

# Infrastructure Changes to Reduce Methane Emissions

September 2019  
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# California leads the nation in setting climate goals and policy

Governing Law  
— SB32 —

60%

GHG Emission  
reduction by 2030  
below 1990 levels  
across all sectors

Governing Law  
— SB138 —

40<sup>3</sup>%

Methane emission  
reduction by 2030  
below 1990 levels  
across all sectors

Governing Law  
— SB137 —

25<sup>1</sup>%

Reduce methane emissions  
from natural gas operations  
25% by 2025, giving priority  
to safety, reliability, and  
affordability of service

# SB1371 Overview and Goals

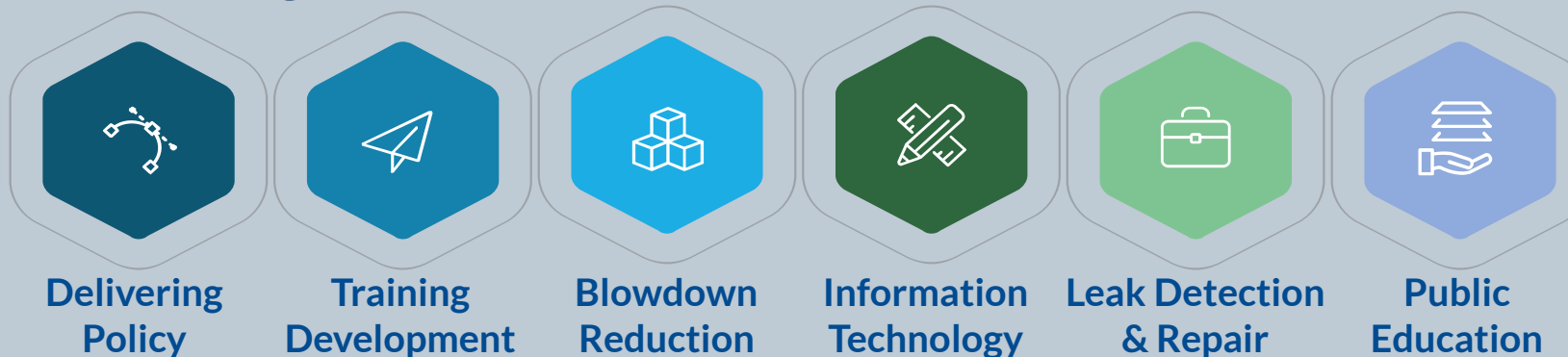
## Overview

- Senate Bill 1371 passed in September 2014
- CPUC opened a proceeding to adopt rules and procedures governing commission-regulated gas pipeline facilities to minimize methane emissions
- Utilities filed Compliance Plans in 2018, including implementation plans to meet the requirements of 26 Mandatory Best Practices

## Goals

1. **Minimize methane emissions** from operations by 20% by 2025 and 40% by 2030
2. Give priority to safety, reliability, and affordability of service

