

METHANE EMISSIONS

WHEREAS: Research indicates methane leaks from gas operations could erase the climate benefits of reducing coal use. Methane emissions are a significant contributor to climate change, with an impact on global temperature roughly 84 times that of CO₂ over a 20 year period. Leaked methane represented 30 billion dollars of lost revenue (3 percent of gas produced) in 2012. Yet, an October 2016 study published in *Nature* indicates methane emissions from the oil and gas sector are 20 to 60 percent higher than previously thought.

While utilities are increasingly reliant on the safe, reliable, and efficient delivery of gas along the value chain, the 2015 failure of a gas injection well at Southern California Gas Company's Aliso Canyon Storage Field in Los Angeles revealed major vulnerabilities in the maintenance and safety of natural gas storage facilities. The incident exposed both a lack of oversight and contingency planning in the face of a well blowout.

The casing failure of well SS-25 precipitated the release of over 100,000 tons of methane into the atmosphere, resulting in the relocation of 8,000 families and jeopardizing California's mitigation objectives under the state's climate law AB-32. Relocation, clean up, and well containment costs have soared to over 700 million dollars to date, with criminal filings and civil lawsuits against SoCal Gas pending.

There are over 400 gas storage facilities around the country. According to the Energy Information Administration (EIA), over 80 percent of these facilities are also located in depleted oil wells, many drilled decades ago. Dominion has storage facilities that may face similar risks, as it is estimated to hold the 3rd highest volume of natural gas in the country.

A failure by companies to proactively inspect, monitor, and upgrade critical transportation and storage infrastructure with the aim of reducing methane emissions may invite more rigorous regulations. The EPA released new rules in May 2016 to reduce oil and gas sector methane emissions by 11 million metric tons by 2025.

Poor oversight of gas infrastructure, including storage facilities, has a direct economic impact on Dominion, as lost gas is not available for sale. We believe a strong program of measurement, mitigation, target setting and disclosure reduces regulatory and legal risk, maximizes gas for sale, and bolsters shareholder value.

RESOLVED: Shareholders request Dominion issue a report (by October 2017, at reasonable cost, omitting proprietary information) reviewing the Company's policies, actions and plans to measure, monitor, mitigate, disclose, and set quantitative reduction targets for methane emissions resulting from all operations, including storage and transportation, under the Company's financial or operational control.

SUPPORTING STATEMENT: We believe the report should include the leakage rate as a percentage of production, throughput, and/or stored gas; management of high risk infrastructure; best practices; worst performing assets; environmental impact; reduction targets and methods to track progress over time. Best practice strategy would utilize real-time measurement and monitoring.