

DELAWARE RIVER BASIN COMMISSION

MEETING OF SEPTEMBER 24, 2008

Minutes

The Commission met at the West Trenton Volunteer Fire Company in West Trenton, New Jersey.

Commissioners present: Fred Sickels, Chair, New Jersey
Joseph A. Miri, New Jersey
Katherine Bunting-Howarth, Second Vice Chair, Delaware
Harry W. Otto, Delaware
Lieutenant Colonel Thomas J. Tickner, United States
Henry W. Gruber, United States
Cathy Curran Myers, Pennsylvania
The State of New York was not represented.

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
Thomas J. Fikslin, Modeling, Monitoring & Assessment Branch Manager
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 Sickels convened the business meeting at 1:30 p.m.

Minutes. Approval of the Minutes of the Commission's meeting of July 16, 2008 was deferred to a later meeting.

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

- *Northeast Summit on Monitoring Technologies and Early Warning Systems for Drinking Water Supplies.* Thursday, October 2, 2008 at the New Jersey Rutgers EcoComplex in Bordentown, NJ. This all-day water security seminar, presented by DRBC and the Philadelphia Water Department in cooperation with the Water Resources Association of the Delaware River Basin (WRADRB) examines efforts underway to improve incident detection and notification concerning drinking water supplies. The program will include leading figures nationally on the questions of water security and monitoring technologies, as well as a comparison of experiences of four early warning systems in the northeast region. Attendance at this event will qualify for NJ and PA operator license renewal credits. Registration forms and checks for the

registration fee should be sent to WRADRB. To guarantee a place, payment must be received by September 29, 2008.

- *University of Delaware Coast Day.* Sunday, October 5, 2008 from 11:00 a.m. to 5:00 p.m. at the Hugh R. Sharp Campus in Lewes, Delaware. This free event, hosted by the University of Delaware and Delaware Sea Grant Program began 31 years ago and last year attracted over 10,000 visitors. Hands-on exhibits, crab races, lectures, and ship and laboratory tours are among the day's activities. Marine scientists and other environmental scientists will be on hand to discuss their studies and career opportunities.
- *Pennsylvania State Section of the American Water Resources Association Annual Conference.* Thursday, October 9, 2008 from 8:30 a.m. until 3:30 p.m. at the Best Western Eden Resort Inn and Conference Center in Lancaster, PA. The conference theme is *Pennsylvania Water Resources in a Changing Climate*. Registration is \$55 before September 30 and \$60 after; students pay \$25. Registrations accepted at the door.
- *Coast Day New Jersey.* Sunday, October 12, 2008 from 11:00 a.m. to 4:00 p.m. at the Lobster House Restaurant, Utsch's Marina, Cape May, NJ. Sponsored by the New Jersey Marine Sciences Consortium and its partners. Informational exhibits, touch tanks, nature walks at the NJ Audubon Society Nature Center, and more. Admission is free.
- *Fourth Annual Conference of the New Jersey Association of Floodplain Managers.* Tuesday and Wednesday, October 21-22, 2008 at the Crowne Plaza Hotel in Cherry Hill, NJ. Intended for planners, emergency managers, engineers, government officials and individuals interested in floodplain management in New Jersey. Registration is \$175 before September 12 and \$200 after.
- *DRBC Water Quality Advisory Committee Meeting.* Tuesday, October 28, 2008 at 9:30 a.m. in the Goddard Conference Room, DRBC, 25 State Police Drive, West Trenton, NJ. The staff contact is Victoria Lawson, (609) 883-9500, extension 308.
- *DRBC Flood Advisory Committee Meeting.* Wednesday, November 5, 2008 at 10:00 a.m. in the Goddard Conference Room, DRBC, 25 State Police Drive, West Trenton, NJ. The staff contact is Laura Tessieri, (609) 883-9500, extension 304.

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 September 22, 2008 was 33.69 inches or 2.00 inches above normal. The observed precipitation for the Delaware River Basin above Trenton, New Jersey for the same period was 34.98 inches or 2.16 inches above normal. Also for the same period, the observed precipitation for Wilmington, Delaware was 29.56 inches or 2.51 inches below normal.

The average observed streamflow of the Delaware River at Montague, New Jersey in August 2008 was 2,237 cubic feet per second (cfs) or 105.1 percent of the long-term average for the month. For the same period, the average observed streamflow of the Delaware River at Trenton, New Jersey was 4,281 cfs, or 84.4 percent of the long-term average for the month.

For the period from September 1 through September 22, 2008, the average observed streamflow of the Delaware River at Montague was 1,857 cfs, or 85.7 percent of the long-term average for the month. The average streamflow at Trenton during the same period was 4,120 cfs, or 82.4 percent of the long-term average for the month.

In the Lower Basin, as of September 23, 2008, Beltzville Reservoir contained 12.17 billion gallons (bg) usable, or 93.6 percent of usable storage, and Blue Marsh contained 6.32 bg usable, or 97.2 percent of summer pool usable storage. As of September 22, Merrill Creek contained 15.098 bg usable, or 96.2 percent of usable storage.

In the Upper Basin, as of September 23, 2008, Pepacton Reservoir contained 111.235 bg usable, or 79.3 percent of usable storage. Cannonsville contained 63.969 bg usable, or 66.8 percent of usable storage. Neversink contained 25.862 bg usable, or 74.0 percent of usable storage. The total New York City Delaware Basin reservoir storage was 201.066 bg usable, or 74.2 percent of usable storage.

As of September 22, 2008 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 three of those wells were within their normal range for this time of the year while water levels at the remaining five wells were below their normal range. The water levels at the Cumberland County, New Jersey coastal plain observation well were below their normal range. When last observed on September 15, the water levels at the New Castle County, Delaware coastal plain observation well were within their normal range.

During the month of August 2008, 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) 73 to RM 80. The normal location of the salt line during August is RM 77, a location which is one mile downstream of the Pennsylvania-Delaware state line. As of September 22, the salt line was located at RM 80, which is one mile upstream of the normal location for September.

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

- *DRBC Staffing.* DRBC's newest staff member and Project Review Section member is Shane McAleer. Shane is a P.E. who attended Penn State and Drexel and is currently completing a Master's program at Villanova. He has a strong background in stormwater and floodplain management and was most recently at Taylor, Weisman & Taylor.
- *Hydro-Power.* DRBC has submitted a pre-application to the Federal Energy Regulatory Commission (FERC) for a hydro-power project at Blue Marsh Reservoir. The application was prepared by Dr. Richard Tortoriello, who stayed on as a volunteer after retiring from DRBC several years ago. Ms. Collier thanked Dick for his tremendous effort in preparing this application.
- *University of Pennsylvania.* DRBC staff has been working with a studio class at the University of Pennsylvania to explore infrastructure and land use changes that would be

needed if the anticipated sea-level rise associated with climate change is realized in our region. Students will present some of their ideas during the morning Conference Session at DRBC's December meeting.

- *Basinwide Issues.* The Commission has worked intensively on flow management issues as well as on a rulemaking package for an updated PCB criterion and implementation plan. The PCB proposal is being developed in consultation with the estuary states and the U.S. EPA. Staff is also finalizing the first State of the Basin Report, which will describe existing conditions – both good and bad – throughout the basin.

The public is intensely interested in the news that New York City will undertake rehabilitation work on its Delaware Aqueduct. The aqueduct, or tunnel, is the conduit for diversions from the City's Delaware Basin reservoirs. Ms. Collier read aloud the following written statement from Paul Rush, Deputy Commissioner of the New York City Department of Environmental Protection and head of the City's Bureau of Water Supply:

New York City is developing plans for repairing the Delaware Aqueduct. Planning for tunnel repair is complicated by many factors and the City will work with the Decree Parties and DRBC to implement programs that mitigate any impact the Delaware Aqueduct work may have on the City's Delaware Basin Reservoirs. The security of the water supply is of utmost concern and information on work and programs will be shared based on that concern.

