

September 23, 2013

**Blue Ribbon Commission Memo**  
**Re: Dual-Phase Vapor Extraction (DPVE)**  
**September 23, 2013**

The Blue Ribbon Commission (BRC) on Bayou Corne/Grand Bayou Public Safety is tasked with recommending the conditions necessary to rescind the mandatory evacuation order for Bayou Corne, and ensuring that conditions in the area surrounding the sinkhole along the western edge of the Napoleonville Salt Dome in Assumption Parish, Louisiana remain safe for residents and visitors. The BRC is not tasked with considering questions of broader environmental or societal remediation, which will be handled through other processes.

To date, the Blue Ribbon Commission reached a consensus that the highest priorities are associated with the following topics:

- Higher priority safety issues for the public are related to methane and hydrogen sulfide, while stability/subsidence issues are more long-term in nature. More specifically, the basic framework for BRC recommendations related to issues associated with methane and hydrogen-sulfide are as follows:
  - In order to recommend the lifting of the evacuation order, gas pressure in the Mississippi River Alluvial Aquifer (MRAA) and overlying aquitard has to first be reduced, and then maintained at or below hydrostatic pressure.
  - Mitigation (such as barrier creation, sub-slab depressurization, ventilation) at each dwelling that is slab-on-grade or has enclosed crawl spaces is a second line of defense against gas accumulation. If conditions do not allow an effective mitigation system, indoor air monitoring would be required.
  - Criteria are being established to evaluate whether or not the threat from hydrogen sulfide gas is either not a concern or is adequately controlled.
- Long-term monitoring programs for both gas and stability issues need to continue to be developed and implemented. This will include the requirement for uninterrupted flow of data in each type of monitoring, with contingency plans in place to assure that these monitoring efforts continue regardless of situational changes in the area.

The Blue Ribbon Commission was recently informed of plans to use a Dual-Phase Vapor Extraction (DPVE) System to control and extract shallow gas above the Mississippi River Alluvial Aquifer (MRAA). If successful, this system may intercept a significant volume of the gas that is currently being released in and around the community.

This has led to some members of the community and others to wonder whether or not this system could be used to satisfy the standing BRC criterion that “in order to lift the evacuation order, gas pressure in the MRAA and overlying aquitard has to be maintained at or below hydrostatic pressure.”



September 23, 2013

This question was posed to the BRC and after discussions and deliberation, the BRC offers the following comments:

- The BRC continues to recommend that one of the benchmarks it will use to recommend to state and parish officials when it would be safe to lift the evacuation order is that gas pressure in the MRAA and overlying aquitard has to be reduced to and then maintained at or below hydrostatic pressure.
- While the BRC is supportive of attempts to intercept shallow gas before being released into the community, it doesn't resolve or address the core underlying issue of continued gas release from the MRAA.
- These shallow mitigation measures should be implemented on a pilot scale as planned and evaluated in the near term for their effectiveness as a mitigating measure above the MRAA.
- This evaluation will determine the long-term viability of applying this kind of approach. Specifically, this evaluation will consider whether or not plans (including contingency for power outage, flooding, etc.) for the long-term deployment of the DPVE system can serve as this second line of defense at homes and other structures as a substitute for the barrier creation, sub-slab depressurization, or upgraded home ventilation systems.
- Even if these mitigation efforts are effective, the BRC encourages the installation of in-home Lower Explosive Limit (LEL) and Hydrogen-Sulfide (H<sub>2</sub>S) monitors as an additional safety measure.

The BRC appreciates the opportunity to provide independent and technically sound advice and recommendations to the state of Louisiana and Assumption Parish. In addition, the Commission is sensitive to the needs of the community and as such, will continue to proceed with a sense of urgency and purpose, but will not compromise the need to make recommendations based on sound science and engineering.

