



Gas Leak Abatement Rulemaking R. 15-01-008 Workshop # 2



**Safety & Enforcement Division
Risk Assessment Section
September, 23, 2015**





Safety and Emergency Information

- In the event of an emergency, please calmly proceed out the exits. Our assembly point is in the Civic Center park area, near corner of McAllister and Polk (across from City Hall).
- In the event that we do need to evacuate the building:
 - Head out through the courtyard, and down the front steps. Continue east on McAllister Street and across Polk St
- Please wait until Security/Safety officers give signal to return.





Agenda

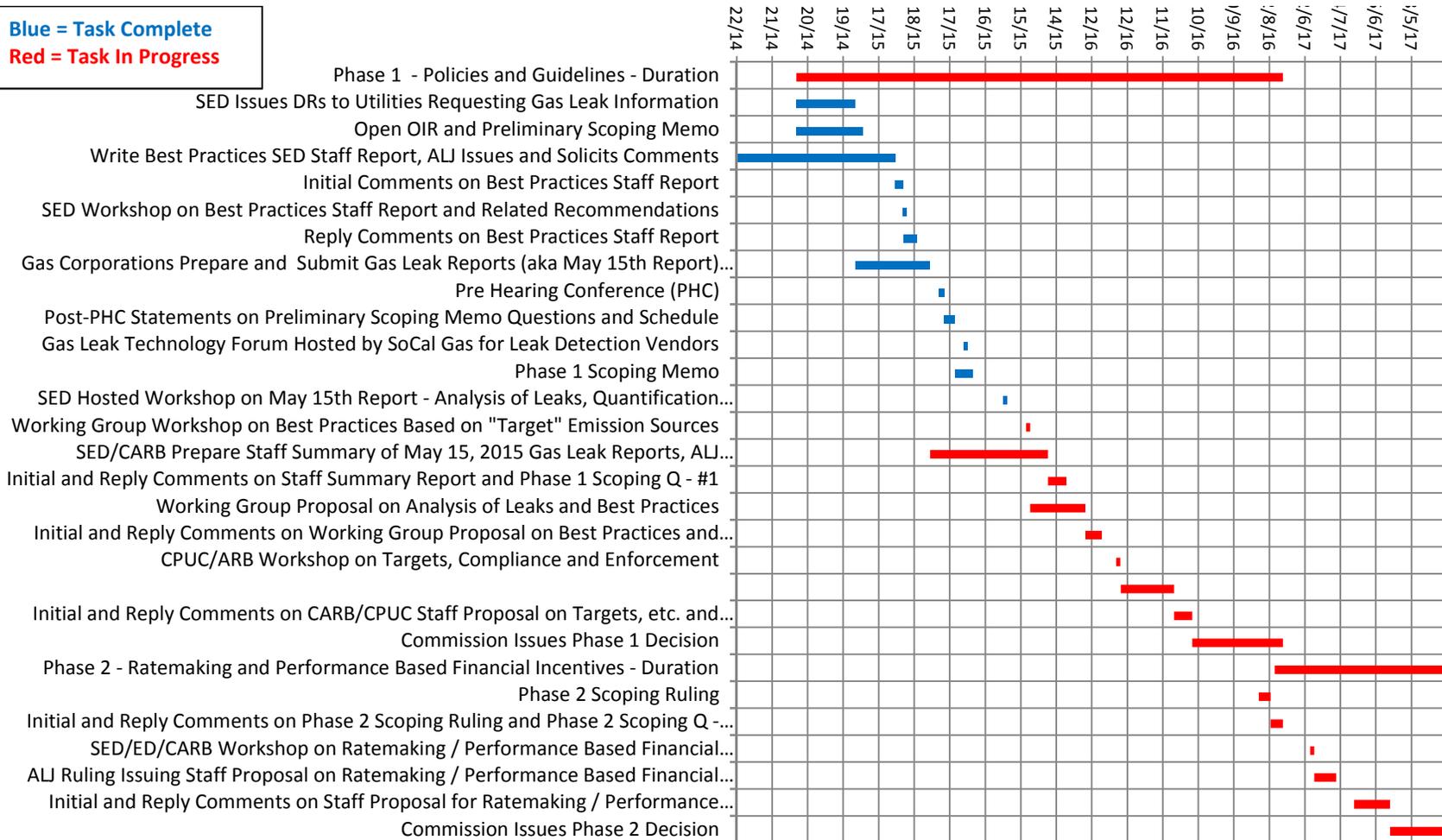
- 9:30 Intro, Logistics, Status of R.15-01-008, Objectives of Workshop
- 9:45 Status of data analysis – Chuck Magee (CPUC)
- 10:00 Presentation by Sempra Utilities on Quantification Methods
- 10:20 Q&A
- 10:30 Break
- 10:45 Presentation by ARB on Quantification Methods (Winardi Setiawan)
- 11:00 Quantification Methods Discussion
- 12:00 Lunch
- 1:15 How to improve future reporting
- 2:45 Break
- 3:00 Caucus on consensus items
- 3:45 Reconvene and next steps for October workshop on Best Practices





Proceeding Timeline

Blue = Task Complete
Red = Task In Progress





Objectives of Workshop

- Provide first-cut staff analysis of data from May reports;
- Review and Discuss quantification methods;
- Discuss ways to improve future reporting;
- Attempt to reach consensus on issues.