Ms. Collier said she did not know when the work would begin, adding that New York City is considering mitigation options and will advise the Commission of its plans in the future.

General Counsel's Report. Mr. Warren reported on two matters: 1) In the lawsuit brought by quarry operator M&M Stone Company against the DRBC and other public and private entities, motions to dismiss were filed and await adjudication. Mr. Warren noted that little had happened in the suit since the Commission's meeting in July. 2) A request for appeal was filed by the Horsham Water and Sewer Authority with respect to a docket recently approved by the Commission. The matter appears to involve only a discrepancy between docket-approved pump capacities and those provided by the Authority in its application to the DRBC. Mr. Warren said that staff expected to work out a resolution of the matter directly with the docket holder. No Commission action on the appeal request was required at this point.

Public Hearing: Project Review Applications. Consideration of one of the noticed dockets – Croda, Inc., D-88-74-3 (hearing item number 8) – was postponed to allow additional time for review. Chad Pindar, Supervisor of the Project Review Section, presented the remaining 16 projects in three categories: Category A, consisting of docket renewals involving no substantial changes (items 1 through 6); Category B, consisting of renewals involving significant changes, such as an increase or decrease in an authorized withdrawal or discharge (items 7, 9, 10, 11 and 12); and Category C, consisting of projects not previously reviewed by the Commission (items 13 through 17). Two projects in Category C are Class II projects as defined by DRBC's Flood Plain Regulations.

A. *Renewals with No Substantive Changes (items 1 through 6).*

1. Burlington Country Club D-67-32-2. An application for approval of a ground and surface water withdrawal project to supply up to 3.1 million gallons per thirty days (mg/30 days) from new Wells Nos. 1A, 1R and C1, and to supply 8.4 mg/30 days from one new and one existing surface water intake for the applicant's golf course irrigation system. The withdrawal from all sources is proposed to be limited to 8.4 mg/30 days and 37.8 mg/year. The project is located in the Englishtown Formation in the Lower Delaware Watershed in Westampton Township, Burlington County, New Jersey.
2. Perkasie Borough Authority D-97-12 CP-3. An application for approval of a ground water withdrawal project to supply up to 11.67 million gallons per 30 days (mg/30 days) of water to the applicant's distribution system from new Well No. 7 in the Brunswick Formation and to retain the existing withdrawal from all wells at 40.2 mg/30 days. Proposed Well No. 7 will be used to replace some of the ground water supply from Perkasie Borough Authority's existing wells that may be lost due to regulatory changes limiting the concentration of arsenic in public drinking water supply. The project is located in the Three Mile Run and East Branch Perkiomen Creek Watersheds in Perkasie Borough, Bucks County, Pennsylvania, within the Southeastern Ground Water Protected Area.
3. Floyd G. Hersh, Inc. d/b/a Macoby Run Golf Course, Inc. D-98-7-2. An application for the renewal of a ground water withdrawal project to continue withdrawal of 3.750 mg/30 days to supply the applicant's golf course irrigation system from existing Well No. PW-1 in the Brunswick Formation. The project is located in the Perkiomen - Macoby Creek Watershed in Marlborough Township, Montgomery County, Pennsylvania and is located in the Southeastern Pennsylvania Ground Water Protected Area.
4. Mercer County Improvement Authority d/b/a Mercer Oaks Golf Course D-99-28 CP-2. An application for renewal of an existing surface water intake and approval of two new ground water wells for golf course irrigation and to retain the existing withdrawal from all sources of 15 mg/30 days. The project is located in the Potomac-Raritan-Magothy Aquifer in the Assunpink Creek Watershed in West Windsor Township, Mercer County, New Jersey.
5. Washington Township Municipal Utilities Authority D-99-43 CP-2. An application for the renewal of a ground water withdrawal project to change existing Well No. 20 from an Aquifer Storage and Recovery well to a production well, to continue the total combined withdrawal of 273.01 mg/30 days from all fifteen wells, and to increase the allocation for Wells Nos. 2, 3, 4, 5, 8, 9, 15 and 20 from 109 mg/30 days to 133.81 mg/30 days to supply the applicant's public supply distribution system from existing Wells Nos. 2, 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, and 20 in the Mt. Laurel-Wenonah and Kirkwood-Cohansey Formations. The project is located in the Big Timber Creek and Mantua Creek watersheds in Washington Township, Gloucester County, New Jersey.
6. Lehigh County Authority D-2001-20 CP-3. An application to replace the withdrawal of water from Well No. WL-8 in the applicant's water supply system, which has become an unreliable source of supply. The applicant requests approval to withdraw from

replacement Well No. WL-8 up to 56.16 mg/30 days of water, and that the total withdrawal from all wells remain limited to 256.24 mg/30 days. The project is located in the Allentown Formation in the Little Lehigh Creek Watershed in Upper Macungie Township, Lehigh County, Pennsylvania. The site is located within the drainage area to the section of the non-tidal Delaware River known as the Lower Delaware, which is designated as Special Protection Waters.

Mr. Pindar recommended approval of hearing items 1 through 6, reporting that the Commission did not receive any significant comments from the public on these projects. Hearing no questions or comments from the Commissioners or the public, Mr. Sickels requested a motion to approve the six docket renewals with no substantive changes. Dr. Howarth so moved, Ms. Myers seconded, and hearing items 1 through 6 were approved by unanimous vote.

B. Renewals with Substantive Changes (items 7, 9, 10, 11 and 12).

7. Ambler Borough Water Department D-85-26 CP-4. An application for approval of a ground water withdrawal project to supply up to 4.75 mg/30 days of water to the applicant's public water supply distribution system from new Well No. 15 and to increase the existing withdrawal from all wells of 116 mg/30 days to 120.75 mg/30 days. The project is located in the Stockton Formation in the Wissahickon Creek Watershed in Lower Gwynedd and Upper Dublin Townships, Montgomery County, Pennsylvania, within the Southeastern Pennsylvania Ground Water Protected Area. The DRBC has recommended a reduction in the docket holder's allocation from 116 mg/30 days to 90 mg/30 days.
9. Concord Township Sewer Authority D-97-19 CP-2. An application to expand the 1.2 million gallon per day (mgd) Central Sewage Treatment Plant (STP) to process 1.8 mgd, while continuing to provide tertiary treatment prior to discharge to the West Branch Chester Creek in non-tidal waters. The Central STP is located off the intersection of Conchester Road (Route 322) and Baltimore Pike (Route 1) in Concord Township, Delaware County, Pennsylvania. The STP will continue to serve Concord Township primarily, but it also will serve small portions of Thornbury and Chester Heights Townships, also in Delaware County, Pennsylvania.
10. DS Waters of America and Nestlé Waters North America Inc. D-97-46-3. An application for the renewal of a spring water withdrawal project to continue withdrawal of 9.0 mg/30 days to supply the Applicant's spring water bottling facility from existing Spring Nos. 1 and 3 in the Tulpehocken Creek Watershed, in the Richland and Leithsville Formations, in Millcreek Township, Lebanon County, Pennsylvania. Additionally, Nestlé Waters North America Inc. (NWNA) has requested to be made a joint docket holder and proposes to change the exportation site of the 0.300 mgd of water from West Earl Township, Lancaster County, Pennsylvania a NWNA site in Breinigsville, Lehigh County, Pennsylvania.
11. Upper Uwchlan Township D-2000-55 CP-2. An application for approval of the expansion and modification of the existing Upper Uwchlan Township Route 100 Regional Wastewater Treatment Plant (WWTP) from 0.3 mgd to 0.6 mgd. The WWTP is located in Upper Uwchlan Township, Chester County, Pennsylvania. The WWTP will

serve existing and proposed development along the Route 100 corridor in Upper Uwchlan Township, Chester County, Pennsylvania. The WWTP will discharge treated effluent to open space in new subdivisions being developed in the service area in the Pickering Creek and Marsh Creek watersheds, using both drip dispersal and spray irrigation.

