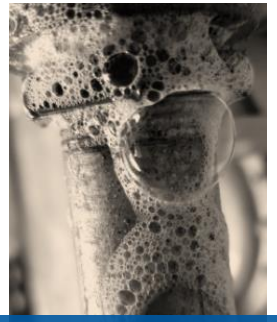
SoCalGas A Sempra Energy utility®

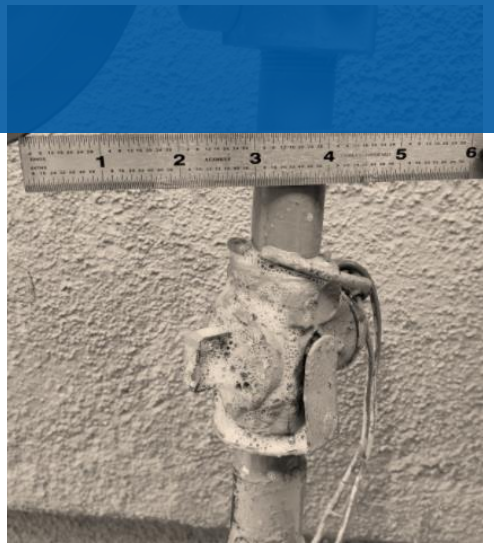
SDGE A Sempra Energy utility®



MSA BASELINE IMPACTS STUDY

Shift from Facility-Based EFs to Company-Specific Leaker-Based EFs

2021 Winter Workshop – January 22, 2021



Overview of Proposed Approach Adjusting 2015 Baseline

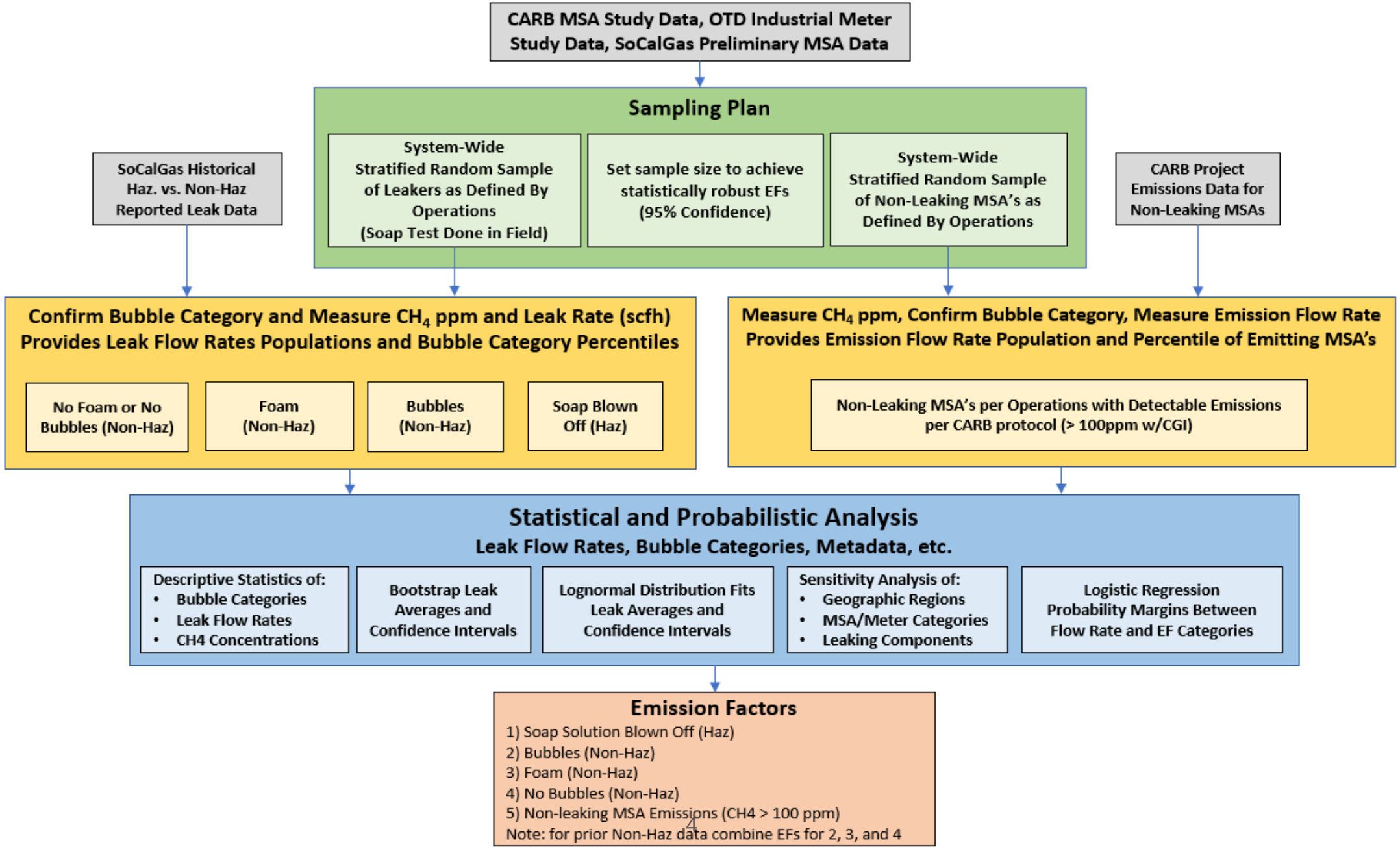
- Background
- Development of Emission Factors
- Approach for Analyzing Reported Customer Meter Leak Data
- Approach for Calculating Emissions from Customer Meter Leaks
- Approach for Adjusting 2015 Baseline for Appendix 6