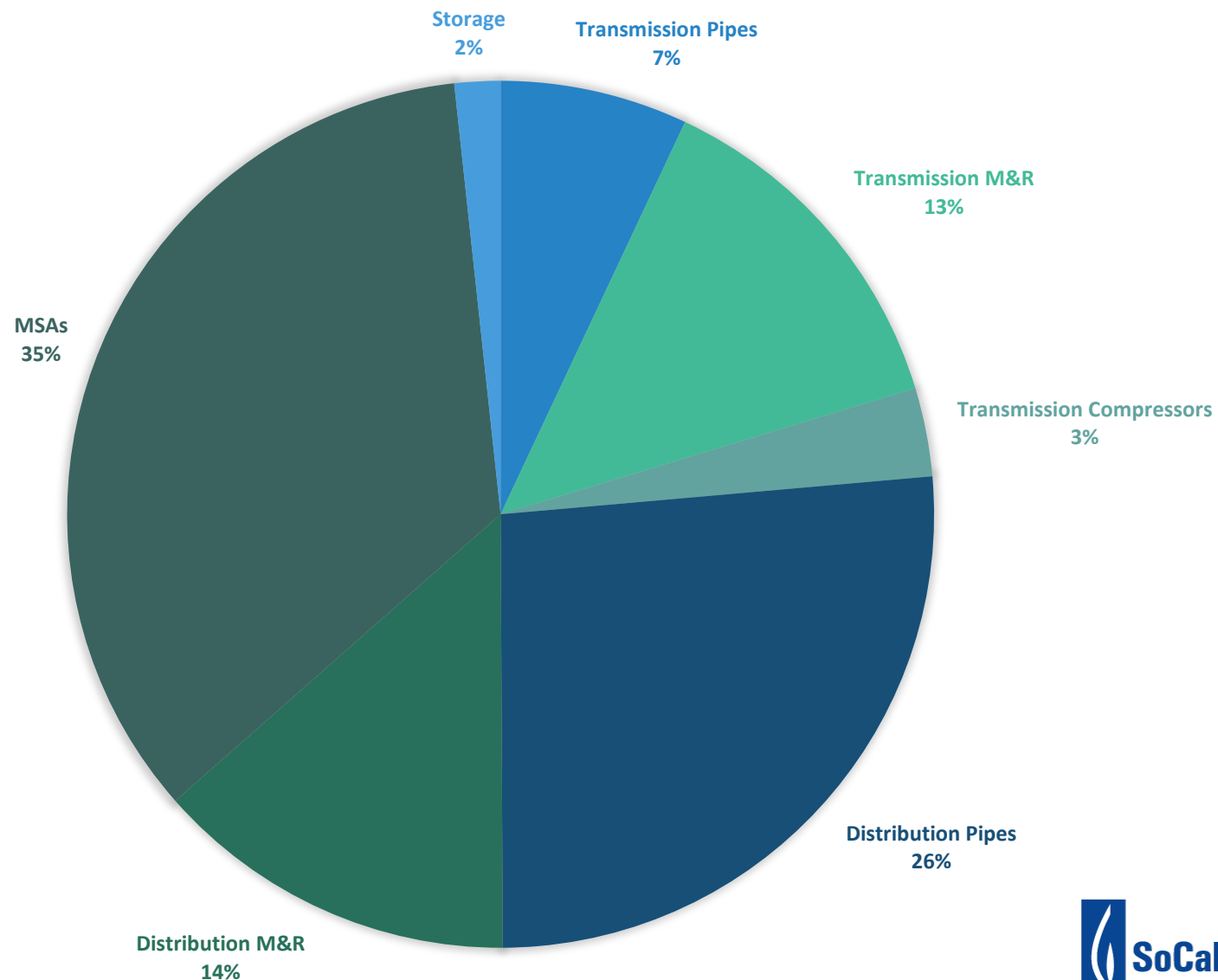
## 26 Best Practice Categories



# SoCalGas' 2018 Methane Emissions Inventory by Source Category

2,543 MMCF

## 2018 SOCALGAS NATURAL GAS EMISSIONS 2,543 MMCF



# Facility Replacement or Reduction

## REPLACEMENTS & REDUCTIONS

01

### System-Wide High Bleed Pneumatics

7 devices replaced YTD (from 2015 baseline)  
9,833 Mscf annual emission reduction