12. Tidewater Utilities, Inc. D-2005-26 CP-2 . An application for the renewal of a ground water withdrawal project to increase withdrawal from 3.85 mg/30 days to 29.458 mg/30 days to supply the applicant's North Dover and Garrisons Lake public supply distribution systems from existing Wells Nos. SF-01, SF-02 and KWE-02 in the Federalsburg and Cheswold Formations and new Wells Nos. 154547, 71057, 71058, 192844 and 109193 in the Cheswold and Piney Point Formations. The increased allocation is requested in order to interconnect formerly independent service districts and to meet projected increases in service area demand. The project is located in the Leipsic River Watershed in Kent County, Delaware.

Mr. Pindar reported that the Commission received no substantive comments on these projects and recommended that the five dockets be approved.

Hearing no other questions or comments, Mr. Sickels requested a motion to approve hearing items 7, 9, 10, 11 and 12, consisting of renewals with substantive changes. Ms. Myers so moved, Dr. Howarth seconded her motion, and the dockets were approved by unanimous vote.

C. New Projects (items 13 through 17). Mr. Pindar explained that the next five projects were either new discharges or withdrawals or were simply new to the Commission. He presented projects 13, 16 and 17 and explained that Bill Muszynski would present projects 14 and 15 which are Class II projects in accordance with the DRBC Flood Plain Regulations.

13. UMH Properties, Inc. D-2007-22-1. An application for approval of a ground water withdrawal project to supply up to 6 mg/30 days of water to the applicant's Fairview Manor Mobile Home Park from new Wells Nos. 1 and 2 and to limit the existing withdrawal from all wells to 6 mg/30 days. The project is located in the Coastal Plains Aquifer in the Cohansey Watershed in Vineland City, Cumberland County, New Jersey.
16. Pennsylvania American Water Company D-2008-2-1. An application for approval of the existing Yardley water treatment plant's 0.402 mgd backwash discharge to an unnamed tributary to Brock Creek. The water treatment plant discharges filter backwash and sludge filter press filtrate to the section of the non-tidal Delaware River known as the Lower Delaware, which is designated as Special Protection Waters. The facility is located in Yardley Borough, Bucks County, Pennsylvania.
17. Fralinger Farms D-2008-16-1. An application for approval of a ground water withdrawal project to supply a maximum of 78.6 mg/30 days of water to the applicant's irrigation system for approximately 283 acres of fruit trees. The applicant's 15 wells are located in the Kirkwood-Cohansey Formation in the Cohansey River Watershed in Hopewell Township, Cumberland County, New Jersey. The DRBC has recommended a reduction in the docket holder's allocation from 78.6 mg/30 days to 18.75 mg/30 days.

Mr. Pindar recommended that the Commission approve the three new projects.

Hearing no further comments or questions, Mr. Sickels requested a motion for approval of the above-described dockets for new projects – hearing items 13, 16 and 17. Mr. Sickels so moved, Lt. Col. Tickner seconded the motion and the three dockets were approved by unanimous vote.

Mr. Muszynski explained that the remaining two dockets for new projects – hearing items 14 and 15 – are Class II projects under DRBC’s Flood Plain Regulations (FPR). The FPR became effective on January 1, 1977. DRBC received comments on both projects, primarily from the applicants. Mr. Muszynski said he would describe changes made to the dockets since they were distributed to interested parties and published on the web site in draft form.

14. Venice One Development D-2007-30-1. An application for the approval of the Venice One Development, which consists of four six-story buildings comprising a total of 280 residential units and appurtenant ground level parking, both under and adjacent to the buildings, to be constructed on Venice Island, in the Manayunk Section of the City of Philadelphia, Pennsylvania. Under DRBC’s Flood Plain Regulations, the Venice One Development is reviewable as a Class II project. Class II projects include any development of land – whether residential or non-residential – within a flood hazard area located in a non-tidal area of the basin, which contains more than 25 dwelling units or includes one or more structures covering a total land area of more than 50,000 square feet. The Venice One Development is to be constructed on Venice Island, which is located in the flood fringe portion of the flood hazard area. A flood hazard area is defined by DRBC Flood Plain Regulations as the area inundated by a regulatory flood (the 100-year floodplain).
15. Waterford Apartments at Cotton Street Development D-2007-36-1. An application for approval of the Waterford Development, which consists of one four-story building comprising a total of 205 residential units and appurtenant ground level parking, both under and adjacent to the buildings, to be constructed on Venice Island in the Manayunk Section of the City of Philadelphia, Pennsylvania. Under DRBC’s Flood Plain Regulations, the Waterford Development is reviewable as a Class II project. Class II projects include any development of land – whether residential or non-residential – within a flood hazard area located in a non-tidal area of the basin, which contains more than 25 dwelling units or includes one or more structures covering a total land area of more than 50,000 square feet. The Waterford Apartment Project is to be constructed on Venice Island, which is located in the flood fringe portion of the flood hazard area. A flood hazard area is defined by DRBC Flood Plain Regulations as the area inundated by a regulatory flood (100-year floodplain).

Mr. Muszynski used a map to show the approximate locations of the two developments on Venice Island, which is separated from the Manayunk section of the City of Philadelphia by the Manayunk Canal. He noted that at the Commission’s July meeting, it approved a Philadelphia Water Department application to construct an underground CSO storage tank and recreation facilities on one end of Venice Island.

When the two residential projects initially came before the Commission they were located within the area defined as the “floodway.” Subsequently, at the applicants’ request, the Federal Emergency Management Agency (FEMA) re-analyzed the area and issued a Letter of Map Revision, or “LOMR” re-delineating the floodway. As a result of the LOMR, the projects are no

longer located in the floodway but in the area defined as the “flood fringe”. This change is significant because DRBC’s FPR preclude residential development in the floodway but allow residential and parking facilities to be placed in the flood fringe area if they meet certain requirements.

The FPR require all basement and first floor elevations for the proposed structures to be located above the 100-year flood elevation. Mr. Muszynski used an aerial photograph of the project sites to show the location of the 100-year flood elevation, denoted by a red line. He explained that in compliance with the regulations, the finished elevation of the first floor of the Venice One project is to be located 13.7 feet above the 100-year flood elevation and the finished elevation of the first floor of the Waterford project is to be located 6.33 above the 100-year flood elevation. Both structures are proposed to be built on piers and pilings. Parking facilities will be located below and surrounding the structures. Both development projects will involve the removal of existing structures, and on this basis, reports submitted by the applicants’ consultants conclude that the projects will increase rather than diminish the capacity of the channel during a flood. Illustrations of the completed projects show pedestrian walkways from the first floors of the residential structures to existing bridges on Main Street that are also located above the flood elevation.

Pointing to the aerial photograph, Mr. Muszynski noted that the Waterford project is located “slightly down island.” He pointed out the existing structures that are proposed to be removed in connection with the Waterford Project, allowing water that would otherwise be displaced by the structures to flow unimpeded. He also showed a conceptual view of the Waterford project, clearly showing the 100-year flood elevation below the pedestrian walkways and the first floor.

Mr. Muszynski next reviewed the changes that had been made to the two dockets after they were circulated in draft to interested parties and published on the Commission’s web site. He explained that these changes were incorporated in the dockets presented for the Commissioners’ consideration today and were made primarily in response to comments submitted by the project sponsors.