Status of Data Analysis

- ARB and the CPUC have completed preliminary analysis of PG&E data. As a result of questions, PG&E will resubmit data.
- ARB and the CPUC are in the process of analyzing all other companies' data and have questions. We will contact them.
- Data Issues:
 - Some companies unable to provide data back to 2009.
 - Some companies provided all open leaks no matter what year they were discovered. Other companies provided open leaks found in 2009 or later.
 - Missing data for various years or categories.
 - Mistakes in quantities or units.
 - Some companies did not provide System Wide Leak Rates.





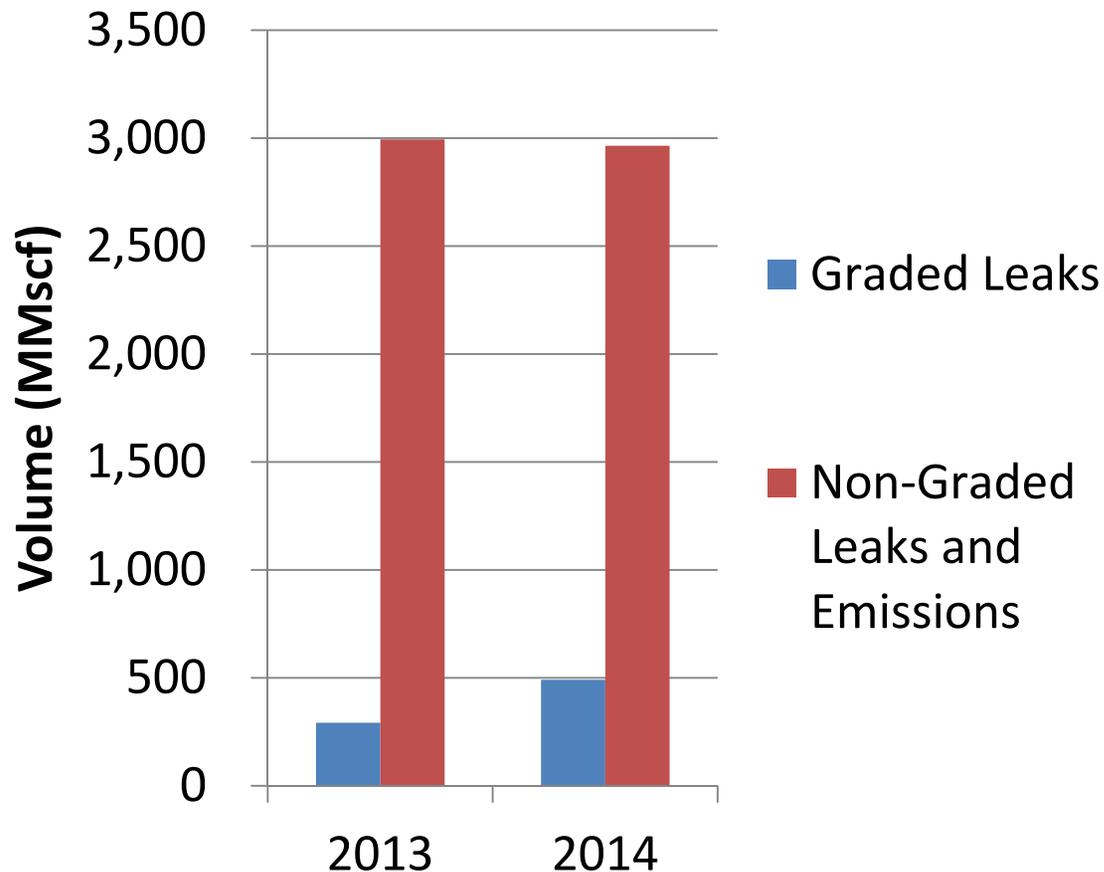
Preliminary Findings

- Methane emissions and leaks reported are a combination of actual measurements and estimates.
- The majority of emissions and leaks are NOT graded leaks.
- Leaks and emissions are far less than 1% of total gas moving through the gas system making it difficult to detect on a system basis with meters.
- Lost and Unaccounted For Gas (LUAF) is many times larger than gas lost due to known leaks and emissions.
- **Note: All data has been provided by the utilities and does not necessarily agree with data found in other methane emission studies.**





The Big Picture



- We know a lot about Graded Leaks (location, size, volume, discovery and repair dates) but not much about Non-Graded Leaks and Emissions
- Graded Leaks are the sum of all open leaks from 2009 (some before 2009, depending on the company reporting) to the year shown + new leaks found by surveying approx. 30% of the distribution system in the year shown.
- ARB estimates, based on ARB surveys and Mandatory Reporting Requirement (MRR) data, show different results. We will be investigating the reasons and the best approach to estimating emissions.





