Harmonizing Methodologies & Regs

- Mandatory GHG Emissions Reporting Regulation (CARB, MRR)
- Natural Gas Leak Abatement (CPUC, SB 1371)
- GHG Standards for Crude Oil and Natural Gas Facilities (CARB, Oil & Gas Reg)
- Requirements for California Underground Gas Storage Projects (DOGGR, Underground Storage Reg)
CARB
Mandatory GHG Reporting Regulation

- Applies to entities emitting >= 25,000 metric tons CO$_2$e annually, including major gas utilities
- Also applies to some entities emitting < 25,000 metric tons CO$_2$e
- Methodologies vary by source category;
  Example for gas distribution mains and services:

\[ \sum E_i = L_i \times EF_i \]

where:

- $E_i$ = Emission from pipe material i
- $L_i$ = Length of pipe material i
- $EF_i$ = Emission factor for pipe material i
Higher tier methodology & California-specific EFs

For comparison, methodology for gas distribution mains and services:

\[ \sum E_{ij} = EF_j \times D_i \]

where:

- \( E_{ij} \) = Emission for leak i & pipe material j
- \( EF_j \) = Emission factor for pipe material j
- \( D_i \) = Duration for leak i
Comparison of Two Methodologies For Distribution Pipeline Emissions

➢ Pros (higher tier):
  • Provides more accurate emissions estimate
  • Allows easier emissions reduction accounting
  • Utilizes updated EFs, new equipment, & communication technology

➢ Cons (higher tier):
  • Requires more detailed data
  • Creates a challenging emissions verification process
Application to Other Population-Based Emission Sources

➢ Metering set assemblies (MSAs):
  • GTI completed the 2018 Residential MSAs Study
  • Objectives:
    - Update California-specific EFs
    - Determine leak proportion
    - Identify troublesome MSA components
  • The report is under review

➢ Other leak sources:
  • Compressor stations
  • Meter & regulating stations
CARB Oil and Gas Regulation

The regulation reduces fugitive and vented emissions of methane from both new and existing oil and gas facilities:

- Oil and Gas Production, Processing, and Storage
- Gathering and Boosting Compressor Stations
- Natural Gas Underground Storage Facilities
- Natural Gas Transmission Compressor Stations

Standards include:

- Leak Detection and Repair (LDAR)
- Compressor rod packing or seal leak rate limits
- No bleed pneumatic devices
Monitoring Plans for Natural Gas Underground Storage Facilities:

- Continuous or daily wellhead monitoring
- Ambient air monitoring
- Optical Gas Imaging in case of blow out
- Once approved, these plans replace DOGGR protocols

Beginning in July 2019, annual reporting to CARB of:

- All quarterly LDAR results
- Compressor rod packing or seal leak amounts
- Other reporting requirements
Consider bundling concerns on a case-by-case basis, with the district input

Critical components and other delay of repair provisions may also address indirectly blowdown concerns