02

### Distribution Main & Service

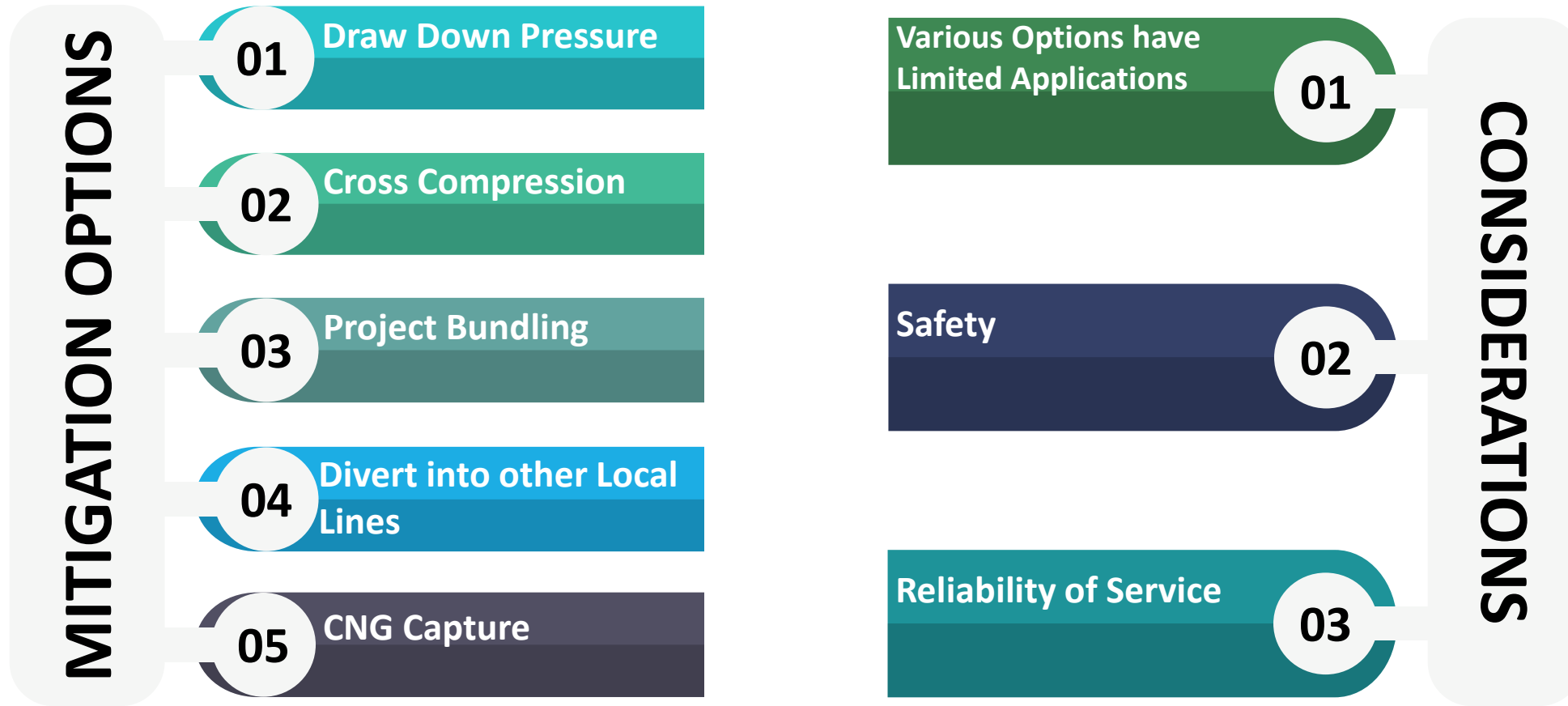
749 miles of vintage pipe replaced – est. 74 leaks prevented annually  
2,313 Mscf annual emission reduction

03

### Distribution Leakage Inventory

7% reduction in total # of leaks & 60% reduction of leaks over 3yr old  
50,892 Mscf annual emissions reduction (8% from 2015 baseline)

# Blowdown Reduction Program



# Emission Detection Cost Effectiveness

## Leak Surveys by Pipe Classification

Increase the frequency of leak survey allows utilities to find leaks faster, repair leaks more quickly, and reduce emissions

01

### Unprotected Steel

(No Cathodic Protection)