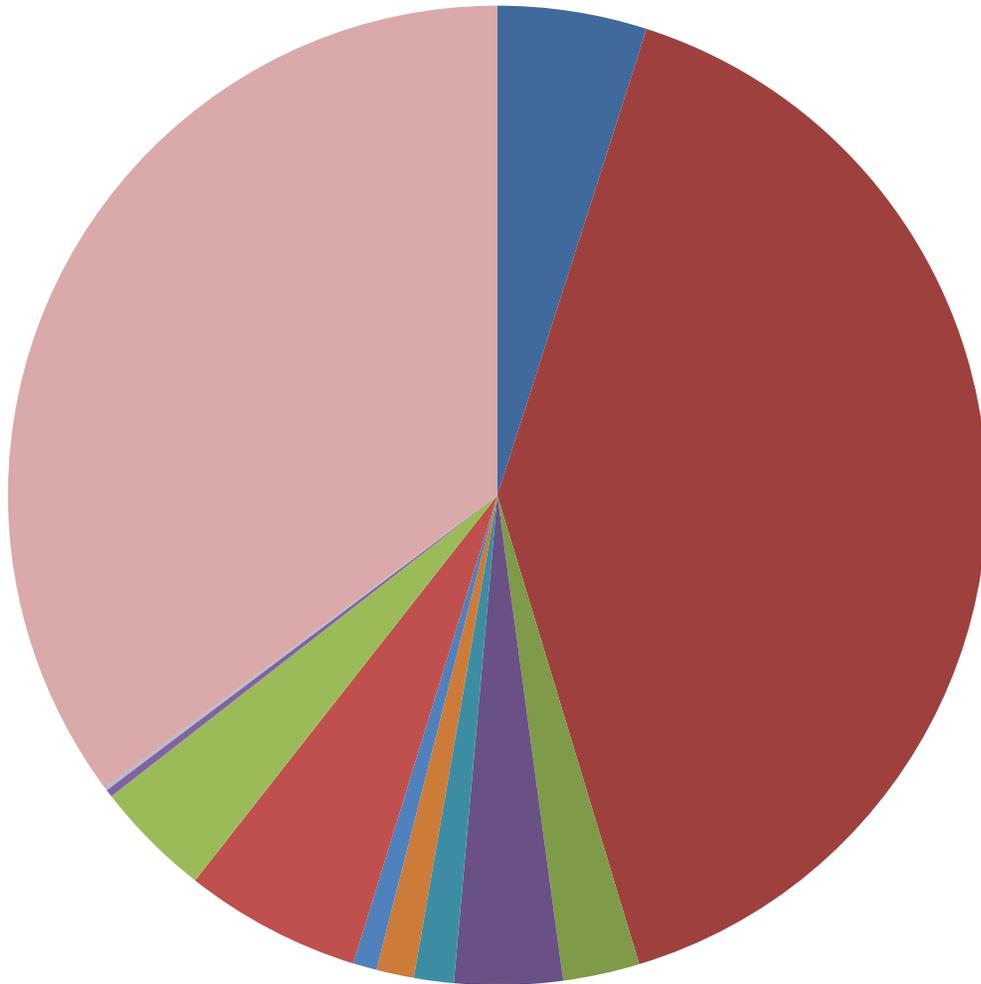
What is a Graded Leak?

- Federal Law, 49 CFR 192, requires gas utilities to survey their systems for leaks which could be hazardous to public safety or property. In addition, gas leaks may be reported to the utility by the public.
- The gas utilities developed graded leak programs to prioritize and repair these safety-related types of leaks.
- Please refer to CPUC General Order G.O. 112, Revision F for additional information.





