

## DELAWARE RIVER BASIN COMMISSION

MEETING OF MAY 6, 2009

### Minutes

The Commission met at the office of the Delaware River Basin Commission in West Trenton, New Jersey.

Commissioners present: John S. Watson, Jr., Chair, New Jersey  
Joseph A. Miri, New Jersey  
Mark Klotz, Vice Chair, New York  
Harry W. Otto, Second Vice Chair, Delaware  
Colonel Peter A. DeLuca, United States  
Lt. Colonel Thomas J. Tickner, United States  
Henry W. Gruber, United States  
John T. Hines, Pennsylvania

DRBC Staff participants: Carol R. Collier, Executive Director  
Robert Tudor, Deputy Executive Director  
Kenneth J. Warren, DRBC General Counsel, Hangley Aronchick Segal & Pudlin  
Pamela M. Bush, Commission Secretary & Assistant General Counsel  
Richard C. Gore, Chief Administrative Officer  
William J. Muszynski, Water Resources Management Branch Manager  
Kenneth F. Najjar, Planning & Information Technology Branch Manager  
Chad Pindar, Supervisor, Project Review Section  
Amy Shallcross, Supervisor, Operations Section

Chairman Watson convened the business meeting at 1:30 p.m. Colonel Peter A. "Duke" DeLuca introduced himself as the new Commander, North Atlantic Division, U.S. Army Corps of Engineers. Col. DeLuca grew up in Reading, Pennsylvania. He noted that all his relatives live in the Delaware River Basin. As a result, the matters of concern to the Commission are of great personal as well as professional interest to him. Col. DeLuca said it was a pleasure for him to be here.

Minutes. Mr. Watson asked for a motion to approve the Minutes of the Commission's meeting of March 11, 2009. Dr. Otto so moved, Lt. Col. Tickner seconded his motion, and the Minutes of the Commission's March 11, 2009 meeting were approved by unanimous vote.

Announcements. Ms. Bush announced the following meetings and events:

- *DRBC Floodplain Regulations Evaluation Subcommittee Meeting.* Friday, May 8, 2009 at 9:30 a.m. in the Goddard Conference Room, DRBC, 25 State Police Drive, West Trenton, NJ. The staff contact is Laura Tessieri at (609) 883-9500, extension 304.

- *DRBC Flood Advisory Committee Meeting.* Tuesday, May 19, 2009 at 10:00 a.m. in the Goddard Conference Room, DRBC, 25 State Police Drive, West Trenton, NJ. The staff contact is Laura Tessieri at (609) 883-9500, extension 304.
- *DRBC Toxics Advisory Committee Meeting.* Wednesday, May 27, 2009 at 9:30 a.m. in the Goddard Conference Room, DRBC, 25 State Police Drive, West Trenton, NJ. The staff contact is Greg Cavallo at (609) 883-9500, extension 270.
- *The Schuylkill Center for Environmental Education.* The Center will host its Citizen Spring 2009 Program Series. Programs are free and open to the public, and focus on current environmental issues. Program reception with informal information session begins at 6:30 p.m.. Q and A begins at 7:00 p.m. The next program will be held on Thursday, May 7, 2009 and is entitled *Bald Eagles in Philadelphia: A Successful Recovery.*
- *15<sup>th</sup> Annual Delaware River Sojourn.* A week-long paddling excursion on the wild and scenic Delaware River will take place from Sunday, June 21 through Saturday, June 27, 2009. This year's theme is *No One Left Inside.* Programming will highlight activities that get people outside and teach appreciation for the natural environment.

Hydrologic Conditions. Amy Shallcross reported on hydrologic conditions in the Basin.

The observed precipitation for the Delaware River Basin above Montague, New Jersey for the period January 1 through May 4, 2009 was 8.56 inches or 4.75 inches below normal. The observed precipitation for the Basin above Trenton, New Jersey for the same period was 8.70 inches or 5.47 inches below normal. Also for the same period, the observed precipitation for Wilmington, Delaware was 10.41 inches or 3.73 inches below normal.

The average observed streamflow of the Delaware River at Montague, New Jersey in April 2009 was 5,407 cubic feet per second (cfs) or 47.5 percent of the long-term average for the month. For the same period, the average observed streamflow of the Delaware at Trenton, New Jersey was 11,666 cfs, or 58.0 percent of the long-term average for the month.

For the period from May 1 through May 4, 2009, the average observed streamflow of the Delaware at Montague was 2,490 cfs, or 36.3 percent of the long-term average for the month. The average streamflow at Trenton during the same period was 6,978 cfs, or 51.1 percent of the long-term average for the month.

In the Lower Basin, as of May 5, 2009, Beltzville Reservoir contained 13.04 billion gallons (bg) usable, or 100.3 percent of usable storage, and Blue Marsh contained 6.58 bg usable, or 101.2 percent of winter pool usable storage. As of April 27, Merrill Creek contained 15.047 bg usable, or 95.9 percent of usable storage.

In the Upper Basin, as of May 5, 2009, Pepacton Reservoir contained 137.090 bg usable, or 97.8 percent of usable storage. Cannonsville contained 94.291 bg usable, or 98.5 percent of usable

storage. Neversink contained 33.853 bg usable, or 96.9 percent of usable storage. The total New York City Delaware Basin reservoir storage was 265.234 bg usable, or 97.9 percent of usable storage.

As of April 30, 2009 the average ground water level in eight reported USGS observation wells in the Pennsylvania portion of the basin was below the long-term average for the month. Water levels expressed as 30-day moving averages at all eight wells were below their normal range for this time of the year. The water level at the Cumberland County, New Jersey coastal plain observation well was below normal range. When last observed on April 17, the water level at the New Castle County, Delaware coastal plain observation well also was below normal range.

During the month of April 2009, the location of the seven-day average of the 250-parts per million (ppm) isochlor, also known as the "salt line," ranged from River Mile (RM) 70 to RM 73. The normal location of the salt line during April is RM 61, a location which is 17 miles downstream of the Delaware-Pennsylvania state line. As of May 4, the salt line was located at RM 72, which is eight miles upstream of the normal location for May.

Executive Director's Report. Ms. Collier's remarks are summarized below:

- *Water Resources Association of the Delaware River Basin.* The Water Resources Association (WRA) held its 50<sup>th</sup> Anniversary celebration, which included a detailed history of the WRA and its relationship with the DRBC. DRBC will be celebrating a 50<sup>th</sup> anniversary in the year 2011.
- *Pennsylvania State Water Plan.* The DRBC, along with the Susquehanna River Basin Commission and others worked very hard on development of the PA State Water Plan, which was adopted in March. John Hines of PADEP, now a Pennsylvania Alternate DRBC Commissioner, led this effort.
- *Federal Appropriations.* DRBC has requested four appropriations in the 2010 federal budget cycle, all of which have been submitted by members of Congress on the agency's behalf. Representatives Holt, Hinchey, Dent, Castle, Holden, Schwartz and Hall all supported a request for the federal share of the Commission's operating expenses. This item should be included in the President's budget in accordance with the 1961 legislation known as the Delaware River Basin Compact. Representatives Holt, Hinchey, Dent, Castle and Hall also supported a request for flood warning system enhancements in the basin. Representatives Castle and Hall submitted a request for funds to support water quality modeling for nutrients in the Delaware River and Bay. Representative Hall submitted a request to support climate change and water security preparedness for the basin. The Senate has not yet posted the requests made by senators. Ms. Collier said she had written to Vice President Biden, a former DRBC Commissioner, asking for his assistance in ensuring that signatory funding is included in the President's budget and in working with congressional representatives to ensure the Commission's requests are included in the congressional budget.
- *Water Gages.* Widespread support has developed for maintaining the water quality and water quantity gaging stations in the basin. Pennsylvania stepped in to support some gages that might otherwise have been abandoned this year. New York City has picked up others.

USGS is seeking funding to support gages threatened by budget cuts. At the River Master's annual conference, the River Master will convene a team to study how these critical gages can be funded in the long term so that last minute threats to critical gaging stations do not continue to arise.

- *Status of DRBC Flood Analysis Model.* DRBC staff has been working with the Corps, USGS, and the NWS to develop a model that will tell us the impact that reservoir voids in the basin could have on flooding during specific storm events. The model will allow us to reexamine the storms of 2004, 2005 and 2006 to learn the extent to which reservoir voids would have affected flooding downstream during those events. This effort has been more time-intensive than the three agencies expected, but it will be completed this summer. Although the Corps, USGS and the NWS are well-versed in constructing reservoir and river flow models, this one is particularly complex, involving 15 reservoirs in a very large watershed, and including localized hydrologic conditions, rainfall runoff and snowpack. Our foremost goal is to ensure we have a modeling tool that is scientifically sound. The model results will be among multiple considerations that inform future reservoir management and policy decisions.
- *Natural Gas Well Activities in the Upper Basin.* DRBC staff is working to identify its role vis à vis the member states in regulating the development of natural gas wells in the basin. Staff is continuing to work in particular with the states of Pennsylvania and New York, where the well leasing and drilling activity is taking place, to make certain that DRBC's actions dovetail with their respective regulatory approaches. DRBC does not want to duplicate what the states are doing; rather its focus is to help ensure the protection of the basin's Special Protection Waters and other important water resources. It is likely that DRBC will develop regulations that better define DRBC's regulatory approach. These regulations may provide for an approval by a rule or other mechanism that will allow a project to be approved more rapidly if it conforms to certain conditions. A notice and comment rulemaking process will be followed.

