



Delaware River Basin Commission

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DETERMINATION OF THE EXECUTIVE DIRECTOR CONCERNING NATURAL GAS EXTRACTION ACTIVITIES IN SHALE FORMATIONS WITHIN THE DRAINAGE AREA OF SPECIAL PROTECTION WATERS

Technological advances in horizontal drilling and hydraulic fracturing have led to an increase in the number of active and planned natural gas extraction projects in shale formations within the Delaware River Basin. Each of these projects typically involves the construction of a well pad and associated roadways at or about surface elevations, the drilling of a well bore to depths of as much as 6000 feet or more, the withdrawal and transport of surface or ground water, the injection of the water and chemical fracturing mixtures into the wells to release the trapped gas, the recovery and storage of recovered fracturing fluid, water and associated leached constituents extracted with the gas, the storage and potentially the reuse of the recovered wastewater and chemicals and the eventual disposal of the water and chemicals. Each of these activities if not properly performed may cause adverse environmental effects, including effects on water resources.

Section 3.8 of the Delaware River Basin Compact provides in part: "No project having a substantial effect on the water resources of the basin shall hereafter be undertaken by any person, corporation or governmental authority unless it shall have been first submitted to and approved by the Commission...." In section 2.3.5 of the Commission's *Rules of Practice and Procedure* ("RPP"), the Commission has defined those projects that may have a substantial effect on the water resources of the basin in part by establishing thresholds for the daily average gross water withdrawal during any 30 consecutive day period and by the daily average design capacity of domestic sewage treatment facilities. Some natural gas extraction projects may exceed these thresholds and therefore be subject to review pursuant to these provisions, while others may fall below the thresholds and therefore not be subject to review pursuant to these provisions. The RPP further require the sponsor of any project that involves any discharge of pollutants into surface or ground waters of the basin irrespective of quantity to obtain Commission approval. RPP section 2.3.5B.6. See also Commission Water Code section 3.40

In recognition of the importance of protecting high quality waters that are subject to the Commission's antidegradation regulations, the RPP also give the Executive Director the authority in her discretion to require a project sponsor to obtain Commission approval notwithstanding the fact that the thresholds in the RPP have not been exceeded. Section 2.3.5B.18 of the RPP includes as a reviewable project: "Any other project that the Executive Director may specially direct by notice to the project sponsor or land owner as having a potential substantial water quality impact on waters classified as Special Protection Waters." Most of the shale formations that may be subject to the new horizontal drilling and hydraulic fracturing techniques are located within the drainage area to Special Protection Waters. The Executive Director has considered and has now determined that as a result of water withdrawals,

wastewater disposal and other activities, natural gas extraction projects in these shale formations may individually or cumulatively affect the water quality of Special Protection Waters by altering their physical, biological, chemical or hydrological characteristics.

The Executive Director therefore specially directs by this notice to natural gas extraction project sponsors that they may not commence any natural gas extraction project located in shale formations within the drainage area of Special Protection Waters without first applying for and obtaining Commission approval. For this purpose a project encompasses the drilling pad upon which a well intended for eventual production is located, all appurtenant facilities and activities related thereto and all locations of water withdrawals used or to be used to supply water to the project. Wells intended solely for exploratory purposes are not covered by this Determination. Commencing a project encompasses performing any of the activities associated with the project, including the activities identified in the first paragraph above. The Commission recognizes that each natural gas extraction project will also be subject to the review of the environmental agency of the state or Commonwealth in which the project is located and in some cases, subject to federal agency review. The Commission intends to coordinate with and where feasible to utilize the review process and approvals of the applicable state or federal agency to minimize duplication of effort and redundant requirements imposed on project sponsors.

A copy of this Declaration will be posted on the Commission's website, and additional copies will be mailed directly to those project sponsors and potential project sponsors that the Commission has identified. The Commission intends to promulgate regulations pertaining to the subject matter of this Declaration after public notice and a full opportunity for public comment.

Any person adversely affected by this Determination may request a hearing by submitting a request in writing to the Commission Secretary within thirty (30) days of the date of this Determination in accordance with the RPP.

Carol R. Collier

Carol R. Collier, Executive Director

Dated: May 19, 2009