- 3 year to 1 year survey
- \$34/MCF

### “State of the Art” Plastic

- 5 year to 3 year survey
- \$421/MCF

02

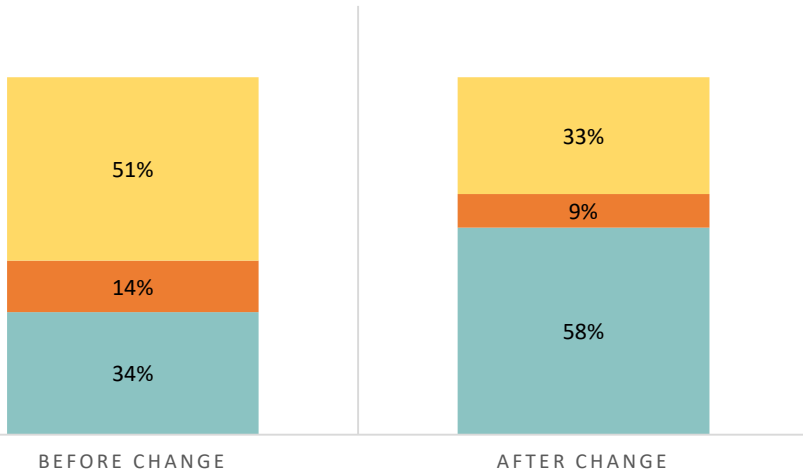
03

### Protected Steel

- 5 year to 3 year survey
- \$611/MCF

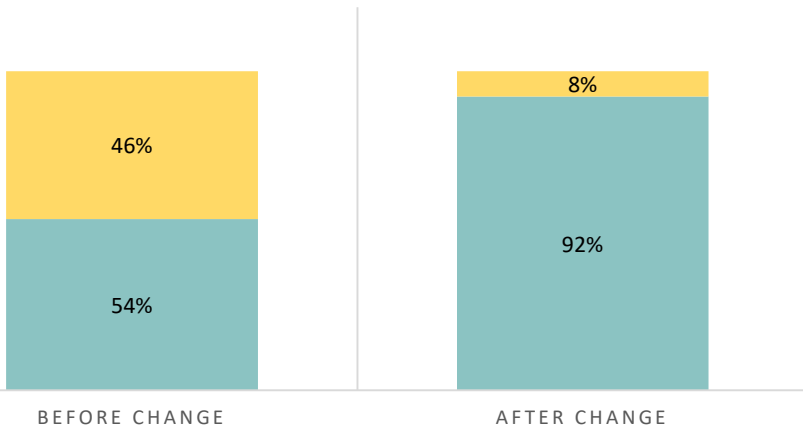
## INCREASED ANNUAL LEAK SURVEY

■ Annual ■ Multi-Year ■ Unsurveyed



## INCREASED % OF LEAKS DETECTED

■ Detected Leaks ■ Estimated Unknown\*



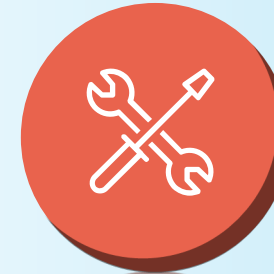
\* Number of leaks are estimated in areas not surveyed in the report year

