



KEYSTONE EMERGENCY MANAGEMENT ASSOCIATION

"Steeped In Tradition With a Vision For The Future"

June 24, 2010

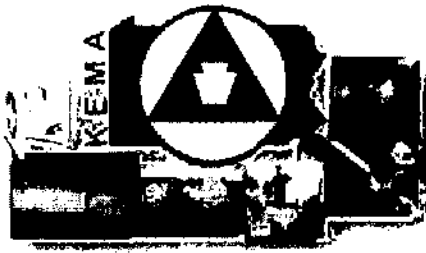
As early as 2003, the first Marcellus well was drilled in Washington County and found a promising flow of natural gas. Between then and the end of 2007, more than 375 gas wells with suspected Marcellus intent have been permitted in Pennsylvania. Adding to the number of wells, there are approximately 60 different operators that have either applied or are applying for the permits to drill in Pennsylvania. With these types of drilling operations come major areas of concerns for Emergency Planners, Emergency Responders and those who live around the drilling areas. For the most part, the companies who are operating the drill sites make the necessary calls, arrange for site visits and make available the site operating procedures and emergency operation plans that would be used in case of a site emergency. However, as site visits are being done, there are numerous hazards that emergency responders need to be aware of and plan for prior to responding.

To date, several incidents have occurred that have required outside assistance, with each response showing new concerns for the first responders. Several counties have taken steps to improve planning and responding for these types of emergencies. Lycoming County has put together a comprehensive program and has shared it with County Emergency Managers in hopes that a common plan with training objectives would be developed and used by all responders.

It must be understood that there are phases in which these sites are established, and each phase brings different training objectives and response hazards. Site construction, drilling, production, and in some cases, pipeline distribution are all phases which present new concerns for both the operations group and the responders. During the site construction phase, there is increased heavy truck traffic for the purpose of loading and unloading of equipment and materials. Most drilling rigs consist of anywhere from 10 to 60 truckloads that make up the rig. The equipment to handle placement of the machinery used in the process may be equipment that responders are not familiar with and quite possibly the equipment needed for response may not be readily available.

Also during the rig up phase, there are many different types of hazards of which to be aware. Dangers include fall potentials, electrical, slips and trips, potential for spills, and confined space incidents. Responses for all require some type of planning and specialized training. Some areas where the sites are being placed have rough terrain, and as weather changes, the terrain can become more hazardous. Fall hazards and control of equipment may become an issue. On site fuel usage and storage also need to be addressed so that spill and contamination issues can be dealt with effectively and efficiently. Drill sites use different types of energy sources that would have to be dealt with during an emergency response. Sources like electrical, mechanical, pneumatic, hydraulic, chemical, thermal, steam and gravity all could be present at a working drill site. All drill sites have some type of a security procedure / guidelines, and

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response organizations should be familiar with site security plans so that if and when called, security will not be an issue or cause a delay in the response.

During the drilling phase, all responders should be made aware of the different types of drilling rigs and, most importantly, the rig that is in their response jurisdiction. Responders should be familiar with the terminology that the operators use for the parts of the drilling rig and its hazards. All response organizations should be made aware of the site hazards and signage used to make those areas known. Also during this phase, a process is used known as hydraulic fracturing, or fracing. During this process, large amounts of chemically treated water and sand are injected into the well under high pressure to break up the shale and release the gas it contains. Release of these materials from wells poses real threats to the environment, aquatic life, and the people who live around our streams and rivers. Hazards involving fracing include: pumping trucks, fuel trucks, use of high pressure, radioactive tracers, and the use of chemicals for the fracing process. All of this needs to be addressed, planned and trained for in case of an accidental release.

These concerns and many others can come to pass at well drilling development sites. Yet, the benefit is there. It is estimated that there are large amounts of natural gas contained in the shale. Lycoming County has set up a Safety Committee that deals with the planning and response issues involving gas well drill sites. It is imperative that the gas industry and emergency service agencies work together. It is know that in some places, well sites are out of the way with no easy access. Well locations need to be identified by 9-1-1 addressing, site names, posted signage and/or physical addresses. Communications need to be established prior to the development phase. Whether it is through the use of the county's 9-1-1 communication system, cell phones or satellite phone, each method of communication needs to be tested for coverage or, in the case of the satellite system, to verify where calls will go. Failure of communications and notifications cause delay. Delay can cause disaster.

Responder considerations and training should include: accountability of those on the site, lock out tag out training and procedure, hazardous materials response, confined space rescue, and many more. The Task Force in Lycoming County has suggested that a state wide training curriculum be developed in conjunction with the Pennsylvania State Fire Academy to be in use by the latter part of 2010 with advanced training being developed.

In closing, it has been determined that the Marcellus Shale well drilling process is of benefit to many. The answer to the concerns raised above is to work together, plan for the worst, and train to respond in the safest and most effective way.

Submitted by Wesley W. Hill
KEMA Vice President
Beaver County Emergency Services Director

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