Non-Graded Leak and Emission Sources

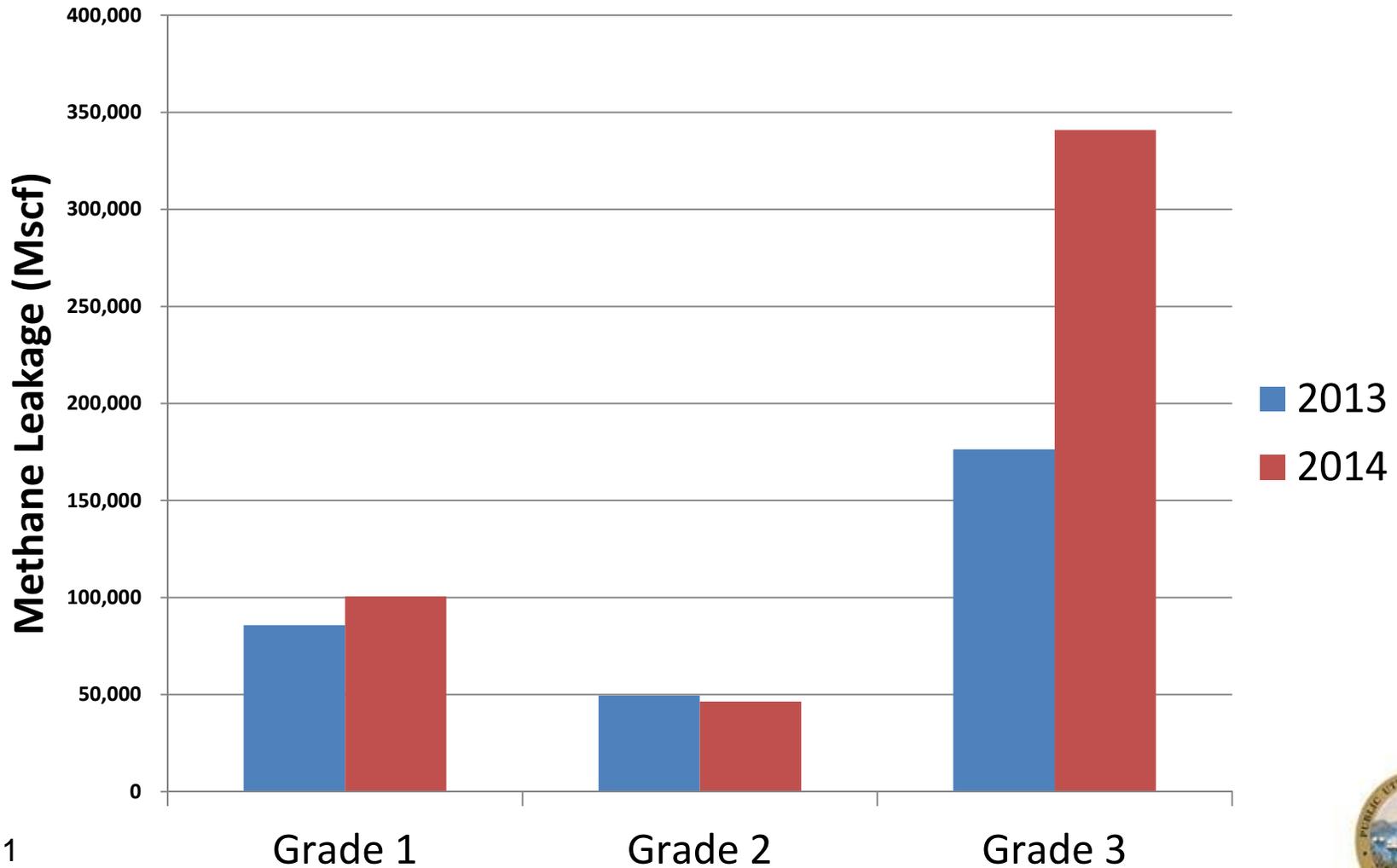


- Compressor station - leaks from valves, connections, vents, meters, packing, blowdowns, etc.
- Customer Meters & PHMSA "Minor" Releases
- Distribution Above grade M&R Station Leaks (assume > 300 psi)
- Distribution Below grade M&R Station Leaks (> 300 psi)
- Distribution Below grade M&R Station Leaks (100 - 300 psi)
- M&R Stations - Farm Taps & Direct Industrial Sales
- M&R Stations - Transmission-to-Transmission Company Interconnect
- Storage - control vents, leaks, blowdowns, storage compressors
- Transmission M&R Station Leaks
- Dehydrator Vents - Storage
- Distribution M&R Station Blowdowns
- Distribution Main & Service Pipeline Blowdowns
- Pressure Relief Valve Releases - Distribution Mains and Regulator emissions
- Transmission Blowdowns and M&R Station Blowdowns



