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# The Aliso Canyon gas leak has been plugged; now what?

By Ivan Penn, February 22, 2016.

The well failure at Southern California Gas Co.'s huge Aliso Canyon storage facility is evoking the worst of energy fears: snuffed-out pilot lights, rolling blackouts and a system too unreliable for the modern age.

Now that the utility has plugged the leak that began Oct. 23, fouling the air with natural gas and methane, attention has turned to the future of the gas storage field, which is the largest in California and ranks fifth nationwide.

On Monday, the Senate energy committee will hear a bill by Sen. Fran Pavley (D-Agoura Hills) to extend a moratorium on injecting gas into Aliso Canyon, ordered by Gov. Jerry Brown, until Southern California Gas completes safety measures that ensure that the community won't be subjected to future gas leaks.

By Pavley's account, two-thirds of Porter Ranch residents near the storage facility favor closing the operation for good

But that suggestion has prompted a great deal of hand-wringing. The heads of the three major state energy agencies fired off a joint letter to the governor raising concerns about system reliability. An in-depth study is underway with a report due back by April on the effect of the loss of gas storage at Aliso Canyon.

Questions abound about whether permanent closure of the Aliso Canyon facility would destabilize the Los Angeles-area energy supply.

"The last thing Southern California Gas needs, quite frankly, is for a second well to leak or crack," Pavley said. At the same time, "I realize it can't be done," she said of permanently closing Aliso Canyon.

Troubles with the storage facility began long before anyone smelled or became sickened by spewing gas.

They include:

• As many as 39 of the site's 115 wells were developed prior to 1954, and lawmakers say they need to be brought up to modern standards.

• A lack of connections between the Southern California Gas system and those of the state's other gas utilities such as Pacific Gas & Electric Co., which operates a large field in Northern California.

• Reliance on Aliso Canyon to supply 60% of the gas used by Southern California Gas' 5.6 million residential customers, 215,000 commercial and industrial users, and 52 electric power plants.

"The whole L.A. area is dependent on one natural gas facility," said Rep. Brad Sherman (D-Sherman Oaks), during a news conference last week. "That's why I can't say shut it down."

Even injecting gas into Aliso Canyon's other wells — depleted by the leak and to reduce pressure in the field — isn't a foregone conclusion without assurances that the facility is safe.

"I would say they've got a very heavy burden of proof," Sherman said.

Southern California Gas is lobbying hard to ensure that the storage facility doesn't permanently close. The utility says it is "committed to taking actions to prevent" another leak.

There's a lot at stake for the utility.

Gas storage is part of Southern California Gas' long-term strategy to capitalize on the need to stockpile excess electricity generated by solar and wind power. The entire energy industry and states across the country — California in particular — are seeking economical ways of capturing the power generated by these renewable sources.

Dennis Arriola, president and chief executive of Southern California Gas, told the Los Angeles Times editorial board last summer that the company was investigating the conversion of solar and wind-generated electricity into a gas that could be injected into existing storage facilities. The technique, in use in Germany, employs electricity either to transform water into clean-burning hydrogen gas or to combine hydrogen with carbon dioxide to produce methane gas.

Shutting down Aliso Canyon could end that potential revenue stream.

Of more immediate concern is supplying customers when they need it most.

About a quarter of the natural gas that the utility delivers goes to fuel power plants. The commercial and industrial sector taps a quarter. And residential customers consume another 25%, with the rest used by wholesale customers, refineries and natural gas vehicle stations.

The natural gas still held in Aliso Canyon is expected to last about a year, unless unusual weather patterns force more use of heating and cooling systems that drive up electricity and gas demands.

"Without Aliso Canyon," said Stephanie Donovan, a Southern California Gas spokeswoman, "gas supplies needed to meet Southern Californians' demand would have to come from other sources, including other storage fields. Depending upon the nature of the demand, however, those sources could be too far from the Los Angeles Basin to meet peak demand."

Just two of California's 12 natural gas storage facilities come close to Aliso Canyon's capacity.

Pacific Gas & Electric operates the McDonald Island facility in San Joaquin County, about 325 miles north of Aliso Canyon. McDonald Island has a working capacity that is about 5% less than that of Aliso Canyon.

And Wild Goose Storage runs the Wild Goose Gas storage facility in Butte County, about 450 miles north of Aliso Canyon, with a capacity that is about 14% smaller.

But Southern California Gas isn't able to readily draw from those fields because there are no pipeline interconnections.

Aliso Canyon is a natural, underground rock formation that created a unique opportunity for holding natural gas until needed. Its enormous size made it the focal point of Southern California Gas' storage operations.

Donovan said Aliso Canyon and other storage facilities help keep fuel costs lower for customers. During high-demand times in the summer and winter, Southern California Gas can tap its storage facility rather than purchasing gas from outside suppliers at premium prices.

Robert Weisenmiller, chairman of the California Energy Commission, said his agency, the California Public Utilities Commission and the California Independent System Operator are studying the effect of the potential loss of storage at Aliso Canyon on the reliability of the energy system.

"We have concerns," Weisenmiller said. Meeting demand in the L.A. area with any loss of storage at Aliso Canyon during summer and winter is "going to be difficult."

One of Weisenmiller's concerns is that if there is a widespread natural gas outage, the utility will have to relight pilot lights at each house as PG&E did in the Discovery Bay area of Contra Costa County after a late-December outage.

"They literally were going house to house relighting the pilot lights," Weisenmiller said. "It's not pretty."

The U.S. Energy Information Administration issued a brief statement of concern Feb. 1 about the "implications for energy system reliability in the region" from any loss of storage at Aliso Canyon. The agency, part of the U.S. Energy Department, is reviewing the issue, noting: "It is not yet clear how much storage capacity will be available at the Aliso Canyon facility, and in what time frame."

Those who advocate closing the storage facility argue that the four-month leak shows material weakness at Aliso Canyon that poses serious concern to human health and safety.

"It's not a question of what will happen if we close Aliso, it's what will happen if we keep it open," said Michael Aguirre, a San Diego lawyer who has fought power and gas utilities over management of their operations and lack of public disclosure. "Aliso is a bright, flashing red light signal of the danger of our addiction to carbon-based electricity."

Sherman and Pavley say part of the answer might be to phase out some of the wells, such as the ones that are more than 50 years old. Those older wells, Sherman said, make up just 14% of the capacity at Aliso Canyon.

The two lawmakers want, at a minimum, improvements to ensure the safety of the wells before Southern California Gas starts pumping gas back into the wells. They would like wells sealed to protect against leaks; infrared cameras installed so residents can see what's going on inside the storage units; shut-off valves added to serve as a stop-gap measure if something goes wrong.

Who pays for the improvements?

Californians already are footing the bills for other utility mishaps. For example, the failed steam generator replacement at the San Onofre nuclear plant is costing Southern California Edison ratepayers more than $3 billion. And there are increasing costs for improvements to the electric grid to help with the ongoing transition to clean energy from the sun and wind.

Sherman said he believes shareholders of Sempra Energy, the parent company of Southern California Gas, should pay for costs created by the leak. And he said utilities must be prevented from relying so heavily on a few huge facilities, as Southern California Gas did with Aliso Canyon.

"Too big to fail," Sherman said, "is too big to exist."