General Counsel's Report. Mr. Warren reported that in litigation brought by the M & M Stone Company, the Commission is still awaiting a decision by the federal court on motions to dismiss. In the interim M & M Stone has sought discovery from one of DRBC's co-defendants, the Telford Borough Authority (TBA), in an effort to perform a pump test of TBA's well. TBA is resisting that demand, and there will shortly be a conference with a magistrate judge to determine whether pending a decision by the federal court on the motions to dismiss, the discovery should or should not go forward.

Public Hearing: Project Review Applications. Consideration of Docket D-93-74 CP-2 for the Shoemakersville Municipal Authority (hearing item number 11) was postponed to allow additional time for review. Project Review Section Supervisor Chad Pindar presented the remaining 14 projects as follows: Category A, consisting of docket renewals involving no substantial changes (items 1, 2, 3, 4 and 5); Category B, consisting of renewals involving significant changes, such as an increase or decrease in an authorized withdrawal or discharge (items 6, 7, 8, 9, 10, 12 and 13); and Category C, consisting of projects not previously reviewed by the Commission (items 14 and 15).

A. *Renewals with No Substantive Changes (items 1, 2, 3, 4 and 5).* Item 4 was reserved for last in this group, because the applicant and a third party objector wished to offer testimony opposing it.

1. Aqua Pennsylvania, Inc. D-81-61 CP-4. An application for approval of a ground water withdrawal project to renew the allocation provided by Docket D-81-61 CP-3 and consolidate all other docket approvals for the Fawn Lakes, Woodloch Springs and Masthope water systems, retaining the existing withdrawal from all wells of 18.38 mg/30 days. Docket D-81-61 CP-4 will consolidate allocations approved in dockets D-81-61 CP-3, D-87-96 Renewal, and D-89-57 CP Renewal. The projects are located in the Catskill Formation in the Westcolang Creek Watershed in Lackawaxen Township, Pike County, Pennsylvania, within the drainage area of the section of the non-tidal Delaware River known as the Upper Delaware, which is designated as Special Protection Waters.
2. Matamoras Municipal Authority D-81-78 CP-8. An application for approval of an expansion of the public water supply service area of the Matamoras Municipal Authority. The applicant seeks no increase in its groundwater withdrawal allocation and will continue to supply up to 19.5 million gallons per thirty days (mg/30 days) for public water supply. The project is located in the Delaware River Watershed in the Borough of Matamoras, Pike County, Pennsylvania. The site is located within the drainage area of the section of the non-tidal Delaware River known as the Middle Delaware, which is designated as Special Protection Waters.
3. New Jersey American Water Company D-90-108 CP-3. An application for renewal of a ground water withdrawal project to continue the combined withdrawal of 1,851.14 mg/30 days to supply the applicant's public water supply system from 65 existing wells screened in the Potomac/Raritan/Magothy (PRM), Mt. Laurel/Wenonah, and Englishtown aquifers. The applicant wishes to consolidate within a single DRBC docket approval several interconnected private systems it has acquired. The project wells are located in multiple watersheds in the western portions of Burlington and Camden counties. Included in the application is a request for the approval of three new wells to replace three existing wells (Old Orchard Wells Nos. 36 and 37 and Haddon Heights Well No. 30) that have experienced declining yields over time. The 65 wells are located in the municipalities of Cherry Hill, Somerdale, Haddon Heights, Runnemede, Barrington, Gloucester, Magnolia, Laurel Springs, Voorhees, Camden City, and Gibbsboro in Camden County and the municipalities of Cinnaminson, Delran, Beverly, and Edgewater Park in Burlington County, New Jersey. A Notice of Application Received (NAR) was issued for this project on February 10, 2009. This second NAR reflects a change in the total number of wells and the number of wells being replaced.
5. Caesars d/b/a Cove Haven, Inc. D-2006-19-2. An application for approval to continue discharging 0.084 mgd of treated effluent from the Brookdale WWTP. The WWTP is located at River Mile 213 – 3.9 – 0.9 – 11.4 – 2.85 – 0.15 (Delaware River – Brodhead Creek – McMichael Creek – Pocono Creek – Scot Run – Brookdale Lake). The WWTP is located on Brookdale Lake, within the drainage area of the section of the

non-tidal Delaware River known as the Middle Delaware, which is designated as Special Protection Waters with the classification Outstanding Basin Waters. The project is located in Pocono Township, Monroe County, Pennsylvania.

Mr. Pindar said the staff had received no substantive comments on hearing items 1, 2, 3 and 5 and recommended that the Commission approve them.

Hearing no further questions or comments from the Commissioners or the public, Mr. Watson requested a motion to approve the four docket renewals with no substantive changes. Mr. Klotz so moved, Mr. Hines seconded his motion, and hearing items 1, 2, 3 and 5 were approved by unanimous vote.

Mr. Pindar presented hearing item 4, Docket D-2003-13 CP-5 for Buckingham Township.

4. Buckingham Township D-2003-13 CP-5. An application for approval of a ground water withdrawal project to supply up to 9.63 mg/30 days of water to the applicant's public water supply distribution system from new wells nos. F-8 in the Limeport Formation (limestone) and F-9 in the Leithsville Formation (dolomite). The applicant proposes to retain the existing total allocation of 42 mg/30 days for all system wells. Well No. F-9 will be maintained on a stand-by basis and used during emergency periods only. The project will add flexibility and relieve stress on the applicant's Furlong distribution system. The project is located in the Neshaminy, Pine Run, Mill Creek, Lahaska Creek, Watson Creek and Robin Run watersheds in Buckingham Township, Bucks County, Pennsylvania, within in the Southeastern Pennsylvania Ground Water Protected Area.

A professional transcript of the hearing on item 4 was prepared, which is a part of the official record held in the meeting file of the Commission Secretary. Testimony was offered by Buckingham resident Kurt Schroeder, who opposed the project on grounds that one or more of the Township's existing wells allegedly interfere with a perennial stream feeding an ornamental pond on his property located at 3929 Upper Mountain Road. The Township's solicitor James McMaster and technical experts offered testimony opposing conditions of the draft docket that were intended to address the claim of interference by Mr. Schroeder. Those conditions include restrictions on the use of existing wells F-4 and F-5 in the Township's Furlong system until the Township submits a mitigation proposal satisfactory to the Executive Director. The Township indicated that it intended to submit such a proposal as early as that afternoon. At the conclusion of the testimony, Mr. Watson requested a motion for approval of the docket as proposed and Mr. Hines so moved. Mr. Klotz seconded the motion, and hearing item 4 was approved by unanimous vote.

*B. Renewals with Substantive Changes (items 6, 7, 8, 9, 10, 12 and 13).*

6. Lower Frederick Township D-78-41 CP-2. An application for approval of modification of the Lower Frederick Township Wastewater Treatment Plant (WWTP). The docket holder proposes to replace the current disinfection system (chlorine contact tank) with an ultraviolet light (UV) disinfection system and to replace the existing outfall pipe. The applicant also seeks approval for a rerate of the WWTP from 0.16 million gallons

per day (mgd) to 0.20 mgd, which was not approved by the Commission at the time it was performed in 1998. The WWTP will continue to discharge to the Perkiomen Creek, a tributary of the Schuylkill River. The facility is located in Lower Frederick Township, Montgomery County, Pennsylvania.

7. West Grove Borough Authority D-87-24 CP-2. An application for approval of modifications to the Borough of West Grove's WWTP. The applicant proposes to upgrade the facility's contact aeration basin system, including the installation of a sewage grinder and return activated sludge lines, and the replacement of biological media and aeration diffusers. The facility's annual average flow of 0.250 mgd and hydraulic design capacity of 0.288 mgd will remain unchanged. The WWTP will continue to discharge to the Middle Branch White Clay Creek, a tributary of the Christina River. The facility is located in London Grove Township, Chester County, Pennsylvania.
8. Schuylkill County Municipal Authority D-90-49 CP-4. An application for approval of a docket modification to include an additional well that will transfer approximately 0.6 mg/30 days of ground water from the Susquehanna River Basin to the Delaware River Basin. The transferred water will be distributed within the project service area and, with the exception of some operational loss, returned to the Susquehanna River Basin as wastewater. In periods of increased service area demand, the Authority will transfer as much as 4.56 mg/30 days of ground water from the Susquehanna Basin into the Delaware Basin, and wastewater exportation will increase to as much as 4.35 mg/30 days. The project is located in Butler, Cass, Foster and New Castle townships, Schuylkill County, Pennsylvania. A Notice of Application Received (NAR) was issued for this project on February 10, 2009.