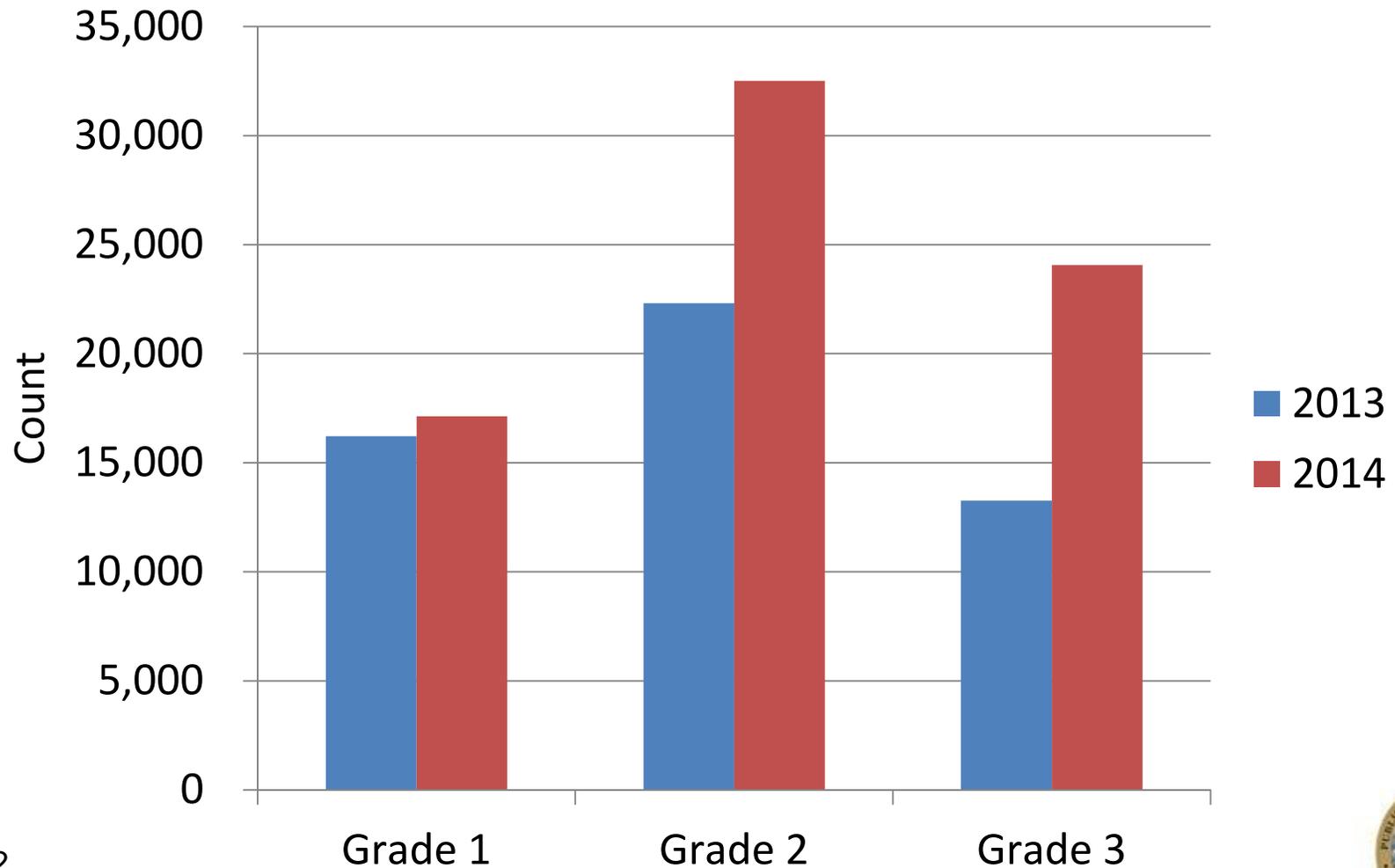


Methane Leakage by Grade



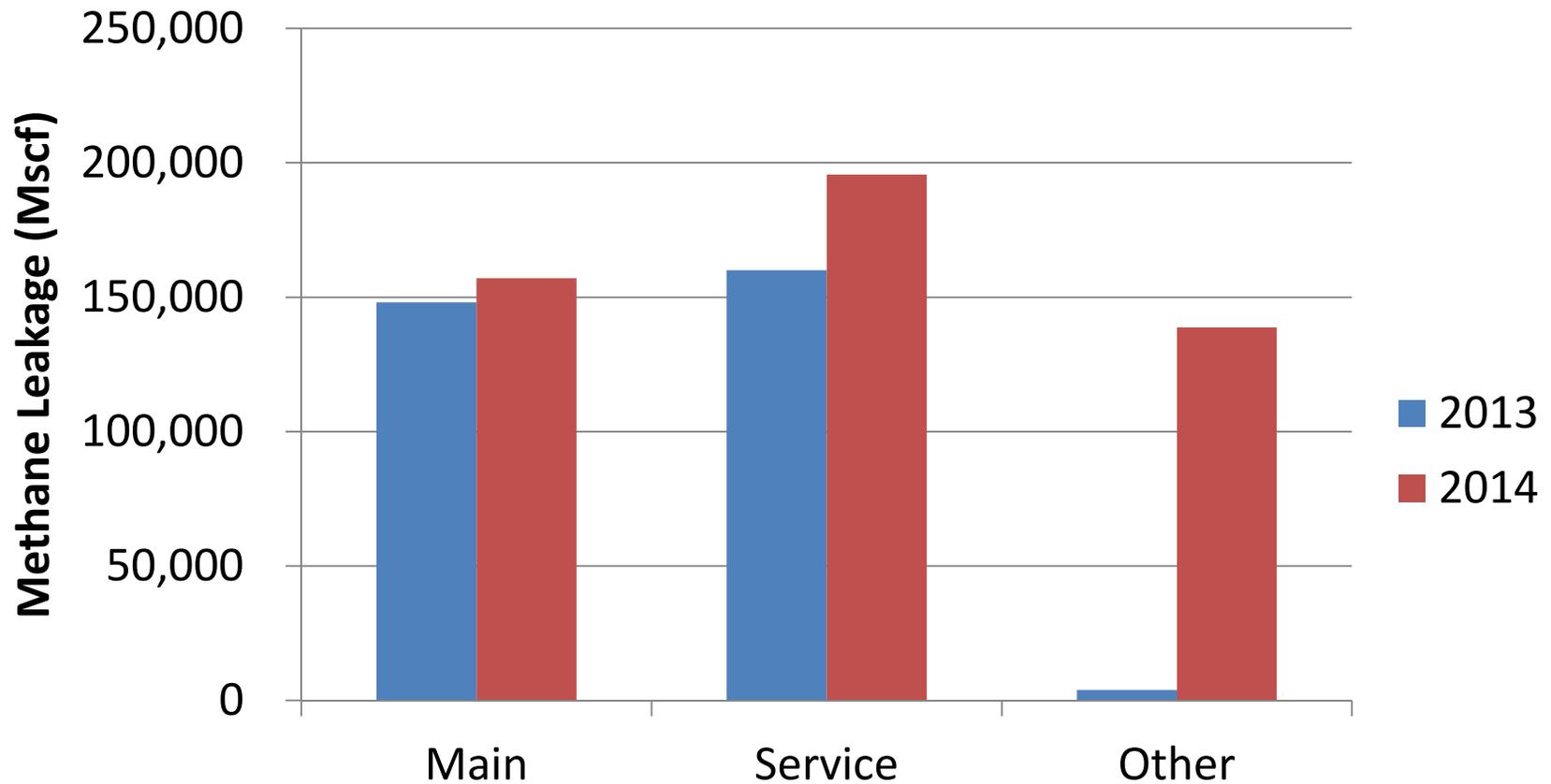


Count of Leaks by Grade





Methane Leakage Volume by Component

