GREENPEACE Briefing

Too Fast For Gas: Problems at Venture Global's Calcasieu Pass Should Not Be Overlooked

Last month, Venture Global told regulators and customers that issues with the Calcasieu Pass LNG facility will delay the start of commercial operations. They described the issues as "failures in the five horizontal heat recovery steam generator (HRSGs) units that facilitate combined-cycle power generation" and, more specifically, "leaks in the welds between the upper carbon steel header and finned tubes of the HRSG units" that will "require extensive repairs and replacements."[1] These failures affect the on-site power plant—a seemingly basic module that provides energy for gas liquefaction. The announcement is another troubling sign for Calcasieu Pass, where massive methane gas releases and high rates of flaring have already raised concerns since pre-commercial operations started last year.

One Set of Important Tests Was Carried Out In Under a Day

In 2020, Venture Global and Baker Hughes, the equipment supplier, certified a full set of equipment for Calcasieu Pass LNG with just a short "virtual" test.[2] According to Baker Hughes, the testing process is typically much more exhaustive:

> *"String tests are often time-consuming and can take from just one day up to several days or weeks to complete. Typical test days involve the face-to-face participation of various customer representatives, inspectors, engineering and project management teams—which often results in well over 30 people present on the test site to verify the equipment performance."*[3]

But in this case (and for the first time ever), the test was conducted in less than eight hours with many, if not all, of the testing experts and project executives participating remotely.

Due to an unwillingness to absorb COVID-related delays, nobody from either company traveled specifically for the test. Instead, they engaged virtually while on-site technicians wearing "Smart Helmets" transmitted information back live. The maneuver could also have reduced costs for Venture Global, whose CEO has long promised to "lower costs wherever possible to offer our customers the lowest priced LNG."[4]

Once testing concluded, Venture Global certified the equipment almost immediately. According to Baker Hughes, "we quickly answered the few technical questions that Venture Global had" and "they

signed the *String Test Acceptance Certificate* the same day, which is rare."[5] Venture Global's Chief Operating Officer, Brian Cothran, was previously the Vice President of Global Sales for Baker Hughes.

In a document explaining the virtual string test, Baker Hughes suggests that the entire system was certified through the process described above:

> *"To support Venture Global's commitment to provide a low capital cost, low operating cost, and fast-to-market LNG production, Baker Hughes is supplying highly efficient and reliable modularized compression liquefaction trains as well as power generation and electrical distribution equipment …*
>
> *A string test is a major project milestone performed on the first full set of equipment. Replicating and simulating site operation conditions for the complete system, it is the only way to prove that all the major components function together as they should.* ***Every component that will be shipped to and operated at the final project site is commissioned and validated****… [emphasis added]"*[6]

The string test being described was conducted in Italy before the equipment was shipped and installed at the project site in Louisiana. Although we do not know if further tests were conducted later, these reports could raise serious questions about Venture Global's fast build-out and Baker Hughes' "virtual string test."

Not the First Sign of Trouble at Calcasieu Pass

The Louisiana Bucket Brigade, an environmental group, has also observed a pattern of high flaring and suspected under-reporting of accidents since the facility began operating in January 2022.[7] During one stretch of time, flaring occurred for 84 out of 90 days.[8] Some of the flaring occurred at night and during peak neo-tropical bird migration season, even though the facility's environmental impact statement (EIS) had a commitment to "avoid flaring at night, during low visibility conditions, and during peak migration seasons."[9]

Satellite estimates confirm that Calcasieu Pass has been the location of high flaring volumes.[10] According to Global Gas Flaring Tracker data, the location flared about 589 million cubic feet in 2022 (1.85 cubic feet per million cubic feet of gas exported), the second highest amount on an absolute basis and the highest amount on a per-output basis out of six US LNG facilities with data.[11] For comparison, the nearby Cameron LNG facility flared less than a third as much on a per-output basis.

Raising additional concerns, Louisiana Department of Environmental Quality (LDEQ) reports show that Calcasieu Pass released approximately 290,000 pounds of gas from tanks in permitted and unpermitted releases during its first three months of pre-commercial operations.[12] **The unpermitted release was blamed on "a combination of a failure in the management of change process, lack of adherence to procedures, and lack of training" in LDEQ's official report.**[13]

Neither LDEQ nor Venture Global have provided an explanation for the flaring that has been observed at Calcasieu Pass. Flaring is a major, preventable source of planet-heating emissions and has been described as an "extraordinary waste of economic value."[14] Moreover, in some cases, high rates of flaring at LNG facilities have been attributed to operational problems or shutdowns.[15]

Faster Doesn't Always Equal Better

Venture Global touts holding the global record for the "fastest large-scale greenfield LNG facility to ever be built," but at what cost to performance and safety?[16] Venture Global has proven unable to operate just one LNG facility without problems, but they are planning to build three more that would increase annual export capacity by roughly a factor of seven.

Out of these, Plaquemines LNG is the furthest along, and its safety outlook is perhaps even bleaker. According to the former deputy director of Louisiana State University's Hurricane Center, major hurricanes could flood the site, dislodge gas storage tanks, and release dangerous liquified gas and chemicals.[17]

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