

Editor's Comment: This is the seventh in a series of articles addressing issues associated with oil and gas development in San Miguel County. The articles were written by participants in PROTECT San Miguel county, a local all-volunteer grass-roots organization. The group has been working with the county's oil and gas task force for three years, has toured several existing oil and gas producing facilities, and has been collecting extensive research on the issues. More information is at <http://PROTECTsmc.org>.

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Oil and Gas Pipelines: Safety and Other Impacts

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When discussing the adverse effects of oil and gas drilling on San Miguel County, we must include the frequently-overlooked impacts of natural gas pipelines. A pipeline must connect to every gas well, and join to a larger network of gathering lines from other wells moving the collected natural gas products short distances to natural gas facilities. Transmission lines transport the gas within a state or across state lines, while distribution lines supply the gas to homes and businesses.

Natural gas pipelines are routed across properties far from the drilling and fracking operations. Pipelines can be under streets and roads, streams and arroyos, and farmer's fields and rancher's pastures. A 2011 tour of natural gas facilities in San Juan County, NM found pipelines, originally buried when installed, exposed and unsupported, spanning arroyos. There is commonly no distance setback requirement from buildings or other uses. When negotiations for pipeline easement with property owners fail, a pipeline company may invoke the right of eminent domain, and claim portions of the property for right of way.

Pipelines will inevitably leak over time. The leaks can occur from improper installation and materials, aging and deterioration of the pipe, and damage from excavation and natural movement of the earth. Leakage can be significant. For example, it is estimated that 3% of all gas in Massachusetts distribution pipelines is lost to leakage. These leaks increase costs to ratepayers, damage vegetation, raise the risk of explosion, and contribute to human-caused climate change.

Oversight and regulation of gas pipelines is complicated, and chronically underfunded and understaffed. The Federal government has overall responsibility for monitoring and inspecting the nation's gas pipeline network. The U.S. energy transportation network has more than 2.4 million miles of pipelines, including 321,000 miles of transmission and gathering pipelines and another 2 million miles of distribution lines. Yet the U.S. Pipeline Hazardous Material Safety Administration (PHMSA) has only 137 inspectors and often employs even less. In 2012, Federal regulations were enacted to provide for increased monitoring and inspection of the industry's

pipeline network. Problems arise due to a shortage of inspectors and responsibilities that are delegated to state regulatory authorities.

The Federal government delegates the authority to enforce its regulations to state-level authorities, including the New Mexico PRC Pipeline Safety Bureau. According to the Pipeline Safety Bureau (PSB), over 26,000 miles of interstate and intrastate pipelines in New Mexico have been reported by pipeline operators, but this is probably under-reported.

The New Mexico PSB has a total of six inspectors for pipeline safety oversight. Only five are actual pipeline inspectors, with each responsible for 5000 miles of pipeline. Standard inspections include anything within pipeline right-of-way, including compressor stations – but not inside a fenced area of production or processing plants. Most gathering lines are not regulated or inspected, but are the responsibility of the owner. Information on gathering lines, such as location, depth, owner, material, etc. is often unknown.

The New Mexico PSB also conducts construction inspections on some pipelines. A majority of these inspections are not physical, just an examination of documents. Routine field inspections are conducted when pipelines become operational. Jason Montoya, Bureau Chief of the New Mexico PSB, states that he would hire three inspectors just for new construction if he could.

Unfortunately, the under-staffing of inspectors and infrequent inspections and monitoring can have serious consequences. Gas transmission pipelines accounted for more than 80 explosions and fires in 2012 according to the U.S. Pipeline Hazardous Material Safety Administration (PHMSA). Of the 80 incidents, 38 were classified as significant and caused seven injuries and \$44 million in damages. The explosion in December 2012 of a 20" transmission pipeline in West Virginia obliterated an 800-foot swath of highway, flattened four homes and damaged two others. Distribution pipelines were responsible for an additional 71 incidents, with 9 fatalities and 21 injuries. In 2000, 12 people were killed by a pipeline explosion near Carlsbad, while two were injured in 2012 by a pipeline explosion in Santa Fe.

An effective O&G ordinance must insure that all pipelines are installed, operated and maintained in a safe and secure manner. New pipelines should be part of the O&G permitting process, undergoing County review and coordination of proposed placement and routing to avoid harming existing landforms, surface activities, property values, etc. Information on construction quality, location and depth, and maintenance practices must be disclosed. The ordinance should require pipeline owners and operators to be registered with the County and to provide financial assurances for damages over the life of the pipeline. The County, or its independent contractor, should perform regular monitoring and surface inspections of pipelines and support facilities, require frequent inspections for leaks and corrosion, and review NM PSB inspection records. All costs for pipeline inspections and monitoring should be borne by the industry.

If oil and gas development comes to our County, so will an extensive network of gas pipelines. Without strict oversight and regulations, these pipelines can seriously harm the land, affect wildlife and livestock, and degrade public health and safety.