



ADVANCEDmeter

**CPUC WATER ENERGY NEXUS AMI PILOTS WORKSHOP (D.15-09-023)
JANUARY 19, 2016**

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SoCalGas Advanced Meter Network, Technology and Operations**

SoCalGas Shared Network Pilot Agenda

- Pilot Overview and Objectives
- Scope of Pilot
- Technical Architecture
- Operational Support
- Finance
- Pilot Participants (current and future)
- Timeline
- Open Issues

SoCalGas Advanced Meter Project



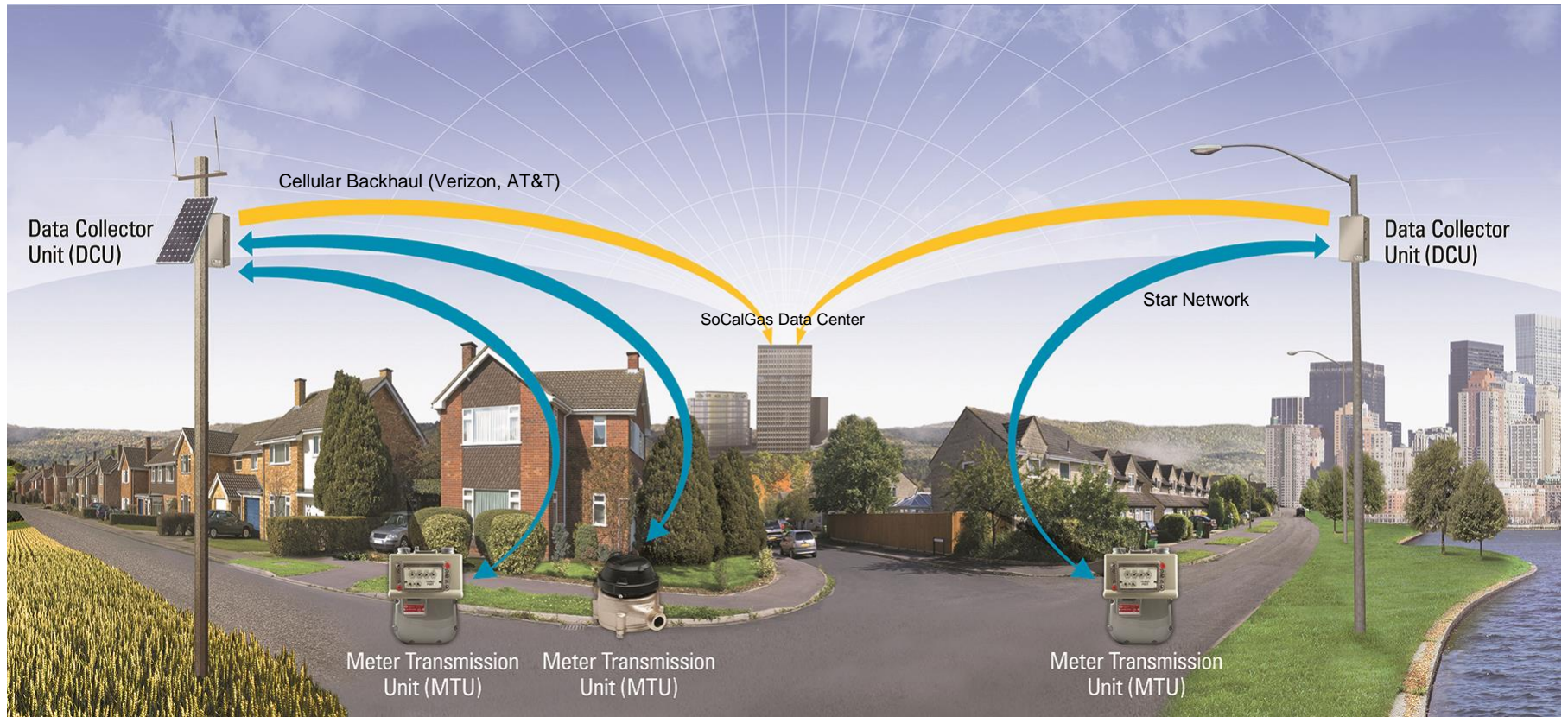
- » **Largest natural gas distribution utility in the U.S.**
 - 20.9 million consumers
 - 5.8 million meters
 - 500 communities
 - 20,000 square miles territory
- » **AM Network** designed to support up to 12 million endpoints

INSTALLATIONS
Meter Transmission Units
4.6 million*
76% Complete

NETWORK
Data Collector Units
3,436*
80% Complete

* Installation data as of 1/5/2016; Network data as of 12/30/2015.

