

Dedicated to serving its utility member companies with focus on natural gas RD&D, technology development & commercialization, and joint industry collaboration

INSIDE

First field test to develop a decision-making algorithm for quantifying gas leaks

PG&E hosts the University of Texas Arlington in completing the first field test of this program

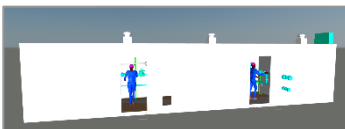
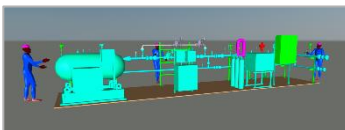
NDE X-ray Tool for PE electrofusion fittings field tested at National Fuel Gas

An NDE tool offered by NOVO-DR is being evaluated for use within gas utility operations

Meter set testing studying accuracy & variability from new gas supplies is underway



SoCalGas showcased a hydrogen - natural gas separation demonstration, H2 PureComp, at the NYSEARCH Quarterly December meeting in Pico Rivera, CA. SoCal's collaboration with HyET demonstrates state-of-the-art hydrogen separation technologies and how they are adapted to commercial end users.



NYSEARCH offers 'Low Carbon Fuels Workshop' for member utilities and R&D collaborators

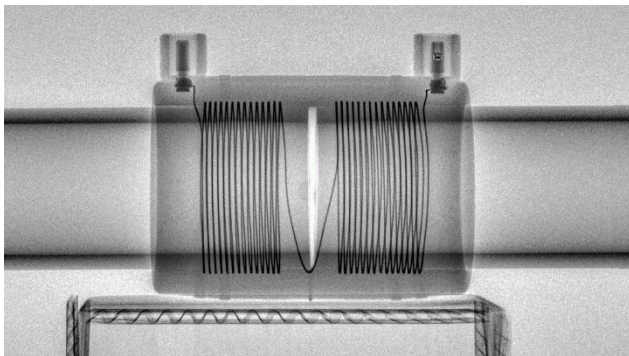
As the space of decarbonization and emerging fuels is continuously expanding and changing, NYSEARCH organized a workshop in early November to educate members on how NYSEARCH work fits within the vast "puzzle" of the energy transition. The workshop also served to provide highlights from NYSEARCH's LDC-focused Gap Analysis and State-of-the-Art Study on Decarbonization (M2021-010). In the workshop, NYSEARCH goals for 2030 and a Technology R&D Roadmap were presented along with a review of NYSEARCH projects related to Hydrogen and RNG. A tutorial of the RNG Interconnection Database was also provided to attendees. The images to the left are 3D models of an open-air and enclosed skid design generated from the Common RNG Interconnection Skid Development for Utilities project (T-789) completed in October 2022.

First field test to develop decision-making algorithm for quantifying gas leaks is completed

The objective of this project is to develop an algorithm to process data collected in a sensor network and estimate the leakage rate of an underground natural gas leak. PG&E hosted NYSEARCH and the University of Texas Arlington for two weeks in October to test a collective network of methane sensors that would contribute valuable data for the development of this decision-making algorithm. Within the sensor network, dedicated detectors monitor surface methane concentration, surface temperature, and atmospheric pressure while other detectors monitor soil moisture and soil temperature. A local weather station is also part of the sensor network, and it measures atmospheric pressure, wind speed and direction, and atmospheric temperature. The images to the right showcase the network setup prior to collecting data at known underground gas leak locations in PG&E territory. This field test is the first of a comprehensive data set that will be compiled and delivered as part of a software package to predict gas leak migration in different soil and weather conditions.



NDE X-ray tool for polyethylene electrofusion fittings field tested at National Fuel Gas



An X-ray NDE tool was blind-tested at the National Fuel Gas Training Lab with electrofusion joints that were fabricated with intentional defects to evaluate if the X-ray tool could identify those

imperfections. The objective of this project is to identify and evaluate a non-destructive (NDE) tool capable of enhanced visual inspection of electrofusion PE pipe joint interiors for assessing general assembly configuration and fabrication results. To date, the NOVO-DR X-ray tool was selected as the most suitable technology to develop an internal utility NDE X-ray program for PE electrofusion fittings assessment.

NYSEARCH bids farewell to Renee Davis of Spire Energy Southeast and welcomes Bob Plewa of National Fuel Gas as next Chairperson

In November 2022, Renee Davis announced her retirement from Spire Alabama and handed the beacon as NYSEARCH chairperson to Bob Plewa of National Fuel Gas. Renee served as the NYSEARCH representative for Alagasco before Spire Energy's acquisition from 2015 through 2022, spending the last two years leading NYSEARCH as chairperson. We wish the very best to Renee and welcomed Bob as our new chairperson at our December NYSEARCH meeting. Congrats, Bob!



Meter set testing studying accuracy & variability from new gas supplies is well underway

NYSEARCH Project Manager, Suzy Hartwell, recently visited Southwest Research Institute (SwRI) test facility in San Antonio, TX to learn more about the SwRI facility and gain insight into the technical methods of investigating metering accuracy with new gas supplies. The objective of this project is to characterize the impact of RNG and variable H2 blends on different types of residential and commercial meter sets. Based on the results of this project, LDC’s will be informed of the need, if any, to update meter set assemblies and measurement protocols based on fuel constituents. Testing by SwRI is set to be completed by the end of this year and results will be analyzed and a Final Report to be distributed in the 1st quarter of 2023.



NYSEARCH December Meeting hosted by SoCalGas in sunny Pico Rivera, CA

NYSEARCH held its fourth quarterly meeting at SoCalGas. The three days were filled with tours of SoCalGas laboratories and demonstrations, NYSEARCH project updates, close out, and status reports along with discussions for new project development and voting to fund continuous phases of work or new projects brought to the NYSEARCH committee. SoCalGas provided tours of their HyET demonstration and their Engineering Analysis Center where gas appliances, leak detection technologies, steel and PE pipe evaluation, plastic pipe fusion training and chemical testing takes place. NYSEARCH members also visited the *Hydrogen Innovation Experience* where SoCalGas presented a hydrogen micro-grid that produces, stores, and provides hydrogen blended up to 20% to a model home. The Hydrogen Innovation Experience supports SoCalGas’ vision to lead a safe transition of their infrastructure to accommodate emerging fuels in the clean energy transition.



The table below presents Final Reports recently released to NYSEARCH funders:

Project Number	Project Name	Month Issued/Project Manager
M2019-001	Expansion of GasComm® for PE Pipe	September 2022 / Suzanne Hartwell
M2022-003 Ph I	Evaluation of GeoLocation & Pipe Damage Assessment Applications	October 2022 / Suzanne Hartwell
T-789	Common RNG Interconnection Skid Development for Utilities	October 2022 / Ahra Kwon
M2019-002 PhII	Standardization of Surface Expression Equipment and Protocol to Implement Emissions Validation	December 2022 / Joe Mallia
M2016-001	Chemical Longevity & Slow Thermal Cooling Testing of Field Aged CIPL	December 2022 / Daphne D’Zurko