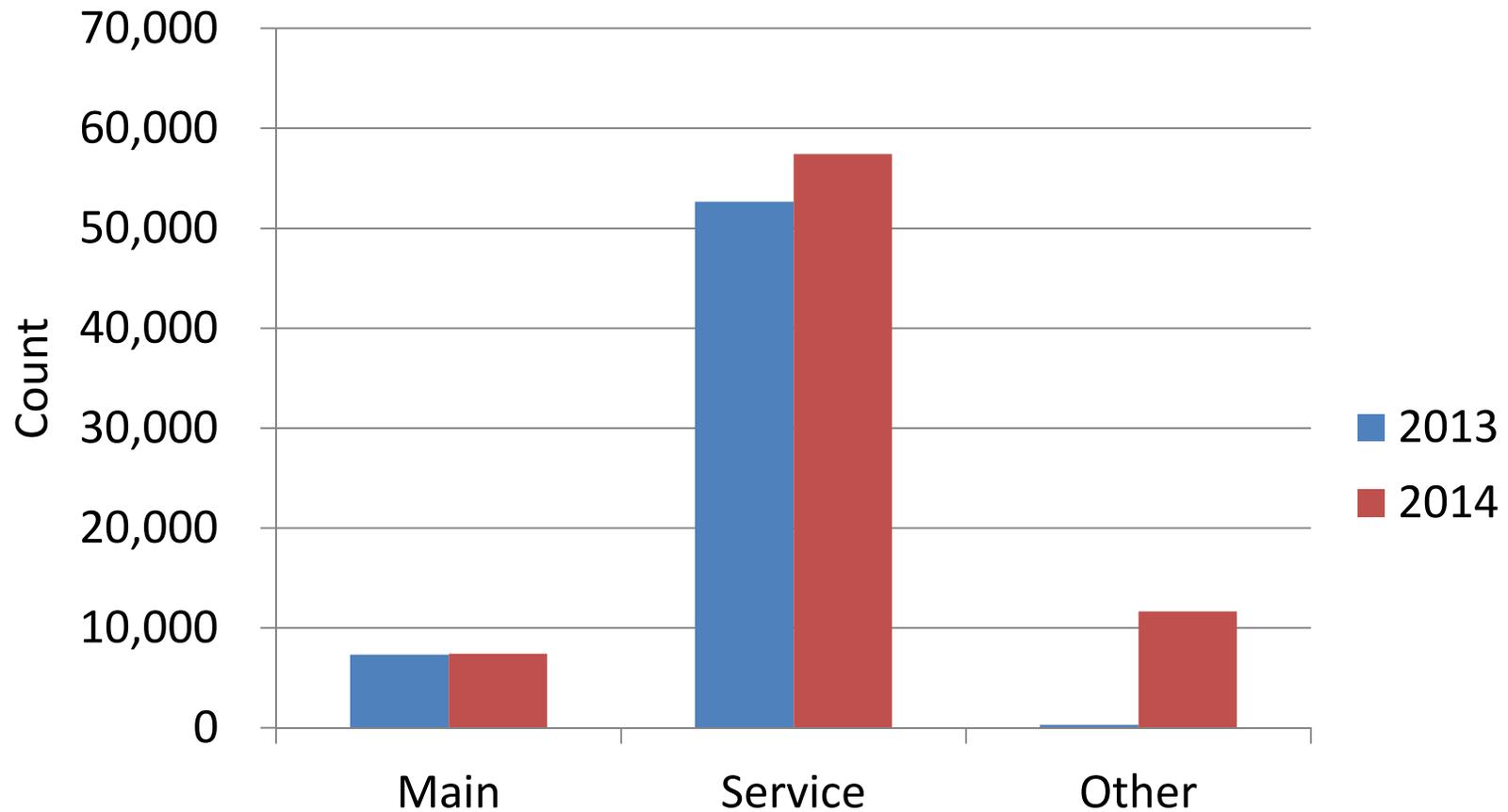


Note: Service includes Above Ground Facilities (AGF) and Service to Main Connections (SMC). Other includes valves and unidentified components