SoCalGas Advanced Meter Network



SoCalGas Shared Network Pilot Overview and Objectives

The Shared Network service offering will leverage the Advanced Meter (AM) Data Collection Unit (DCU) Network Infrastructure to transmit meter and sensor data for other utilities within the SoCalGas service territory.

➤ SoCalGas key goals for the Pilot

- *Prove technology*
- *Determine support effort*
- *Determine costs*
- *Gather feedback from utility partners & identify any required enhancements*
- *Identify potential conservation opportunities*

SoCalGas Shared Network Pilot Scope

The Shared Network Pilot is a partnership between SoCalGas, Aclara and participating water utilities to evaluate the concept of a Shared Network on a small scale.



One year System Use Agreement



Maximum of 10,000 total water MTUs



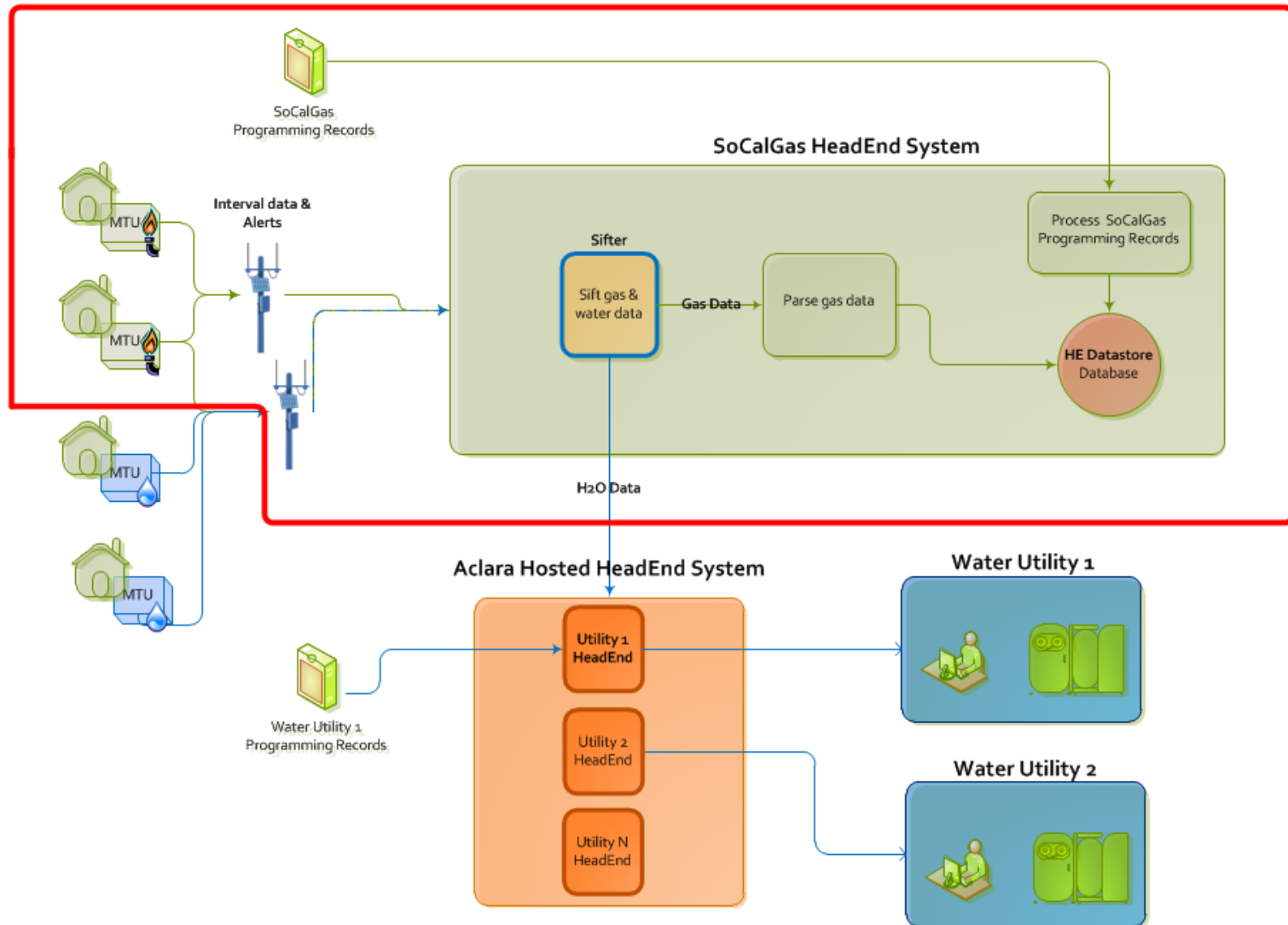
Limited number of water utilities



Each water utility will have an individual HeadEnd hosted by Aclara

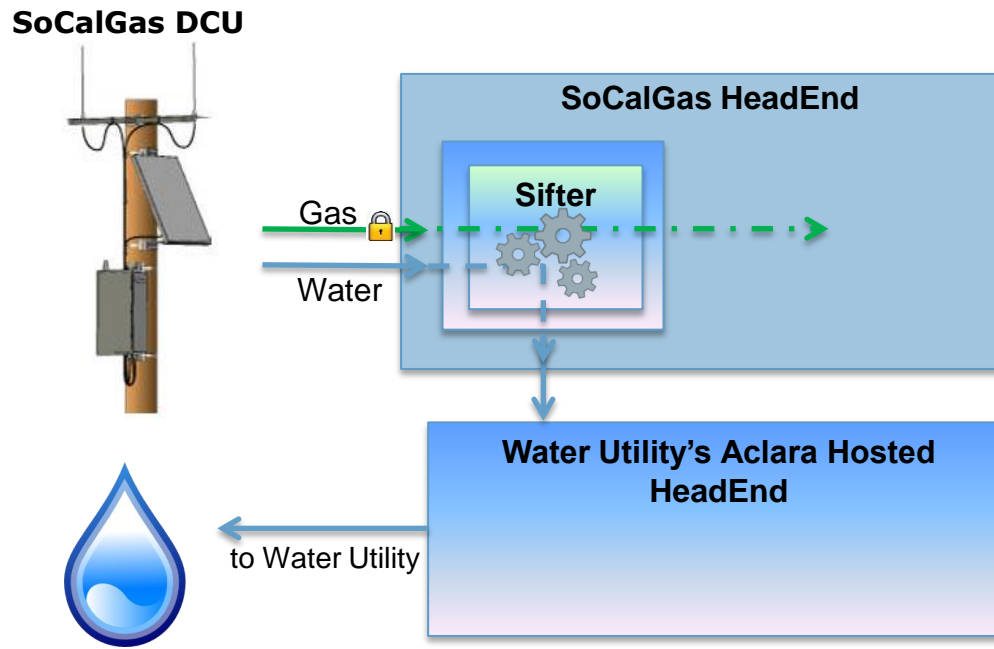
SoCalGas Shared Network Pilot Operational Components

SoCalGas Operational Components



SoCalGas Shared Network Pilot Architecture

The SoCalGas Shared Network Pilot Solution is built around a software component called the Sifter. The Sifter was developed by Aclara (the SoCalGas AMI provider) and separates water reads from gas reads based on MTU Identifier. The water reads are transferred to Aclara via a secure FTP initiated by SoCalGas.



SoCalGas Shared Network Pilot Operational Support

SoCalGas is providing a limited System Use Agreement to water utilities for use of the Advanced Meter Network. SoCalGas' operational responsibility for the pilot is to maintain the shared network, servers, services and interfaces.

This includes any activity related to:

- SoCalGas DCU health
- Backhaul communication (Verizon & AT&T)
- SoCalGas server health
- Interface between SoCalGas and Aclara

Does not include:

- MTU communications
- Programming Records
- Access to HeadEnd
- Data Accuracy
- Reporting
- Creation of incident tickets with utility (coordinated through Aclara for any items related to SoCalGas operational responsibility)

SoCalGas Pilot Finance

Each utility participating in the Shared Network Pilot will submit a \$5,000 fee to SoCalGas for use of the Network during the pilot term

- The Shared Network concept of automated water metering services is in line with the Advanced Meter business case to encourage feedback technology as part of water conservation efforts
- Payment for participation is due upon the project start date for each utility

Fees for accompanying products and services will be due to other vendor providers.