# ACCELERATED SURVEY



## STRATEGY

- Reduce number of unknown leaks



## SOLUTION

- Change in survey rate from 3 years to annual



## RESULTS

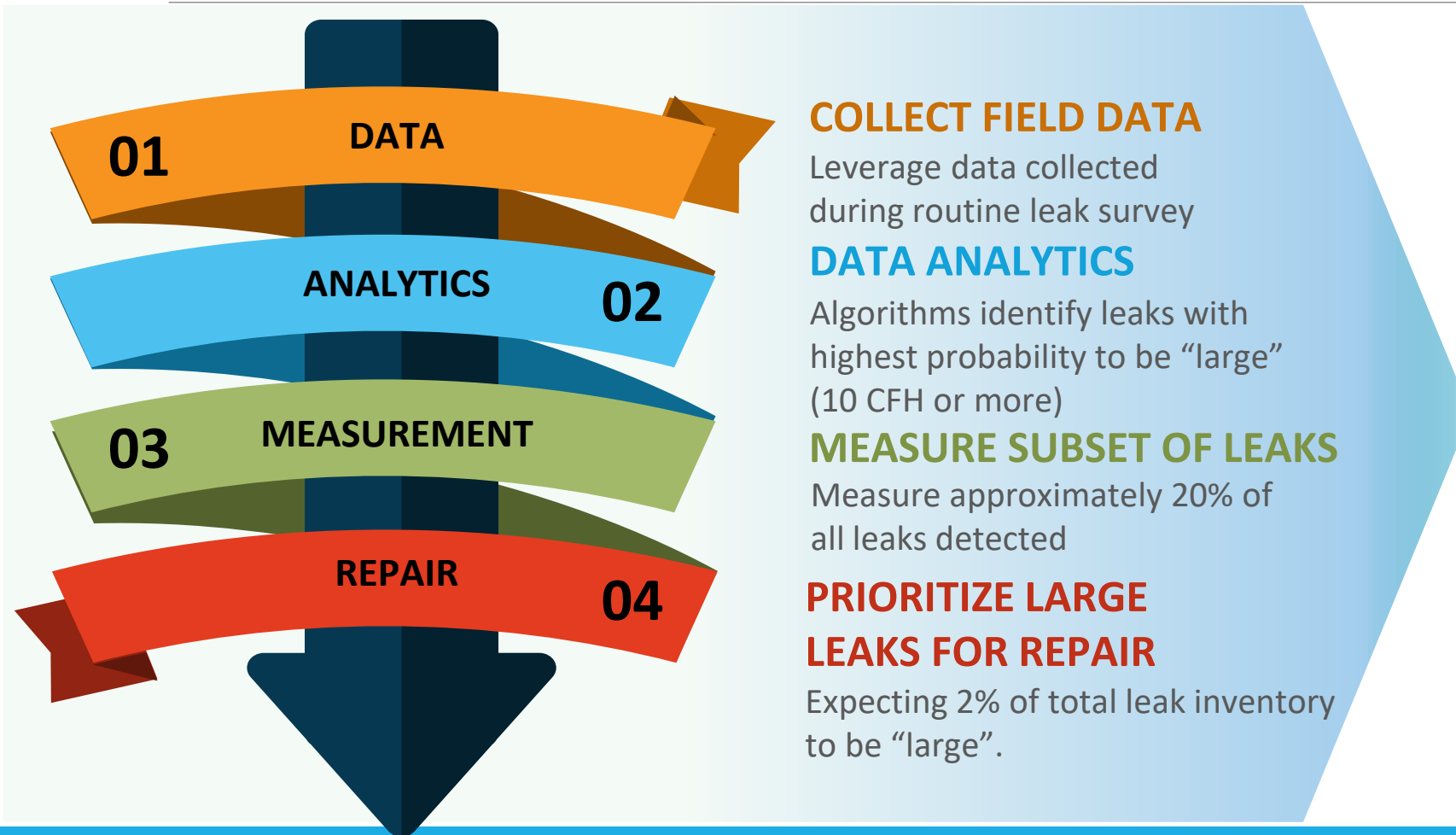
- Reduction in inventory of unknown leaks
- Reduction in associated emissions
- Allows for analysis of potential locations of large leaks