The first change was to condition “b” in the Decision section of the dockets. This is a standard condition of DRBC dockets, requiring that facility and operational records be available to the Commission at all times for inspection. The applicants suggested that only those records relating to compliance with the docket should be required to be made available. DRBC staff concur and will likely recommend a change to the standard condition. Mr. Muszynski noted that staff is not interested in seeing tax forms, for example. Similarly, condition “e”, which referred in a vague way in the drafts to sediment and erosion control measures, has been modified to reference the appropriate permits issued by government agencies. Condition “p” concerns projects like Venice One and Waterford that are to be located in an area that is subject to flooding. In accordance with the Commission’s FPR, the condition requires a flood warning plan to be put in place. The condition requires the docket holder to submit a flood warning plan to DRBC and the City of Philadelphia Office of Emergency Management for review and comment within six months of docket issuance. Although the draft condition referred only to the regulatory flood, the revised condition requires the docket holder to address all flooding events, and to include in the plan a list of all the dates on which the project site is known to have flooded. Another change, requested by the project sponsors, has been to qualify the reference in condition “p” to “flood warnings” by the phrase “issued by a government agency”, since the docket holder can only be expected to

learn of government-issued flood warnings and is not being required to develop its own flood prediction capability. DRBC declined to remove a requirement that the flood warning plan include a method for ensuring occupants are informed of government-issued flood warnings for the site. The condition requires the docket-holder to obtain the Executive Director's written approval for the plan, but since the project is many months from occupancy, the plan is not required to be in place as a condition of docket approval.

The remaining changes included the following: Because Venice One is proposed as a condominium project and Waterford is proposed as apartments, the conditions "s", concerning notice to buyers and lessors, respectively, of the flood hazard and flood warning plans differ. Condition "t" addresses the transfer of ownership of either project. In each instance, in accordance with condition "t", in the event of a transfer of ownership of the project or any portion of the project, a docket transfer approved by the Executive Director is required in order to ensure that legal responsibility for compliance with all docket conditions is clearly assigned. A "hold harmless" and indemnification clause was deleted as not necessary or appropriate.

Mr. Muszynski concluded by stating that because both dockets meet all Commission requirements, staff recommends their approval. Mr. Sickels requested a motion. Ms. Myers moved for approval of the two dockets in accordance with staff's recommendation, and Lt. Col. Tickner seconded her motion. Mr. Sickels invited members of the public to comment.

Kevin Smith of the Manayunk Neighborhood Coalition said that he was unfamiliar with the Commission and had not initially understood the scope of its authority. He advised the Commission that his organization views the proposed developments as "unsafe at any speed". Notwithstanding FEMA's revision of the floodway, he said, the size and other characteristics of the development, together with the nature of existing adjacent uses, combine to make residential development in this location a serious safety hazard. Mr. Smith said during zoning hearings conducted by the City of Philadelphia in 2000, his group had offered a great deal of expert testimony, including meteorological data, in opposition to residential development on Venice Island.

Mr. Smith explained that the Schuylkill River is a narrow channel at this location, with steep sides that can cause flood levels to rise quickly. An expert had testified during zoning hearings that water levels of 10 feet could be attained within six hours of a major rainfall event and inundation to a depth of 5 feet could occur within three hours of the onset of flooding. He said that these rates give occupants very little time to evacuate. By way of example, he pointed to the June 2006 flood, which occurred as a result of heavy rainfall in the upper Basin. He said the storm had not been tracked the way that hurricanes or other major storm events are tracked, and flooding was not expected early on. The evacuation of vehicles from Venice Island under such circumstances was impossible according to Mr. Smith. Thus if the developments were approved, a large number of cars could be expected to be left in place on the island during a flood, causing the release of oil and gasoline into flood waters. Mr. Smith said that various plans had been proposed for towing cars off the island, but under the best of circumstances, removing all the cars would take several hours. He said the reality is that people aren't home, or they have more than one car, or they are attempting to save belongings. Compounding the difficulty, he said, there is no place nearby to park, so people who wish to move their cars are effectively forced to move out.

Mr. Smith explained further that access to the portion of the island proposed for development is a single-lane bridge that shares traffic with Smurfit Stone, a paper recycling plant. Mr. Smith said Smurfit generates 24-hour-a-day tractor-trailer traffic, and a single tractor-trailer can block the bridge. During Hurricane Floyd, according to Mr. Smith, Smurfit Stone was unable to evacuate all its trailers, and the remaining trailers were washed into a pile near the island's access road. A similar occurrence could easily result in obstruction of access to and from the new residences. Mr. Smith added that trees and other debris are washed down the river in a flood event and the only vehicle egress from the island is at a fairly low point that floods quickly. Mr. Smith said he had supplied photographs from June 6th, a date on which the minimum flood level required to cover the entrance to the proposed developments was attained.

The other serious safety consideration, according to Mr. Smith, was illustrated by the first slide for the Venice One Development. Mr. Smith pointed out that the building closest to Leverington Avenue Bridge completely spans the lot, so that all access to and from the island, including the elevated walkway, must pass under this building. In his view, the proposal thus creates a single point of failure for vehicular and pedestrian access to and from the site. All other access is at ground level and thus inaccessible during a flood. From expert testimony offered in the 2000 zoning hearings, Mr. Smith said, and as shown in the LOMR, which contains a table listing water velocities during the regulatory flood, flow velocities of up to 10 miles per hour can occur at this location. Expert testimony by flood rescue personnel was that at a velocity of 10 miles per hour, rescue by boat is not possible. The alternative – rescue by helicopter – is dangerous for both the rescuer and the person being rescued. To highlight the danger of water rescue and of residential development at this location, Mr. Smith recounted that the last rescue attempt made in the vicinity was during Hurricane Agnes in 1972. On that occasion, three rescuers set out in a boat from essentially the proposed development site, and the vessel promptly capsized. One rescuer swam back to shore, one was pulled from the water at Fairmount Dam, five miles downstream, and the third was never found.

Finally, Mr. Smith said, this site is a brownfield for which the specified remediation is a cap composed of clean fill. One of the facts to emerge during the Zoning Board testimony is that the hydrologic evaluations of the project failed to assess effects on the hydrology resulting from the addition of one to one-and-one-half feet of fill over the entire site. Mr. Smith said he hoped this detail was not overlooked in the Commission's review. He said that the Manayunk Neighborhood Coalition recommended that the project not be approved. He thanked the Commission for their attention.

Mary Ellen Noble of the Delaware Riverkeeper Network (DRN) praised Mr. Smith's testimony and said her organization agreed that approving this project would mean placing people in harm's way. She urged the Commission to update its FPR right away, rather than six or 18 months from now, so that developments like Venice One and Waterford could be prevented. She said that DRN is willing to help in any way it can to accomplish this.

After obtaining further clarification as to the location of the proposed buildings relative to the floodway, Ms. Noble asked if the Commission could explain in greater detail why the "hold harmless" language had been deleted from the two dockets. Mr. Warren explained that it is highly unusual for a regulatory agency to condition the issuance of an approval by permit or docket on the applicant's indemnification of the regulatory agency. Thus, when the applicant objected, the Commission believed the appropriate decision was to not insist on the indemnity.

Ms. Noble asked whether it had been a substantive objection. Mr. Warren said that the applicant had objected to imposition of the indemnity obligation and since the applicant had otherwise satisfied the regulatory requirements of the Commission, the decision was made not to insist on a condition to which the agency had no right. Ms. Myers added that it was doubtful the provision could be enforced, but added that it was not needed since it is highly unlikely under administrative law that the Commission bears any liability for potential damage anyway. She said that including the clause could suggest that the Commission thinks it could be liable for flood damage when this is not the Commission's belief.

Ms. Noble asked for and received assurance that a prospective buyer or lessee would be provided with a copy of the flood warning plan before the moment that he or she was ready to sign a lease or sale agreement. She noted that condition "m" provides that land uses in flood plains "shall not result in public expenses to protect the property and associated public services from flood damage." Mr. Muszynski replied that this condition, though set forth in the FPR, remains more of a goal than an enforceable provision.

