REINVENTING INFRASTRUCTURE

9:45-10:45AM
REINVENTING INFRASTRUCTURE

Speakers

GINA OROZCO
VP Gas Engineering and System Integrity,
Southern California Gas Co.

MARY TEICHERT
President, Teichert Inc.

BEACH WOMEN IN ENGINEERING
CONFERENCE 2022

CSULB COLLEGE OF ENGINEERING | 100+ Women Strong
2022 BEACH WOMEN ENGINEERING CONFERENCE

Reinventing Infrastructure

Gina Orozco
VP – Gas Engineering & System Integrity
Southern California Gas Company
San Diego Gas & Electric
SoCalGas

SoCalGas® provides natural gas to 21 Million Customers

1 Trillion cubic feet (Tcf) of natural gas delivered annually

5% of US gas deliveries

135 Billion cubic feet (Bcf) of natural gas storage capacity

3% of US storage capacity

Serving customers for over 140 Years

5.8 million meters

Nearly 100,000 Miles of distributions mains and service lines

Over 3,500 Miles of natural gas transmission lines

Sacramento
San Francisco
SoCalGas
Los Angeles
San Diego
Growing Up
Becoming an Engineer
My Career

- Engineering
- Region Operations
- International
  - Mexico
  - South America
- Human Resources
At Work
SoCalGas and SDG&E Gas Systems
Transmission and Storage Facilities
Geo-Hazard Program Monitoring

Satellite Monitoring
Flood Evaluation
Seismic Evaluation
Climate Adaptation

Quantitative Risk Assessment

Literature Review → Model Selection → Development & Calibration → Application to Operating Context
Transmission Lines Internal Assessments

Robotic Pigs Increase Assessment Capabilities
Leak Detection Technologies

- Aerial Leak Surveys and Patrols
- Unmanned Aerial Technology
- Methane sensor networks
- Advanced methane detection
- UAV integrated laser methane system for difficult-to-access locations
Technology at Work

3D Design & Intelligent P&ID

Remote Capabilities
“The best way to predict the future is to create it.”

- Peter Drucker
Clean Fuels

Fuels that have a net-zero carbon footprint, for both their combustion and production

- Renewable Natural Gas
- Clean Hydrogen
- Synthetic Natural Gas
- Biofuels

NGV & H₂ - fuel stations for heavy duty vehicles

RNG captures methane from agriculture and waste
Illustrative Vision of a Potential Clean Fuels Network in Southern California

1. Pipelines containing a blend of fossil natural gas offset by CCUS, biogas; hydrogen up to safe blending standards
Angeles Link – H₂ Delivery

- Start with 100% renewable electricity
- Utilize renewable electricity that is on the grid, new build or being curtailed to provide power to electrolyzer.
- Use it to make green hydrogen with electrolyzers
- Electrolysis splits water into hydrogen and oxygen -- with virtually zero greenhouse gas and criteria pollutant emissions.
- Deliver it into LA Basin by pipeline
- We will use our expertise in pipeline infrastructure to safely deliver green hydrogen from outside the LA Basin to industries.
Family and Community
2022 BEACH WOMEN ENGINEERING CONFERENCE
Reinventing Infrastructure

Mary Teichert
President, Teichert Inc.
• WE BUILD INFRASTRUCTURE
• As our communities grow, Teichert and our family of operations will be there when it all happens, just as we have been since 1887.
We have operations across California and Western Nevada

Bay Area
- Construction
- Energy & Utilities

Central Valley
- Rock Products
- Construction
- Energy & Utilities

Fresno
- Construction

Southern California
- Energy & Utilities

Chico
- Concrete Products

Reno
- Rock Products
- Concrete Products

Capital Region
- Rock Products
- Construction
- Energy & Utilities

Kaweah
- Rock Products
“How” we do business was as important as “what” we do

Building
Trust
Tradition
Mary Teichert, President
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