

Editor's Comment: This is the fifth 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>. By Dave Knutson

Author: Dave Knutson is a retired Chief of the Sapello Rociada Volunteer Fire Department. During his tenure there he led the SRVFC to one of the first Class 8B ISO ratings ever given to any fire department. He is also President of Knutson Construction Co., Inc. with 35 years as a general and electrical contractor.]

Oil and Gas Impacts on Emergency Response and Public Roads

Dave Knutson <daveleaknutson@hotmail.com> (505) 454-8994

The prospect of drilling and fracturing horizontal natural gas wells in San Miguel County raises numerous concerns for the Emergency Response community. Concerns also include increased strain on public facilities and infrastructure. The City of Las Vegas, hub of the County, will also be impacted. From the unlikely and spectacular possibilities, like blowouts and well head fires, to the mundane, like increased traffic, there will likely be increased challenges for Emergency Responders. These Law Officers, Firefighters and Emergency Medical personnel are the first line of protection, facing the greatest risk, in dangerous and volatile situations.

San Miguel County's firefighting system is volunteer, geared toward structural and wildland firefighting, Emergency Medical operations, and personal safety. None of our volunteer departments are prepared for industrial hazardous chemical spills, chemical or well fires, well-fueled wildfires, methane or well byproduct releases, or other industrial-related Emergency Medical incidents.

Emergency Medical incidents are also likely to increase in number and complexity. A study of Sublette County in Wyoming showed that as drilling activity increased from 2000 to 2006, Emergency Medical incidents grew 168%, with 25% of all ambulance runs going to oil and gas (O&G) fields. EMS responders will need to be able to handle Hazardous Materials (Haz Mat) incidents, inhalation incidents, confined space rescues, high angle rescues, and multiple patient scenarios. Contracting for Ambulance Service will also be significantly more expensive under these conditions.

Volunteer Fire and EMS personnel will need the training necessary to determine the materials involved and the tools and procedures to respond appropriately to these potential Haz Mat incidents. At a minimum, Emergency Responders would need Haz Mat "Awareness" level certification. With increased pressure on volunteers, paid firefighters and paramedics will probably need to be hired to insure the proper level of response at all times. If a Hazardous Material spill should occur, the cost of clean-up could run into the millions of dollars. Residents would need to be prepared to evacuate zones as large as ½ mile radius around these incidents. More incidents also means greater demand for already limited water resources, adding to the water resource issues addressed in other articles in this series.

San Miguel County currently has 13 fire districts, operating from 17 stations plus an additional 9 stations planned or currently under construction, each of which will require upgrading to meet the minimum state of preparedness for this new industrial activity. Costs per station for Compressed Air Foam System fire trucks, Self Contained Breathing Apparatus, training to operate this suppression equipment, for advanced chemical firefighting, and Hazmat and EMS training will be \$150K to \$250K per station. The upper end costs for all stations could easily reach \$6.5 million. These costs are for preparedness only and don't include costs for responses to actual incidents.

Oil and gas development will impact other critical County services and public infrastructure, through increased demand on law enforcement, roads, schools, hospitals and clinics, jails and courthouses, etc. Focusing on the County's 500+ miles of roads, costs to develop comparable light-duty roads, in today's dollars, run about \$80K per mile. These roads also contain a number of bridges, costing \$30K and up to replace. This means the value of the County's investment in roads themselves, exclusive of bridges, signs and maintenance, is in excess of \$40 million. But these roads and bridges are not intended for heavy duty O&G vehicles and traffic.

According to the O&G industry, approximately 2000 vehicle round trips back and forth to each wellhead can be expected per fracturing job. About ½ of these are heavy trucks carrying water, alcohols, oxidizers, hydrocarbons, silicates and various other chemicals used in the fracturing process. There are times when the traffic may exceed 250 one way trips per day. Sublette County's traffic increased almost 80% during the same six years mentioned above. This will certainly cause accelerated wear and tear on roads; greater numbers of accidents and breakdowns; increased pressure on Emergency Responders; possibility of hazardous substance spills; and the likelihood that this level of traffic will slow emergency response times. Surely culvert ends, bar ditches, bridges, and the road surface itself will be damaged. The County already faces challenges in maintaining roads, and this magnitudinal increase in heavy traffic will significantly boost costs.

We need to ensure that the County's O&G ordinance protects these investments and other valuable public services and resources. Therefore, we recommend that the industry submit comprehensive studies on the short and long-term impacts of O&G on Emergency Response, public facilities, and traffic as part of the O&G permit application process; provide direct and adequate compensation for all of these impacts; comply with best practices for construction of any new roads; and maintain sufficient independent fire and EMS services for O&G facilities.

For the industry's presence to be positive economically, all costs for these public services and facilities need to be met by the industry. Otherwise we will be subsidizing the O&G industry through increased costs to the taxpayers.