Ms. Noble asked how many feet of rise would be needed for the bridges to Venice Island to be submerged, given that a flood higher than the 100-year flood is possible. Mr. Sickels asked whether the applicants could respond. If a response was offered, it was not picked up by the Commission's recording. Ms. Noble asked whether there would be an opportunity for members of the public to comment on the applicant's flood warning plan before it was approved by the Executive Director. Mr. Muszynski explained that although the submission would be a public document and thus available for inspection, no public comment period would be provided. Ms. Noble reiterated that DRN urges immediate action to update the Commission's Flood Plain Regulations. She also commended the Project Review staff for applying the existing rules to maximum effect. She thanked the Commissioners for their attention.

Introducing himself as the architect for Venice One and the team coordinator for that project, Stephen Varenhorst said he would address some of the issues raised by Mr. Smith. He said the team had worked on the Venice One project for almost ten years. The project has been approved by the City of Philadelphia Planning Commission, Historical Commission, and Zoning Board. In the process, he said, and as a condition of the Planning Commission's approval, a draft plan for evacuating the site was developed in consultation with the City's Office of Emergency Management. The draft will be supplemented with additional information that the Commission [not clear which] has requested. Mr. Varenhorst noted that the finished elevation of the first floor of the building will be 13 feet above the 100-year flood elevation. A pedestrian bridge will connect each of the buildings and link the last building to the Leverington Street Bridge, which is also well above the 100-year flood elevation. Emergency vehicles can enter the site via the Leverington Street Bridge. Mr. Varenhorst said the team worked very closely with the City Fire Department on access and how to fight a fire on the site. The buildings will be fully equipped with sprinklers and fire pumps. The type of building fires for which protection is needed, he said, are not necessarily fought with trucks pulling up outside, but from the inside out. The fire pumps are located on a level above the flood plain and are powered by emergency generators at all times. Mr. Varenhorst said that the safety of residents is always a primary concern. He noted that the hydrology team that had prepared the LOMR was prepared to respond to any questions the Commission might have concerning that process. He thanked the Commissioners for their attention.

Dennis Maloomian, President of Waterford Development Associates, thanked the Commission and particularly the staff, for the time they had devoted to the Waterford application. Speaking

for both applicants, he said there was one issue on which he requested their further consideration. He noted that during the course of the discussion on the two applications, repeated reference was made to the need to comply with or rely upon regulations. He said he is greatly troubled by condition “u” in the two dockets. Condition “u” gives the Executive Director the authority to “modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in [her] judgment such modification or suspension is required to protect the water resources of the Basin.” Mr. Maloomian observed that the wording of the condition gives the Executive Director a great deal of discretion in how the Commission’s authority is implemented. He pointed out that the two projects require a great many permits and approvals from local, state and other governmental agencies. In every one of those instances, the permits or approvals are granted with conditions and are subject to modification, revision, termination or revocation if the conditions are not met or if the regulations in place at the time the permits were granted are not complied with. Mr. Maloomian said that he has no objection to being held accountable to a similar standard here, but condition “u” gives the Executive Director the right to modify, suspend, revoke or impose additional requirements simply on the basis of the director’s judgment. He said he was troubled because unlike most of the Commission’s applicants, which seem to be public projects funded by public sources, the two Venice Island projects are private developments that will be funded by private sources. He said a private lender would find this provision to almost nullify the many approvals these projects have obtained. He said that if the condition could be modified to somehow limit the Executive Director’s discretion to application of the agency’s regulations and conditions of the docket, then he would have no difficulty with the provision, and neither in his view would any private lender. Mr. Maloomian said he had with him a copy of the standard condition that the Pennsylvania Department of Environmental Protection (PADEP) includes in all of its permits. Like DRBC’s condition “u”, it includes a clause that allows PADEP to modify, terminate, revoke or reissue a permit. However, it requires that PADEP do so in accordance with the Pennsylvania Code. The reasons for terminating, revising or revoking would be for causes related to the Code, the regulation and the conditions of the permit. Mr. Maloomian said he knows this is a standard clause of DRBC’s and that these two private developments are not typical of the projects DRBC reviews, but he asked that the Commission consider that the condition as worded will make these two projects very difficult if not impossible to finance. Even though the clause may be well-intended, he said, it is simply too arbitrary. And even though the applicant has the right, set forth in the last condition of both dockets, to appeal an action or decision of the Executive Director, he observed that to bring such a challenge would be to challenge the judgment of the Executive Director, which the condition as written entitles her to exercise. Mr. Maloomian said he found this troubling and believes any lender would find it troubling. He asked the Commission to follow the example of PADEP and other agencies that approve large development projects like his in holding its right to modify, revoke, or terminate to some established standard. He thanked the Commissioners for their consideration.

Ms. Myers said she thought his points were well taken in that the literal reading of the condition appears somewhat overbroad. She said that she believed that in practice the intended use of the condition is very narrow. In fact, she said she was uncertain that it had ever been invoked, and if it was on some very rare occasion, she said that this would certainly have been when regulations, standards or permit conditions had not been satisfied. She said the Commission would take the request under advisement. The condition is a standard provision that has been included in hundreds of dockets, she said, and she did not believe the Commission could change it for this particular docket at this time. She proposed that if the projects encountered some

difficulty, the applicants could check with counsel and with the Executive Director as they moved forward to see whether an explanation or interpretation of how the clause has been applied in practice might be useful.

Mr. Sickels said he thought the two projects demonstrated the need for the Commission's Flood Plain Regulations Evaluation Subcommittee to develop recommendations with all haste. Mr. Sickels added that the State of New Jersey would abstain from voting on these two projects (hearing items 14 and 15) due to the State's concerns. He requested that all in favor of approval of the dockets say "aye." The representatives from Delaware, the federal government and Pennsylvania all voted in favor of the project. New York was absent and New Jersey abstained. Hearing items 14 and 15 were approved by majority vote.

Resolution Amending the Water Code and Comprehensive Plan to Implement a Flexible Flow Management Program for the New York City Delaware Basin Reservoirs. Mr. Sickels announced that DRBC action on this resolution would be postponed. He said that New Jersey views the Reassessment Study, including details of the study scope, as key to the proposal. New Jersey believes that through dialogue with New York City it has made progress in understanding the types of information the City will share to facilitate a full analysis of the impacts of the FFMP. Although New Jersey is more comfortable than it had been, Mr. Sickels said more time is required to work out details of the scope of work for the study. In addition, he said, impacts of reservoir operations on the fisheries required a closer look before Commission action. Mr. Sickels said meetings were planned over the next several weeks to develop a more detailed work plan and schedule.

Ms. Myers said that Pennsylvania was in agreement regarding the importance of the Reassessment Study and reluctantly comfortable with delaying Commission action. She said that Pennsylvania had hoped to move forward in answering important questions through the Reassessment Study, including obtaining needed information from New York City, evaluating current operations, and using the results of such an evaluation to find better ways to operate and more optimal uses of water, all goals supported by the Commonwealth. Ms. Myers said she had hoped to have clarity by today on all the details required by the engineers and to have achieved a meeting of the minds among the various parties on the Reassessment Study scope. She was encouraged by the progress made to date and by commitments from New York City to furnish most of the information the Commission believes it needs for the Reassessment. Acknowledging that the Pennsylvania Fish and Boat Commission has concerns, she said that Pennsylvania and the other parties will continue to work with them and with the Delaware River Foundation and other interested entities to try to understand how best to avoid the "yo-yo-ing" of high-and-low flows that occurred this year in spite of provisions in the FFMP for ramping up and down more gradually. She said staff are working on resolving these problems and there might yet be some more tweaks made before the Commission acts on the plan. She reiterated that the FFMP is a temporary, short-term program that will be reassessed annually.

Dr. Bunting-Howarth echoed the need for greater clarity in the Reassessment Study scope of work, and echoed her colleagues' comments about the temporary nature of the FFMP.

