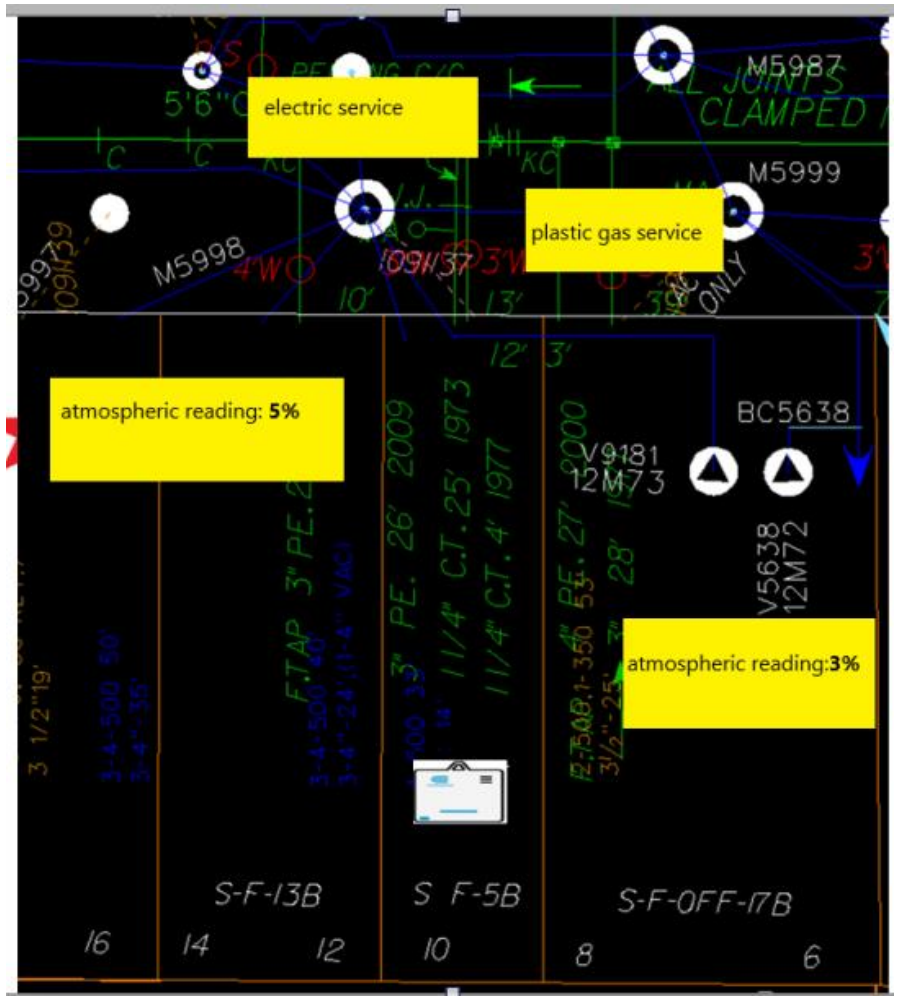
Outside Leak from Cracked CI Main

- Two detectors alarmed during a cracked cast iron gas main leak



Electric Burnout (Outside Leak)

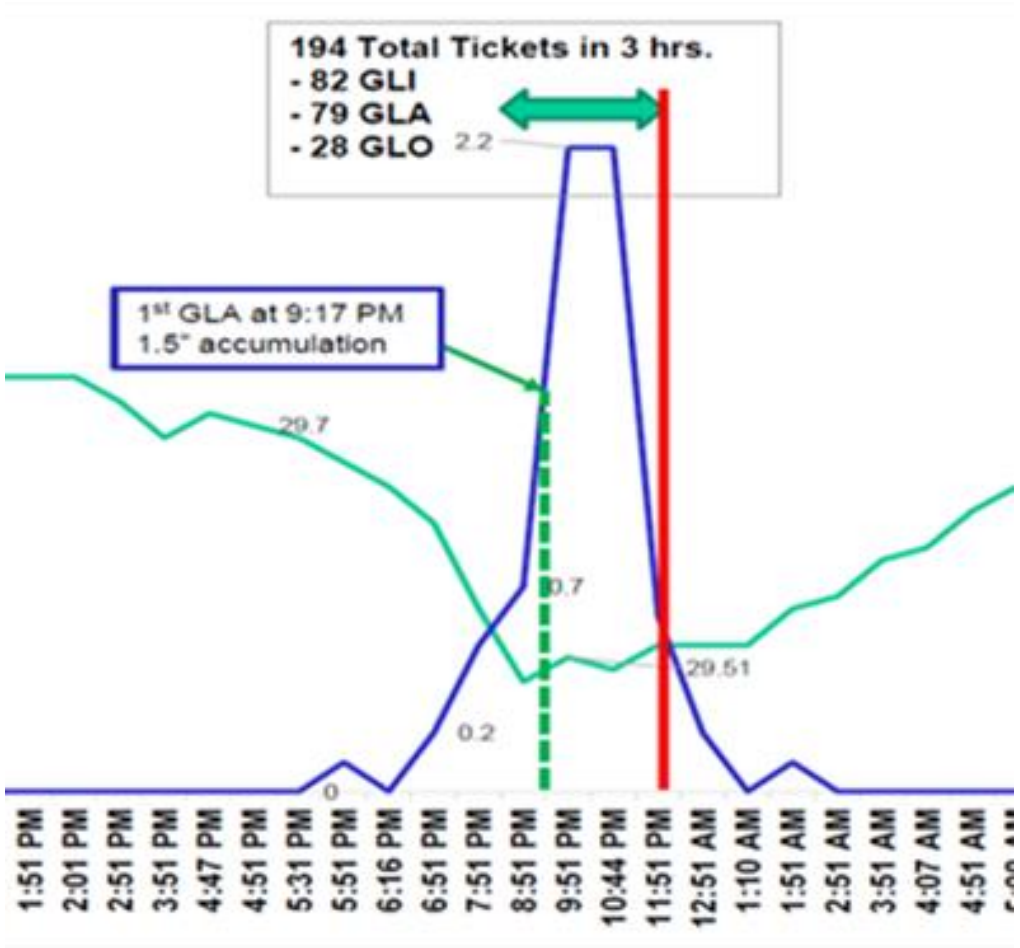
- 10 W 32 Street
- GLA received on 9/26/22
- Investigation uncovered atmospheric readings



Other Learned GLA Experiences

- Carbon monoxide from building fires
- Illegal pipework
- Flooding
- Elevated GLA activity during heavy rains

Precipitation and Barometric Pressure



Key Takeaways

- AMI enabled Natural Gas Detectors (NGDs) are installed inside buildings near the gas service point of entry and provide real time monitoring and alarms for natural gas (methane) leaks.
- Sensor and communication technology has enabled major safety risk mitigation for response to natural gas leaks.
- NGD's are a 'first of their kind' device in the United States, a game changer in the industry for public safety and are strongly supported by our regulators and municipal fire departments.
- Gas leak alarm results have been accurate and reliable, initiating prompt response from our first responders and fire department personnel to mitigate potentially dangerous conditions.
- Technology improvements will extend battery and sensor life from five to ten years by 2023, reducing replacement activity.

Industry interest and recognition

This project spans the globe and involved many stakeholders.

- American Gas Association
- Northeast Gas Association
- U.S. and European utility operators
- NTSB & Public Service Commission
- GTI Energy (formerly Gas Technology Institute)
- Various manufacturers and vendors
- National Fire Protection Association
- Underwriters Laboratories (UL)
- Insurance risk underwriters

Questions?