A Sempra Energy utility



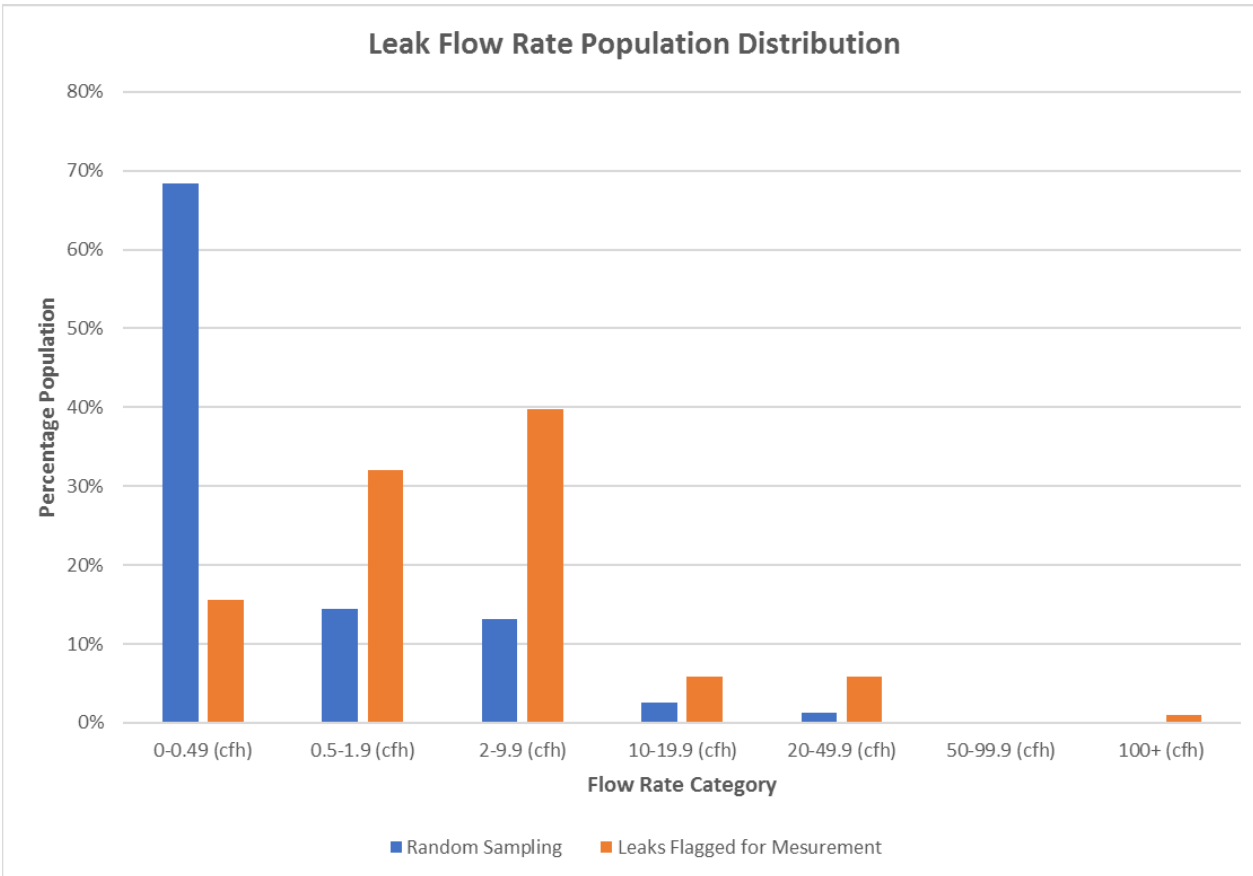
# Large Leak Mitigation Strategy



## BENEFITS

- 1 Avoid measuring 80% of leaks detected
- 2 Minimize cost of implementation
- 3 Leverage accurate leak measurement methods

# Progress to Date



## SUCCESSFULLY BIASED THE SAMPLE POPULATION DISTRIBUTION

R&D completed developing data analytics approach to screen leak data

650+ leaks processed through data analytics with 102 leaks flagged for measurement (16%)

14 large leaks found out of 102 leaks measured (2% of the 650+ leaks processed)

Additional 180 leaks measured that were not flagged for measurement with only 2 large leaks found (1% - both on low end of “Large”)



**Thank You**