The Pennsylvania Fish & Boat Commission (PF&BC) submitted comments on the pass-by or conservation release requirements included in the draft docket. Mr. Pindar explained that the proposed conservation release requirements were based upon a Q7-10 flow. The PF&BC requested that a flow rate equal to 20% of average daily flow be used instead, requiring the pass-by flow or the conservation release requirement to be nearly doubled. Discussions between Commission staff, PF&BC and the applicant led to a consensus among all parties that resulted in new Condition II.f. of the proposed docket, under which PADEP, the Commission and the PF&BC will develop an alternative pass-by requirement utilizing PADEP's IFIM model. Rather than an expiration date of 2019 as originally proposed, the docket would expire in September 2015 in order to synchronize it with the term of PADEP's water allocation. Upon expiration of the permit and docket, the pass-by and conservation release requirements will be revisited. PF&BC asked that it be noted in the record that the Fish & Boat Commission would prefer a docket expiration date of 2011. The year 2015 is important in the view of DRBC staff because once the pass-by requirement is defined using the IFIM approach, the docket holder will need time operating under the requirement to evaluate how its operations are affected. Condition II.f. reads,

The docket holder is required to cooperate with the PAF&BC [sic], PADEP and DRBC in the conduct of a study to determine potential modifications to

the existing pass-by requirements/conservation releases in this docket and PADEP's water allocation permit. Within 6 months of receipt of the proposed pass-by requirements/conservation releases modifications from the regulatory agencies, the docket holder shall submit to DRBC, PAF&BC and PADEP a report summarizing any potential impacts that these proposed modifications may have on their water supply reservoir operations. The Commission will use the results of the aforementioned studies and consider the recommendations of the PAF&BC and PADEP in the development of pass-by flow/conservation release requirements in future docket decisions.

9. Pennsylvania American Water Company D-91-14-2. The purpose of this project is to change the treatment technology at the docket holder's WWTP from a Rotating Biological Contactor (RBC) to a Sequential Batch Reactor (SBR). Additionally, the existing WWTP has a hydraulic design capacity of 0.135 mgd, whereas, its NPDES permit has effluent limits based upon a 0.275 mgd discharge. The docket holder seeks DRBC approval for expansion to 0.275 mgd. The project is located approximately 2000 feet east of Blue Mountain Lake and approximately 500 feet west of the Smithfield Township line in DRBC Water Quality Zone 1D at River Mile 213.0 - 5.3 - 2.9 (Delaware River - Brodhead Creek - Sambo Creek). Sambo Creek is a tributary of the section of the non-tidal Delaware River known as the Middle Delaware, which is designated as Special Protection Waters with the classification Outstanding Basin Waters.
10. Evesham Municipal Utilities Authority D-91-15 CP-2. An application to upgrade the Kings Grant wastewater treatment plant to replace treatment process tanks nearing the end of their useful life with a more cost effective and efficient treatment process. No increase in the existing permitted capacity of 0.6 mgd is proposed, and the discharge will continue to be conveyed to infiltration basins in the South Branch Rancocas Creek Watershed. The treatment plant will continue to serve the Kings Grant section of Evesham Township, Burlington County, New Jersey.
12. Town of Georgetown D-94-37 CP-2. An application for the renewal of a ground water withdrawal project and to increase the withdrawal from 24.8 mg/30 days to 43.2 mg/30 days to supply the applicant's public water supply distribution system from existing wells nos. 1, 1A and 2R in the Columbia and Manokin Formations. The project involves the exportation of water from the Delaware Basin and the exportation of 100 percent of the wastewater generated by in-basin needs. The groundwater withdrawal project is located in the Broadkill-Smyrna Watershed in the Town of Georgetown, Sussex County, Delaware.
13. East Penn Manufacturing D-2003-23-2. An application for approval of a groundwater withdrawal from new Well No. 10 to supply up to 21.6 mg/30 days of water to the applicant's on-site industrial plant processes and potable supply and to increase the existing withdrawal from all wells from 15 mg/30 days to 20 mg/30 days. The increased allocation is requested in order to meet projected increases in production facility needs and to provide redundancy within the water supply system. The project well is located in the Leithsville Formation in the Moselem Creek Watershed in Richmond Township, Berks County, Pennsylvania.

Mr. Pindar recommended that the Commissioners approve hearing items 6, 7, 8, 9, 10, 12 and 13.

In connection with hearing item 13, Tracy Seibert, a senior geologist with AECOM, Inc. and consultant for East Penn Manufacturing Company (“East Penn”), commented that he had been working with East Penn to develop a well supply system. Mr. Seibert thanked the staff for their effort on this application and asked for additional explanation or consideration of the removal of condition “n” of the proposed docket. As proposed, that condition states, “As the allocation of groundwater approved under this docket is less than the docket holder’s predicted 10-year usage maximum, the docket holder shall undertake studies of additional sources to supplement its existing water supply and shall file a progress report thereon with the DRBC annually, from the date of this approval.” Mr. Seibert speculated that the inclusion of this condition was a consequence of the manner in which the applicant furnished data to predict its daily maximum average usage. He noted that East Penn had requested water based on its average usage because the daily maximum did not accurately represent the requested monthly allocation. He said that the daily maximums are the result of “catch-up” operations in which one or two wells are pumped at a slightly higher rate. These instances are not expected to elevate the monthly allocation above the requested amount. Mr. Seibert said that in fact East Penn’s water conservation efforts were noteworthy. While expanding tremendously over the past 20 years, he said, the company had conserved water aggressively. He noted that the wells currently in place could produce 51 mgd at 50 percent of their pumping capacity.

Mr. Pindar replied that the Commission bases approvals on a 10-year maximum projected use. When a docket holder indicates that its 10-year maximum is a number beyond the approved rate, the Commission enters a standard condition requiring an evaluation of future sources of water to meet the projected need.

Mr. Seibert said that for an industrial supply such as East Penn’s it seemed more appropriate for the monthly maximum allocation to be based upon the average daily (20 mgd for East Penn) rather than the maximum daily (27 mgd). Mr. Muszynski agreed and directed that the docket be modified in two places: to remove condition “n” and to reduce the maximum 10-year average and maximum demand projections appearing on page 2.

Hearing no other questions or comments, Mr. Watson requested a motion to approve hearing items 6, 7, 8, 9, 10, and 12 and to approve item 13 as amended. Mr. Klotz so moved, Dr. Otto seconded the motion, and the seven dockets consisting of renewals with substantive changes were approved by unanimous vote.

*C. New Projects (items 14 and 15).* The next two projects were either new discharges or withdrawals or were simply new to the Commission.

14. West Deptford Energy Station D-2008-27-1. An application to approve the cooling water withdrawal and industrial wastewater discharge associated with the construction of a new gas fired, 1,500 megawatt combined cycle power generation facility known as the West Deptford Energy Station (WDES). The WDES will withdraw as a cooling water source an average of 222.6 mg/30 days and maximum of 287.7 mg/30 days of treated effluent from the effluent pipeline of the Gloucester County Utilities Authority

(GCUA) wastewater treatment plant. The WDES will also discharge back to GCUA's existing effluent pipeline (WDES Outfall No. DSN002A) a monthly average of 2.0 mgd (2.6 mgd daily maximum) of industrial wastewater, and the two combined effluents will discharge from GCUA's existing outfall (No. DSN001A). The facility is located in West Deptford Township, Gloucester County, New Jersey.

15. Clayton Sand Company D-2008-37-1. An application for approval of an existing ground and surface water withdrawal project to continue to supply up to 215 mg/30 days of water to the applicant's industrial facility from existing Well No. 1 and Intake No. 1. The project is located in the Cohanse Formation in the Rancocas Creek Watershed in Woodland Township, Burlington County, New Jersey.

Mr. Pindar said staff had received no substantive comments concerning hearing items 14 and 15 and recommended that the Commission approve the two new projects.

Hearing no further comments or questions, Mr. Watson requested a motion for approval of hearing items 14 and 15. Dr. Otto so moved, Mr. Hines seconded his motion and the two dockets were approved by unanimous vote.

Resolution to Amend the Commission's Fee Schedule for the Review and Renewal of Project Approvals under Section 3.8 and Article 10 of the Delaware River Basin Compact. Mr. Muszynski said that project review fees had last been increased by Resolution No. 2003-14 in June of 2003. In 2005 a procedural incentive and late review fee were added to the schedule.