Mr. Sickels asked Mr. Warren if he would clarify what the proposed Commission action to approve *Water Code* amendments would mean. Mr. Warren offered the following explanation of how the U.S. Supreme Court Decree of 1954, DRBC dockets, the Commission's *Water Code*,

proposed amendments to the *Water Code*, and the FFMP, including the Reassessment Study, all fit together. Mr. Warren's remarks are set forth here in the edited form in which they were posted on the Commission's web site following the meeting.

Mr. Warren began by underscoring four points:

- First, although the term "Water Code" sounds something like stone tablets that come down from the top of a mountain and are literally carved with a chisel, the Water Code of the DRBC is nothing more than a regulation. Regulations do change from time to time, through notice and comment rulemaking processes. I believe some people have the misconception that if the proposed changes to the Water Code were adopted, they would somehow be engraved in stone, never to change again. I want to disabuse you of that idea. A regulation is simply a regulation for the period of time in which it is in effect.
- Second, the proposed regulations on which the Commission has solicited public comment and on which it deferred action today include an expiration date. Just as the Decree Party Agreement by its terms will expire on May 31, 2011, the Water Code changes, if adopted and consented to by the Decree Parties, likewise will expire on May 31, 2011 unless the Decree Party agreement is extended prior to that date. Regardless of whether the Commission were to further modify the Water Code provisions, they would by their own terms expire. I want to underscore that we are talking today about a temporary plan. If and when the Commission were to consider adopting the proposed Water Code amendments, it would be doing so on a temporary basis.
- Third, I think everyone understands that a temporary plan is not the best of all worlds. But because science constantly improves and additional data, monitoring and experience are continually gathered, any plan that is put into effect will need to change from time to time. The goal is to establish an interim arrangement for a period lasting through May of 2011, and after that, to put into effect a plan that will take into account multiple objectives so that we don't have separate plans for conservation releases, habitat protection, ecological flows, water storage, salinity repulsion, and recreation, but instead, we have a single flexible plan that takes these multiple objectives into account. To the extent that any plan can be viewed as permanent, or as aspiring to permanency, it would be the plan considered in 2011, not the current plan.
- My last point before trying to sort through the legalities is that even as to the permanent plan to which the Commission aspires in 2011, "permanent" would be a misnomer, because the plan likely would have a very significant adaptive management aspect to it. Just as the Decree Parties' FFMP Agreement underscores that adaptive management is necessary as we gain experience and improve on current science and modeling, so too any permanent plan will likely incorporate an adaptive management process.

Having stated those things, how have we gotten to where we are? I will provide an overview, and recommend that anyone in the audience wanting full detail conduct a careful review of the documents.

- In 1954 the U.S. Supreme Court issued a decree in the case of *New Jersey v. New York* that established an equitable allocation under federal common law. When one state sues another state original jurisdiction lies in the United States Supreme Court. A lawsuit between states is one of the few instances in which the United States Supreme Court hears a case that has not come up through the trial and appellate courts. In this particular case, there were five parties before the Supreme Court – the four basin states and New York City. Through the auspices of a Special Master, the Court eventually entered a decree that established the terms many of you are familiar with. It allocated to New York City the equivalent of 800 million gallons per day from the City’s three Delaware Basin reservoirs (“City Delaware Reservoirs”), effective when all three of those reservoirs were fully constructed, which occurred in 1964. It required compensating releases to maintain a flow of 1,750 cubic feet per second at Montague, New Jersey; it established an excess quantity to be released from the reservoirs each year (the “Excess Release Quantity” or “ERQ”), and it granted certain diversion rights to New Jersey. Those are the essential elements of the U.S. Supreme Court Decree, equivalent to a court order, and those elements became the law of the river when the decree was issued in 1954.
- Now in addition to the judicial branch, we also have in our system the legislative branch. The legislature, just like the Supreme Court, has the power to provide for the allocation of water resources between states. In 1961, the four basin states and the United States enacted legislation known as the Delaware River Basin Compact. The Compact granted to the Commission the authority to perform an equitable allocation of waters throughout the basin. However, the Compact included an important limitation: Sections 3.3 and 3.5 of the Compact provide that the Commission may not adversely affect the rights and obligations of the parties to the Supreme Court Decree of 1954 (“Decree Parties”) without the unanimous consent of the Decree Parties. As a result, we have a hybrid process. The Commission can take an action through notice and comment rulemaking, but it cannot put into effect any allocation of water resources that would adversely affect the rights and obligations established by the 1954 Decree without the consent of each party to the Decree. When we talk about changes to DRBC’s Water Code that involve releases from the City Delaware Reservoirs, we say that they go into effect only with the unanimous consent of the Decree Parties because that is what the statute – the DRBC Compact – requires.
- Many of you have heard about the Good Faith Agreement. Essentially, this agreement was the result of a negotiation among the Decree Parties prompted by drought conditions in the 1960s so severe that the diversions and releases established by the Decree could not be sustained. A new operating regime was needed to manage the City Delaware Reservoirs under the new “drought

of record” and to address a flow need not recognized by the Supreme Court in 1954 – the need for minimum flows (or “conservation releases”) to sustain aquatic life. The Good Faith Negotiations began in 1978 and culminated in 1983 in an agreement known as the Good Faith Agreement. Drought management aspects of the Agreement were included in the DRBC regulations known collectively as the Water Code, and conservation releases from the City Delaware Reservoirs for the protection of fisheries were established in a DRBC docket. The Decree Parties unanimously consented to each of these instruments – the docket and the regulations.

- In the 1980’s, 1990’s and early 2000’s the Commission with the unanimous consent of the Decree Parties issued a series of additional dockets modifying the conservation releases regime for the City Delaware Reservoirs. As I emphasized earlier, the Water Code is no more than a regulation of an administrative agency, the Commission. Although the U.S. Supreme Court Decree continues to control operation of the City Delaware Reservoirs in key respects, the Water Code and dockets adopted by the Commission pursuant to Congress’ authority and with the consent of the Decree Parties control as to those aspects of reservoir operations that they address. The Decree Parties understood in 1983 and understand today that they have not attained the “perfect” reservoir management plan and perhaps never will. They are continuing to negotiate based upon new and existing data and modeling. In what DRBC called “Revision 9” of its docket addressing conservation releases, flood mitigation was added to the multiple objectives already taken into account by the Decree and as expanded in the Water Code and earlier docket revisions. Upon expiration of Revision 9 in September of 2007, the Parties to the Decree agreed to a three-year plan while continuing to negotiate what they hoped would be a more permanent plan containing adaptive management provisions.
- The Commission has played an important role in providing a means for public comment on the Flexible Flow Management Program agreed upon by the Decree Parties. A critical function of the Commission is to transmit information to the public and to receive input back from the public. Sometimes this is done in an informal way, such as through DRBC’s advisory committees and through the Commission’s website. In the process of promulgating new regulations, this is done in a more formal way, through the publication of notices in the state registers and *Federal Register*, establishment of a formal comment period, and through public hearings. The bottom line is that the Commission is very serious about soliciting and entertaining public comment on whatever the Commission does, and the Decree Parties are serious about using the offices of the Commission to solicit that public comment. Remember that in litigation before the U.S. Supreme Court, no individual members of the public were specifically represented, because the U.S. Supreme Court deemed the states and New York City to represent all of their respective constituents. As an administrative agency created by a legislative process, the DRBC is better able to accommodate participation by all interested parties. Anyone who wants to submit written

comments or to appear at a public hearing to speak directly to the Commissioners can do that. The Decree Parties use the Commission's offices to receive public input into their negotiation process. The Commission also undertakes formal rulemaking. In fact in early 2007 the Commission asked for comment through notices in the registers and on its website on a Flexible Flow Management Program concept and on preliminary reservoir releases tables illustrating that concept. Those comments were considered not only by the Commission but by the Decree Parties before the latter reached agreement on a Flexible Flow Management Program in September of 2007.