SoCalGas Pilot Participants

Current Participants:

- Los Angeles Department of Water and Power
 - Will be piloting 525 endpoints, Installations began October 2015
 - Currently installed 121 endpoints
 - Successful communication of MTU transmissions over SoCalGas AM Network through to hosted HeadEnd
 - Utilizing analytics to identify and investigate potential leaks
- City of Santa Monica
 - Will be piloting 50-200 endpoints, 1st installation targeted March 2016

Future Participants:

- San Gabriel Valley Water Company (IOU)

San Gabriel Valley Water Company

➤ Territory covered

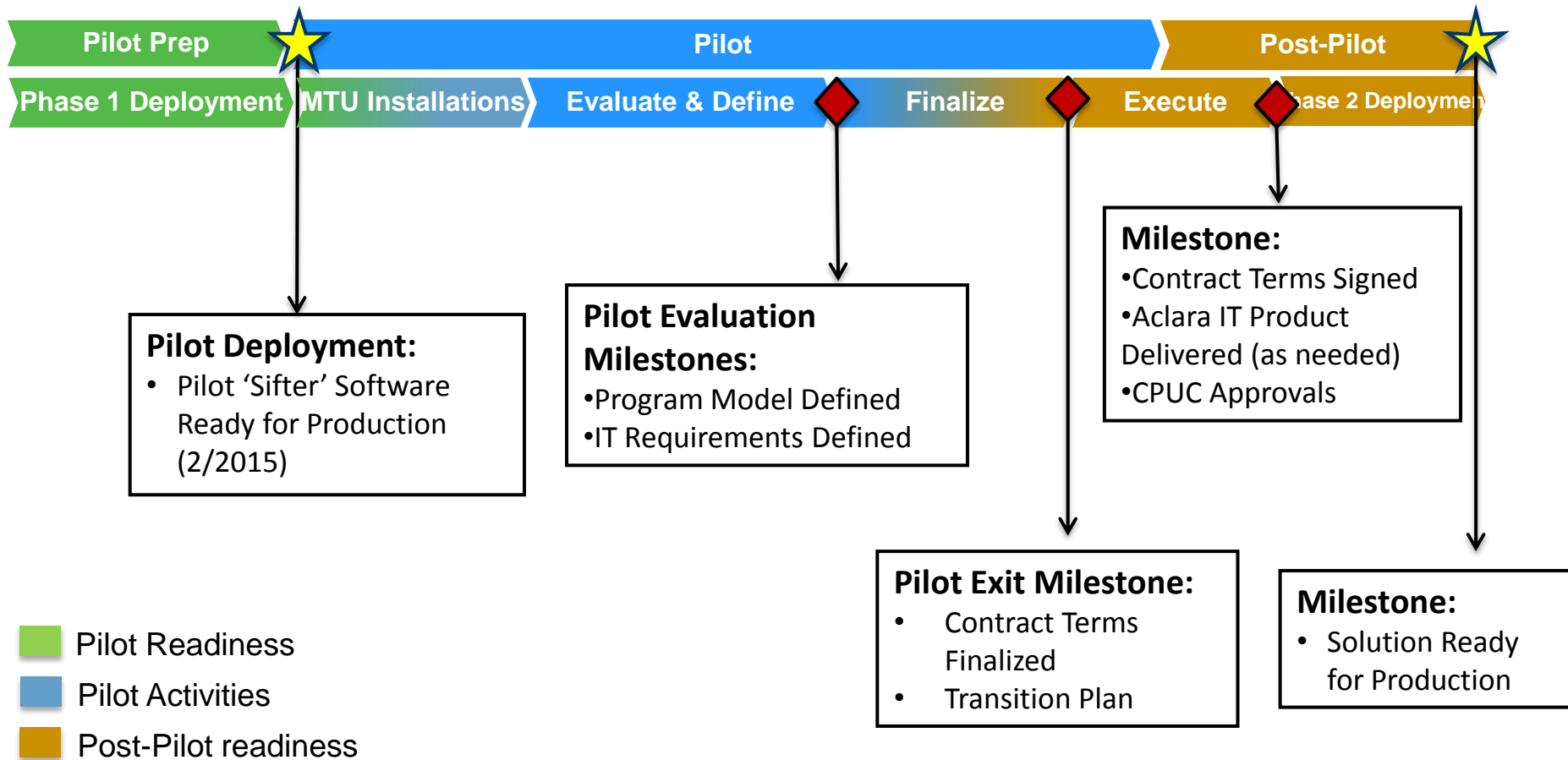
- San Gabriel Valley
 - 48,000 meters, conservation target of 16%
- Fontana
 - 45,000 meters, conservation target of 28%



➤ Planning to pilot 500 endpoints between these two areas

- Pilot start-up targeted for mid 2016
- Focus on proving technology, impacts on service operations, costs, benefits
- Includes consumer engagement program to help customers manage usage, comply with state mandates
- Includes analytics software to identify losses on the customer side of the meter
- No integration with billing system at this time – will continue to read meters during the pilot

SoCalGas Shared Network Timeline



SoCalGas Pilot – Open Issues

➤ Uncertainties

- CPUC approval timeframe
- Long term cost recovery (post-pilot)

