

UTILITY WORKERS UNION OF AMERICA – PERSPECTIVES ON NATURAL GAS STORAGE FACILITIES AND OPERATIONS IN SOUTHERN CALIFORNIA

The Utility Workers Union of America (UWUA) represents 4500 gas workers at Southern California Gas. Local 483 represents all transmission and storage operation employees, including the employees who operate and maintain the gas storage fields at Aliso Canyon, Honor Rancho (near Valencia), Goleta (near Santa Barbara), and Playa del Rey (west Los Angeles). Over the past five years we have been active in sponsoring enacted legislation related to the safety and environmental impacts of the gas system (SB 705 (Leno, 2011) and SB 1371 (Leno, 2014)) and implementing it at the CPUC through regulatory interventions.

Because gas is a physical substance that moves relatively slowly through the pipes from producing areas in Canada, Wyoming and New Mexico to customers' burner-tips, having an adequate supply in storage nearby is necessary to meet sudden changes in demand – for heating in the face of winter-time cold weather; for fueling electricity in the summertime. A failure to meet the demand for gas can result in serious problems for all of us who live and work in SoCal. ***Storage is essential to meeting demand for this fuel.***

In light of the disastrous leak at the Aliso Canyon storage field there is justifiable concern about the integrity of the storage system. We are offering a set of perspectives and practical proposals based on our familiarity with the current system that identify hazards and uncertainties and reduce the likelihood of future catastrophic leaks, failures and releases of gas. Our proposals apply to gas storage the basic requirements of the law to ***know the system*** and ***prevent leaks and damage.***

A Perspective on the Storage Facilities

Storage fields in Southern California are old oil-fields that have been re-cycled to store natural gas brought into the area by interstate pipelines. Although each field is different, they all have enough in common that good practices developed in reaction to Aliso Canyon should be implemented for all.

The equipment in the storage field includes:

- transmission pipe for transporting gas to and from and within the storage field (USDOT pipe regulated by the CPUC and US Department of Transportation);
- facilities to compress, condition and dehydrate the gas; and
- down-hole wells for injecting and withdrawing the stored gas (DOGGR pipe regulated by the Division of Oil, Gas and Geothermal Resources of the California Department of Conservation). Gas Injection/Withdrawal wells are comprised of steel tubing surrounded by steel casing. Wells are required to undergo an annual temperature survey to determine if there is any indication of leaks in the tubing or casing.

The storage fields operate under great pressures, up to 3600 pounds per square inch (psi).

Gas pipe is underground and cannot be easily observed. ***Many factors affect the integrity of the pipe***, including pipe materials, pipe coatings and construction methods; soil conditions and chemistry; the liquids and substances carried by the pipe; ground movements, Cathodic

Protection, and the age of the facilities and their maintenance history. ***Installation dates by themselves do not predict*** the integrity or condition of the pipe.

Same pipe, same rules. There is no single regulatory regime or set of requirements for facility construction, operation and maintenance. The different jurisdictions should have similar standards relating to modern standards on frequency of testing, Monitoring and inspections.

Specific Recommendations

- All storage wells, including the well casings specifically, should be inspected immediately to establish baseline condition of well casing, tubing and valves. The determination of a well's integrity should be based on condition as determined by test and inspections not age or vintage.
- Frequency of casing inspections thereafter should be based on identified conditions of individual wells, but not to exceed seven years. Continue current practice for tubing inspection of not less than every twelve months.
- Continuous monitoring for leaks and emissions should be implemented immediately, including more frequent patrols, leak surveys and data transmitters.
- Operation of individual wells for injection and withdrawal should be based on identified condition of the individual well as determined by testing and inspections.
- Wells should be operated such that both tubing and casing can be utilized for both injection and withdrawal, based on condition as revealed by test and inspection.
- All wells should have down-well cathodic protection to prevent external corrosion.
- Reliance on safety/shutoff valves down well to minimize incidents is a mistake, in part because the subsurface conditions make valve malfunction a significant possibility. Preventive maintenance for leak prevention and rapid work-over capacity (well modification and repair) is more important. If safety/shutoff valves are utilized, they should be designed to meet well conditions including sand, liquids and other conditions that cause valve failure.
- Each storage field should have a Storage Integrity Management Plan (SIMP) that includes preventive maintenance and procedures to prevent corrosion and leaks, repair corrosion and leaks as they are detected, and to detect leaks as soon as possible. The SIMP proposed by SoCalGas in the current General Rate Case should be approved by the CPUC immediately, and expanded as proposed by UWUA to include more frequent inspections and monitoring, preventive maintenance, and modernization of storage field equipment including compressors, dehydrators and valves.
- Mandate regular training and mentoring to maintain and improve the skill-levels of employees who inspect, operate and maintain storage fields and equipment. The utility shall be required to consult with the union in the development of training programs.