The purpose of the proposed change is to enable the Commission to recover project review costs. For fiscal years 2005 through 2008, DRBC collected average review fees of approximately \$360,000 annually. In 2010, project review costs are expected to equal \$773,000. Costs have not increased dramatically during this time. Rather, the Commission has never recouped through fees a sum close to the cost of the review function. It is attempting now to bring costs and revenues for the function closer together. The proposed changes include a doubling of current fees, with notable exceptions. The maximum fee based on project cost will increase from \$50,000 to \$75,000, an increase of 50 percent. DRBC retains the ability to charge a fee based upon the actual cost of review for those projects with extensive review requirements and/or for which special hearings may be required. The cost of expedited review for purposes of an emergency certificate remains \$5,000. Mr. Muszynski said the Commission had received no written comments on the proposed changes.

Attorney Timothy Weston noted that a comment had been submitted the previous evening by email to Ms. Collier from the Marcellus Shale Committee ("Committee"), which represents the operators engaged in development of Marcellus Shale gas wells in the basin. Mr. Weston reported that the committee takes the same position regarding DRBC project review fees as it has regarding fees of the Susquehanna River Basin Commission (SRBC) – i.e., the industry is more than willing to pay its full and fair share of all project review costs and is aware that in both commission settings project review fees currently do not match the actual costs of project review and compliance. The Committee is working with SRBC on developing a new schedule that looks at the actual costs and tries to fairly allocate them to the types of reviews that have to be conducted. Mr. Weston said that the key issue for the Committee is not the amount of the project

review fee but how a gas well drilling project is defined and how such a project goes forward. The Committee intends to work with DRBC on those definitions. He noted that although an investment in an individual natural gas well is high, its water usage is a one-time event and relatively limited. Yet there is the potential for fees for natural gas wells to exceed fees for a nuclear power plant. Mr. Weston urged the Commission to think about the nature of the review effort required for each project type and fairly allocate the cost of that effort to the project sponsor.

Mr. Weston spoke next in his capacity as chair of the Pennsylvania Chamber of Commerce working group on water. He noted that over the years DRBC, unlike SRBC, has consistently based its review fees on the amount of the investment in a project, which may have nothing to do with the amount of effort that goes into review of the project. As an example, he noted that a pipeline project might require a one-time hydrostatic test, but under the current fee schedule, the review fee could be based upon the pipeline investment rather than on the amount of water use. Mr. Weston said that increasingly sophisticated projects use less water and have less wastewater, whereas less investment is required in certain projects that trigger far more complex issues for review. Mr. Weston said that the Chamber urges DRBC as it moves forward through this year to rethink its project review fee structure, focusing on better aligning the actual effort involved with the cost of review rather than the cost of the project. He added that in that process DRBC might need to re-examine a historical artifact of its review program, in which projects sponsored by certain public agencies are treated as if they entailed one-half the effort and one-half the review cost as those sponsored by private entities. He noted that some very large public agencies are undertaking large, controversial and time-consuming projects for which a discounted fee is incommensurate with the review effort required. The Chamber would like to see the entire project review fee structure re-examined. Mr. Weston said that this may be the time to think about how DRBC should recover the full cost of supporting a valuable program in the basin.

Barbara Arrindell of Damascus Citizens for Sustainability said she hoped that in defining a project the DRBC would keep in mind that its stakeholders include the public at large and not just private industry. She said the Commission needs to consider the environment as a whole, and every citizen who drinks the water and breathes the air, both in the places where gas wells are drilled and downstream.

Patrick Carullo, a resident of the upper basin, advised the Commission that the highest paid CEO in the country last year was the CEO of Chesapeake Corporation, who he speculated was a client of Mr. Weston's. Last year, this CEO was paid \$128 million dollars. Mr. Carullo said he thought it amusing that an industry representative would instruct the Commissioners to consider their fiduciary responsibilities to industry, when one of his clients was paid \$128 million dollars for one year's service to a corporation. He said that in his view, the idea of giving consideration to the gas and oil industry for fees that DRBC might determine to be necessary was laughable. Mr. Carullo said that the combined annual pay of the top ten industry CEOs would show they have more than enough money to pay whatever fee DRBC might reasonably impose.

Buck Moorhead of Damascus Citizens for Sustainability noted that the evaluation of cumulative impacts would be a major concern in connection with gas drilling and that the industry should be

responsible for funding such a study, in light of the potential environmental injury its activities could cause.

Hearing no further comments or questions, Mr. Watson requested a motion to approve the resolution amending the Commission's fee schedule for the review and renewal of project approvals under Section 3.8 and Article 10 of the *Delaware River Basin Compact*. Mr. Klotz moved to approve the resolution, Colonel DeLuca seconded his motion, and Resolution No. 2009-2 was adopted by unanimous vote.

Resolution Concerning Future Updates of DRBC Water Quality Regulations. Consideration of this resolution was postponed to allow additional time for review.

Resolution Providing for Election of the Commission Chair, Vice Chair and Second Vice Chair for the Year 2009-2010, Commencing July 1, 2009. Ms. Bush explained that in accordance with Commission practice, the officers of the Commission, including the chair, vice chair and second vice chair, rotate annually among the signatory parties. For the fiscal year commencing July 1, 2009 and ending June 30, 2010 the chairmanship rotates to Governor Paterson of New York, the vice-chairmanship to Governor Markell of Delaware, and the second vice-chairmanship to Colonel DeLuca of the U.S. Army Corps of Engineers.

Hearing no further comments or questions, Mr. Watson requested a motion to approve the resolution providing for election of the Commission chair, vice chair and second vice chair for the year 2009-2010, commencing July 1, 2009. Mr. Klotz moved for approval of the resolution, Mr. Hines seconded his motion, and Resolution No. 2009-3 was adopted by unanimous vote.

Resolution to Adopt the Fiscal Year 2010 Budget. Mr. Gore offered the following background on the budget.

On December 10, 2008 the Commission conducted a public hearing on the proposed FY 2010 Current Expense and Capital Budgets, but given the various fiscal uncertainties at the time, no action was taken. The budget dated May 10, 2009 is a revised version of the budget proposed in December. It continues to maintain the fair share allocation among the parties and retains the same level of expenditure as the approved FY 2009 budget. The 2009 Omnibus Appropriation Bill signed by President Obama on March 11, 2009 provided \$715,000 for the Commission and at a minimum will furnish \$179,000 in federal funds during the first quarter of DRBC's fiscal year, which begins on July 1 (the federal fiscal year begins in October). The federal 2010 budget advanced by President Obama to Congress does not include funding for the Commission. Mr. Gore said that staff would continue to work with our federal member, basin-wide congressional delegation and colleagues at SRBC to secure federal funding for the Commission in fiscal year 2010. He noted that at the state level he was pleased to report that the governors' budgets for both Pennsylvania and New Jersey had included the full fair share of the Commission's operating expenses for those states. Governor Markell's budget includes 97 percent of Delaware's fair share and Governor Paterson's budget includes 76 percent of New York's fair share.

The differences between the 2010 budget now proposed and the version discussed on December 10, 2008 and the bases for the changes are as follows:

Since the December 10 budget hearing, the staff has evaluated revenues generated by project review fees in relationship to costs. The anticipated cost of the review function is approximately \$774,000. As a result of the fee schedule revisions just approved, DRBC anticipates additional fee revenue of approximately \$300,000, assuming the same level of activity as in recent years. That modification is reflected in the proposed budget.

In the course of developing the proposed 2010 budget, staff revisited the Commission's approach to allocating administrative expenses between the General Fund and the Water Supply Storage Facilities Fund. Beginning in 2007, staff members have recorded their time spent daily on a full range of DRBC activities, generating a new body of data that was not previously available. An analysis of this data for years 2007 through 2009 was performed to determine the percentage of the agency's salary expense attributable during those years to the activities associated with Key Result Area 1 (KRA 1) of DRBC's annual work plan. KRA 1 activities are those linked to "ensuring an adequate and reliable supply of suitable quality water to sustain human and ecological needs." This set of activities closely corresponds, in the view of staff, to the provision of Resolution No. 71-4 defining the universe of costs potentially recoverable from the rates and charges for water supply. Resolution No. 71-4 provides that "[r]ates and charges for water supplied will include all costs associated with making the basin water supply available and maintaining its continued availability in adequate quantity and quality over time." The staff timesheet data show that KRA 1 activities accounted for 40-43 percent of total payroll dollars expended during the study years. When a proportionate share of the fringe benefits and overhead costs associated with KRA 1 salary expenses for each of the three years is factored in, the total administrative cost chargeable to the Water Supply Storage Facilities Fund in those years is increased by approximately \$1 million dollars. Accordingly, the fiscal year 2010 budget transfer to the General Fund from the Water Supply Storage Facilities Fund is \$1,859,000 versus \$982,000 in fiscal year 2009.