Count of Leaking Components



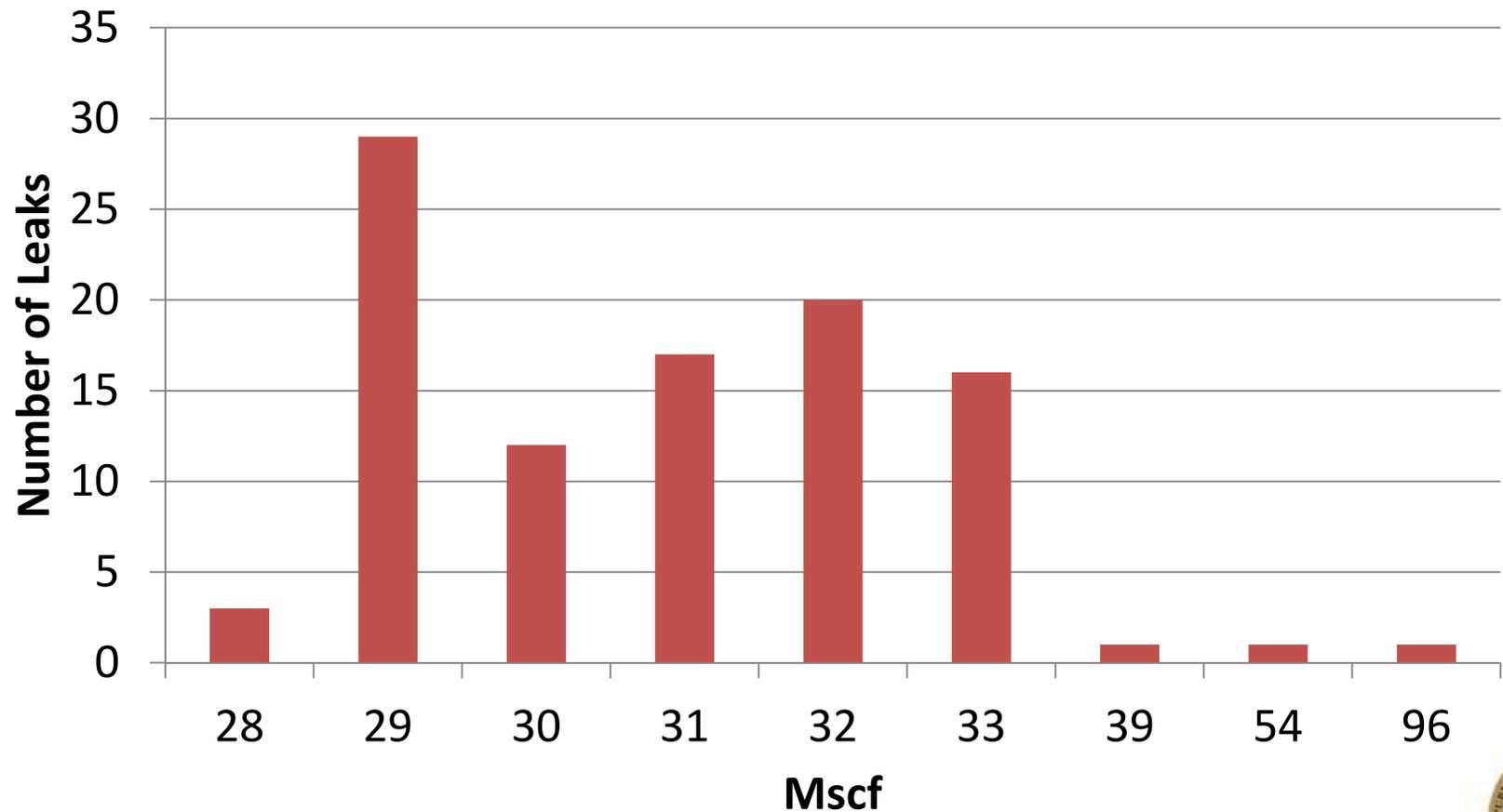
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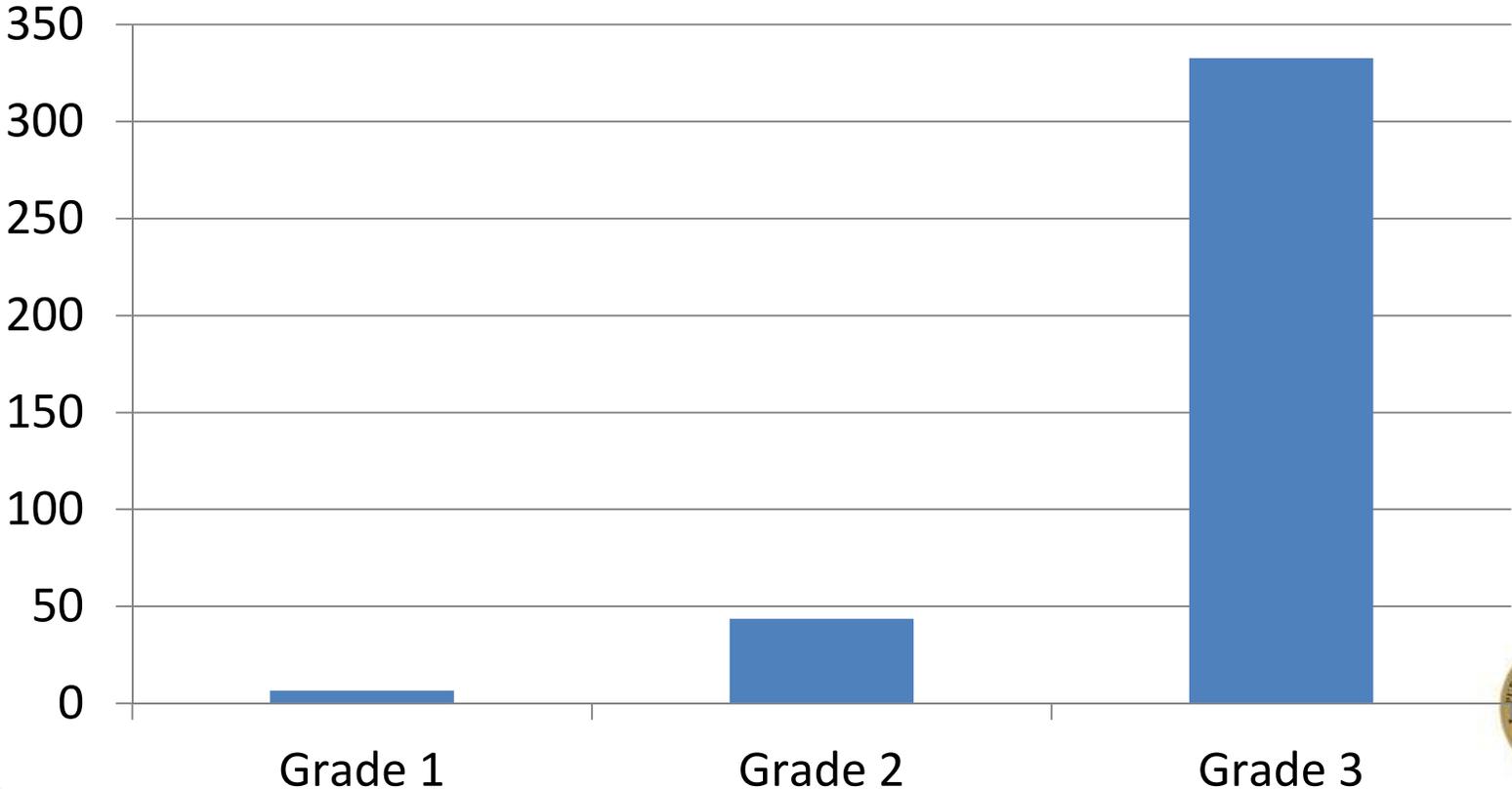
100 Largest Graded Leaks Reported in 2014

