



May 11, 2011

Secretary Michael Krancer
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

Dear Secretary Krancer,

On April 19, 2011, the Pennsylvania Department of Environmental Protection (the "Department" or "DEP") requested all Marcellus Shale natural gas drilling operators to cease by May 19, 2011, delivering wastewater from shale gas extraction to 15 facilities that currently accept these wastewaters for treatment as authorized under the provisions of the Total Dissolved Solids ("TDS") regulations that went into effect last August. As was previously (and immediately) announced in response, members of the Marcellus Shale Coalition ("MSC") are taking steps on a voluntary basis to respond to the action taken by DEP. To expedite this effort the operators are successfully developing and using new and advanced recycling practices.

In order to be positioned to achieve this goal and to do our best to meet the May 19 date it is imperative that industry continues to work together effectively with DEP to ensure the regulatory framework supports accomplishment of this goal. As you know, representatives of the MSC recently met with DEP to discuss the additional measures that are or will be used by the producers and service companies in the effort to meet the May 19 date. This letter is a follow-up to those discussions so that we may effectively establish a common understanding of the regulatory programs as they relate to this important effort.

Throughout 2010, operators continued to increase recycle and reuse of flowback and produced waters from Marcellus Shale operations, disposing of a small portion of flowback and produced water in out-of-state permitted disposal wells and managing the remaining produced fluids generated from activities associated with the Marcellus Shale (i.e. drilling water, produced water, flow back water) utilizing approved and permitted wastewater treatment facilities. While great progress has been made in recycling and reuse of water used by the industry, additional challenges remain. Nonetheless, these efforts have already resulted in a dramatic decrease in the need for wastewater treatment and discharge.

Based upon our discussions with industry operators, meeting the Department's May 19 date will create a significant hardship for some of these operators who, due to drilling/completion program schedules and logistics issues do not have sufficient storage capacity or other resources that will allow them to recycle a higher percentage of their produced fluids. For these operators, achievement of the impending May 19 date will result in substantial difficulties which could involve shut-in of some producing wells, cessation of operations and other consequences. The MSC's goal is to meet the Department's request, but to minimize unnecessary operational impacts.

Also, as is the case with any activities that are governed by extensive regulatory programs, interpretational issues are common. The MSC members and DEP continue to work successfully to

ensure that requirements of oil and gas regulatory programs are fully met and the industry's activities are conducted so as to maximize protection of the environment and the health and safety of the residents of the Commonwealth of Pennsylvania.

The following is a brief description of some of the measures that are being or will be employed to achieve the DEP's request by May 19 and minimize the discharge of treated produced fluids associated with Marcellus Shale operations in the near term. It is of course imperative that industry and DEP have a common and acceptable understanding of the application of DEP programs to these measures so as to avoid interpretations of new or different measures in the field that could be counter-productive to achieving our mutual goals.

In order to best comply with the Department's request, the following interim activities, as well as other appropriate measures, should be immediately implemented. It is proposed that these interim measures will be utilized for a period of 6-12 months (from May 19, 2011) to facilitate ongoing operations until long term storage and transfer infrastructure can be secured and constructed.

1. Freshwater impoundments, whether located on or off the lease, may be temporarily modified for storage and transfer of produced fluids (i.e. drilling, flowback and produced water) if the operator certifies that the following criteria have been met:
 - Constructed as of May 19, 2011 and in accordance with the requirements applicable to freshwater impoundments
 - Installation of an additional 40 mil HDPE liner installed over previously installed minimum 30 mil liner
 - Installation of interstitial leak detection and engineered fluid removal system
 - Confirmation of minimum 20-inch separation of seasonal high groundwater table from bottom of impoundment; if not determined during initial siting, then certified post-construction
 - Installation of a fluid suction and withdrawal manifold system that is protective of the liner system
2. Aboveground storage tanks, whether located on or off the lease, will be utilized for storage and transfer of produced fluids if the operator certifies that the following criteria have been met:
 - Above ground storage tanks will generally consist either of "frac tanks" and/or larger storage tanks (e.g. individually >21,000 gallons)
 - Secondary containment and countermeasures for loading and unloading spill control will be used
 - Pollution prevention plans and emergency action plans will be prepared for each of these scenarios and will be available for review, as requested, by the Department's Bureau of Oil and Gas Management
3. Operators may transfer ownership of the recycled water among operators within the Commonwealth of Pennsylvania under the following conditions:
 - Records are kept of the transfer between operators, and these documents will be readily available for review upon request
 - Transfer can only occur between two operators, i.e. operator two cannot give it to a third operator

- Accumulation date begins when the first shipment of fluids for reuse is introduced to the impoundment
 - Storage duration should be limited to 180 days, until permanent measures can be installed
4. In addition to the interim measures above, the MSC is requesting expedited permit reviews to facilitate longer term storage, treatment, and transfer solutions. These permits include, but are not limited to:
- Dam Safety Permits
 - WMGR119 (for processing using evaporation and distillation technology)
 - WMGR121 (for chemical and physical processing of flowback and produced water)
 - WMGR123 (for processing of flowback and produced water)
- Additionally, DEP must ensure that the current permitting period for an OG71 (about a week) continues.
5. We believe that the site reclamation requirements of 58 PS 601.206(c) can allow the nine month time period to begin following cessation of all site activities, including well completion operations. If DEP were to continue to apply this reasonable interpretation, it would further and support operators' efforts to meet the logistical elements of water reuse by appropriately allowing pits to stay open longer. Alternatively, DEP should consider granting extensions on site reclamation deadlines based on an operator's need to keep the pit open as part of its water reuse program. Requiring these pits to be closed prematurely could result in reusable water having to be disposed of and not being able to be reused.

The MSC looks forward to continuing to discuss these and other procedures and practices on an expedited basis to ensure approaches that are protective of human health and the environment and to ensure these approaches work effectively to achieve our common goals. As you review these planned practices, we look for your feedback to ensure that such measures are accomplished without unintended regulatory consequences. Of course, it will be essential that our approaches are understood by all industry and department field personnel as approved measures so that our efforts can continue consistently and successfully.

Sincerely,



Kathryn Z. Klaber
President and Executive Director

cc: Paul Swartz, Executive Director, Susquehanna River Basin Commission