- What does it mean for the Decree Parties, consisting of the four states and New York City, to have entered into an agreement on the FFMP in September of 2007? New York City continues to own and operate the City Delaware Reservoirs. The FFMP agreement constituted the consent of all of the parties to the 1954 Supreme Court Decree to New York City operating the reservoirs pursuant to criteria specified in the FFMP to meet the parties' multiple objectives. At the same time, the Decree Parties and the Commissioners agreed that input from the public was necessary before the FFMP could be adopted as part of DRBC's regulations. As a consequence, the Commission authorized the Executive Director to undertake a formal rulemaking process including soliciting public comment on proposed Water Code amendments implementing the FFMP and considering any public comments. The Executive Director was asked to then develop recommendations to the Commissioners and the Decree Parties for changing the proposed Water Code Amendments based on the public comments. The Executive Director proceeded accordingly. The proposed regulations were published on December 3, 2007 in the *Federal Register* and on the Commission's website. DRBC conducted four informational meetings – two in December 2007 and two in January 2008. Public hearings were held on January 16, and a written comment period, originally scheduled to run through January 18, 2008, was extended as a result of requests from the public through March 3, 2008. Numerous comments were offered at the public hearing and more than 1,900 written comments were submitted to the Commission prior to the March 3, 2008 deadline. Since that time, the Commissioners with the aid of staff have been considering the comments, all of which ultimately will be addressed in a Comment and Response Document on which DRBC staff has been working diligently.
- As became clear to the Commissioners and the Decree Parties in the public process on proposed Water Code amendments to implement the FFMP, the best response to many of the public's comments was that a further reassessment study is planned which may lead to improvements in the FFMP. All of the Commissioners and the Decree Parties consider the reassessment study, although not part of the Water Code, to be a very important undertaking. What you have heard today from the Commissioners is that additional time is necessary not only to consider all the comments submitted by the public but to make sure that the reassessment study to be referenced in

the Comment and Response Document will go forward in accordance with the desires of the Commissioners and the Decree Parties.

- In summary, the following aspects of a Flexible Flow Management Program are currently in effect, in progress or anticipated:
 - In effect: The Decree Parties' Agreement of September 2007 for a Flexible Flow Management Program is posted on the website of the Delaware River Master. This program is being implemented by the Decree Parties.
 - In progress: The Commission has deferred consideration of the Water Code amendments proposed formally on December 3, 2007.
 - Anticipated: Because river management is an adaptive process, the Commissioners will never have perfect science. Nevertheless, there will be a point in time when based on available data and modeling and after consideration of all of the public comments on the proposed regulations, the Commissioners will make a scientifically sound, objective determination as to which Water Code modifications to adopt. As I have noted, the Water Code amendments address how the reservoirs are to be operated until May of 2011, not how they are to be operated permanently. The amendments are not the stone tablets brought down from the mountain.
 - Anticipated: Once the Commissioners and Decree Parties approve an interim set of regulations, they will be able to devote their full attention to developing an improved plan to go into effect on or around May of 2011.

Mr. Warren concluded by expressing his hope that his remarks helped some members of the audience to better understand how the law of the Delaware River has progressed from U.S. Supreme Court Decree to Good Faith Agreement, to dockets, to the Water Code, to the Decree Parties' FFMP Agreement, to the proposed DRBC Water Code amendments and the reassessment study currently under consideration.

Mr. Sickels thanked Mr. Warren and announced that there would be an opportunity for further comment on the FFMP during the Public Dialogue portion of the meeting.

Resolution Amending the Composition of the Water Quality Advisory Committee to Add Members from the National Park Service and a Local Watershed Organization. Dr. Najjar explained that the proposed resolution would amend the composition of the Water Quality Advisory Committee (WQAC), which recently reconvened after an extended hiatus. In accordance with the committee's most recent re-authorization by Resolution No. 2003-8 in March of 2003, it consists of nine members – one from each of the four basin states, one from a federal agency (historically, the U.S. EPA), one from an academic or scientific institution, one environmental professional (historically, a member of an environmental organization), and two from the regulated community. The DRBC staff and the committee's members are in agreement

that the group would benefit from the addition of members from the National Park Service and a local watershed organization. The National Park Service (NPS) has management responsibility within the non-tidal reaches of the river that are part of the National Wild and Scenic Rivers System. Although NPS lacks an official seat on the committee, it has consistently sent a representative to the group's meetings for many years. The addition of a representative from a local watershed organization is also proposed, in order to provide for greater stakeholder involvement. All members would continue to be appointed by the Executive Director, and all other aspects of Resolution No. 2003-8 would remain in effect.

Hearing no questions or comments, Mr. Sickels requested a motion for approval of the resolution amending the composition of the Water Quality Advisory Committee by the addition of two new members. Mr. Sickels moved for adoption of the resolution; Lt. Col. Tickner seconded his motion, and Resolution No. 2008-11 was approved by unanimous vote.

Resolution Authorizing the Executive Director to Enter into an Agreement for a Sediment Flux Study of Mercury in Water Quality Zone 5. [Postponed]

Resolution Authorizing the Executive Director to Extend the Commission's 2002 Agreement with Axys Analytical Services, Ltd. for Sampling and Analysis of Toxic Substances in Ambient Water, Wastewater and Sediment Samples from the Delaware Estuary. Dr. Fikslin reported that the proposed resolution would authorize the Executive Director to extend an agreement with Axys Analytical Services, Ltd. ("Axys"), dating from March 2002. Axys has provided services in connection with both the Stage 1 and Stage 2 PCB TMDLs for the Delaware Estuary and has collaborated on improving the analytic methodology for PCBs. Axys has demonstrated the ability to achieve extremely low detection limits for all PCB congeners. The proposed contract extension would accommodate two projects funded by DRBC's Section 106 grant for calendar year 2008. The first involves the analysis of ambient water samples from the non-tidal reaches above Trenton, at an estimated cost of \$35,000. The second is for PCB congener analysis of 225 sediment samples from the Delaware Bay, collected under EPA's Delaware Estuary Benthic Inventory. Axys will perform the sediment analysis at an estimated cost of \$70,000. The resolution would authorize the Executive Director to extend the Commission's agreement with Axys through June 2009 to complete the two projects, at a total cost not to exceed \$105,000.

Hearing no further comments or questions, Mr. Sickels requested a motion for approval of the resolution authorizing the Executive Director to extend the Commission's 2002 agreement with Axys Analytical Services, Ltd. for sampling and analysis of toxic substances in ambient water, wastewater and sediment samples from the Delaware Estuary. Ms. Myers so moved, Mr. Sickels seconded her motion, and Resolution No. 2008-12 was approved by unanimous vote.

Public Dialogue. Chairman Sickels opened the floor to questions or comments from the public. James Barth, representing the Steering Committee of Damascus Citizens for Sustainability (DCS) said that his organization had formed in Damascus Township, located on the Delaware River in Pennsylvania, in order to respond to the massive gas drilling activity that is anticipated within the Delaware Basin. DCS's efforts intensified when members learned that gas drilling is an inherently polluting process. Mr. Barth said he had come to the meeting in part because gas drilling was not on the agenda and he believes that it should be for the foreseeable future. Mr. Barth said he wished to read aloud a quote from Albert F. Appleton, an international consultant on water resource management and the economics of sustainable development. Mr. Appleton

served as New York City Commissioner of Environmental Protection from 1990 to 1993, and during that time, designed and initiated a New York City Catskill Watershed Protection Program. Writing to the New York State Department of Environmental Conservation (NYSDEC) regarding the state environmental impact study to be performed on gas drilling in the Marcellus Shale, Mr. Appleton wrote,

The Marcellus Environmental Impact Study is charged with answering the question of how to balance the economic and environmental concerns of Marcellus Natural Gas Drilling. That assumes that the critical issues are environmental ones. Yet the most prominent issue Marcellus presents is risking drinking water sources. Risks to drinking water are not just environmental issues; first and foremost, they are public health issues. It is absolutely essential that the Marcellus Environmental Impact Study managers understand this distinction and its implications for the Marcellus Environmental Impact Study. For the standard in assessing the public health risks is not the environmental standard of balancing environmental risks against economic benefits. The long-standing public health norm for drinking water management is that no risk is permissible. Thus, the threshold question is whether Marcellus drilling proponents can prove it will be completely without risk to drinking water sources. In any area where they cannot, that settles the question even before reaching any of the environmental issues that Marcellus also presents.