The revised proposed 2010 budget reflects the removal of an earlier proposed cost-of-living adjustment (COLA) in the amount of \$68,000 agency-wide as well as miscellaneous other reductions totaling approximately \$84,000. The budget contains a new line item called "physical plant improvements" that includes expenditures of \$1 million dollars. These funds are proposed to address the replacement of the HVAC system in the Commission's West Trenton building, estimated to cost \$1.2 million dollars.

The Commission will continue to operate the Southeastern Pennsylvania Ground Water Protected Area Program and anticipates revenue from the Commonwealth in the amount of \$191,000 for that function.

The budget year is for the period July 1, 2009 through June 30, 2010 and includes both a Current Expense Budget and a Capital Budget, which is effectively the Water Supply Storage Facilities Fund. The aggregate Current Expense Budget is \$6,517,600. The Capital Budget reflects revenues of \$3,556,000 and expenditures of \$3,348,600. The Compact provides for the allocation of annual expenses to the five signatory parties. The fair share allocation formula is the same as that used during fiscal year 2009. These allocations remain subject to the respective budgetary process of the signatory parties. The Commission anticipates "Other Income" totaling

\$1,084,000 and the described transfer from the Water Supply Storage Facilities Fund and General Fund in the amount of \$1,059,600. Should there be a revenue shortfall, the Executive Director is authorized to reevaluate the work plan to make adjustments accordingly.

Mr. Gore thanked the Commissioners and their staff members for working with DRBC staff throughout the planning process in an extremely challenging fiscal environment.

Mr. Watson stressed the importance of paragraph 6 of the resolution approving the Fiscal Year 2010 budget, which provides contingent authority for the Executive Director to reevaluate the annual work plan in the event that signatory party revenue falls below the budgeted amounts.

Mr. Watson said that he was pleased New Jersey could commit its full share this year as it did last year, although like all the states, it is facing revenue shortfalls and budget cuts. He said he was hopeful the Commission would continue to look at additional ways to reduce costs and achieve efficiencies wherever possible.

Hearing no further comments or questions, Mr. Watson requested a motion to approve the resolution adopting the fiscal year 2010 budget. Mr. Klotz so moved, Dr. Otto seconded his motion. Ms. Bush conducted a roll call vote of each Commission member. Each voted "Yes" in support of approval, and Resolution No. 2009-4 was approved by unanimous vote.

Add-On: Resolution Authorizing the Executive Director to Enter into a "Site Lease With Option" Agreement on the Commission's Behalf with T-Mobile Northeast, LLC. Mr. Gore reported that the Commission had been approached some months ago by T-Mobile Northeast, LLC, operators of cell towers and antenna facilities. The company expressed interest in use of a small area of the Commission's property to erect a tower, and staff engaged in a dialogue and negotiations for this use. The current offer is \$1,700 a month for a lease rental with a 3 percent annual increase. The term of the lease would be five years with five optional additional 5-year terms, potentially totaling 30 years. T-Mobile would be responsible for securing all the necessary regulatory approvals and for preparing the site. Staff believes it is in the Commission's best financial interest to move ahead. The resolution would authorize the Executive Director to execute the lease after review and concurrence of general counsel that the agreement is sufficiently protective of the Commission's interests. The lease would not be signed unless and until T-Mobile secured all necessary regulatory approvals.

Hearing no further comments or questions, Mr. Watson requested a motion to approve the resolution authorizing the Executive Director to enter into a "Site Lease with Option" agreement on the Commission's behalf with T-Mobile Northeast, LLC. Mr. Klotz moved to approve the resolution, Mr. Otto seconded his motion, and Resolution No. 2009-5 was adopted by unanimous vote.

Add-On: Resolution Authorizing the Executive Director to Enter into a Professional Services Contract for the Evaluation of Flow Management Programs Using the OASIS Model. Mr. Muszynski explained that DRBC staff members provide a variety of services to the Decree Parties, including conducting analyses of different flow regimes using the OASIS flow model. This modeling function is likely to become even more important in the future when the reservoir flood analysis model becomes available and other tools and programs come under consideration. Mr. Muszynski said the volume of work of late, however, was overwhelming. A contract for outside assistance is proposed with a level of effort not to exceed \$20,000 through the period

ending May 31, 2010. This sum need not necessarily be utilized, and staff is hopeful it will not be. However, if multiple priorities coincide, the agency needs the flexibility to engage outside help to respond. Mr. Muszynski recommended approval of the resolution on these grounds.

Hearing no further comments or questions, Mr. Watson requested a motion to approve the resolution authorizing the Executive Director to enter into a professional services contract for the evaluation of flow management programs using the OASIS model. Mr. Klotz moved to approve the resolution, Mr. Hines seconded his motion, and Resolution No. 2009-6 was adopted by unanimous vote.

Public Dialogue. Mr. Watson opened the public dialogue portion of the meeting. Ms. Bush informed the Commissioners that DRBC had received a letter signed jointly by representatives of Earthjustice, Delaware Riverkeeper Network, Natural Resources Defense Council, NY-H2O, Damascus Citizens for Sustainability, Catskill Mountainkeeper, Trout Unlimited and the New York State Council of Trout Unlimited, requesting that the Commission develop formal review procedures for natural gas drilling projects that would protect basin resources. The letter requested implementation of an open, balanced and legitimate process for including parties from all sectors of the basin and public involvement in development of the procedures.

A rough transcript of the remarks of participants in the Public Dialogue portion of the meeting is attached. Many of the speakers also submitted written testimony, copies of which are included in the Commission's meeting file.

[Rough transcript attached.]

At the close of the session, Mr. Watson expressed his appreciation at serving briefly as Commission Chair and he again welcomed the new federal representative, Colonel DeLuca.

Colonel DeLuca said he was excited to be involved. He explained that he has spent a great deal of time in places where the kind of public process engaged in here is not allowed, and where instead those with the most guns decide what will happen and where the money will go. He said that although he had only been the federal Commissioner for three weeks now, he understood there to be an impression on the part of members of the public that all or some of the Commissioners wished to avoid exercising their responsibilities under the agency's charter [the Delaware River Basin Compact]. Col. DeLuca assured the public that the Commission would exercise its full authority to protect the interests of the Delaware River Basin, adding that because those interests are varied and sometimes conflicting, trade-offs would be needed and the Commission would address that need. He said that concerns he had heard expressed today seemed legitimate and he reassured the audience that they need not worry, at least as to the federal Commissioner, that he could be coerced by anyone. He said he had had a lot wealthier and better armed people try to coerce him and it had not worked out very well for them.

Hearing no other questions or comments, Mr. Watson adjourned the Commission's business meeting of May 6, 2009 at 4:35 p.m.

/s/  
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Pamela M. Bush, Esquire  
Commission Secretary & Assistant General Counsel

## ATTACHMENT

### ROUGH TRANSCRIPT OF ORAL TESTIMONY OFFERED DURING PUBLIC DIALOGUE SESSION

MEETING OF MAY 6, 2009

Ms. Bush called one by one upon individuals who had placed their names on a list during the course of the day.

#### James Barth, Damascus Citizens for Sustainability

I want to commend the Commission for spending 50 minutes on the large-mouth bass pond docket item [Buckingham docket], and I hope every proposed well drilled is given the same amount of intense scrutiny.

I was confused when I first heard Dave Kovach make a statement about the Robson well that it wouldn't be reviewed because it's going into the Oriskany. You are very well aware that I took this first paragraph from your June 6 letter to Stone Energy in which Executive Director Collier is quoted as saying "a project sponsor may not drill any well, construct any impoundment or other associated appurtenances or otherwise undertake a project until a sponsor has applied for and received approval from the Commission." There are several questions I'd like to ask, not to be answered at this time though. Why is the Robson well on Fox Hill Road in Wayne County, PA which according to Chesapeake is being drilled through the Marcellus to the Oriskany, not being held subject to review and approval by the Commission? I would appreciate today hearing someone answer that for me. Secondly, it was reported on April 15, 2009 that the SRBC initiated a course of action against Ohio-based Belden & Blake Corporation for using water without approval from the SRBC to hydraulically fracture the Marcellus Shale formation by using a well it drilled in 1995 into the Oriskany formation. Why should the DRBC accept at face value anything that Chesapeake-Appalachia or any gas drilling company states as its intentions?

The next perspective on that is why would the DRBC, part of whose purpose is to ensure the proper environmental controls that provide for safely governed basin resources, delegate the authority to oversee such drilling to PADEP, whose director is quoted by John Hurdle of Reuters as saying, "some of these chemicals are things you couldn't drink, there's no doubt about that. We have processes that go on all the time that involve chemicals and we run a certain amount of risk because of the benefits." Mr. Hurdle further wrote that Secretary Hanger acknowledged "that some of the chemicals could be dangerous to human health but the risk has to be weighed against the benefits that will come from the exploitation of the enormous gas reserve." My second question is will DRBC have the authority to delegate its responsibilities to such a state authority?