Volume of Methane Emitted





Average Number of Days to Repair Graded Leaks in 2014





Thank You!

For further information related to R.15-01-008
please contact :

Chuck Magee

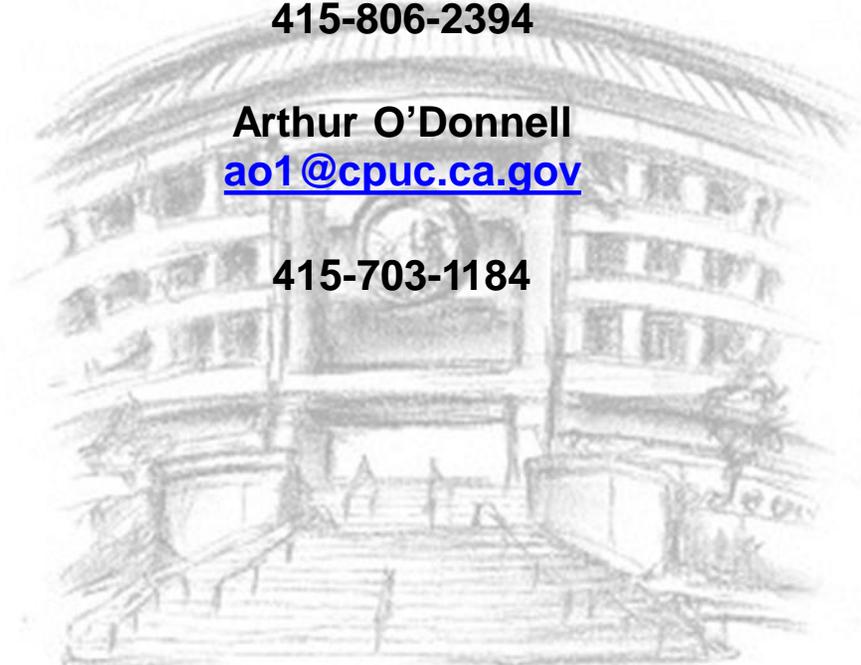
Charles.magee@cpuc.ca.gov

415-806-2394

Arthur O'Donnell

ao1@cpuc.ca.gov

415-703-1184



www.cpuc.ca.gov