Background & Prior Work

- **Background:**
  - In 2012, PHMSA implemented the Distribution Integrity Management Program regulations requiring reporting of leaks as either “Hazardous” or “Non-Hazardous”, including MSA leaks.
  - Minor leaks were not required to be reported to PHMSA.
  - SoCalGas/SDG&E conducted laboratory tests to validate AGA guidance regarding “seen, heard, or felt” criteria, and correlation with “blowing-off of leak detection soap”.
- **Results:**
  - Determined soap bubbles begin to be blown-off at ~4 SCFH
  - Study validated rapid dissipation of natural gas above-ground and good safety factor for concern of above ground accumulation
- **Implementation:**
  - Customer Meter leak data provide in SB-1371 Annual reports

SB-1371 Report	"Hazardous" (Qty)	(%)	"Non-Hazardous" (Qty)	(%)	Total (Qty)	Notes
2015	2,503	7.3%	32,019	92.7%	34,522	Implemented policy changes
2016	3,025	4.4%	65,009	95.6%	68,034	
2017	2,791	4.1%	65,282	95.9%	68,073	
2018	2,913	4.2%	67,145	95.8%	70,058	

EF Development Methodology Summary Flowchart



Approach for Analyzing Reported Customer Meter Leak Data

- Statistically analyze 2015-2020 System Leak Data
  - Normalize Leak data to MSA asset inventories
  - Test for statistical differences in year-over-year leak populations
  - Trend analysis
- Identify reason(s) for changes in number of leaks reported
  - Changes in operational policy
  - Changes in reporting practices or PHMSA reporting requirements
- Estimate 2015 leak volume by EF category and associated emissions

Approach for Calculating Emissions from Customer Meter Leaks

[Company Name], [Date Submitted]

Rulemaking (R.) 15-01-008 to Adopt Rules and Procedures Governing Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leaks Consistent with Senate Bill 1371, Leno.

In Response to Data Request, R15-01-008 2018 June Report

Appendix 4; Rev. XX/XX/XX

Notes:

Definitions in Data Request R15-01-008 2018 June Report

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Summary of Data by Meters Survey Interval and Results for Annual System Leak Rate and Resulting Number of Unknown Leaks for Each Meter

Facility/Material	Total System Meters per survey Cycle	Meters on Annual Survey [$M_{X,A}$]	Meters on Multi-Year Survey Cycles [M_X^{Tot}]	Survey Interval (yrs) [I]	Meters Surveyed Annually from Multi-Year Survey Cycles [$M_{X,I}$]	Total # of Leaks Detected from Survey [$N_{X,L}$]	Annual Leak Rate [Leaks / Meter] $R_X = \frac{N_{X,L}}{M_{X,A} + (I \times M_{X,I})}$	# of Unknown Leaks $N_{X,unk} = R_X \times (M_X^{Tot} - M_{X,I}) \times \frac{I}{2}$	Total # of Leaks Detected from O&M* [$N_{X,O}$]
Cust Meters				5	0		-	-	
Cust Meters				3	0		-	-	
Cust Meters				1	0		-	-	
Total	**0**	**0**	**0**	**N/A**	**0**	**0**	**N/A**	**0**	**0**

Estimated Emissions by Leak Code

Leakage Category / Facility/Material	Emission Factor (Mscf/day/leak)	Emissions from Leaks Detected from Survey (Mscf)	Emissions from O&M* Leaks Detected (Mscf)	Estimated Emissions from Unknown Leaks (Mscf)	Total Estimated Emissions from Distribution Pipelines (Mscf)
AG-Haz		0	0	0	0
AG-Non Haz		0	0	0	0
Miniscule		0	0		
Total	**N/A**	**0**	**0**	**0**	**0**

Approach for Adjusting 2015 Baseline for Appendix 6

- CPUC/CARB Publish Revised Templates
- SoCalGas/SDG&E Summarize Approach and Justification
  - Provide summary of identified changes that effected reported Customer Meter Leaks
  - Provide methodology and calculations to determine number of leaks by EF category in 2015
- Prepare Revised 2015 Appendix 6 and Appendix 8

Questions?

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