The threat to drinking water from shale drilling is indisputable. Shale drilling involves underground injection of enormous amounts of fracturing fluid to force out the natural gas. Fracturing fluid is a witch's brew of water and toxic chemicals. A major portion of it winds up underground where the streams migrate into the groundwater that feed wells and provide base flow for the surface streams that create drinking water reservoirs. More immediately, there will also be many spills of toxic fluids that get washed directly into surface streams.

Mr. Barth said Mr. Appleton had offered a second comment concerning the staggering dimensions of the enforcement problem presented by Marcellus drilling. Using a formula described as extremely conservative, Mr. Appleton concluded that 10,000 wells could be expected. In his letter to NYSDEC, he wrote,

Ten thousand wells would require permanent administrators, field inspectors, emergency responders, ground water hydrologists, drilling technology experts, public health specialists, testing lab workers, hearing officers, lawyers, accountants, environmental police, land-use planners and administrative support personnel. When New York City staffed its Catskill Watershed Protection Program in the 1990s it hired 400 new staff to do a less complicated task in a significant and smaller area. It seems indisputable that proper oversights of large scale Marcellus drilling will ultimately require 600-800 new staff [in New York State only].

Mr. Barth submitted to the Commission Secretary a written statement from DCS which he summarized. He said that in his view many people, including the DRBC Commissioners, seemed to view gas drilling in the Delaware Basin as inevitable. DCS is trying to fight that view. Its members agree with New York City Council Member James F. Gennaro of Queens, who stated at a recent Council hearing that gas drilling is a process that is utterly incompatible with a drinking water source. Mr. Barth said that in the best of all worlds, the DRBC and PADEP both would be in the business of preventing pollution of the water source. In Mr. Barth's view, damage is inevitable if drilling is permitted. He pointed out that a document posted by DRBC on its web site shortly after the July Commission meeting lists three major areas of concern associated with gas drilling. Numbers 2 and 3 on the list, he said, are that (2) "on-site drilling operations may potentially add discharges that cause the release of pollutants into the ground water or surface water"; and (3) "the recovered 'frac' water must be treated and disposed of properly." Those two areas of concern in Mr. Barth's view should disqualify the activity from the get-go, because it would allow toxic and carcinogenic chemicals to be introduced in close proximity to the water source. He lamented that there is currently no meaningful restriction on the scope of the activity. Mr. Barth praised Executive Director Collier's testimony regarding the need for a holistic approach, but noted that an understanding of the whole would clearly reveal that gas drilling is incompatible with the Upper Basin. Continuing, he said that in an August 2, 2008 conference call, Chesapeake Energy Corporation Chairman and CEO Aubrey McClendon laid out a specific plan for drilling eight directional wells within a 640-acre area, or one square mile. Eight directional wells per 640 acres over the entire Marcellus Shale area could easily result in 26,000 wells. If five acres of land is cleared for each well site, and piping, compressor stations, roads, and appurtenances are added, Mr. Barth said, the cumulative effect will be massive soil and sediment erosion and loss of ground water recharge.

In closing, Mr. Barth said that many people across the country have been immersed in this issue. DCS is looking carefully at examples from Colorado, Wyoming, and New Mexico, where hundreds if not thousands of instances of pollution of water sources and other health effects have been documented. With that in mind, Mr. Barth urged the down-basin states in particular to get involved and asked the DRBC not to assume the inevitability of drilling and pollution management but to practice pollution prevention.

Ms. Myers replied that although gas drilling was not on the day's public agenda it was definitely on the Commission's agenda, adding that the Commissioners are engaged in discussions with one another on this matter and that Mr. Barth's comments were timely. Ms. Myers said that the DRBC is fortunate in having a little more time to prepare for drilling applications as compared to the Susquehanna River Basin Commission, which is already faced with an "onslaught" of applications.

Mr. Barth noted that 73 approvals had been granted by PADEP, including five new ones in Susquehanna County, where a total of 33 wells already exist. He said that on the website of the Governor of Colorado, he read that in a period of 43 months from January 2005 until September 2008, 7,600 permits to drill were issued – an average of 176 per month. Mr. Barth said the activity can get out of hand before anyone knows it.

Mick Drustrup, representing the Lower Delaware Wild and Scenic River Management Committee (LDMC), commented on two topics – gas drilling and the FFMP. With respect to the former, he said that the LDMC does not oppose drilling but does oppose irresponsible drilling.

He said that the Committee's philosophy is that water trumps oil and gas, and he asked the Commissioners to keep these priorities in mind as they deliberate on applications. As a measure of the level of his group's concern about this issue, Mr. Drustrup said that two nights ago the Committee had approved the use of \$25,000 to perform baseline water testing in Upper Bucks County, Pennsylvania and further north within the Lower Delaware Wild and Scenic Management Area. He said that in planning the testing, the Committee would consult with DRBC to avoid duplicating past efforts and to ensure comparable results. He thanked the Commissioners and wished them luck in facing the equivalent of a steamroller heading for the Basin, fast and furious. Mr. Drustrup added that because national interests are at stake, "we don't want to throw our bodies in front of the train, but we would like to steer it properly."

In connection with the FFMP, Mr. Drustrup said that he serves on the Bucks County Flood Mitigation Task Force, which voted the night before to write Governor Rendell, with a copy to the Commission, strongly recommending that codification of the FFMP be delayed. He said that the Flood Analysis Model when completed would for the first time resolve questions about the impacts of reservoir voids under the flood conditions experienced during 2004, 2005 and 2006. He urged the Commission to wait until they have this tool in hand, so that they can use the model results to inform their action on the FFMP.

Mary Ellen Noble of the Delaware Riverkeeper Network (DRN) said she was attempting to understand how large a land disturbance might be expected from gas drilling in the Marcellus Shale within the Basin. Based on her understanding that 3,900 square miles of the formation lie within the Basin, and assuming one well per 40 acres (since she had heard that number used) she came up with 80,000 wells. Ms. Noble said that whatever assumptions one used, the result was the likelihood of massive bulldozing and a commensurately massive sediment load. She said she did not yet see who would be addressing that sediment load effectively. She urged the Commissioners to pick any number they liked and go through the process of calculating land disturbance. Any way you look at it, she said the implications for wells and first order streams and eventually the mainstem were troubling, leaving aside entirely the question of the fate of all the spent frac water.

With respect to FFMP, Ms. Noble asked the status of the Corps of Engineers study of flood mitigation project alternatives. Mr. Tudor replied that the "Multi-Jurisdictional Study", as the project is called, has assessed reaches of the river from Trenton to the Water Gap. Preliminary recommendations are expected soon. Mr. Tudor said that nonstructural opportunities would be identified. He noted that New Jersey has undertaken a more sensitive investigation addressing not only the main stem of the river but the tributaries. It is possible that the results of the flood model can be used to develop detailed flood inundation maps that correspond to specific storm hydrographs. These would be of tremendous value in improving flood loss prevention.

Hearing no other questions or comments, Mr. Sickels requested a motion to adjourn. Dr. Howarth so moved, Mr. Sickels seconded her motion, and the Commission's Business Meeting of September 24, 2008 was adjourned at 4:00 p.m.

/s/ Pamela M. Bush

Pamela M. Bush, Esquire, Commission Secretary