My point now to Mr. Weston from the Marcellus Shale Committee: Lou D'Amico – is he president of the Independent Oil & Gas Association of Pennsylvania or was he last August? Mr. Weston said he is. What is his position on the Marcellus Shale Committee? Mr. Weston answered he is head of IOGA (Independent Oil and Gas Association) of PA. Mr. Barth asked what his relation to the Marcellus Shale Committee was. Mr. Weston said they were both members. Mr. Barth said last August Mr. D'Amico wrote an article in the *Susquehanna Independent Weekender* where he stated that during the process of hydraulic fracturing they use only water and sand. I wrote a response to that which was published and basically called him a liar for at this stage of the game for somebody in that position to be making such a statement was outrageous and to do that publicly and in an editorial. Again, why would the DRBC take anything that these people say at face value?

This is a serious business. In 1980 Texaco drilled a 14-inch diameter hole in search of oil in Lake Pinior, Louisiana. An entire fresh water lake along with 65 acres of surrounding land disappeared. It is now a salt water lake with an entirely different ecosystem. You can Google Lake Pinior and you'll see the whole video about it. Last Sunday, May 3, *60 Minutes* profiled how the same Texaco thoroughly polluted a huge portion of the Ecuadorian Amazon Rain Forest through its extraction of oil up until the 1980s. There is a volcano that erupted in May of 2006 in Indonesia that destroyed eleven villages and displaced 30,000 people. This eruption has been determined by almost every scientist except those paid by the gas companies to be caused by drilling for natural gas.

At the March 2009 meeting of the DRBC I pointed to several examples of what I call junk science and propaganda employed by the extraction industry and I asked the Commissioners pointedly why should anyone put faith in the industry's claims for competence let alone perfection? I asked the Commissioners again not to abrogate your responsibility or to delegate your authority. The second part is just simply about the migration of gas and of the fracking fluid. I pointed out at the last 3 meetings that I have attended that there is ample evidence. Even the 2004 EPA report said that fracking fluid didn't affect the water, but described it as migrating in 50 percent of cases. What I looked up is the plumber's test equation which I hope helps everyone visualize the volume of fluid and the space needed to contain it. I'm going to skip the equation but when you drill a hole that's 12 inches in diameter by 10,000 feet in length, I was surprised to find out that only 58,747.92 gallons is what it takes to fill up that hole. We're pumping 5 million gallons of fracking fluid per fracture and 70 percent of that is staying down. So where do the 3.5 million gallons of tainted water go per fracture? The following are examples of box-like dimensions of approximately 467,914.43 cubic feet that could contain those 3.5 million gallons. You can have a 6-foot by 6-foot by 13,000-foot area and that's for one frack, one well. If you have ore returning to that drilling image it would create a 59.6 diameter (12-inch x 12-inch x 10,000-foot diameter) hole. That is just the one frack that could fill that up. We don't know how this connects with the natural fissures that exist, the fractures that exist. So the thought that the industry is saying that this will not migrate just defies logic, especially when you consider that over a 30-year lifetime, a well can easily be fracked 10 times. If you did that 10 times there would be 24,331,550 cubic feet of fracturing fluid.

I'm getting a little lost. I testified that there could be 52 wells in a 2.4 square mile area. Assume each of those wells was fractured once. I'm trying to point out that the cubic footage of frac water required is immense and where do you think that fluid goes? Does it all just go down to China? If you do that 10 times and I'm only talking about a 2.4 square mile area, 52 wells in that amount of area, if you do that 10 times you can have a 1-mile x 1-mile x 8.72-feet of open space and that's how much of an area you would need to contain that fluid. I beg you to really push that issue of cumulative impact and what this would mean in the migration of the gas and the fluid in our community. Thank you.

Bernard Handler, Damascus, PA

The manager from GE Water Processing Technologies will make the filtering devices. The Marcellus wastewater is the worst water on the planet. James Barth just mentioned how much can be there and that was for one well. We're talking about 40,000-80,000 wells with the worst water on the planet left underground. There is a lot of scientific evidence being accumulated right now that it's going to be coming up through the fractures created and that are naturally there in the Marcellus Shale and into the drinking water. These toxic chemicals so far have not been able to be successfully filtered out. In the Susquehanna River Basin right now they're planning on putting a water treatment plant that's going to be letting total dissolved solids into the river and they're planning on monitoring it. In 2011 they're going to have more strict guidelines for that. I'm wondering why aren't we doing that now especially with the protected waters. We shouldn't be waiting until 2011 for stricter guidelines. We should be administrating these right away because this is a serious thing and unless these things are contained they are going to have a very hard time getting them out. They're still working on the Hudson River.

Another proposed disposal method will be for letting the water evaporate and taking the salt out of it and putting that on our roads and other industrial purposes. That's only going to wash right back into the river. We're going to have wildlife and pets eating it and that's not a very pleasant thing. Kids go barefoot in this country on dirt roads. To use salts and say they're going to be managed but so far I cannot trust it. I would like you to consider this.

Concerning the Oriskany formation, the gas companies state that drilling into the Oriskany sandstone has two purposes. The first one is to extract gas and find it there, the other is for injection wells which we're just going to take more water and put that water under the earth again. If they have a large enough storage area, they'll take it from 30 other wells and stick it into that area. As much as they can put under the ground, that's where it's going to go. We shouldn't look at this as instantaneous; how do we eliminate the problem? We should be looking at this for hundreds of years down the line because once it's in the ground, buried 8- or 9- or 10- or 12- or 14,000 feet deep, we have no way of dealing with that again. If it starts coming up it's going to make science fiction movies look like a love story. Basically it's something to consider for hundreds of years down the line that this stuff is going to be in the earth.

James Barth said he'd like to get his questions answered. Why is the Robson well on Fox Hill Road not being held subject to the review and approval by the Commission? Mr. Watson said he would prefer the technical staff have the benefit to review it before replying. Mr. Barth asked if the DRBC has the authority to delegate a responsibility that they have or it's in their charter to somebody like PADEP or NYSDEC and if so, what is that based on, if I could get the answer to that too. Ms. Collier said DRBC would have a response at a later time.

#### Buck Moorhead, Damascus Citizens for Sustainability

I'm going to return to the cumulative impact discussion, the part of this whole situation of natural gas drilling which I am just confounded by. It's an industrial activity that's going to occur in two states or is occurring in Pennsylvania and New York with hydro-fracturing. The two states are regulating their land use activities for extracting this gas. The DRBC is the regulatory agency which is actually the only one that transcends political boundaries. The DRBC is defined by the watershed. It doesn't recognize what state it is in. The issue here is that the states are regulating what is a land use which is going to have impacts that are going to accumulate over time as you've been hearing. There are tens of thousands of wells over time but this question, what about the cumulative impact, the negative impacts on both the water, the economy and the thing that is disturbing about this that the two states, PA and NY are driven to some degree and rightly so on some level by the economic benefits which are short-term derived to the state which PA is seeing now. NY will see when the NYSDEC finishes its review and landowners are getting certain benefits. But there isn't a recognition of the destruction of what is a viable tourist region, recreational area, all that industry which is functioning now, the agriculture that is 2 or 3 years later will not be happening at all. So this question of cumulative impacts no one has it under their responsibility right now to look at and to me that's what is the problem. If you drill 10, 20 or 100 wells, no one is sitting here talking about it. If you have tens of thousands of these, this is an industrial landscape that's going to result.

There is a group in the Delaware Basin called Common Waters which is an ad hoc regional collaboration which is an effort that was initiated by the National Park Service, and they're being assisted by the Pinchot Institute and they have partners including the planning departments of Sullivan, Orange, Pike, Sussex and Monroe Counties participating in it as well as the Nature Conservancy of New Jersey, the Delaware Highlands Conservancy which is a land trust in the Upper Delaware, and the Upper Delaware River Roundtable. The DRBC has been attending these meetings as well, and that group has decided to look at cumulative impacts on water from numerous sources including gas drilling. This is very complex to look at this whole activity and to not recognize that at first things are okay but in five years all of a

sudden you can't drink the water. This Buckingham Township issue and the great concern over the pond, there will be hundreds of situations like that where you are going to have communities that can't drink water with dead fish.

Sullivan County had the millennium pipeline go through there recently. They were negotiating with the gas industry about a bond for their road damage that they anticipated from this pipeline. They wanted \$1 million dollars and the gas company offered \$50,000 and they came back with a half million dollars. The gas company said we're not going to give you anything you can just sue us later. That's the arrogance of this industry. This is a big, big industry used to doing what they want to do and they settled on \$250,000. Turned out the county had \$1.2 million dollars of damage for which they are now chasing those gas folks.

Josh Fox, Independent Filmmaker

[Mr. Fox thanked the Commission for the privilege of speaking and said he would present a very short video in the course of his remarks.]