➤ Program Structure

- Meters, MTUs & accessories
- Installation services
- Hosting, and consumer engagement software
- Vendor & utility partnerships

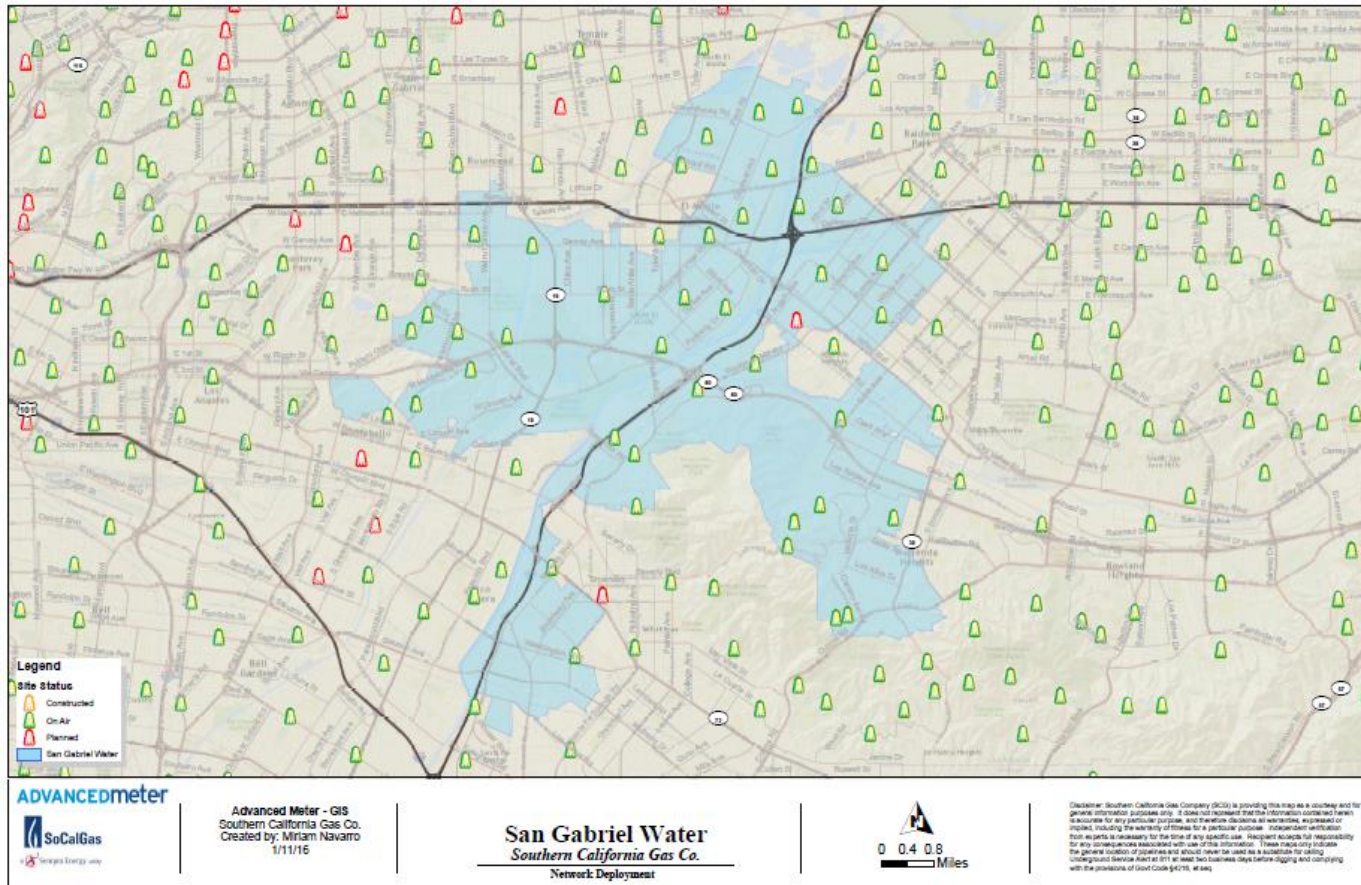
Thank you

Appendix

Network Coverage - San Gabriel Valley

San Gabriel Valley

- Approximately 49 square miles
- 48,000 endpoints
- 97.4% of DCUs online in or within 1 mile of service boundary



Network Coverage - Fontana

Fontana

- Approximately 49 square miles
- 45,000 endpoints
- 100% of DCUs online in or within 1 mile of service territory

