

To: South Dakota Public Utilities Commission
Re: Summit Carbon Solutions Docket HP22-001
Date: 24 March 2022

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We are writing to share concerns and ask you deny the permit and easement for the proposed Summit Carbon Pipeline. Our family is in strong opposition for this and future proposals. Summit Carbon Solutions repeatedly state their focus is opening new markets, increasing and diversifying revenue. We urge you to find the interests of the landowners & community outweigh that of a for profit company.

Collectively our background includes Chemical Engineering, Natural History & Finance for Global Manufacturing. Our family has been stewards of the land for 130+ years in Beadle County, South Dakota; Our working ranch is directly and significantly impacted by this hazardous material pipeline project. The majority of the land is native prairie including wetlands, deep ravines and glacial striations. Summit states they will “restore” the land. It takes decades to re-establish native prairie. A healthy prairie can have 120 species of grasses and forbs. (Dan O’Brien/Christine Grillo). Once the ground is broken, that ecosystem cannot be restored even if they or we invest unlimited time and resources.

Our concern is for the land, livestock, neighboring landowners as well as the community resources and infrastructure. Risk is not limited to the land in direct contact with the pipeline. The proposed route crosses the James River, part of the Missouri and Mississippi watersheds. It may seem extreme but is a point in fact, system failure would affect the aquifers and ecology of the largest watershed in the US.

Environmental impact notwithstanding, CCS projects like this are an example of private industry exploiting environmental policy for financial gain. The proposal introduces significant safety and environmental hazard; the liability will not be shouldered 100% by Summit Carbon Solutions. Cost will be leveled against landowners and public services. Approval of the pipeline would establish a precedent that opens access for other like businesses to force private citizens to relinquish rights to personal property.

Summit states they will employ an automated safety program. Anyone with a cell phone or computer understands technology is unreliable. Even combined with human oversight technology does not eliminate untimely action or poor decisions. A pin hole can cause the entire line to fail in a matter of seconds. There has been no guarantee of present or future safety. Nor is there legal protection for landowners, assets and the community in the event Summit divests or provides access to a 3rd party.

The CCS pipeline is merely a tool for ethanol producers to diversify and maximize their revenue sources meanwhile forcing landowners to relinquish autonomy managing their land and security for their crops and livestock. The landowners assume the economic burdens while the companies reap the reward. Allowing a private entity access to personal property to install a transportation system for hazardous material without guarantees for additions or alternations in the future would be irresponsible on the part of the entities in place to ensure public projects are handled legally, ethically, and safely. The South Dakota Public Utilities Commission should not grant the permit enabling Summit to pursue eminent domain on private property.

Below is a sample of the research into CCS which in part informed our position.

Thank you for your time and consideration
Karin Wommack and Kristin Regan on behalf of the Deeg Family

Their primary objective is the fiscal bottom line. The business model is designed to exploit environmental policy to increase market share and maximize revenue. Summit Carbon Solutions intends to profit from the existing 45Q Tax Credits and proposed increased credits designed to support pro-environmental technical innovation. Companies utilizing carbon capture & sequestration drive revenue growth by selling into low carbon fuel markets & charging a premium. (Walsh, 2022).

Summit Carbon Solutions recognizes the huge market for carbon capture that allows investment from companies like John Deere, Microsoft, Google, and Amazon to buy carbon credits to green wash their own public relations images (Walsh, 2022; Clayton, 2021).

If there were technologies out there that were economic and viable, where you could take the CO₂ and turn it into a brick or a usable building material and it was classified as permanent sequestration, that opens up all sorts of possibilities. Without a project like the Summit Carbon pipeline it's not as viable. But our hope is that through this project and other developments and science, that it opens up even more possibilities for potential beneficial reuse (Chris Hill on behalf of Summit/Walsh 2022)

In addition to the burden of property value loss and complexity to the business of operating a farm, coercing landowners to install a hazardous liquid pipeline forces them to assume severe safety risks to the people, crops, livestock, and native flora and fauna. Transporting carbon dioxide in pipelines requires pressures in excess of 1400 psi to maintain liquid phase. Even gas escaping from a pin hole leak can result in full pipe rupture causing a catastrophic release of dense gas that settles into low-lying areas where the colorless, odorless gas can remain undetected for long periods of time. Material safety data indicates CO₂ concentrations <10% can cause a person to lose consciousness while prolonged exposure to high concentrations can lead to asphyxiation and death.

In a study by Gale and Davison, we learn that during an 11-year period [1990-2001], the U.S. EOR CO₂ pipeline network experienced 0.32 “incidents” per 1000 km of pipeline. At that rate a 37,000 km pipeline network would experience $37 * 0.32 = 11.8$ “incidents” per year, or about one per month on average. In a quantitative risk assessment of pipeline failures in 2010, Joris Koornneef reported on 11 different assessments of the failure rate of CO₂ pipelines; the average (mean) rate was 4.4 per 10,000 km of pipeline per year. At that rate, a 37,000 km pipeline system would experience an average of 16 failures each year, or one failure every 3 weeks for the entire lifetime of the pipeline network.

In 2013, DNV Spadeadam produced a video showing the rupture of a buried 8” dense phase CO₂ pipeline. In the video one can see that the gas settles into low lying areas and does not merely disperse into the air. The test shows a visible section of the earth white with crystals, presumably solid CO₂ and ice considering an adiabatic expansion of a compressed gas results in a significant decrease in the temperature of the surrounding environment. (DNV Spadeadam, 2022)

In February 2020 a buried dense phase CO₂ pipeline ruptured and resulted in the nearby town being evacuated, 45 people hospitalized, and several victims suffering from the long-term effects of oxygen deprivation (Zagat, 2021). In that instance the source stream, the Jackson Dome, contained <1.5 % impurities (Peltier, 2018) including hydrogen sulfide which further compromised mechanical design safety and complicated environmental safety and health hazards.

If Summit Carbon Solutions views the business of CO₂ sequestration the same as Matt Vining of Navigator CO₂ Ventures who stated “Technically, any emitter is theoretically a customer.” (Clayton, 2021), what is to prevent them from incorporating any or all CO₂ streams to maximize profits regardless of the chemical components. That action would effectively introduce safety risk to landowners and the surrounding population.

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