I have been making films for a year now that document the effects of natural gas drilling. I did a 24-state trip investigating gas drilling all over the United States, focusing specifically on Arkansas, Colorado, Wyoming, Texas, New Mexico looking at both shale formations and tight sands and sandstones like the Oriskany. I am also incredibly concerned about this Robson Well – it's very close to my house – and that you're not looking at that as a permanent and regulated situation. What I did is I went through the whole history of drilling from the newest wells drilled in Dimock, PA, where they are having really significant problems with their water, to some of the oldest drill sites down in Louisiana. What I have observed is that you cannot have gas drilling and not contaminate the water irrevocably and permanently. Whether you have an incident like a blowout, and many of these have been well-documented in at least 7 of the states, you can contaminate the water within 5 minutes. You can have something go wrong in the pipeline and a lot of things go wrong – drill and well casing – anywhere along the line. You have benzene and methane going right into the aquifers at numerous different depths from 800 to 1,200 feet or you have migration that happens and you don't know where it's coming from. Or you have a slow accumulation – and slow means 5 or 10 years. But the constant puncturing through the aquifer with drilling which contains diesel fuel, barium, radium, arsenic, mercury – all the things in the drilling mud going straight into the aquifer, you can have slow accumulation. Those things don't biodegrade, they bioaccumulate, and once you've contaminated the water at the source it is impossible to get it out.

So no matter what the industry says, you get 5 years of gas out of this, 10 years of gas out of this, it certainly isn't worth potentially contaminating the water source of the Delaware River Basin or, I would suggest, across Pennsylvania and New York. It's a bad deal. It's a deal that we've been making in America for 100 years – we want cheap energy but we won't figure out what the real environmental costs are. But it's a deal we have to start not to make.

My request to this Commission is to ban gas drilling in the Delaware River Basin and I think that it is not an outrageous position to take. Not to regulate it as they have in the west because we do have new regulations in Colorado and one stop I made and this is where the video comes from is from sandstone drilling outside of Denver.

[Mr. Fox played a video of gas igniting at a series of faucets when homeowners held lit matches near a running tap. Some of his comments are narrated over the video.] This is what happens when you get gas in your water well. And you see the sign that says, "Don't drink the water." Now the Colorado Gas Commission, this was a neighbor of the woman who was on FOX News and MSNBC, Colorado Gas Commission said it was an isolated incident, but we went to five houses in a 5-mile area where they could all do this [faucet ignites]. These people don't keep the water running through their house. Reports of this kind of phenomena – lighting a well on fire – are found in Dimock, in West Virginia, Wyoming,

Louisiana, every single place gas goes, you have reports that you could light the water on fire. I don't want to understate this. This is just one indicator of volatile organic compounds. Remember this isn't just methane – this is methane, benzene, toluene, and the whole gamut of those chemicals coming up. Some of it is radioactive and it's migrating into the water. Of course we don't know anything about whether there are fracking chemicals in the water as well. They are not by and large tested for and the proprietor doesn't know what's happening.

Lastly, with all due respect, I feel compelled to offer you the deals the gas industry is offering the people in the Delaware River Basin. [Places water container on Commissioners' table.] This is water that has caught on fire. I'm wondering if anyone is thirsty. This is tap water. I don't recommend you drink it. I have a whole cooler full of these I've collected all over the country. This is another one. They are being analyzed. But if you were to drink it I'd have to ask that you sign this release from liability and responsibility, which is what the gas companies will do when they drill a line on your property. Here is a written release that basically says here you are of sound body and mind, that you understand that this drinking water could contain toluene, methane, propane, etc., and any of the 915 chemical products in the fracking fluid, 50 percent of which are completely unknown to the public but which have been demonstrated conclusively to be highly toxic causing illnesses which include, but are not limited to, brain damage, liver irritation, dizziness, nausea, various cancers, heart failure, nervous system damage and death also noting that this might contain non-biodegradable or radioactive elements, etc. You have heard and understood the expert testimony of Weston Wilson of EPA Region 8 and the testimony of other scientists who say this could be in that water.

I would like to say in closing that I have great faith in your ability to understand the problem and I know that you're getting a lot of pressure from industry to let them drill and that myself and other people in this room are going to make it really easy for you to take the right stand on this by bringing thousands of people to this issue, probably hundreds to the next meeting in July, so you might want a bigger room. But that will give you a sense of resolve.

#### Mav Moorhead, NY-H2O.

There is a growing concern in New York City regarding hydraulic fracturing and horizontal drilling in New York State. NY-H2O has received many full board resolutions from community boards to New York City calling for a full ban of hydraulic drilling in New York State that represent hundreds and hundreds of people at this point. When we go before boards we talk about the potential for the health crisis that could occur with the drilling that would affect not only the people of New York City but Camden, Trenton, and Philadelphia along the way. People basically come around to the realization that this could possibly be happening after learning what is going on. After 5 minutes of talking about the details involved in hydraulic fracturing there is a certain sense of alarm within each individual when they begin to realize the gravity of the situation. Once they receive more information on it, more details and testimonies, perhaps a film, perhaps different information that I have in print, they look at the situation differently and it becomes a lot more grave and certainly something that deserves a lot more attention. So we have a lot of signed resolutions from New York City calling for a full ban on hydraulic fracturing in the New York State area.

After learning all the implications involved in the process regarding multiples of chemical compounds, permanent injection wells, which they use the dud wells to inject the toxic fluids and there aren't enough dud wells and they still don't know precisely what to do with all the wastewater. We know that is a major problem. They'll try to do filtration and dilute it, as they call it, it sounds so benign doesn't it, and they dilute it back into the streams. There is no consideration for migration because of course there isn't any known testimony or research done to guarantee that there isn't migration. With this number of gallons of water, 70 percent of 5 million gallons under the earth, what is the guarantee that there isn't a migration? Who is to say what the migration can and can't be, not to mention air contamination, the wetland, ground

water, aquifer contamination, and problems of wastewater disposal? Just that one fact alone could create incredible havoc. You can imagine people trying to get rid of the wastewater on a Friday night, the temptation to just dump it somewhere after traveling around in the back woods of one of our lovely states. Just dump it, how easy would that be? There's not enough oversight to see exactly what would happen. There are so many possibilities of contamination just from lack of oversight. If you look at that one issue, it's an enormous issue.

When there's flooding these open pits are just sitting there with all these contaminated fluids in them, there is immediate contamination. Once the water is contaminated there is no known filtration system even if one was to be built, to filter out the toxins in the water. Once it becomes contaminated there is no way to filter it out. If there was a filtration system to be built it would take a number of years to be built and the cost would be born on the taxpayers. What happens to the gas companies who have created this particular issue? They get off scott-free in terms of what the cleanup has to be afterwards. In fact, millions of people down the line would be at risk, not only health-wise but financially tax-wise.

This is an enormous situation for the board here and it's not just a singular situation. It's not just looking at each individual well. Basically they will put in their application for a single well at a time instead of addressing what is your total plan over a 10-year or 5-year period, and that's not being addressed and in fact it is implicit in what could happen as an impact over a number of years. The lack of conclusive filtration solutions, there aren't any. The lack of adequate oversight for erosion and stormwater control, that duty has been taken away from the local areas and has been given to the NYSDEC upstate so that it takes them 2 hours to come down from where they are, 2 hours to get back, they work for half a day and not only that, they don't even know where to go because if they get lost they are not familiar with the area, the duty is taken away from them. Not to mention the withdrawal that is contributing to the drought conditions. This gentleman over here that was talking about what he's going to do for water in the summertime. There are so many issues that are not being brought together as a whole. This is a critical issue that is not being addressed as a whole and it should be before any kind of hydraulic fracturing should continue in any of our lovely four states here that you happen to have jurisdiction over.

#### Barbara Arrindell

[Ms. Arrindell picked up each of a stack of reports and documents one by one as she spoke.] There have been no incidents of troubles in New York State due to gas well problems because the NYSDEC has not kept any records. Earthjustice did a Freedom of Information Law request to NYSDEC concerning water contamination in New York State from gas drilling, and NYSDEC said they have nothing to give because they do not keep records. If the individuals wanted to know about this they were free to go through each well record individually to see if they could find anything.

What I have here is PADEP's John Hanger's statement about there being inevitable problems due to gas drilling when you have so many wells.

There is a place in Louisiana where on April 30 sixteen cows dropped dead screaming with blood coming from the front and back of their tongues from drinking some of the water from a gas well platform. Chesapeake denies and Schlumberger, who is their fracturing company, denies anything is happening. This actual record statement from locals says 30 cows, but only 16 cows are documented in this story.

The PADEP slogan "dilution is the solution" to the gas drilling waste problem. They plan to spread it on the land to a maximum regulatory daily limit. The gentleman [in connection with the Penn Manufacturing docket] talked about the water withdrawal in relation to the average daily amount and the maximum daily amount. The PADEP plans to use the maximum amount for every area including the Delaware River. They don't say where it's coming from but plan to distribute 19 million gallons a day of this waste and how the beneficial use of road salts which would include heavy metals, radioactivity, etc. with no

accounting for bioaccumulation, interactions among chemicals, resistance in the environment and low-level effects of biological systems. None of this is being evaluated.

This paper is called “The Dose Makes the Poison.” It is a peer reviewed article of essentially the effects of these low-level concentrations when you get into the level of endocrine disruption. When you start polluting the basic water supply this is the level you’re at. This paper is very good. I recommend it. Every well is an injection well. It is an intrinsically poisoning and contaminating process. When you have the industry stating that only 30 percent of the material comes back up from the well you have the industry stating that every well is an injection well. Almost every gas well that has been thoroughly investigated could be a Superfund site if they were not exempt from the Superfund law. The gas and oil industry is exempt from the superfund law, the Safe Drinking Water Act which includes the Underground Injection Control Act, the Clean Water Act, the Clean Air Act, and the Community Right-To-Know Act and the injection wells are part of the situation.

This is a situation here which is the Fortuna Company wanting to have an injection well in Van Etten, New York. This is a statement here of what they consider to be the proper use of the community resource to literally deposit what they consider to be waste and they describe these wastes as common chemicals including things you certainly do not want in your drinking water. Included with this is a reply by a gentleman with over 30 years experience in the pharmaceutical industry responsible as a safety and environmental evaluations and risk analyst. Included here is Fortuna’s disclosure of what they want to do to this community and this gentleman’s response to their statement.

This is more on the Oriskany layer. It’s a very porous layer once you break it up and the materials move through it. When you have materials moving through it the gas company sees it as an opportunity for storage. This is a study done by the PADEP and the USGS – this is the abstract for it. The reference is here for it. There are references on all of these. It’s a 50 square mile area where the water wells of the people living in the area are contaminated by both storage gas and production gas. It was originally punctured here and there for Oriskany wells. They used the depleted wells as storage wells. What they’re looking at in the Oriskany in our area and the Robson well is to see whether it will hold an injection well. They also use it for storage. Now the storage gas is not just methane. When you hear reports of methane in the well it’s not just methane. It’s only methane that they’re measuring and it doesn’t mean there’s nothing else there. There is the full range of volatile organic compounds that is natural gas. There is possibly toluene, ethane, propane, butane, light condensed oil, hydrogen sulfide, nitrogen gases, etc.

This is the gas storage business. This is a story about the SRBC and a gas well drilled into the Oriskany and then they went into the Marcellus. The Robson well is intending to be possibly subject to acid stimulation and possibly subject to fracturing with no other statement asked for from Chesapeake. The SRBC found out about this because the driller fought and went through some accounting. We have no accounting on the Robson well because they have drilled along the well. You had one of your dockets that dealt with Westcolong Creek. This is a terrain map from Google of Westcolong Pond. It’s quite a large pond, 1,000 feet in elevation. There’s no stream into this pond. This pond is fed by springs. The geology in this whole area of the Upper Delaware – New York and Pennsylvania – is naturally fractured geology. Don’t be deceived by industry statements. Halliburton gives classes on how to do hydraulic fracturing in natural fracturing geology. Halliburton is well aware of natural fractures. Their public statements are very different from their teachings within their industry. This is a terrain map of Westcolong Pond. Westcolong Creek comes out of the pond.

This deals with an injection well that started to lose pressure and then nine miles away when the snow melted off the roads in the winter they had tremendous effects on vegetation and they found out finally that the injection well was leaking because they measured the downhill pressure. This is nine miles away. The person who wrote this has his address on here so you can contact them. We have almost no mapping

of aquifers therefore we don't know what connects. The only way you can know what connects is to sample and analyze the water to see if it's the same. What are you going to do when Chesapeake, who might possibly fracture the Robson well that you are not looking at, and then all of a sudden you have this material that is poisonous?

This is about PADEP of the fracture fluids and analysis of the material in this article and is based on the December release from the PADEP of the materials used in the fracturing fluid that was analyzed by Dr. Theo Colborn's office. This is only 50 ingredients. Dr. Colborn has a list of over 400 now which includes both the materials put down and the materials that come back up. What you have is a situation where in a very short period of time you can have considerable damage done that is not going to be repairable.

This is from Penn State and Penn State is promoting gas drilling along with the Commonwealth of Pennsylvania, along with Cornell and the State of New York. On page 2 of this it says that in 2007 it looked at water quality in 25 wells in areas that have undergone extensive oil and gas well drilling for several decades. About 3 percent of these private water wells exceeded drinking water standards for total dissolved solids, barium and chloride, while another 5 percent of these private wells had elevated levels of pollutants that could be tied to gas well drilling. Once you start having wells and wells and wells, the cumulative impacts evolve both on the surface and under ground.

Pat Carullo, Upper Basin Resident

We have all spoken here for months and we gave you all some thousands of signatures – ordinary citizens, not necessarily powerful but just people who pay your salaries. Mr. Hines, I work with Barbara Arrindell and she is a tireless person who has devoted her life to making sure that what is happening everywhere else in America doesn't happen here. Let me ask you a question. What was it that Barbara was saying that caused you to shake your head?

[Mr. Hines replied that he wasn't in disagreement but that he was thinking. He said he sits through these discussions quite often and was listening to some of the reports that were picked out and thinking about PADEP's programs across the state and how PADEP staff had designed them to regulate the industry. Mr. Carullo asked whether Mr. Hines was referring to the recently announced partnership between PADEP and the industry to dispose of wastewater. Mr. Hines said that PADEP has a three-fold system for dealing with the Marcellus Shale. First, with respect to water withdrawals, anyone who is withdrawing over 10,000 gallons a day must register and prepare a water management plan. Second, PADEP's erosion and sedimentation control program and a number of other programs, including wetlands, applicable to the oil and gas industry, are being centralized within the oil and gas program where the Department has more staff allocated than in other areas. Third, as to wastewater disposal and in particular the partnership mentioned by Mr. Carullo, Mr. Hines identified this as part of the Department's TDS strategy, which is under development and will be completed in 2011. Mr. Hines noted that PADEP is considering standards not yet being discussed anywhere else in the country. He explained that it takes an average of 18 months to 2 years to establish new regulations in the Pennsylvania. In addition, he said, the Commonwealth also is looking to develop technologies that can deal with the TDS issues.]

The letter that you received from one of our attorneys was the opening volley by the people for whom you work. If you notice what President Obama is doing, he is reigning back power from the corporations. You sir [speaking to Colonel DeLuca], who represent our military service to which we are greatly indebted, it is people who you represent, and we plead with you to follow the President's lead. We the people own the country, not the corporate interests some of whom are foreign, and if we look at the compensation of just one CEO making some \$120 million in one year, they don't have our interests at heart. This letter that you have received today is in a sense an opening to our play and that is that we have the Robson well encircled with a series of carefully coordinated test wells at varying distances from the

site and I just wanted you to know we will be watching very carefully and working with the community there around the Robson well doing what we feel the Commission should be doing but we will be doing it because we're the people and we're doing it.

Thank you all for your consideration this afternoon and I do have one additional question to the Commissioner and to the Chair. What is your response to some of the thousands of personal comments some of which read "Please save the watershed. Please protect us from these various corporate greedy interests?" What will be your formal response to the thousands of comments that we've accumulated through the use of technology, and what process will you use to respond to those thousands of comments to initiate a study of these practices and of cumulative impacts of same? What will the process be for your response to some of those thousands of comments?

[Ms. Collier answered that staff had been working with the Commissioners and shortly would issue an Executive Director's Determination regarding immediate actions while beginning to develop regulations specifically to address shale gas drilling within the basin. Ms. Collier explained that staff was also working with the two states that are hosts to these activities to achieve coordinated but not duplicative coverage to protect DRBC's Special Protection Waters. The Commission does not plan to provide a written response to each and every comment submitted. The response will be in how DRBC shapes regulations to protect the basin's water.]

[Mr. Warren said with respect to the forthcoming Executive Director Determination that one of the existing thresholds for DRBC jurisdiction set forth in the Commission's Rules of Practice and Procedure (RPP) is the amount of water withdrawn on average over a 30-day period. Another, also set forth in the RPP, is the average discharge per day over a 30-day period. The RPP includes these and other thresholds that were developed by the Commission as regulations after public notice and comment in order to identify which kinds of activities might have a substantial effect on the water resources of the basin. The RPP also provides the Executive Director with the ability to bring a greater range of projects within the purview of the DRBC. The forthcoming determination, he said, is intended to say that notwithstanding the established regulatory thresholds, if there is any natural gas extraction project in a shale formation in Special Protection Waters DRBC will review it. That step will expand the normal jurisdiction that DRBC exercises with the understanding that there might be – either individually or cumulatively – water resource impacts from natural gas extraction activities that the DRBC intends to scrutinize.]